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Bass Strait Passenger Vehicle Equalisation Scheme

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MONITORING REPORT

BASS STRAIT PASSENGER VEHICLE EQUALISATION SCHEME MONITORING REPORT NO. 8 2003–04

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Cover design by Tom Smith, BTRE. Cover image of *Spirit of Tasmania III* courtesy of TT-Line Company Pty Ltd.

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FOREWORD

This report presents the results of the Bureau of Transport and Regional Economics' (BTRE) eighth annual review of the Bass Strait Passenger Vehicle Equalisation Scheme. It covers the operation and impact of the Scheme up to (and including) 2003–04.

The 2002 Ministerial Directions (Appendix A) require the Bureau to produce this annual monitoring report.

The BTRE gratefully acknowledges the assistance provided by TT-Line, Tourism Tasmania, and the Tasmanian Assistance Services team at Centrelink, and Amanda Addison (Maritime and Land Transport, Department of Transport and Regional Services).

The study was undertaken by Tim Risbey and Mark Cregan.

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Executive Director
Bureau of Transport and Regional Economics
January 2006

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AT A GLANCE

- Total rebates paid under the Scheme were $34.3 million in 2003–04—up 7.7 per cent on 2002–03. The average one way reimbursement per eligible TT-Line passenger was $78—an increase of 6.1 per cent over 2002–03.
- The one way rebate was set at $150 for cars, $75 for motorbikes, $21 for bicycles and $300 for larger vehicles. The $150 rebate on a car represented 22.8 per cent of the Bureau's benchmark one way Melbourne–Devonport sea fare for a couple travelling with an eligible passenger car.
- Econometric modelling indicates the Scheme increased motor vehicle passenger numbers on the Melbourne–Devonport ferry by approximately 20 per cent in 2003–04. This proportion has fallen since the introduction of the Scheme.
- 1.23 million adult passengers travelled across Bass Strait in 2003–04—an increase of approximately 157 000 (14.7 per cent) on 2002–03. The majority—over 80 per cent—travelled by air, an increase of 17.9 per cent over 2002–03.
- The number of adult sea passengers was 240 600, a small net increase of 1500 over 2002–03. The number of adult visitors travelling by sea was down 12 751 (7.1 per cent) and the number of adult Tasmanian residents travelling by sea was up 14 260 (23.7 per cent).
- Total air and sea adult visitor numbers increased by 13.4 per cent to almost 740 000. The decline in visitors travelling by sea was offset by a large increase in visitors travelling by air (48 622). The proportion of adult visitors who travelled by sea decreased from 27 per cent in 2002–03 to 22 per cent in 2003–04.
- Three operators provided ferry services in 2003–04. TT-Line—wholly owned by the Tasmanian Government—carried almost all sea passengers.
- TT-Line carried a total 505 639 one way passengers—a slight increase—and 228 268 vehicles in 2003–04. The number of one way motor vehicle passengers carried by TT-Line was 438 841—an increase of 6 343 (1.5 per cent), while the number of berth only passengers decreased 5 101 (7.1 per cent) over 2002–03. The number of eligible vehicles increased by 9 588 (up 4.4 per cent).
- On 13 January 2004 TT-Line commenced a Sydney–Devonport service. In the year to June 2004 this new service carried 33 598 one way passengers, including 29 726 motor vehicle passengers, and 15 708 vehicles.
- TT-Line's capacity growth outstripped traffic growth in 2003–04 and the average number of passengers and vehicles carried per voyage declined.
- TT-Line reported an operating loss of $3.4 million for 2003–04. Operating revenues increased 14 per cent and operating costs increased 21 per cent (compared to 2002–03 values adjusted for the sale of the *Spirit of Tasmania*).
- Rebates paid under the Scheme accounted for 22.2 per cent of TT-line operating revenues in 2003–04, down slightly on 2002–03. This compares to 17.6 per cent of TT-Line revenue in 1997–98—the first full year of application.
- The Bureau's indicative estimate is that 9 300 extra tourists travelled from Melbourne as a result of the Scheme, spending $18.5 million in Tasmania (the Scheme also benefited Tasmanians, non-leisure visitors and Sydney travellers).

EXECUTIVE SUMMARY

BASS STRAIT PASSENGER VEHICLE EQUALISATION SCHEME

Passengers travelling with a vehicle across Bass Strait can receive a rebate funded by the Australian Government under the Bass Strait Passenger Vehicle Equalisation Scheme (the Scheme). The rebate is applied against the fare charged by a ferry operator to transport an accompanied passenger vehicle across Bass Strait.

The aim of the Scheme is to reduce the cost of sea going travel across Bass Strait for passengers accompanying an eligible vehicle. In 2003–04 the rebate remained at $150 for standard cars, $75 for motorbikes, $21 for bicycles and up to $300 for larger eligible vehicles.

PAYMENTS UNDER THE SCHEME

The Scheme is demand driven and payments were uncapped in 2003–04.[1] Total funding therefore varies with the number—and mix—of eligible vehicles carried by sea across Bass Strait.

In 2003–04 the total actual expenditure under the Scheme was $34.3 million. This was an increase of 7.7 per cent over 2002–03, following the September 2002 decision to extend the Scheme's coverage to additional vehicle types and increase the off peak and shoulder season rebates (BTRE 2004).[2]

Of total spending under the Scheme, $34.24 million—over 99 per cent—went to eligible passengers with an accompanying vehicle travelling on TT-Line services. The average reimbursement per eligible TT-Line passenger was $78—an increase of 6.1 per cent from 2002–03.

OPERATION OF THE SCHEME

Passengers must generally accompany their vehicles to be eligible for a rebate. Eligible passenger vehicles include motor cars, buses, motorcycles, motor homes, eligible passenger vehicles towing a caravan, and push bikes. In the case of TT-Line, passengers pay the vehicle fare net of the rebate and the rebate is paid direct to the operator.

In 2003–04 the number of one way trips by motor vehicle passengers on TT-Line services increased by 6 343—an increase of approximately 1.5 per cent on 2002–03. The number of eligible vehicles increased by 9 588 (up 4.4 per cent). Reimbursements to TT-Line increased 7.7 per cent in 2003–04—factors driving this increase included increased eligible vehicle numbers, the decline in the average passengers per vehicle from 2.1 to 2.0, the increase in the number of vehicles towing a caravan and motor

1 From 2004–05, Scheme funding for services on the Sydney–Devonport route has been capped at $8 million per annum (Department of Transport and Regional Services 2005).

2 From 1 September 2002 the off peak ($100) and shoulder ($120) rebates were increased to $150.

homes (which attract a higher rebate), and application of the higher, flat rebate to the full financial year.

SEA TRAFFIC AND SERVICES

1.23 million adult passengers travelled across Bass Strait in 2003–04—an increase of approximately 157 000 (14.7 per cent) on 2002–03. The majority—over 80 per cent—travelled by air. Domestic air passengers to and from Tasmania increased by 17.9 per cent over 2002–03.

There were 240 000 adult sea passengers—a small net increase of approximately 1 500 adult sea passengers over 2002–03. The estimated number of adult visitors travelling by sea was down almost 13 000 (7.1 per cent) and the number of adult Tasmanian residents travelling by sea was up more than 14 000 (23.7 per cent).

In terms of tourism, total air and sea visitor numbers increased by 13.4 per cent to almost 740 000. The decline in the number of adult visitors travelling by sea (down almost 13 000) was more than offset by a large increase in the number of visitors travelling by air (approximately 48 600). Consequently, the proportion of adult visitors who travelled by sea decreased to 22 per cent (27 per cent in 2002–03).

Three operators provided sea services in 2003–04—TT-Line, Patrick Shipping and Southern Shipping.

TT-Line carried almost all sea passengers and accompanying motor vehicles in 2003–04. TT-Line's *Spirit of Tasmania III* began operating the Sydney–Devonport route on 13 January 2004. The number of TT-Line voyages increased 21.6 per cent—*Spirit of Tasmania I/II* voyages increased by 48 (5.7 per cent) while the new *Spirit of Tasmania III*/Sydney service increased total voyages by 135 (16 per cent).

TT-Line carried a total 505 639 one way passengers—including 438 841 motor vehicle passengers—and 228 268 vehicles in 2003–04. The number of one way motor vehicle passengers increased by 6 343 (1.5 per cent). This included traffic on the Sydney–Devonport service which carried 33 598 one way passengers—including 29 726 motor vehicle passengers—and 15 708 vehicles between January and June 2004.

Overall, TT-Line's capacity growth outstripped traffic growth and the average number of passengers and vehicles carried per voyage declined over 2002–03.

CHANGES IN FARES

Sea passengers pay different passenger and vehicle fares, depending on the route, season, style of accommodation and type of passenger vehicle. TT-Line increased sea fares on the Melbourne–Devonport route by an average of 3.2 per cent on 1 September 2003.

The entry of low cost carriers in the Tasmanian air market has resulted in significant reductions in discount air fares between Tasmania and the mainland. These reductions are the major driver of rapid growth in the number of air passengers between the mainland and Tasmania in 2003–04.

In order to put the rebate in context, it is useful to consider the cost of broadly comparable sea and air transport packages in 2003–04. For an 8 night stay, this simplified comparison indicates that a fly-drive package with a heavily discounted air fare may have been the better deal during the off peak season. However, for comparable trip lengths sea travel was likely to have been a better option for the other scenarios.

IMPACT OF THE SCHEME ON TRAFFIC

The rebate substantially reduces the cost of freighting an accompanying vehicle for eligible passengers. In 2003–04 the $150 rebate on a standard car represented 22.8 per cent of the Bureau's benchmark one way Melbourne–Devonport sea fare for a couple travelling with an eligible passenger car.

Traffic trends since 1996 indicate that the Scheme has contributed to the number of motor vehicle passenger numbers.

Motor vehicle passenger growth in 2003–04 was relatively modest compared with 2002–03. This was despite the introduction of a new Sydney–Devonport service on 13 January 2004. Motor vehicle passenger numbers had grown substantially in 2002–03 following the September 2002 increases in TT-Line capacity and frequency, coupled with changes to the Scheme eligibility and increases in off peak and shoulder rebates.

In order to more fully assess the impact of the Scheme the Bureau has conducted econometric modelling of the Melbourne-Devonport sea market and Melbourne-Tasmanian air market. The sea model does not include the Sydney to Devonport route as it will be several years before there is sufficient data. The Bureau cautions that the econometric models have limitations and the results should be interpreted with care.

The econometric modelling of the sea market indicates that in 2003–04 the Scheme increased motor vehicle passenger movements using the Melbourne–Devonport ferry service by approximately 70 200—20 per cent of motor vehicle passenger movements. This proportion has fallen since the introduction of the Scheme.

ASSESSING THE IMPACT ON TOURISM

The Scheme is estimated to have resulted in an additional 70 200 motor vehicle sea passenger movements on the Melbourne-Devonport route in 2003–04. This may include some passengers who would have otherwise travelled as berth only sea passengers or by air.[3] Berth only passengers have consistently declined since the introduction of the Scheme. Trend analysis of the five years prior to the Scheme indicates a small trend growth in the number of berth only passengers—extrapolating this trend indicates that the Scheme may have reduced the number of berth only passenger movements by approximately 32 900 in 2003–04. This indicates the Scheme may have resulted in a net increase in sea passenger movements of approximately 37 300[4]—equivalent to 18 650 return trips between Melbourne and Devonport.

According to Tourism Tasmania visitor survey data approximately half of all sea passengers are visitors travelling for recreational purposes. The Bureau's indicative estimate of the number of new leisure visitors who travelled by sea from Melbourne in 2003–04 is therefore 9 300.

If these new visitors spent an average of $1 986 per person[5], then the net new tourism spending would have been $18.5 million in 2003–04. This estimate of additional spending is indicative only and is for visitors travelling for leisure purposes between

3 No adjustment has been made for reduced air travellers as a result of lower sea fares due to the rebate. This is because the econometric modelling of the air market indicates that sea fares are not a significant factor explaining variation in the number of air passengers.

4 The difference between the total motor vehicle passenger econometric estimate and the trend analysis of berth only passengers who became motor vehicle passengers due to the Scheme.

5 The average spending by sea passengers (for all journey purposes) was $1 986 per trip in 2003–04 (Tourism Tasmania 2005).

Melbourne and Devonport—it does not include additional spending by visitors travelling for business and other purposes, visitors using the Sydney–Devonport service, or benefits to Tasmanian residents travelling by sea who received the rebate.

Tourism Tasmania survey data indicates that the number of adult visitors travelling by sea to Tasmania fell in 2003–04, possibly reducing the Scheme's tourism impact compared to 2002–03.

FINANCIAL POSITION OF THE OPERATORS

The major operator in 2003–04 was TT-Line. In 2003–04 TT-Line reported an operating loss for 2003–04 of $3.4 million. Operating revenues increased by 14 per cent and operating costs increased 21 per cent compared to 2002–03 values adjusted for the sale of the *Spirit of Tasmania*.

While average voyage costs were unchanged, average revenue per voyage fell and the average cost per passenger increased significantly in 2003–04.

Rebates paid under the Scheme accounted for 22.2 per cent of TT-line operating revenues in 2003–04, down slightly on 2002–03. This compares to 17.6 per cent of TT-Line revenue in 1997–98—the first full year of application.

CHAPTER 1 INTRODUCTION

HISTORY OF THE SCHEME

In August 1996, the Commonwealth Minister for Transport and Regional Development announced the introduction of the Bass Strait Passenger Vehicle Equalisation Scheme (the Scheme). 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).

The Scheme applied to travel from 1 September 1996. It provided a rebate against the fare charged by a sea ferry operator to transport an accompanied passenger vehicle across Bass Strait.

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 was made available for passenger vehicles carried by sea where the driver travelled by commercial air service on or about the same day.

The Scheme operates under a set of Ministerial Directions. In 2003–04 the Scheme was administered in accordance with Directions issued in September 2002 (Department of Transport and Regional Services 2002) which included significant changes to the Scheme—notably that the previous seasonal structure for rebates was replaced by constant rebates throughout the year, and the Scheme was expanded to include additional vehicle types.

ADMINISTRATION OF THE SCHEME

The Ministerial Directions are administered by Tasmanian Assistance Services—a business unit within Centrelink.

Policy direction and funding for the Scheme during 2003–04 was provided by the Transport Programmes Division of the Department of Transport and Regional Services.

REQUIREMENT FOR MONITORING

The Ministerial Directions require the Bureau of Transport and Regional Economics—previously the Bureau of Transport Economics—to monitor the effectiveness of the Scheme on an annual basis (see Appendix A). They state that the Bureau should have specific regard to movements in a service operator's revenue and annual operating costs, and to the annual number of eligible passengers, eligible passenger vehicles and passengers travelling under related bookings.

The Bureau has prepared seven previous reports on the Scheme, the most recent covering 2002–03. It has generally concluded that the fare reductions provided by the Scheme have resulted in increased sea travel across Bass Strait.

OUTLINE OF THE REPORT

This report presents the results of the eighth annual review of the Scheme, covering 2003–04. It incorporates data provided by TT-Line (from its management database and annual reports), Tasmanian Assistance Services and Tourism Tasmania.

Chapter 2 covers changes in Bass Strait sea and air services and traffic levels.

Chapter 3 describes the operation of the Scheme in terms of its coverage, payment of the rebate, claims for reimbursement and levels of payments.

Chapter 4 covers the changes in air and sea fares and compares various travel package scenarios.

The impact of the Scheme on traffic levels is examined in chapter 5, which includes the results of econometric modelling undertaken by the BTRE.

Changes in TT-Line's revenue and expenses are considered in chapter 6.

Appendixes present the monitoring provisions in the 2002 Ministerial Directions and information on the re-estimation of the econometric model.

Summary

- Tourism and many other activities in Tasmania rely heavily on transport services across Bass Strait.
- Passengers accompanying an eligible vehicle across Bass Strait may receive a rebate funded by the Australian Government.
- The aim of Bass Strait Passenger Vehicle Equalisation Scheme is to reduce the cost of sea going travel for passengers accompanying an eligible vehicle.
- The rebate is applied against the fare charged by a ferry operator to transport an accompanied eligible passenger vehicle across Bass Strait.

CHAPTER 2 BASS STRAIT SERVICES AND TRAFFIC

Approximately 1.23 million adult passengers travelled by air and sea across Bass Strait in 2003–04 (table 2.1). This was an increase of 157 000 (14.7 per cent) on 2002–03. The majority—over 80 per cent—travelled by air. The total number of adult sea passengers was 240 600 (19.6 per cent), an increase of 1 500 over 2002–03.

Total visitor numbers increased by over 87 000 (13.4 per cent) to almost 740 000—60 per cent of total adult passengers. The number of adult visitors travelling by sea declined 12 751 (-7.1 per cent), whereas the number of adult visitors travelling by air increased by 48 622 (21.8 per cent). The proportion of adult visitors who travelled to Tasmania by sea was 22.5 per cent—down from 27 per cent in 2002–03.

The proportion of adult sea visitors travelling for holiday or leisure purposes was 72.3 per cent, compared with 47.3 per cent for air visitors (table 2.1).

TABLE 2.1 NUMBER OF ADULT RETURN PASSENGERS TRAVELLING BETWEEN TASMANIA AND THE MAINLAND BY PURPOSE ('000), 2003–04[a]

Purpose of travel	Air	Sea	Total
Visitors to Tasmania			
Holiday/leisure	271.4	120.1	391.5
Visiting friends/relatives	149.0	22.7	171.7
Business	103.3	15.5	118.9
Conference	23.1	0.9	24.0
Other / purpose not specified	26.6	6.8	33.4
Total visitors	573.5	166.2	739.8
Tasmanian residents			
Holiday/leisure	133.5	30.5	164.1
Visiting friends/relatives	137.1	20.0	157.1
Business	106.1	9.0	115.2
Conference	9.3	0.2	9.6
Moving out of Tasmania	5.1	11.2	16.3
Other / purpose not specified	21.9	3.3	25.2
Total Tasmanians	413.3	74.4	487.7
Total passengers	986.9	240.6	1 227.5

a. Excludes minors and day trippers. Data collected by survey and subject to sampling error.
Source Tourism Tasmania Tasmanian Visitor Survey–personal communications 2005.

The number of adult Tasmanian residents—excluding day trippers—who travelled to the mainland by air and sea was approximately 487 000 in 2003–04 (table 2.1), an increase of 14.7 per cent over 2002–03 (BTRE 2004). The proportion of adult Tasmanians travelling by sea was 15.3 per cent in 2003–04—up from 14 per cent in 2002–03.

SEA SERVICES AND PASSENGERS

Ferries operated by TT-Line provided the main sea passenger service across Bass Strait in 2003–04. These vessels carried 41 per cent of adult passengers (air and sea) and 99.9 per cent of the accompanied motor vehicles on the route in 2003–04.

TT-Line carried a total 505 639 one way passengers and 228 268 vehicles in 2003–04. The number of one way motor vehicle passengers carried by TT-Line increased by 6 343 (up 1.5 per cent) to 438 841. The number of eligible vehicles increased by 9 588 (up 4.4 per cent). This data includes the Sydney–Devonport service, which carried 33 598 one way passengers—including 29 726 motor vehicle passengers—and 15 708 vehicles between January and June 2004.

The *Spirit of Tasmania I* and *Spirit of Tasmania II* have operated the Melbourne–Devonport route since 1 September 2002, more than doubling the available passenger capacity (212 per cent) and nearly doubling the available motor vehicle capacity (185 per cent) on this route (BTRE 2004). Each ship can carry up to 1 400 passengers and 600 cars but have a maximum passenger capacity of 1 040 on night crossings.

The *Spirit of Tasmania III* began operating the Sydney–Devonport route on 13 January 2004. This ship provides a different mix of accommodation to *Spirit of Tasmania I and II*, and includes hostel berths. It can carry up to 1400 passengers and 410 cars (Sydney Port Corporation 2004). Each trip is approximately 20 hours, twice the duration of the Melbourne–Devonport trip (TT–Line undated).

In addition to TT-Line, two other operators provided services across Bass Strait in 2003–04. Southern Shipping operated the *Matthew Flinders*—with facilities for up to 12 passengers and 300 tonnes of cargo, and Patrick Shipping operated the *Searoad Mersey*—a freight only service. These operators combined carried only 226 motor vehicles in 2003–04, compared with 228 268 carried by TT-Line (table 2.2).

TABLE 2.2 TOTAL MOTOR VEHICLES CARRIED BY OPERATOR 2003–04

Operator	Motor vehicles carried	Share of total (per cent)
TT-Line	228 268	99.9
Patrick Shipping	198	0.1
Southern Shipping	28	0.0
Total vehicles	**228 494**	**100.0**

Source Tasmanian Assistance Services—personal communications February 2005.

Given the importance of TT-Line services, this report focuses on TT-Line services.

The number of sea voyages by TT-Line between Melbourne and Devonport has increased three-fold since the introduction of the Scheme—from 295 in 1995–96 to 894

in 2003–04 (table 2.3). Average vessel size—and hence their available capacity—increased substantially with the introduction of the *Spirit of Tasmania I and II* in September 2002.

In 2003–04 the number of TT-Line voyages increased 21.6 per cent—*Spirit of Tasmanian I/II* voyages increased by 48 (5.7 per cent) while the new *Spirit of Tasmania III*/Sydney service increased total voyages by 135 (16 per cent).

TABLE 2.3 TT-LINE ONE WAY VOYAGES, 1995–96 TO 2003–04

Voyages (no.)	95–96	96–97	97–98	98–99	99–00	00–01	01–02	02–03	03–04
Spirit of Tasmania	295	313	323	334	347	379	367	a	na
Devil Cat	na	na	117	171	108	99	118	na	na
Spirit of Tasmania I/II	na	na	na	na	na	na	na	846	894
Spirit of Tasmania III	na	na	na	na	na	na	na	na	135
Total Voyages	295	313	440	505	455	478	485	846	1029

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/II.
Source TT-Line (2004) and earlier Annual Reports.

Total TT-Line capacity growth outstripped traffic growth and the average number of passengers and vehicles carried per voyage on the Melbourne–Devonport service declined in 2003–04 (table 2.4). The average number of passengers per voyage on the Melbourne–Devonport route fell 68 (11.4 per cent) compared with 2002–03.

TABLE 2.4 TT-LINE AVERAGE TRAFFIC PER VOYAGE BY SERVICE, 1995–96 TO 2003–04

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	528	249	238	116

a. Includes passengers with an accompanying motor vehicle and berth only passengers.
b. The Sydney–Devonport route represents 6 months of traffic data.
The vehicles per voyage figures for 2003–04 are derived by vehicles per claim period which may not correspond exactly to TT-Line figures.
Source TT-Line (2004) and earlier issues.

AIR SERVICES AND PASSENGERS

The five main air routes into Tasmania from the mainland are Melbourne–Hobart, Melbourne–Devonport, Melbourne–Launceston, Sydney–Hobart, and Sydney–Launceston. In 2003–04 these five routes accounted for 91 per cent of all air passengers—2.1 million one way trips—on all interstate routes (table 2.5).

Total domestic air passengers to and from Tasmania increased by 17.9 per cent over 2002–03. Table 2.5 shows the growth in passengers between Tasmania and the mainland for both the top five routes and all routes.

TABLE 2.5 TOTAL AIR PASSENGERS ('000) BETWEEN TASMANIA AND THE MAINLAND—ONE WAY TRIPS, 1985–86 TO 2003–04

Year	Hobart–Melbourne	Launceston–Melbourne	Hobart–Sydney	Devonport–Melbourne	Launceston–Sydney	All Routes
1985–86	292.5	373.3	40.7	139.2	60.4	1 077.6
1986–87	278.7	378.0	20.4	139.5	56.1	1 027.4
1987–88	295.1	389.9	40.4	143.9	46.3	1 081.5
1988–89	347.0	407.1	44.7	125.9	31.2	1 109.3
1989–90	343.5	250.8	53.4	64.1	3.7	879.3
1990–91	478.2	341.0	66.2	112.3	10.1	1 188.7
1991–92	539.6	393.7	111.2	108.1	24.9	1 299.0
1992–93	565.2	407.1	121.0	105.6	22.5	1 339.9
1993–94	618.9	445.8	106.1	111.8	33.6	1 447.9
1994–95	692.6	479.9	103.7	118.0	42.8	1 570.0
1995–96	733.1	514.2	101.4	124.5	47.1	1 663.5
1996–97	746.0	486.5	86.8	119.2	67.4	1 650.4
1997–98	750.8	444.6	95.5	125.6	73.0	1 642.8
1998–99	749.3	436.4	98.8	123.1	69.7	1 635.0
1999–00	790.1	450.0	105.2	136.4	71.8	1 681.1
2000–01	824.2	434.8	144.8	123.3	76.1	1 716.4
2001–02	768.4	455.1	186.5	97.3	70.3	1 665.1
2002–03	806.7	468.5	196.7	106.0	98.6	1 783.9
2003–04	941.8	560.4	206.9	112.2	100.8	2 104.0

Note *Passenger numbers are one way trips by revenue passengers—those passengers paying any level of fare on scheduled domestic regular public transport services.*
Source *BTRE (http://www.btre.gov.au/statistics/aviation/domestic_time_series_downloads.aspx).*

In the last ten years air passengers recorded the largest single year growth between 2002–03 and 2003–04, reaching the highest number of passengers recorded in the 18 year period to 2003–04. This rise comes on the back of a record high average load factor of 78.9 per cent, the highest average load factor in the period 1985–86 to 2003–04 for the top five routes.

Summary

- 1.23 million adult passengers travelled across Bass Strait in 2003–04—an increase of approximately 157 000 (14.7 per cent) on 2002–03.
- The majority of adult passengers—over 80 per cent—travelled by air. Domestic air passengers to and from Tasmania increased by 17.9 per cent over 2002–03.
- There were 240 000 adult sea passengers in 2003–04—a small net increase of approximately 1 500 adult sea passengers. The number of visitors travelling by sea was down almost 13 000 (7.1 per cent) and the number of Tasmanian residents travelling by sea was up over 14 000 (23.7 per cent).
- In terms of tourism, total air and sea visitor numbers increased by 13.4 per cent to almost 740 000. A decline in the number of adult visitors travelling by sea (almost 13 000) was offset by the increase in the number of visitors travelling by air (48 600). Consequently, the proportion of adult visitors who travelled by sea decreased to 22 per cent (27 per cent in 2002–03).
- The number of adult residents (excluding day trippers) who travelled by air or sea was approximately 487 000—an increase of 14.7 per cent over 2002–03.
- Three operators provided sea services: TT-Line, Patrick Shipping and Southern Shipping. TT-Line carried almost all sea passengers and eligible vehicles.
- TT-Line capacity increased substantially in 2003–04. This includes *Spirit of Tasmania III* which began operating Sydney–Devonport on 13 January 2004. The number of TT-Line voyages increased 21.6 per cent—*Spirit of Tasmania I/II* voyages increased by 48 (5.7 per cent) while the new *Spirit of Tasmania III* (Sydney service) increased total voyages by 135 (16 per cent).
- TT-Line carried 505 639 one way passengers and 228 268 eligible vehicles. The number of eligible vehicles increased by 9 588 (up 4.4 per cent) and one way motor vehicle passengers increased by 6 343 (up 1.5 per cent) to 438 841. This includes Sydney–Devonport traffic of 33 598 one way passengers—including 29 726 motor vehicle passengers—and 15 708 vehicles between January and June 2004.
- TT-Line capacity growth outstripped traffic growth and the average number of passengers and vehicles carried per voyage between Melbourne and Devonport declined over 2002–03.

CHAPTER 3 OPERATION OF THE SCHEME IN 2003–04

The Scheme covers passenger vehicles with an accompanying driver. Passenger vehicles include motor cars, buses, motorcycles and—from 1 September 2002—motor homes, eligible passenger vehicles towing a caravan, and push bikes.

In order to be eligible for the rebate, vehicles must be primarily designed to carry passengers on public roads or be deemed to be motor homes or campervans. Vehicles designed to carry cargo are not eligible for the rebate and are carried as freight.

The Scheme applies to any service operator providing passenger and vehicle services between Tasmania and mainland Australia on an eligible route, or carrying vehicles between King Island and mainland Australia.

SCHEME REBATES

Table 3.1 summarises the one way rebates for eligible vehicles that applied in 2003–04. These rebates reflect the 1 September 2002 changes to the Ministerial Directions that raised the rebate in the off peak and shoulder periods to the peak season rebate, and extended the Scheme to other vehicle types. It should be noted that TT-Line currently maintains a seasonal fare structure (chapter 4).

The change to a constant rebate reduces the aggregate sea fare for passengers with an eligible accompanying vehicle in the shoulder and off peak periods.

Rebates on the King Island route have always been constant throughout the year.

TABLE 3.1 ONE WAY REBATES FOR ELIGIBLE VEHICLES ON THE MAIN BASS STRAIT AND KING ISLAND ROUTES, 2003–04

Eligible Vehicle Class	Rebate
1 July 2003-to 30 June 2004	
Motor car or bus	Up to 150
Motor home	Up to 300
Eligible passenger vehicle towing a caravan	Up to 300
Motorcycle	Up to 75
Bicycle	21

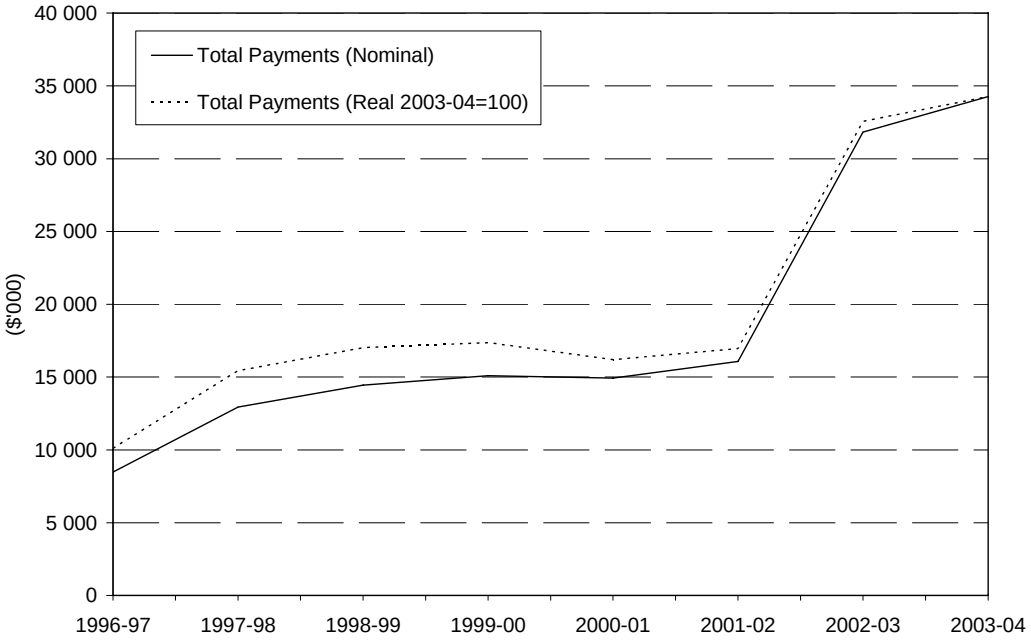
Note. *Previously, an off peak rebate applied each year from 1 July to 31 August and 27 April to 30 June, and a shoulder rebate applied from 1 September to 5 December and from 26 January to 26 April. The round-trip rebate is exactly double the one way trip rebate.*

Sources *Department of Transport and Regional Services (2002, pp.10-11). TT-Line—personal communications 2005.*

REIMBURSEMENTS AND PAYMENTS UNDER THE SCHEME

Total actual reimbursements to all operators under the Scheme increased 7.7 per cent in 2003–04 to $34.3 million. This increase follows a 99.6 per cent increase in the total rebate paid under the Scheme in 2002–03 due to the combined effect of the increase in capacity as a result of the introduction of the new TT-Line vessels—*Spirit of Tasmania I* and *Spirit of Tasmania II*—and the 1 September 2002 changes to the Ministerial Directions (table 3.1 and figure 3.1).

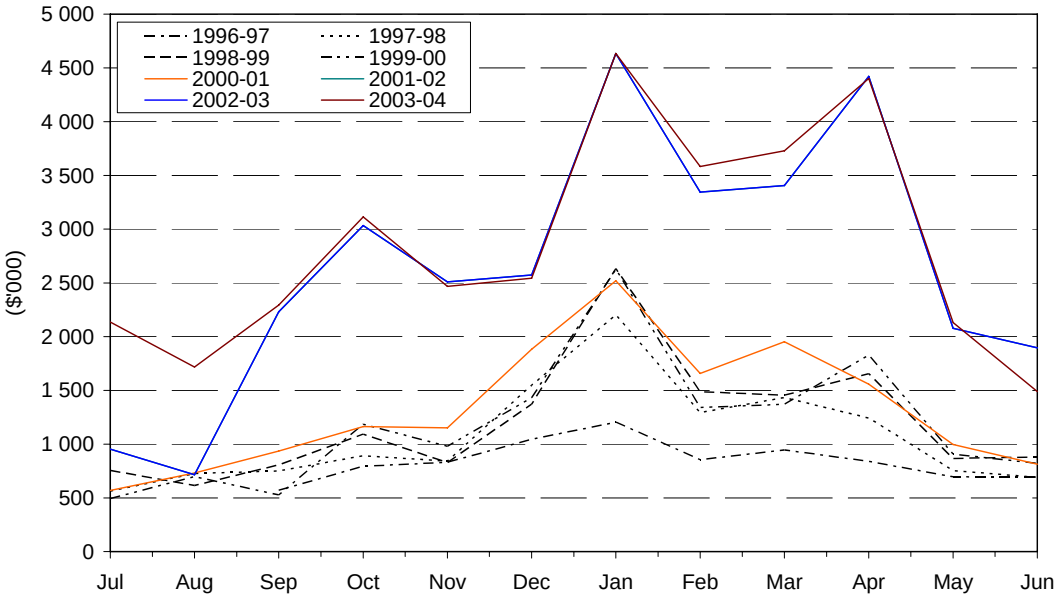
FIGURE 3.1 TOTAL 'ACTUAL' REBATE REIMBURSEMENTS UNDER THE BASS STRAIT PASSENGER VEHICLE EQUALISATION SCHEME, 1996–97 TO 2003–04



Note: *'Actual' refers to the vehicles actually shipped and disregards the advanced payment and numbers for scheduled bookings.*
Source *Tasmanian Assistance Services—personal communications, February 2005 and earlier.*

Figure 3.2 shows the seasonal nature of reimbursements—notably the peaks in January and April. Most notable in Figure 3.2 is the large increase in rebates paid to TT-Line in 2002–03 and 2003–04 compared with previous years.

FIGURE 3.2 VALUE OF TT-LINE CLAIMS BY PERIOD



Source *Tasmanian Assistance Services—personal communications, February 2005, and earlier.*

In 2003–04 the number of one way trips by TT-Line motor vehicle passengers increased by 6 343—approximately 1.4 per cent—and total reimbursements to TT-Line increased 7.7 per cent (table 3.2).

TABLE 3.2 TT-LINE'S AVERAGE REIMBURSEMENT PER MOTOR VEHICLE PASSENGER 1996–97 TO 2003–04

	Reimbursements paid to TT-Line ($)		Motor vehicle passengers	Average reimbursement per motor vehicle passenger ($)	
	Nominal	Real[a]	(one way trips)	Nominal	Real[a]
1996–97	8 474 915	10 105 790	153 045	55.40	66.03
1997–98	12 938 565	15 434 820	231 098	56.00	66.79
1998–99	14 446 755	17 012 821	261 487	55.20	65.06
1999–00	14 211 445	16 348 290	248 745	57.10	65.72
2000–01	15 030 670	16 309 755	259 438	57.90	62.87
2001–02	15 932 170	16 804 925	272 922	58.40	61.57
2002–03	31 793 065	32 529 710	432 498	73.50	75.21
2003–04	34 235 612	34 235 612	438 841	78.00	78.00

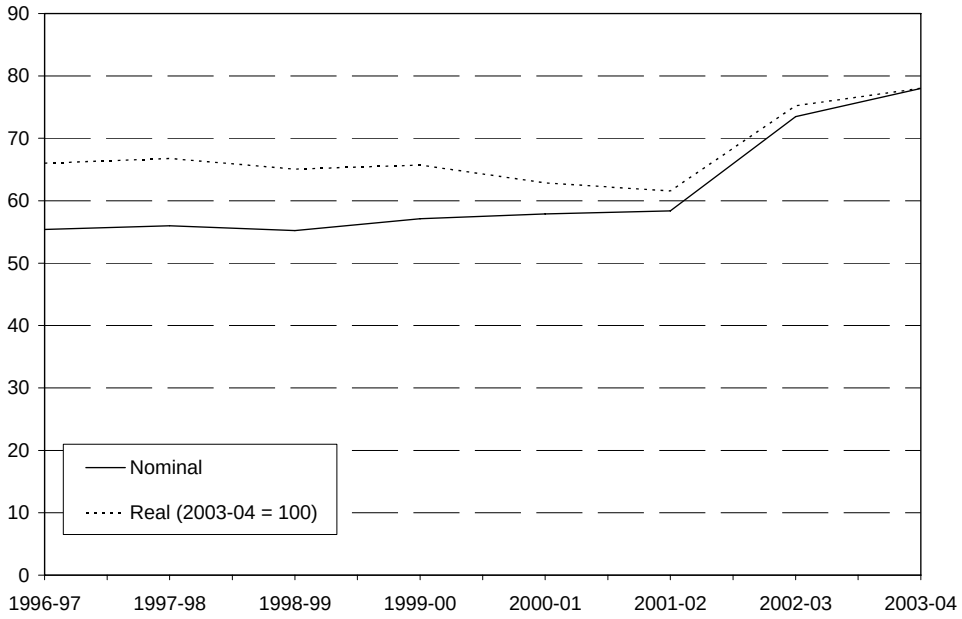
a. *Real 2003–04 dollars.*
Sources *Tasmanian Assistance Services–personal communications 2005 and earlier; TT-Line–personal communications 2005 and earlier.*

The average nominal rebate to TT-Line per motor vehicle passenger increased by 6.1 per cent to $78 in 2003–04 (table 3.2 and figure 3.3). This increase in the average rebate in part reflects:

- the new, higher flat rebate applied for 12 months (9 months in 2002–03)
- the decline in the average passengers per vehicle from 2.1 to 2.0; and
- the increase in the number of vehicles towing a caravan and motor homes which attracted a higher rebate (table 3.1).

These relatively modest increases in 2003–04 follow very large increases in TT-Line reimbursements and one way motor vehicle trips in 2002–03. In that year the number of Melbourne–Devonport motor vehicle passengers increased by more than 159 000 one way trips, or 58.5 per cent, and the average rebate increased from $58.40 to $73.50 —an average increase in nominal terms of 25.8 per cent (table 3.2 and figure 3.3).

FIGURE 3.3 AVERAGE REIMBURSEMENT PER MOTOR VEHICLE PASSENGER ($), 1996–97 TO 2003–04



Sources *Tasmanian Assistance Services—personal communications 2005 and earlier, TT-Line—personal communications 2005 and earlier.*

Summary

- Passengers must generally accompany their vehicles to be eligible for a rebate. TT-Line passengers pay the vehicle fare net of the rebate and the rebate is paid direct to the operator.
- On 1 September 2002 low and shoulder season rebates for eligible TT-Line accompanied vehicles were increased to the peak season rebate.
- The number of one way trips by TT-Line motor vehicle passengers increased by 6 343 over 2002–03 (1.4 per cent). Reimbursements to TT-Line increased 7.7 per cent and the average nominal rebate increased 6.1 per cent to $78.

CHAPTER 4 CHANGES IN FARES

SEA FARES

The effect of the rebate for an eligible TT-Line motor vehicle passenger will vary according to the passenger type (full fare or concession), season of travel, the passengers choice of accommodation and their vehicle. TT-Line's passenger and vehicle fares vary during the year reflecting the seasonal nature of demand. TT-Line maintains a seasonal fare structure for passengers and vehicles.[6]

TT-Line increased its overnight passenger fares by an average of 3.2 per cent from 1 September 2003, while day fares increased by $15 in the peak period and $10 in the shoulder period. Vehicle fares remained unchanged. The company stated that it had increased passenger fares to offset increases in operating costs—including labour, inflation and fuel costs (TT-Line Company Pty Ltd 2003).[7]

In order to better understand the impact of the Scheme on sea fares, the Bureau has constructed a benchmark sea fare for a TT-Line sea travel package for 2 people with a given standard of accommodation and a motor car (tables 4.1 and 4.2). The 1 September 2003 fare increases raised the Bureau's benchmark sea fare for the one adult during peak season (inside 3–4 berth cabin) by 2.9 per cent ($206 to $212).

TABLE 4.1 BENCHMARK ONE WAY PASSENGER FARES MELBOURNE–DEVONPORT ($), END 2003–04[a]

Passenger type	Off peak	Shoulder	Peak
Adult	184	193	212
Pensioner	111	117	129
Senior	156	164	181
Tertiary student	138	145	160
Child/student	94	98	108

a. Calculated using TT-Line fares for an inside cabin (3-4 berth)—the benchmark accommodation for calculating the rebate. Fares exclude meals. Fares effective from 1 September 2003.

Source TT-Line—personal communications 2005.

As shown in Table 4.2, the Sydney–Devonport benchmark sea fare as at June 2004 was significantly higher than the Melbourne–Devonport benchmark fare. This reflects the longer voyage duration—approximately 20 hours compared with 10 hours for the Melbourne-Devonport service—and inclusion of meals in the Sydney benchmark fare.

6 In 2003-04 TT-Line's off peak season covered 1 July 2003 to 29 August 2003 and 27 April 2004 to 30 June 2004. The shoulder season covered 30 August 2003 to 5 December 2003 and 26 January 2004 to 26 April 2004. The peak season covered 6 December 2003 to 25 January 2004.

7 TT-Line had previously increased its fares by $4 to $5 per passenger in January 2003 to recover increased security costs (TT-Line Company Pty Ltd 2002).

TABLE 4.2 BENCHMARK ONE WAY PASSENGER FARES SYDNEY–DEVONPORT ($), END 2003–04[a]

Passenger type	Off peak	Shoulder	Peak
Adult	360	400	475
Senior/Tertiary	306	340	404
Child/student	184	204	242
Pensioner	270	300	356

a. Calculated using TT-Line fares for an inside cabin (3-4 berth)—the benchmark accommodation used to calculate the rebate. Fares include dinner and brunch.
Source TT-Line—personal communications 2005.

TABLE 4.3 TT-LINE ONE WAY NET FARES FOR SELECTED VEHICLE CLASSES ($), 30 JUNE 2004

Vehicle Type - Length	Off peak	Shoulder	Peak
Standard cars/vehicles and vehicles towing trailers less than 2.0 metres wide			
0.1 – 5.0 metres	0	0	55
5.1 – 6.0 metres	27	32	96
Campervans/motor homes less than 2 metres wide			
0.1 – 6.0 metres	0	0	55
Motor homes/campervans and vehicles towing caravans[a]			
0.1 – 7.0 metres	0	0	84
7.1 – 8.0 metres	25	49	147
8.1 – 9.0 metres	50	98	210
9.1 – 10.0 metres	75	147	273
10.1 – 11.0 metres	100	196	336
Over 11.0m + $/per metre	25	49	63
Vehicles towing trailers or vehicles other than motor homes/campervans[a]			
0.1 – 6.0 metres	67	101	171
6.1 – 7.0 metres	150	150	234
7.1 – 8.0 metres	175	199	297
8.1 – 9.0 metres	200	248	360
9.1 – 10.0 metres	225	297	423
10.1 – 11.0 metres	250	346	486
Over 11.0m + $/per metre	25	49	63
Motor bike	0	0	39
Motor bike-side car/trailer	22	22	91

a. Where total length is greater than 6 metres or width greater than 2 metres. Maximum height 4.2 metres. Maximum width 2.4 metres. This group of vehicles receives the standard $150 rebate.
Source TT-Line—personal communications 2005.

In addition to their own fare, TT-Line passengers pay a fare for their accompanying passenger motor vehicle. Table 4.3 presents vehicle fares for TT-Line (net of the Scheme rebate) as at 30 June 2004.

Motor vehicle fares for the *Matthew Flinders* and the *Searoad Mersey* are shown in Table 4.4.

As discussed in chapter 2, the Patrick service (*Searoad Mersey*) is a freight only service and passengers accompanying their vehicle must find an alternate means of travel such as air. Those planning to return within 3 months may be eligible for a tourist rate to ship their vehicle with Patrick Shipping. Under this tourist cars rate, the return leg of the vehicle shipment is free.

In the case of the Southern Shipping service, passengers accompanying a vehicle on the *Matthew Flinders* travel for free.

TABLE 4.4 MOTOR VEHICLE FULL FARES FOR PATRICK AND SOUTHERN SHIPPING 2003–04

Patrick Shipping	**Cost One way[a]**
Vehicle up to 4.3 m in length	$333 + 4.1per cent fuel surcharge + GST
Vehicle 4.3 to 5.5 m in length	$377 + 4.1per cent fuel surcharge + GST
Southern Shipping	**Cost One way**
Vehicle up to 4.2 m long	$327 + $28.47 wharfage costs
Vehicle 4.2 m to 4.5 m long	$448 + $28.47 wharfage costs
Vehicle 4.5 m to 4.8 m long	$535 + $28.47 wharfage costs
Vehicle 4.8 m to 5.9 m long	$675 + $42.72 wharfage costs

a. Those planning to return within 3 months may be eligible for a tourist rate to ship their vehicle with Patrick Shipping. Under this rate, the return leg of the vehicle shipment is free.

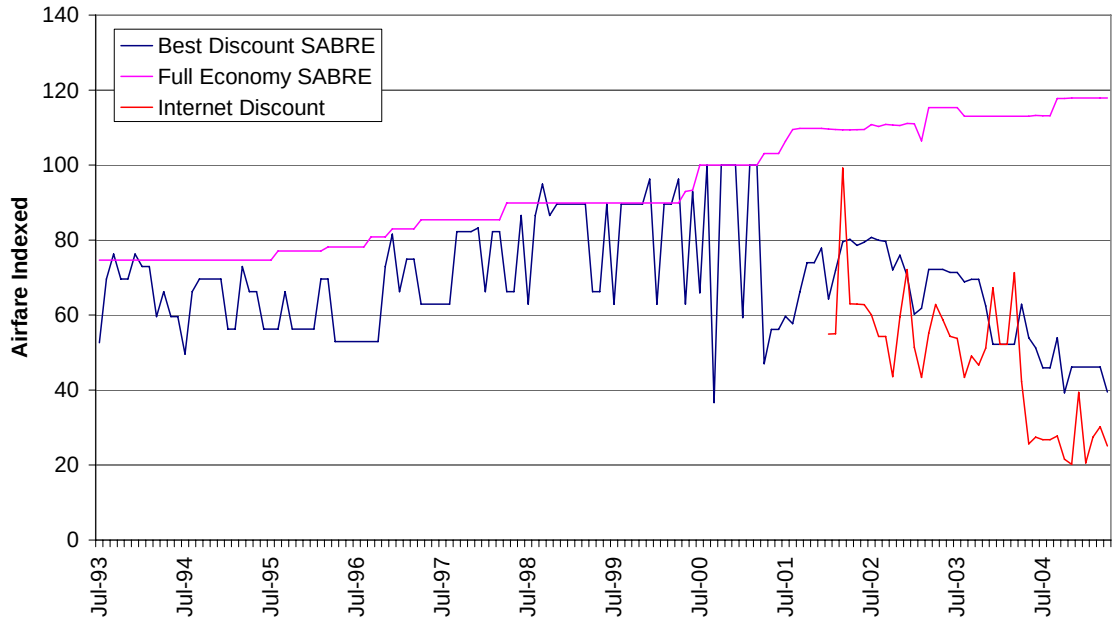
Sources Patrick Shipping—personal communications 2005; Southern Shipping—personal communications 2005.

AIR FARES

The entry of low cost airlines into the domestic market has resulted in substantial falls in discount air fares between Tasmania and the mainland (figure 4.1). Entrants include Virgin Blue which began operating flights between Melbourne and Launceston on 8 November 2001 (Virgin Blue 2001) and Jetstar—a low fares airline wholly owned by Qantas—which commenced operations to Tasmania on 25 May 2004 (Jetstar 2004).

Reductions in discount air fares appear to be the major driver of the rapid growth in the number of air passengers between the mainland and Tasmania in 2003–04. From June 2003 to June 2004 the discount air fare dropped by 28 per cent.

FIGURE 4.1 MELBOURNE–HOBART AIR FARE INDICES JULY 1993 TO APRIL 2005



Note *The full economy and best discount fare indices are constructed by a survey of fares on the SABRE Computer Reservation System. SABRE Pacific does not warrant the accuracy of any of the data provided by its System. Under no circumstances will SABRE Pacific be liable for the loss of profits, loss of use of contracts, or for any economic or consequential loss whatsoever, whether arising from errors in data, negligence, breach of contract or otherwise.*
Base Index November 2000 = 100
Source *BTRE air fares database, unpublished data.*

AIR AND SEA PASSENGER 'PACKAGE' COMPARISON

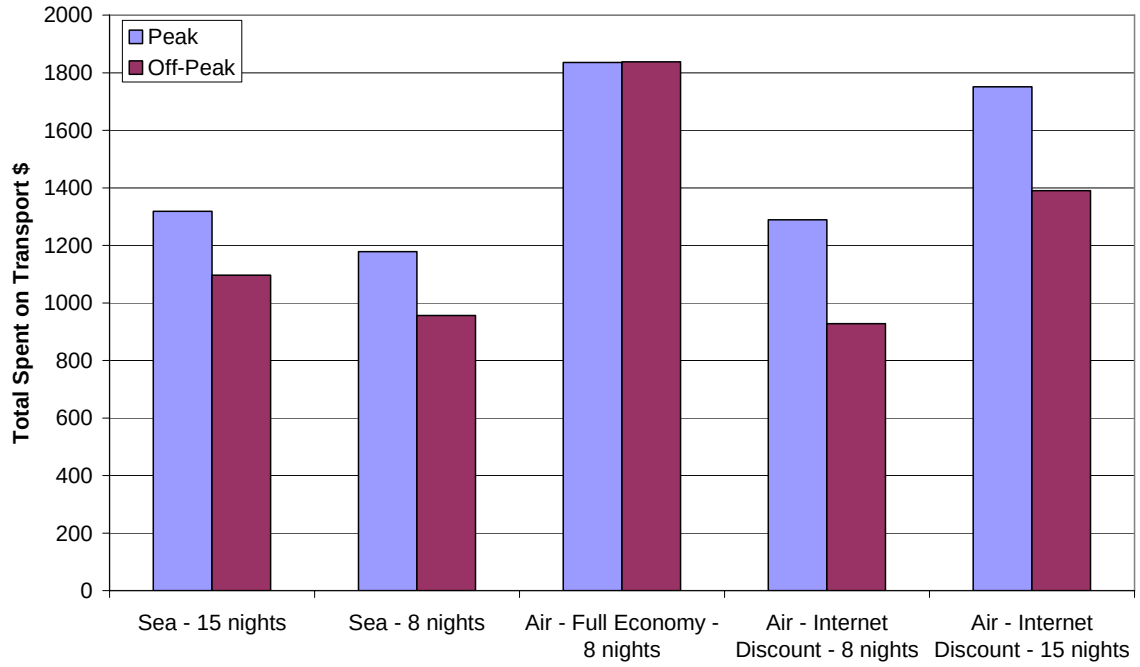
By reducing the cost of travel to Tasmania, the Scheme would be expected to result in additional visitors to Tasmania. However, the Scheme—by effectively reducing the cost of sea travel—also increases the attractiveness of sea travel as compared to air. When considering air and sea travel options, the prospective visitor to Tasmania would consider more than just fares—most notably the costs of rental cars.

In order to put the rebate for eligible passenger vehicles in context, it is useful to consider the cost of broadly comparable sea and air transport packages—taking into account the average length of stay in Tasmania by sea and air visitors, and differences in visitor spending on transport.

The package sea fare used in the Bureau's analysis is for two adults[8] and a standard accompanied passenger vehicle. Figure 4.2 indicates the cost of this sea transport package and the cost of a fly-drive package for two adults.

[8] No concessions.

FIGURE 4.2 INDICATIVE TRANSPORT PACKAGE COSTS TO TASMANIA FOR SEA AND AIR TRAVEL 2003–04



Note *The comparison in this figure is a simplified example to illustrate the differences between air and sea travel costs and should therefore be treated with caution.*

Sources *TT-Line—personal communications 2005; Tourism Tasmania Tasmanian Visitor Survey—personal communications 2005.*

The analysis in Figure 4.2 is based on Tourism Tasmania visitor survey data on the average lengths of stay and spends on transport while in Tasmania in 2003–04:

- The average length of stay for air passengers was 8 nights, whereas sea passengers stayed an average 15 nights.
- The average amount spent on transport by air passengers while in Tasmania per night for 2003–04 was $66 and the average spent on transport by sea passengers while in Tasmania was $20—a difference of $46 per night.

In 2003–04 during the peak season this full price sea package was $509, including the rebate and meals, one way. For a return journey and typical fifteen night stay with a $20 per day spend on transport, this gives a total[9] peak season cost for motor vehicle sea passengers of $1 318. Without the rebate the cost of the peak season sea package would have been $1 618—in this example the rebate has reduced the cost of a peak season sea package by 22.8 per cent. If this was assumed to be an eight night stay, equivalent to the average air passenger stay, then the cost of the 8 night peak season sea package would have been $1 178 ($1 478 without the rebate).

For TT-Line's peak season of January 2004 and assuming a full economy air fare, this fly-drive package would cost a total of $1 836 for a typical eight night stay. Assuming a best-discount internet fare for January 2004, the cost of the 8 night fly-drive discount package was $1 289—however, if this was assumed to be a fifteen night stay, equivalent

[9] Ignores costs associated with car ownership such as depreciation and maintenance.

to the average sea passenger stay—then the cost of the fly-drive discount package would have been $1 751.

During the off peak season—27 April 2004 to 27 August 2004—the package sea fare, including the passenger fare net of the rebate, vehicle fare and meals, would have been $398 one way. For a return journey and average fifteen night stay with a $20 per day spend on transport, the off peak cost for the motor vehicle sea package would have been $1 096. Without the rebate, the cost of the off peak sea package would have been $1 396—the rebate in this example has reduced the cost of an off peak sea package by 27.4 per cent. If this was assumed to be an eight night stay, then the cost of the 8 night off peak season sea package would have been $956 ($1 256 without the rebate).

For the full economy air fares as at the end of June 2004, the total cost of an eight night fly-drive package would be $1 838. Assuming a best-discount internet discount fare for June 2004 and an eight night stay, the cost of an off peak fly-drive package was $928. For the internet discount fares and a fifteen night stay the cost of an off peak fly-drive package would be $1 390.

This comparison is a simplified look at the differences between transport costs for air and sea travel, and should therefore be treated with caution—particularly given the variability of discount air fares. This comparison indicates that:

- for those planning a shorter (8 night) stay: that the fly-drive scenario with a heavily discounted air fare—subject to availability—may have been the best deal in the off peak season;
- sea travel may have been the better option in the other scenarios. Even without the rebate, the 15 day sea travel packages are likely to have been competitive with 15 day fly–drive packages.

Summary

- Sea passengers pay different passenger and vehicle fares, depending on the route, season, style of accommodation and type of passenger vehicle.
- Sea fares on the Melbourne-Devonport route increased by an average 3.2 per cent on 1 September 2003.
- There were substantial falls in discount air fares between Tasmania and the mainland in 2003–04.
- Reductions in discount air fares appear to be the major driver of rapid growth in the number of air passengers between the mainland and Tasmania in 2003–04.
- A simplified comparison of sea and air transport packages indicates that a fly-drive scenario for an 8 day journey and a heavily discounted air fare may have been the best deal in the off peak season, and that sea travel was likely to have been a better option in all other scenarios.

CHAPTER 5 IMPACT OF THE SCHEME ON TRAFFIC

WHY DEVELOP ECONOMETRIC MODELS?

The reductions in sea fares associated with the Scheme would be expected to stimulate increased sea travel across Bass Strait. Lower sea fares would potentially attract travellers from other markets—including other destinations in Australia—and might encourage some travellers, particularly 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. The Bureau has therefore constructed econometric models to help identify the impact of the Scheme on the number of motor vehicle sea passengers and the number of air passengers.

ECONOMETRIC MODEL FOR SEA TRAVEL

The econometric model historically used to assess the impact of the Scheme, was initially developed using time-series data from 1985–86 to 2000–01. It estimated the relationship between the number of motor vehicle passengers—that is, sea passengers with an accompanying motor vehicle—and changes in population, real household disposable income, the sea fare and the full economy air fare. The model has been re-estimated each year with the exception of 2002–03—the Bureau re-specified the model for the 2002–03 review to account for the substantial increases in capacity following the introduction of TT-Line's new ships in September of 2002.

The introduction of the new Sydney *Spirit of Tasmania III* service further complicated the modelling of the Scheme. This new service only operated for five and a half months in 2003–04. Several years of data will be needed before it is possible to produce reliable estimates of the impact of the Scheme for the Sydney–Devonport route.

The estimates presented in this chapter are therefore for the Melbourne–Devonport route only. Appendix B outlines the model and data, and discusses issues related to future modelling of the new route.

Construction of the sea model

The sea model used in this review is the same model used for the 2002–03 review. The model estimates the relationship between the number of motor vehicle passengers and changes in population, real household disposable income, the sea fare and the air fare.

The model includes two dummy variables; the first to account for the influence of the 1991–92 Gulf War and the second to account for the increase in capacity resulting from the introduction of the *Spirit of Tasmania I* and *II* from September 2002.

The Bureau has used the sea fare (own-price) elasticity from the re-estimated model to calculate the net impact of the Scheme on one way motor vehicle passenger numbers.

Results for the Melbourne–Devonport sea model

Table 5.1 presents the estimates of the Scheme's impact on the number of one way trips by motor vehicle passengers based on the Bureau's re-estimated model.

The estimated sea fare (own-price) elasticity of -0.9 obtained from the model indicates that a 1 per cent reduction in the sea fare leads to a 0.9 per cent increase in the number of one way motor vehicle passengers. Similar values for the sea fare (own-price) elasticity were obtained in the earlier versions of the model.

On the basis of this own-price elasticity, the Bureau estimates that in 2003–04 the Scheme resulted in approximately 70 200 additional one way trips by motor vehicle passengers between Melbourne and Devonport. This represents an increase of 20.7 per cent relative to the likely situation without the Scheme.

As can be seen from Table 5.1, the number of one way motor vehicle passengers attributable to the Scheme increased until 1998–99, then ranged between 46 000 and 49 000 motor vehicle passengers per annum until the September 2002 changes to the service and rebates. Following these changes, the estimated number of one way trips by motor vehicle passengers increased to approximately 75 000 in 2002–03 and 70 200 in 2003–04.

Between 1996–97 and 2003–04 the total number of one way trips by motor vehicle passengers grew by over 255 000 (67 per cent).

The proportion of motor vehicle passengers attributed to the rebate has declined from 27 per cent when the Scheme was introduced in 1996–97 to 20.7 per cent in 2003–04.

TABLE 5.1 IMPACT OF THE SCHEME ON MELBOURNE–DEVONPORT MOTOR VEHICLE PASSENGER NUMBERS, ONE WAY TRIPS, 1996–97 TO 2003–04

	Motor vehicle passenger one way trips			
Year	Without Scheme[c]	With Scheme	Difference[c]	Per cent change
1996–97[a]	120 485	153 045	32 559	27.0
1997–98	183 130	231 098	47 968	26.2
1998–99	208 891	261 487	52 596	25.2
1999–00	199 439	248 745	49 306	24.7
2000–01	212 942	259 438	46 496	21.8
2001–02	224 010	272 922	48 912	21.8
2002–03	357 163	432 498	75 335	21.1
2003–04[b]	338 928	409 115	70 187	20.7
All years	**1 844 988**	**2 268 348**	**423 360**	**22.9**

a. Data cover 10 months only in 1996–97 as the Scheme commenced on 1 September 1996. Actual traffic (i.e. with the Scheme) in the full year 1996–97 was 167 788 persons.
b. Data for 2003–04 excludes the Sydney–Devonport route.
c. Estimated values.
Sources TT-Line data and BTRE analysis.

The substantial increase in the number of motor vehicle passengers in 2002—03 and 2003–04 followed the September 2002 increases in capacity and changes to the Ministerial Directions which broadened the scope of the rebate to more vehicle types and increased the off peak and shoulder season rebates.[10] Despite this increase in motor vehicle passenger numbers, the econometric estimates indicate that the overall impact of the Scheme continued to gradually decline as a proportion of total motor vehicle sea passengers on the Melbourne–Devonport route (table 5.1).

In 2003–04 the number of one way passengers who travelled as a result of the rebates was estimated to be 70 200—20.7 per cent of all motor vehicle passengers who actually travelled (table 5.1). This represents a decline of approximately 5 000 estimated additional one way passenger trips over the 2002–03 estimates—this is consistent with actual traffic data which show that 23 383 fewer passengers travelled on the Melbourne and Devonport service in 2003–04 compared with 2002–03.

Reliability of the estimates

It should be noted that in previous analysis 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.

The econometric model for Melbourne–Devonport performs well in terms of standard statistical tests. The variables included in the model explain 95 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 2003–04. In addition, all of the estimated coefficients are highly significant and of the expected sign.

As the model is affected by data limitations, detailed analysis should be interpreted with caution. For example, it uses annual data and covers a relatively short time period, and does not include some potentially relevant variables. Despite these limitations, the econometric results provides empirical support for the view that the Scheme has contributed to the increase in sea passenger travel between Melbourne and Devonport.

ECONOMETRIC MODEL FOR AIR TRAVEL

While the rebate has increased the number of motor vehicle sea passengers, some of these people may have decided to travel by sea rather than air. The Bureau therefore developed an econometric model of air passenger demand between Melbourne and Tasmania to investigate whether the Scheme had significantly reduced the number of air passengers.

Results for the air market model indicate that the sea package fare was not a significant factor in explaining the number of air passengers between 1993–94 and 2003–04 (Appendix C). However, these results should be interpreted with caution as there are significant data limitations.

[10] By comparison, the *Spirit of Tasmania I/II* together provided more than twice the passenger capacity and over three times the car capacity of the *Spirit of Tasmania*. For an in-depth analysis of the effects these changes made in 2002–03, please refer to the *Bass Strait Passenger Vehicle Equalisation Scheme - BTRE Monitoring Report No. 7 2002-2003* (BTRE 2004).

TREND COMPARISONS

In addition to econometric modelling, the Bureau has compared trends in passenger traffic receiving a subsidy under the Scheme with traffics not covered by the Scheme.

Consistently superior growth in the traffics since 1996 that are substantially covered by the Scheme supports the view that the Scheme has contributed to increased sea traffic across Bass Strait.

Trends in tourist traffic

One of the expectations of the Scheme was that it would benefit the Tasmanian tourist industry (Sharp 1996, p. 1). Table 5.2 presents data on the number of adult[11] visitors to Tasmania (return trips), by purpose of travel and mode, over the eight years to 2003–04 and includes sea passengers on the Sydney–Devonport service.

TABLE 5.2 NUMBER OF ADULT VISITORS TRAVELLING TO TASMANIA, BY PURPOSE AND MODE, 1996–97 TO 2003–04[a,b]

	Visitor numbers ('000)							
Purpose/mode	**96–97**	**97–98**	**98–99**	**99–00**	**00–01**	**01–02**	**02–03**	**03–04**
Holiday/leisure								
Sea	49.5	71.7	85.2	86.0	77.9	79.1	120.2	120.1
Air	171.8	187.5	191.3	204.5	192.9	180.2	222.7	271.4
Visiting friends/relatives								
Sea	12.8	16.2	18.3	17.5	17.2	17.6	33.7	22.7
Air	113.5	102.1	106.9	95.8	114.7	102.7	113.6	149.0
Business								
Sea	4.0	4.1	4.9	4.8	5.2	5.5	13.3	15.5
Air	75.8	71.4	70.3	80.3	63.8	85.3	96.9	103.3
Other[c]								
Sea	7.3	4.4	5.5	3.9	9.2	8.4	11.5	7.7
Air	47.9	43.6	41.3	38.8	39.0	40.6	39.8	49.7
Total								
Sea	73.9	96.6	114.1	112.2	109.7	110.8	179.0	166.2
Air	409.2	404.8	409.8	419.4	410.5	409.0	473.2	573.5

Notes. *a. Excludes minors and day trippers. Data collected by survey and subject to sampling error.*
b. Includes passengers on the Sydney–Devonport services from 13 January 2004.
c. Includes attendance at conferences, other purposes and not specified.
Sources *Tourism Tasmania Tasmanian Visitor Survey—personal communications 2001 and 2005.*

[11] Tourism Tasmania visitor data are sample data 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 5.2 shows that the total number of adult sea passengers declined from 179 000 in 2002–03 to 166 200 in 2003–04 (-7.1 per cent), with the largest fall in passenger numbers in the visiting friends and relatives category. However, the number of tourists—those sea passengers travelling for principally holiday and leisure purposes—was virtually unchanged.

For the same 12 month period, the total number of adult air passengers increased by over 100 000, or 21.2 per cent. Almost half of this increase—48 622 passengers—was in the holiday/leisure category (table 5.2).

Trends in other passenger categories

There was a marked decrease in adult sea travellers visiting friends and relatives in 2003–04 and a sharp increase in the corresponding number of air passengers visiting friends and relatives over the previous year. The number of adult sea passengers in this category has increased by almost 10 000 (77 per cent) between 1996–97 and 2003–04, while the number of air passengers increased by approximately 35 000 (31 per cent)—with all of this increase occurring in the last year.

Despite the recent growth in air traffics in all categories, the growth patterns of the holiday and leisure traffic and travellers visiting friends/relatives are consistent with the view that the Scheme has contributed to increased sea passenger traffic across Bass Strait.

Business travel to Tasmania was the only category which experienced growth for both sea and air passengers. The number of sea passengers travelling for business grew significantly in 2002–03 and 2003–04, albeit from a low base, which is against the trend for the holiday/leisure and visiting friends/relatives categories.

Trends in different categories of sea passengers

Figure 5.1 presents data on the number of motor vehicle sea passengers and berth only sea passengers since 1995–96 (one way trips). This includes passengers on the Sydney–Devonport service for 2003–04.

The average number of motor vehicle passengers per eligible vehicle has remained around 2.0 since the introduction of the Scheme and changes in the number of motor vehicle passengers closely reflect changes in the number of eligible vehicles.

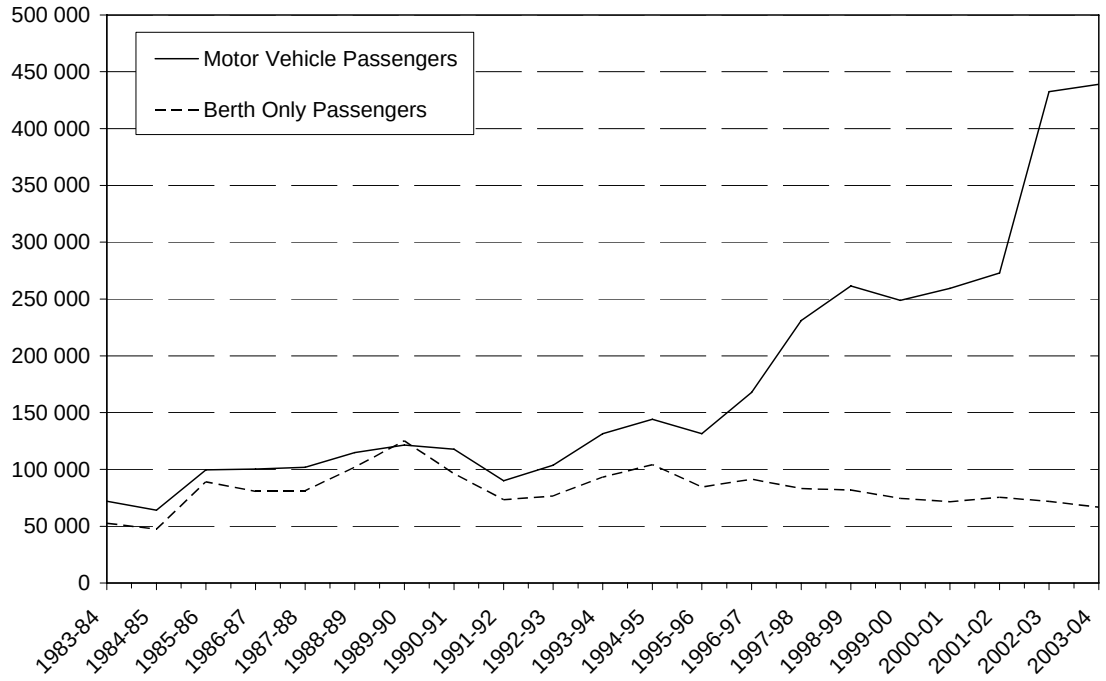
The number of motor vehicle passengers has generally risen since the start of the Scheme while the number of berth only passengers has generally declined. Motor vehicle passenger traffic rose by 233 per cent between 1995–96 and 2003–04, while berth only passenger traffic fell by 20 per cent.

The only exception to the upward trend in the number of motor vehicle passengers occurred in 1999–00, when there was a 5 per cent fall compared to the previous year. This decline—associated with engine problems on the *Spirit of Tasmania*—was more than outweighed by subsequent rises.

Figure 5.1 shows a very large increase in the number of passengers (155 915) carried by TT-Line in 2002–03 compared to the previous year—associated with the introduction of the new ships. This was solely due to a rise of 159 576 motor vehicle passengers, with the number of berth only passengers falling by 3 661.

In 2003–04, the total number of motor vehicle sea passengers increased marginally while the number of berth only passengers continued to decline.

FIGURE 5.1 NUMBER OF SEA PASSENGERS[a,b] CARRIED ACROSS BASS STRAIT, ONE WAY TRIPS, 1995–96 TO 2003–04



a. Includes both visitors and Tasmanian residents.
b. Data for 2003–04 includes the Sydney–Devonport service which commenced January 2004.
Source TT-Line—personal communications 2005 and earlier.

Table 5.3 shows data for the number of eligible vehicles from 2001–02 to 2003–04. In 2003–04 the total number of eligible vehicles increased 9 588 (up 4.4 per cent). The increase in eligible vehicles since 2001–02 largely reflects increasing car numbers, although the inclusion of other vehicle types in the Scheme from September 2002 added 14 538 eligible vehicles in 2002–03 and19 102 in 2003–04 (8.4 per cent of all eligible vehicles in 2003–04).

TABLE 5.3 ELIGIBLE VEHICLES FOR WHICH REIMBURSEMENTS PAID, 2001–02 TO 2003–04

	Number of eligible vehicles			Per cent change
Eligible Vehicles	**01–02**	**02–03**	**03–04**	**02–03 to 03–04**
Motor cars	128 353	196 871	199 902	1.5
Eligible vehicles with a caravan	0	7 359	9 648	31.1
Motorcycles	6303	7 023	8 699	23.9
Motor homes	0	5 991	9 023	50.6
Pushbikes	0	1 188	431	-63.7
Buses	324	474	791	66.9
Total	134 980	218 906	228 494	4.4

Source Tasmanian Assistance Services–personal communications September 2003, February 2005.

In 2003–04 the increase in eligible motor vehicles was not as pronounced as for 2002–03. The overall number of adult sea passenger numbers decreased with the continued decline in berth only passengers out-weighing the small increase in the number of motor vehicle passengers.

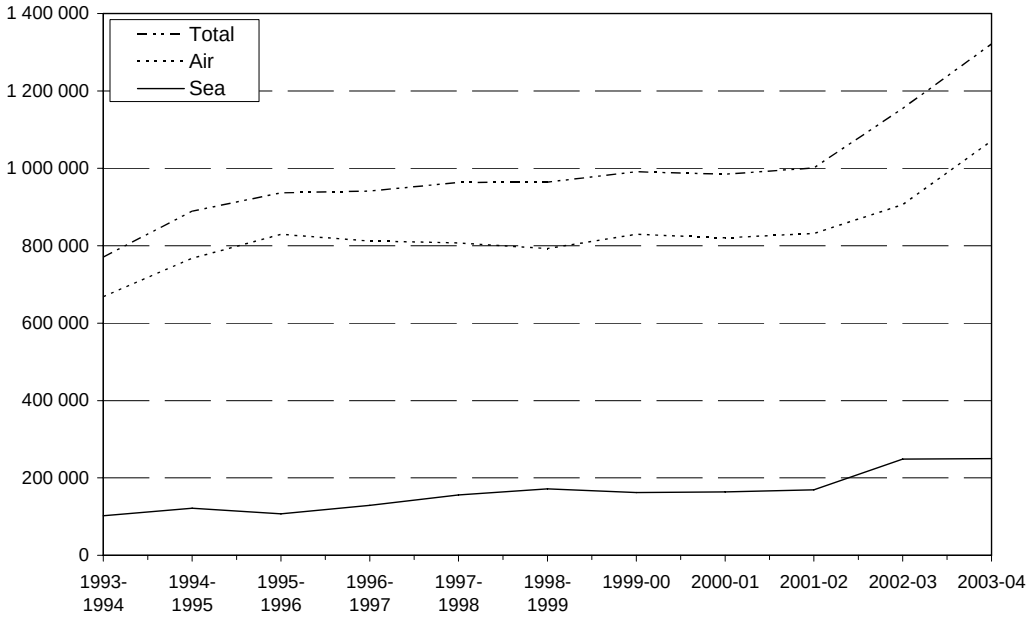
Since the Scheme started in 1995–96 the number of motor vehicle passengers—who may be eligible—has generally risen while the number of berth only passengers—not covered by the Scheme—has generally declined. This indicates the Scheme has encouraged substitution between these types of sea travel—that is, it has encouraged sea passengers to take their own motor vehicle.

Air and sea traffic trends

Figure 5.2 shows the number of sea passengers—mainly covered by the Scheme—and air passengers carried between the mainland and Tasmania since 1993–94. Up to 1995–96, air traffic grew strongly while sea traffic increased slightly.

The Scheme applied to travel from 1 September 1996. In the period from 1995–96 to 1998–99, sea traffic increased 60 per cent—while air traffic declined 4 per cent.

FIGURE 5.2 SEA AND AIR PASSENGERS CARRIED ACROSS BASS STRAIT, RETURN JOURNEYS, 1993–94 TO 2003–04



Note. *Data includes day trippers and minors.*
Source *Tourism Tasmania Tasmanian Visitor Survey–personal communications.*

Over the period from 1998–99 to 2001–02 there was a marginal decline in sea traffic of 1 per cent—at least partly due to the breakdown of the *Spirit of Tasmania*—while air traffic increased by 5 per cent. Between 2001–02 and 2002–03, sea traffic increased 47 per cent and air traffic 9 per cent—reflecting in large part the introduction of the new *Spirit of Tasmania I* and *II* in September 2002.

Between 2002–03 and 2003–04 this growth pattern reversed. The number of air passengers grew by 18 per cent while sea passenger numbers showed marginal growth approaching 1 per cent—despite the new Sydney–Devonport service.

While this slow growth in sea passengers is associated with significant falls in discount air fares (figure 4.1), the picture is clouded by major changes in both the air market (the 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 II* in September 2002, and the introduction of the Sydney–Devonport service in January 2004).

Overall, traffic trends since 1996 indicate that the Scheme has significantly contributed to the number of motor vehicle passengers.

ASSESSING THE IMPACT OF THE SCHEME ON TOURISM

An indicator of the impact of the Scheme is the change in the number of new visitors to Tasmania and their additional spending in Tasmania. While the estimation of the number of new sea visitors would ideally allow for an expected reduction in the number of air visitors, no adjustment has been made as the air market estimates (Appendix C) found no significant substitution between air and sea travel.

This would still not capture the shift from berth only sea passengers to motor vehicle sea passengers. Before the introduction of the Scheme the ratio of berth only to total passengers remained fairly steady, with a small peak in 1989–90 at the time of the Pilots' dispute. The trend over the next five years was for a steady overall growth in the number of berth only passengers. Extrapolating this growth trend from 1996 provides an indicative estimate of the number of berth only passengers who may have travelled without the Scheme—this indicates that the rebate may have reduced the number of berth only sea passenger movements by approximately 32 900 in 2003–04.

Subtracting this trend estimate of 32 900 fewer berth only passenger movements from the Bureau's econometric modelling estimate of 70 200 additional motor vehicle passenger movements indicates that the Scheme may have resulted in a 37 300 net increase in sea passenger movements between Melbourne and Devonport in 2003–04.

Not all sea passengers were visitors and not all visitors were tourists—Tourism Tasmania visitor survey data indicates that half of all sea passengers were visitors travelling for recreational purposes (table 2.1). The number of new one way motor vehicle passenger movements by leisure visitors is estimated at 18 600 for 2003–04.

The indicative number of new leisure visitors who travelled by sea between Melbourne and Devonport is estimated at approximately 9 300. If these new visitors spent an average of $1 986 per person[12] then the total additional new tourism spending would have been $18.5 million. It is important to note that this estimate is indicative as it is derived by extrapolating pre-Scheme trends in the number of berth only passengers and it does not consider benefits to Tasmanian residents who travelled by sea in 2003–04 who may have been eligible for a rebate, the reduced costs to visitors travelling for business and other purposes (table 2.1), any visitors using the Sydney–Devonport ferry service, or any incremental spending by visitors switching from air to sea transport who stay longer in Tasmania as a result.

Given an average spend of $1 986, the Scheme would need to have increased the number of additional visitors to Tasmania by 17 200 in 2003–04 for the increase in spending to equal the total rebate paid. Tourism Tasmania survey data indicates that the number of adult visitors travelling by sea fell in 2003–04[13], possibly reducing the Scheme's tourism impact compared to 2002–03.

12 The average spending by sea passengers for all journey purposes was $1 986 per trip in 2003–04 (Tourism Tasmania, personal communication 2005).

13 Sea passenger numbers increased as this fall in visitor numbers was more than offset by an increase in the number of Tasmanians who chose to travel by sea.

Summary

- The Bureau's econometric modelling indicates that the Scheme increased the number of motor vehicle passenger travellers using the Melbourne–Devonport ferry service by 70 200—about 20 per cent—in 2003–04. This proportion has fallen since the introduction of the Scheme.
- The number of eligible vehicles increased 9 588 (up 4.4 per cent) in 2003–04.
- Motor vehicle passenger growth in 2003–04 was relatively modest compared with the 2002–03 increases. This was despite the introduction of a new Sydney–Devonport service on 13 January 2004.
- Motor vehicle passenger numbers had increased substantially in the previous year following the September 2002 increases in capacity and more frequent services, coupled with broadening of Scheme eligibility and increases in the off peak and shoulder rebates.
- The Bureau's indicative estimate of the number of new leisure visitors who travelled by sea from Melbourne in 2003–04 as a result of the Scheme is 9 300. If each new leisure visitor spent an average $1 986 then the total additional new tourism spending would have been $18.5 million in 2003–04.
- Tourism Tasmania survey data indicates that the number of adult visitors travelling by sea to Tasmania fell in 2003–04, possibly reducing the Scheme's tourism impact compared to 2002–03.

CHAPTER 6 OPERATOR REVENUE AND EXPENSES

The Ministerial Directions require the BTRE's annual monitoring report to have specific regard to service operators' financial performance. This chapter focuses on the financial performance of TT-Line, which accounts for over 99 per cent of payments under the Scheme.

TT-LINE PERFORMANCE IN 2003–04

TT-Line recorded an operating loss for 2003–04 of $3.4 million (table 6.1). There has been significant variability in TT-Line's profitability over the last eight years. The major contributing factors have included changes in traffic levels—and hence revenue, variations in the number of voyages—and hence expenses, changes in ships, fluctuations in fuel prices and one-off repair/maintenance costs.

TABLE 6.1 SELECTED FINANCIAL INFORMATION FOR TT-LINE 1996–97 TO 2003–04 ($'000)

Category	96–97	97–98	98–99	99–00	00–01	01–02	02–03	03–04
Total operating revenue	**61 766**	**73 325**[a]	**80 607**	**77 511**	**81 842**	**86 236**	**195 518**[b]	**154 250**
Operating expenses								
– Operations—general	22 357	22 724[a]	33 932	40 865	42 864	42 402	69 454	90 900
– Operations write down	0	0	0	0	0	30 887	0	0
– Ship sale carrying value	0	0	0	0	0	0	62 732	0
– Hotel services	15 296	15 464	17 783	16 924	17 782	18 130	27 708	33 878
– Customer acquisition	4 893	4 698	6 015	5 900	6 261	6 680	11 437	10 574
– Administration	6 098	6 219	5 707	4 889	6 871	7 462	8 902	8 340
– Other	10 556	22 406	9 793	8 697	2 696	1 958	12 673	13 954
Total operating expenses	**59 200**	**71 511**	**73 230**	**77 275**	**76 474**	**107 519**	**192 906**	**157 646**
Operating profit/loss	**2 566**	**1 814**	**7 377**	**236**	**5 368**	**- 21 283**	**2 612**	**-3 396**
Abnormals/extraordinaries	0	780	0	0	0	0	0	0
Profit/loss	**2 566**	**1 034**	**7 377**	**236**	**5 368**	**- 21 283**	**2 612**	**-3 396**

a. Ferry revenue and operations-general expenses in 1997–98 include the impact of the Devil Cat/*catamaran trial.*

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

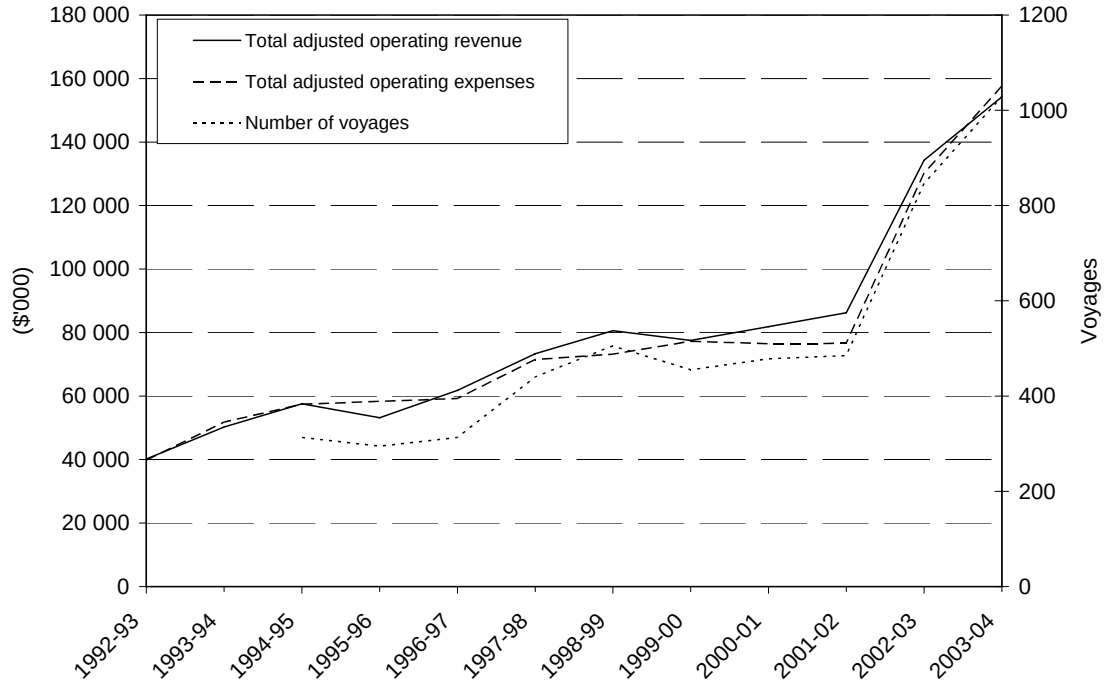
Sources TT-Line (2004) and earlier issues. TT-Line personal communication January 2001.

TT-Line's operating loss in 2003–04 reversed the previous years operating profit of $2.6 million ($4.1 million excluding the net impact of the sale of the *Spirit of Tasmania*), and represents TT-Line's second operating loss since the introduction of the Scheme in 1996–97.

Operating revenues were $154.25 million in 2003–04 (table 6.1). After adjusting 2002–03 revenues for the one-off proceeds from the sale of the *Spirit of Tasmania*, total revenues increased $20 million over 2002–03—an increase of approximately 14.8 per cent in nominal terms.

This increase in revenue was more than offset by increased operating expenses. Total operating costs were $157.6 million in 2003–04. After adjusting 2002–03 operating costs for ship sale carrying values, 2003–04 operating costs increased $27.5 million—a nominal increase of 21.1 per cent over 2002–03 (figure 6.1).

FIGURE 6.1 TT-LINE (ADJUSTED) OPERATING REVENUE AND EXPENSES, 1992–93 TO 2003–04



Note. *Incorporates adjusted revenue which excludes gross proceeds from the sale of Spirit of Tasmania in 2002–03 and adjusted expenses which excludes write down in carrying value of Spirit of Tasmania in 2001–02 and carrying value of this ship in 2002–03.*

Source *TT-Line (2004) and earlier issues.*

Table 6.1 also provides information on TT-Line's major expenses. The expenses, and the spending changes between 2002–03 and 2003–04, are:

- General operations expenses—up almost 31 per cent ($21.5 million). While separate figures for the Sydney–Devonport service are not available, this increase is likely to be largely the result of additional Sydney voyages and the cost of a third ship, including a $4.5 million increase in ship depreciation and amortization (before income tax equivalent);

- Borrowing costs (that is, interest payments)—up 10 per cent ($1.28 million), reflecting financing arrangements for the new ship;
- Hotel services—up 22 per cent ($6.2 million) in order to accommodate the Sydney–Devonport passenger traffic;
- Customer acquisition costs—down 7.5 per cent ($0.86 million); and
- Administration—down 6.3 per cent ($0.56 million).

FINANCIAL INDICATORS

Table 6.2 presents a series of selected TT-Line financial indicators adjusted for the write down and sale of the *Spirit of Tasmania* in 2002–03 and 2003–04. The average operating expenses per voyage indicates generally lower voyage operating expenses in 2002–03 and 2003–04 compared with previous years.

While the average cost per voyage was unchanged, the cost per passenger increased significantly in 2003–04 (table 6.2). This may in part be explained by the significantly longer duration of the Sydney to Devonport voyage—approximately 20 hours compared to 10 hours between Melbourne and Devonport. While average cost per passenger increased, the average revenue per voyage fell in both 2002–03 and 2003–04 (adjusted values).

Capacity increased substantially in 2002-03 and again in 2003-04—total TT-Line voyages including Sydney increased by 21.6 per cent (183 voyages) on 2002-03.

This capacity growth has outstripped traffic growth and the average number of TT-Line passengers and vehicles per voyage has declined.

TABLE 6.2 FINANCIAL INDICATORS (ADJUSTED) FOR TT-LINE, 1996–97 TO 2003–04

Indicator	96–97	97–98	98–99	99–00	00–01	01–02	02–03	03–04
Operating revenue per voyage[a]	197 335	166 648	159 618	170 354	171 218	177 806	158 710[c]	149 903
Operating expenses[b]								
– per passenger	228	228	213	239	231	220[d]	258[d]	312
– per voyage	189 137	162 525	145 010	169 835	159 987	158 004[d]	153 870[d]	153 203

a. Total revenue divided by the number of voyages.
b. Incorporates expenses for passengers, vehicles and freight.
c. Incorporates adjusted revenue which excludes gross proceeds from the sale of Spirit of Tasmania in 2002–03.
d. Incorporates adjusted expenses which excludes write down in carrying value of Spirit of Tasmania in 2001–02 and carrying value of this ship in 2002–03.
Source BTRE estimates.

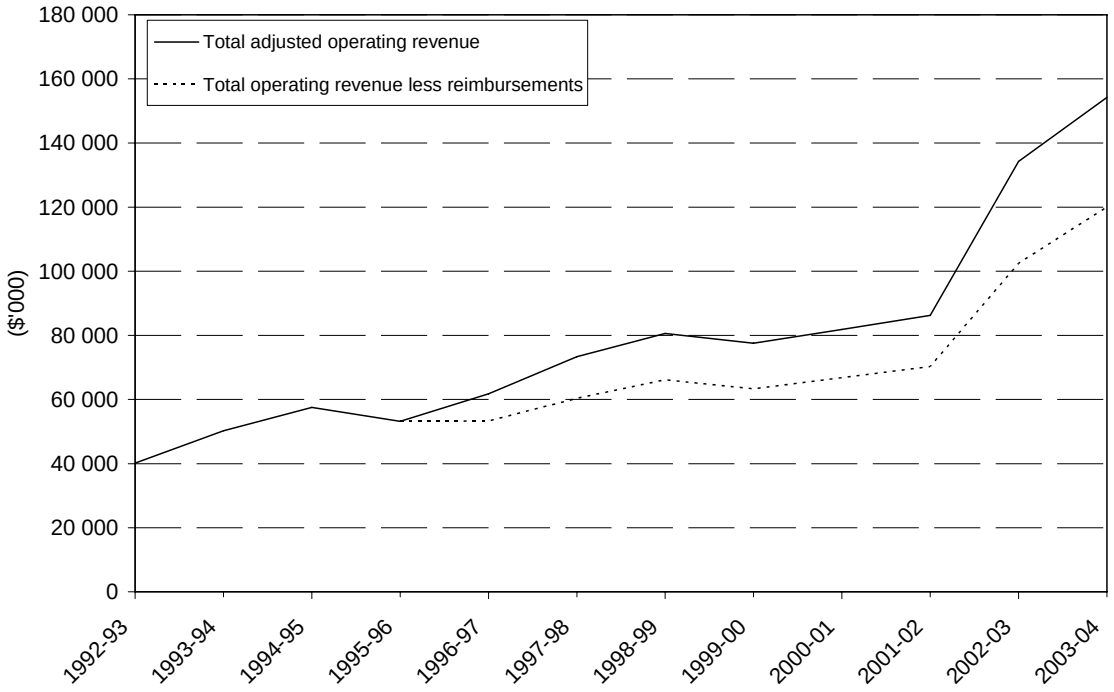
Table 6.3 and Figure 6.2 shows the reimbursements paid to TT-Line together with their operating revenue for the years 1996–97 to 2003–04. Payments under the Scheme accounted for 22.2 per cent of TT-Line's operating revenue in 2003–04, down slightly on 2002-03. Up until 2002–03, rebates generally increased as a proportion of TT-Line revenue. In 1997-98, the first full year of the Scheme application, rebates accounted for 17.6 per cent of TT-Line revenue.

TABLE 6.3 REIMBURSEMENTS PAID TO TT-LINE AND TT-LINE (ADJUSTED) OPERATING REVENUE, 1996–97 TO 2003–04

Year	Reimbursements paid to TT-Line ($)	TT-Line operating revenue ($)	Reimbursements as a proportion of operating revenue (per cent)
1996–97	8 474 915	61 766 000	13.7
1997–98	12 938 565	73 325 000	17.6
1998–99	14 446 755	80 607 000	17.9
1999–00	14 211 445	77 511 000	18.3
2000–01	15 030 670	81 842 000	18.4
2001–02	15 932 170	86 236 000	18.5
2002–03	31 793 065	134 269 000[a]	23.7
2003–04	34 235 612	154 250 000	22.2

a. Excludes gross proceeds ($61.2 million) from the sale of Spirit of Tasmania in 2002–03.
Source TT-Line (2004) and earlier Annual Reports.

FIGURE 6.2 TOTAL (ADJUSTED) TT-LINE REVENUE AND REVENUE NET OF SCHEME REBATES, 1992–93 TO 2003–04



Note Excludes gross proceeds ($61.2 million) from the sale of Spirit of Tasmania in 2002–03.
Source TT-Line (2004) and earlier issues.

Summary

- TT-Line reported an operating loss for 2003–04 of $3.4 million. Operating revenues increased 14 per cent and operating costs increased 21 per cent compared to adjusted 2002–03 values.
- While average voyage costs were unchanged, average revenue per voyage fell and the average cost per passenger increased significantly in 2003–04.
- Rebates paid under the Scheme accounted for 22.2 per cent of TT-line operating revenues in 2003–04, down slightly on 2002–03. This compares to 17.6 per cent of TT-Line revenue in 1997–98—the first full year of application.

APPENDIX A MONITORING PROVISIONS IN 2002 MINISTERIAL DIRECTIONS

17.1 A Service Operator who claims reimbursement under the Scheme shall be subject to monitoring by the Bureau.

17.2 The Bureau shall, on an annual basis, monitor the effectiveness of the Scheme, with specific regard to:

(a) movement in a Service Operator's annual operating costs;

(b) movement in an Operator's revenue; and

(c) the number of eligible passengers, eligible passenger vehicles and number of passengers travelling under related bookings, carried per annum by the Operator.

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.

APPENDIX B MELBOURNE–DEVONPORT SEA MODEL

This appendix outlines the re-estimated model that was used to assess the impact of the Scheme on number of motor vehicle sea passengers on the Melbourne–Devonport sea route. This appendix also looks at the issues and possible estimation procedures for the new Sydney to Devonport route.

THE MELBOURNE–DEVONPORT MODEL

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

$$lnV_t = lnY_t * lnP_t * lnQ_t * DGW_t * DSP_t * u_t$$

where,

V = Per capita number of motor vehicle passenger movements;

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

P = One way package sea fare (including reductions under the Scheme from 1996–97);

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

DGW = Dummy Gulf War - Dummy variable to take account of the influence of the 1991–92 Gulf War on the number of motor vehicle passengers;

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/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. The Bureau re-estimated the model using annual time-series data from 1985–86 to 2003–04. The time-series data are contained in table B.1.

TABLE B.1 TIME-SERIES DATA USED TO RE-ESTIMATE THE MELBOURNE–DEVONPORT SEA MODEL

Year	Passengers (one way)[a] ('000)	Air Fare Index[b]	Sea Fare[c] ($/package)	Real Income[d] ($ billion)	Population[e] (million)
1985–86	99.5	41.6	291	321.1	15.7
1986–87	100.3	45.2	317	322.0	15.9
1987–88	101.9	47.9	317	328.6	16.1
1988–89	114.8	50.7	353	347.8	16.8
1989–90	121.6	56.0	390	367.1	17.1
1990–91	117.8	61.4	427	359.8	17.3
1991–92	90.1	65.6	450	362.6	17.5
1992–93	103.6	60.7	413[f]	367.1	17.7
1993–94	131.5	65.9	413[f]	374.9	17.9
1994–95	144.1	65.9	445	391.1	18.1
1995–96	131.5	68.2	445	404.0	18.3
1996–97	167.8	72.6	355	417.6	18.5
1997–98	231.1	76.4	371	424.9	18.7
1998–99	261.5	79.4	392	444.5	18.9
1999–00	248.7	79.9	402	461.4	19.2
2000–01	259.4	89.0	475	481.1	19.4
2001–02	272.9	96.6	475	488.4	19.7
2002–03	432.5	98.9	497	491.7	19.9
2003–04	409.1	100.0	509	519.0	20.1

Notes:

a. Motor vehicle passengers carried across Bass Strait between Melbourne and Devonport.

b. Average one way economy air fare index from Melbourne to Hobart.

c. Average one way package net fare during peak season. The package net fare includes two adults, two meals and a standard vehicle.

d. Real household disposable income of Australians at 2003–04 prices.

e. Population of Australia.

f. The representative passenger fare declined as a meal was not included in the price of a ticket in these two years. The lower fare is used in the analysis as it is the fare on which travellers based their travel decisions.

Sources TT-Line (2004a) and earlier issues, TT-Line (2004) and earlier issues, TT-Line—personal communications (February 2005), ABS (2005), BTRE (2005).

RESULTS OF THE MELBOURNE–DEVONPORT SEA MODEL

The estimated regression results are presented in table B.2. The adjusted R^2 value of 0.95 suggests that the model is a good fit. It indicates that 95 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, the Gulf War (1991–92) and ship capacity. Around 5 per cent of the traffic variation is therefore attributable to factors not specified in the model, such as:

- Movements in $A exchange rates (affecting relative costs of Australian overseas travel and travel by foreign tourists to Australia);
- 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.

TABLE B.2 REGRESSION STATISTICS FOR THE MELBOURNE–DEVONPORT SEA MODEL, 2003–04

Variable	Estimated Coefficient	T-Stat
Y – Real Income	2.845	3.066
P – Sea Fare	-0.910	-3.007
Q – Full Economy Air Fare	0.828	2.391
Gulf War 1991-92 (DGW)	-0.224	-1.975
Introduction of the *Spirit of Tasmania I/II* 2001–02 on (DSP)	0.379	4.181
Intercept	-19.842	-4.604
Adjusted R^2	0.95	

Source *BTRE analysis.*

In terms of the total impact on the number of motor vehicle passenger movements, the most important variable is per capita real household income, with an estimated elasticity of 2.8 (previously 2.4). This means that a 1 per cent increase (decrease) in the level of per capita real household income will result in a 2.8 per cent increase (decrease) in the number of motor vehicle passenger movements.

The second most important variable is the sea fare (own-price), with an estimated elasticity of -0.9 (previously also -0.9). The own-price elasticity indicates that a 1 per cent decrease (increase) in the price of sea travel will result in a 0.9 per cent increase (decrease) in the number of motor vehicle passenger movements.

The coefficient of the full economy air fare variable is significant and of the expected sign (table B.2)—interestingly, when the discount fare series was used the air fare variable was not significant. The sea model reported here incorporates the full economy fare series.

The cross-price (air fare) elasticity is 0.8 (table B.2)—previously 0.9. This indicates a 1 per cent increase (decrease) in the full economy air fare will result in a 0.8 per cent increase (decrease) in the number of motor vehicle passenger movements travelling by sea on the Melbourne–Devonport route.

While sea passengers are sensitive to changes in air fares, the air model results indicate that air travellers as a group are insensitive to changes in sea fares (Appendix C). A number of factors may explain this difference:

- Leisure passengers are more sensitive to price. More sea passengers across Bass Strait travelled for leisure/holiday purposes (62 per cent) than air (41 per cent) (table 2.1).
- Business passengers are less sensitive to price and more sensitive to time and frequency than leisure travellers. 21 per cent of air passengers travelled across Bass Strait for business purposes, compared with 10 per cent for sea (table 2.1).

The estimated coefficient of the dummy variable DGW indicates that the Gulf War in 1991–92 adversely affected the number of motor vehicle passengers on the Melbourne–Devonport route. The estimated coefficient of the other dummy variable DSP indicates the increased ship capacity provided by TT-Line's new ships positively affected the number of motor vehicle passengers on the Melbourne–Devonport route.

The detailed results on the Melbourne–Devonport econometric model should be interpreted with some caution, as the analysis is constrained by data limitations and other factors. For example, the time-series annual data cover a period of only 19 years, with the Scheme operating for just eight 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.

SYDNEY–DEVONPORT SEA ROUTE AND MODELLING ISSUES

On 13 January 2004 the *Spirit of Tasmania III* started operations between Sydney and Devonport. There are significant differences between the two routes. Sydney–Devonport takes approximately 20 hours, whereas Melbourne–Devonport only takes approx 10 hours. *Spirit of Tasmania III* is slightly smaller than *Spirit of Tasmania I/II* which are used for the Melbourne route.

Initially, Sydney–Devonport route passenger fares were significantly higher than the Melbourne–Devonport route passenger fares (Sydney fares have since been reduced markedly). There is likely to be some substitution between the two services—for example, people who may have driven from Sydney to Melbourne in order to board the sea service can now embark at Sydney.

The current econometric model used for estimating the effectiveness of the Scheme on the Melbourne–Devonport route uses annual time-series data. With less than six months worth of data for the new service it is not possible to reliably introduce the Sydney–Devonport route data into the model.

Given the differences in the routes and pricing, it is probable that a separate model will be required to estimate the effectiveness of the Scheme on the Sydney–Devonport route. This is likely to require a minimum of five years of data.

APPENDIX C MELBOURNE–TASMANIA AIR MODEL

This appendix outlines the re-estimated model that was used to estimate the impact of the Scheme on number of air passengers on the Melbourne to Tasmania air routes. The econometric model of the Melbourne–Tasmanian air market was constructed to test the hypothesis that there was significant substitution between the air and sea markets.

THE MELBOURNE–TASMANIA AIR MODEL

The air model is specified in terms of population, income, own-price and cross-price variables in the following equation:

$$lnA_t = lnY_t * lnP_t * lnQ_t * DAC_t * DJS_t * u_t$$

where,

A = Number of seasonally adjusted air passenger movements between Melbourne and Tasmania (Hobart, Devonport and Launceston);

Y = Australian real household disposable income;

P = One way package sea fare index (including reductions under the Scheme from 1996–97);

Q = One way full economy weighted air fare index from Melbourne to Tasmania;

DAC = Dummy Ansett Collapse - Dummy variable to take account of the influence of the collapse of Ansett on air passenger numbers;

DJS = Dummy Jetstar - Dummy variable to take account of the influence of an increase in the air passenger capacity following the introduction of Jetstar;

u = Error term;

t = Time period.

Unlike sea travel whereby passengers arrive/depart from Devonport, air passengers may choose from three major Tasmanian airports: Hobart, Devonport and Launceston. Most air passengers travel on the Melbourne–Hobart route.

A dummy variable was initially used for the entry of Virgin Blue into the market in December 2001. However, the coefficient on this dummy variable was not significant and it was therefore excluded.

The Bureau estimated the model using monthly time-series data from October 1992 to July 2004.

RESULTS OF THE MELBOURNE–TASMANIA AIR MODEL

The estimated regression results for the Melbourne–Tasmania air model are presented in table C.1.

TABLE C.1 REGRESSION STATISTICS FOR THE MELBOURNE–TASMANIA AIR MODEL, 2003–04

	Estimated coefficients	
Variable	**With sea fare**	**Without sea fares**
Y – Real Income	0.581 (5.206)	0.579 (5.286)
P – Sea Fare	-0.007 (-0.090)	Na
Q – Full Economy Air Fare	0.237 (3.003)	0.236 (3.021)
DAC – Dummy Ansett Collapse	-0.157 (-5.778)	-0.157 (-5.853)
DJS – Dummy Jetstar	0.309 (3.699)	0.310 (3.716)
Intercept	3.965 (4.420)	3.957 (4.447)
Adjusted R^2	0.62	0.62

Note *t-stats in brackets.*
Source *BTRE analysis.*

The adjusted R^2 value of 0.62 suggests that the model is a reasonable fit and that per capita income and full economy air fare were both significant descriptors of air travel. However, the sea fare was not a significant explanatory variable.

Comparing the results with and without sea package fare suggests that sea fares have no significant influence on the number of Melbourne–Tasmania air passengers (table C.1). As with the econometric model for sea travel, the results should be interpreted with caution as the analysis is constrained by data limitations.

Possible reasons for insignificance of sea fares in explaining air travel include the lack of a hire car rate series for the full period. In choosing between sea and air travel, passengers would consider the total cost of travel to Tasmania, including sea travel and land based costs. The cost of air travel to Tasmania may include the air fare plus car hire while the cost of sea travel may include the sea fare plus own car operating costs.

The results for the air model indicate that there is no significant passenger substitution from air travel to sea travel due to the rebate—in effect, the estimated 70 200 additional one way motor vehicle passengers in 2003–04 (table 5.1) who travelled due to the rebate between Melbourne and Devonport would not otherwise have travelled by air.

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