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MONITORING REPORT

BASS STRAIT PASSENGER VEHICLE EQUALISATION SCHEME MONITORING REPORT NO. 9 2004–05

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Cover design by Olivia Marinos, BTRE. Cover images of *Spirit of Tasmania* ships are 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) ninth annual review of the Bass Strait Passenger Vehicle Equalisation Scheme. It covers the operation and impact of the Scheme up to (and including) 2004–05.

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.

Phil Potterton
Executive Director
Bureau of Transport and Regional Economics
March 2006

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AT A GLANCE

- Total rebates paid under the Scheme were $32.38 million in 2004–05—down 5.5 per cent on 2003–04. The average one-way reimbursement per eligible TT-Line passenger was $81.70—an increase of 4.7 per cent over 2003–04.
- The one-way rebate remained at $150 for cars, $75 for motorbikes, $21 for bicycles and up to $300 for larger vehicles. The $150 rebate on a car represented 22.4 per cent of the Bureau's benchmark one-way Melbourne–Devonport sea fare for a couple with an eligible passenger car (22.8 per cent in 2003–04).
- Econometric modelling indicates the Scheme increased motor vehicle passenger trips by approximately 66 000 in 2004–05 on the Melbourne–Devonport route. This is an increase of 23.9 per cent on the estimated level of traffic without the Scheme—a proportion that has fallen since the introduction of the Scheme.
- 1.36 million adult passengers travelled across Bass Strait in 2004–05—an increase of approximately 133 000 (10.8 per cent) on 2003–04. The majority—over 80 per cent—travelled by air.
- The estimated number of adult sea passengers was 215 600, down 25 000 on 2003–04—adult visitor numbers declined almost 20 000 and the number of adult Tasmanian passengers declined by approximately 5 000.
- Total air and sea adult visitor numbers increased by an estimated 18 000 (2.4 per cent) to almost 760 000—a decline of 20 000 sea visitors was offset by an increase of 37 600 air visitors. The proportion of visitors who travelled by sea fell to 19.3 per cent (down from 22.5 per cent in 2003–04).
- Three operators provided ferry services in 2004–05. TT-Line—wholly owned by the Tasmanian Government—carried almost all sea passengers.
- TT-Line carried a total 451 915 one-way passengers in 2004–05 (down over 53 000) and 216 733 eligible vehicles (down 11 533). The number of one-way motor vehicle passengers carried by TT-Line decreased 42 913 to 395 928 (9.8 per cent) and the number of berth only passengers decreased 10 811 (16.2 per cent).
- The Sydney–Devonport service carried a total of 59 524 one-way passengers—including 52 676 motor vehicle passengers—and 28 803 vehicles in 2004–05.
- TT-Line's total voyages increased while traffic declined. The average number of passengers and vehicles carried per voyage declined for Melbourne–Devonport.
- TT-Line reported a net loss of $79.3 million for 2004–05—excluding a $43.2 million write down in ship values, the operating loss was $36 million. Operating revenues rose 0.4 per cent and (adjusted) operating costs increased 21.1 per cent.
- The Tasmanian Government injected $75.181 million into TT-Line in 2004–05 for debt repayments/reductions, capital funding and the operating deficit.
- In 2004–05 Scheme rebates fell to 20.9 per cent of TT-Line operating revenue—the second successive decline (partly due to the fall in eligible vehicle numbers).
- An estimated 6 250 extra tourists travelled on the Melbourne–Devonport route due to the Scheme in 2004–05, spending $13.2 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 2004–05 the rebate was set at up to $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. Total funding therefore varies with the number—and mix—of eligible vehicles carried by sea across Bass Strait.[1]

In 2004–05 the Australian Government spent $32.38 million under the Scheme—a decrease of 5.5 per cent over 2003–04. Scheme funding had increased substantially following the September 2002 changes in Ministerial Directions—changes which broadened the Scheme's coverage to additional vehicle types and increased the off-peak and shoulder season rebates (BTRE 2004).[2]

Over 99 per cent of Scheme spending—$32.35 million—went to eligible passengers with an accompanying vehicle travelling on TT-Line services. The average reimbursement per eligible TT-Line passenger was $81.70—an increase of 4.7 per cent over 2003–04.

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 2004–05 the total number of one-way trips by TT-Line motor vehicle passengers decreased by 42 913 (9.8 per cent). Total reimbursements to TT-Line decreased 5.5 per cent compared with 2003–04.

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

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

SEA TRAFFIC AND SERVICES

1.36 million adult passengers travelled across Bass Strait in 2004–05—an increase of approximately 133 000 (10.8 per cent) on 2003–04. The majority—over 80 per cent—travelled by air. The number of domestic air passengers to and from Tasmania increased by 21 per cent on 2003–04.

There were 215 600 adult sea passengers in 2004–05, down 25 000 on 2003–04. The number of adult visitors travelling by sea was down almost 20 000 (12.0 per cent) and the number of adult Tasmanian residents travelling by sea was down just over 5 000 (6.9 per cent).

Estimated air and sea adult visitor numbers increased by an estimated 18 000 (2.4 per cent) to almost 760 000. A decline of almost 20 000 in the number of adult visitors travelling by sea was more than offset by an increase of 37 600 travelling by air (up 6.5 per cent). Consequently, sea travel declined as the mode of choice for visitors—the proportion of adult visitors choosing to travel to Tasmania by sea was 19.3 per cent (down from 22.5 per cent in 2003–04).

More people visited Tasmania for leisure purposes by air (250 000) than sea (102 000), although visitors travelling by sea stayed longer—an average of 15 days compared with 8 days for air visitors. In 2004–05 the estimated number of visitors travelling for holiday and leisure declined for both air and sea, indicating a downturn in tourist numbers to Tasmania. Sea travel is likely to be more sensitive to a downturn, with 70 per cent of sea visitors travelling for leisure compared with 43 per cent of air visitors.

Three operators provided sea services in 2004–05: TT-Line, Patrick Shipping and Southern Shipping.

TT-Line carried almost all sea passengers and accompanying motor vehicles. TT-Line's voyages increased in 2004–05 despite cost cutting measures to reduce the number of scheduled voyages on both the Melbourne and Sydney services (TT-Line Company Pty Ltd 2005). The number of voyages increased by 23 (2.4 per cent)—*Spirit of Tasmania I/II* voyages decreased by 62 to 832 (6.9 per cent) and *Spirit of Tasmania III* operated 220 voyages in its first full year of operations.

In 2004–05 TT-Line carried 451 915 one-way passengers (down more than 53 000) and 216 733 eligible vehicles (down 11 533). The number of one-way motor vehicle passengers carried by TT-Line was 395 928—a decrease of 42 913 (down 9.8 per cent) on 2003–04.

These figures include traffic on the Sydney–Devonport service, which carried 59 524 one-way passengers—including 52 676 motor vehicle passengers—and 28 803 vehicles in 2004–05 (the first full year of operation).

Total capacity increased while traffic declined in 2004–05—reducing the average number of TT-Line passengers and vehicles carried per voyage.

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 its vehicle fares on three occasions in 2004–05, culminating in a flat $59 one-way standard vehicle fare for all services and all fare seasons. TT-Line increased passenger fares on the Melbourne–Devonport route by $3 in August 2004 and reduced passenger fares on the Sydney–Devonport route from 26 January 2005.

There were further substantial falls in discount air fares between Tasmania and the mainland in 2004–05. Falling discount air fares are driving rapid growth in air passengers between the mainland and Tasmania.

In order to put the rebate in context, it is useful to consider the cost of broadly comparable sea and air transport packages in 2004–05. This comparison needs to be treated with caution—particularly given the variability of discount air fares. With this proviso, it does indicate that in 2004–05:

- sea travel with an accompanied vehicle may have been a better option for all fare seasons for a longer (15 day) stay; and
- a fly-drive option with a heavily discounted air fare—subject to availability—may have been the best deal in all seasons for a shorter (8 night) stay, compared to the off-peak season only in 2003–04.

IMPACT OF THE SCHEME ON TRAFFIC

The rebate substantially reduces the cost of freighting an accompanied vehicle for eligible passengers. In 2004–05 the $150 rebate on a standard car represented 22.4 per cent of the Bureau's benchmark one-way Melbourne–Devonport sea fare for a couple travelling with an eligible passenger car (22.8 per cent in 2003–04).

The total number of motor vehicle passengers declined in 2004–05, despite a full year of traffic on the new Sydney–Devonport service. Following a substantial[3] increase in motor vehicle passenger numbers in 2002–03, growth was modest in 2003–04.

In order to more fully assess the impact of the Scheme, the Bureau has conducted econometric modelling of the Melbourne–Devonport sea market. The sea model does not include the Sydney–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 2004–05 the Scheme increased the number of one-way motor vehicle passenger trips between Melbourne and Devonport by approximately 66 000, 23.9 per cent of motor vehicle passenger one-way trips. This proportion has fallen since the introduction of the Scheme.

Traffic trends since 1996 indicate the Scheme has contributed to motor vehicle passenger numbers and encouraged sea passengers to take their own motor vehicles.

ASSESSING THE IMPACT ON TOURISM

The Scheme increased the number of one-way motor vehicle sea passengers on the Melbourne–Devonport route including some who may have otherwise travelled as berth only sea passengers or by air.[4] Berth only passengers have consistently declined since the introduction of the Scheme.

Trend analysis of the five years prior to the Scheme shows a small trend growth in the number of berth only passengers—if this trends is extrapolated, then the Scheme may have reduced the number of berth only passenger movements by approximately 41 000

[3] The substantial increase in 2002–03 was due to TT-Line capacity and frequency increases, coupled with changes to Scheme eligibility and increases in the off-peak and shoulder rebates (BTRE 2006)

[4] 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.

in 2004–05. This indicates the Scheme may have resulted in a net increase of approximately 25 000[5] one-way sea passenger movements—equivalent to 12 500 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 2004–05 is therefore 6 250.

If these new visitors spent an average of $2 116 per person[6], then the net new tourism spending would have been $13.2 million in 2004–05. This estimate of spending by these new visitors is indicative only and is for visitors travelling for leisure purposes between Melbourne and Devonport—it does not include additional spending by visitors travelling for business and other purposes, visitors who took a vehicle due to the Scheme and stayed longer as a result, those 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 2004–05, implying reduced Scheme-related tourism spending.

FINANCIAL POSITION OF THE OPERATORS

The major operator TT-Line reported a net loss for 2004–05 of $79.3 million including a write down in the value of the three ships of $43.2 million. The $43.2 million write down comprised $28.19 million for currency exchange movements and $11.64 million in interest holding, delivery and alteration costs.

TT-Line's operating loss excluding the write down in ship values was $36 million. Operating revenues increased by 0.4 per cent and operating costs increased 21.1 per cent compared to 2003–04 values.

Since 2001–02 the average revenue per voyage has fallen and the average (adjusted) cost per passenger has increased. (Adjusted) average voyage operating expenses in 2004–05 increased by 16.5 per cent.

According to TT-Line the factors having the biggest impact in 2004–05 were reduced passenger numbers and a full year of operating costs for the *Spirit of Tasmania III* (TT-Line Company Pty Ltd 2005).

The Tasmanian Government injected $75.181 million into TT-Line in 2004–05 comprising debt repayments/reductions ($57.177 million) and funding for committed capital projects ($7.84 million), with the balance to cover the operating deficit (TT-Line Company Pty Ltd 2005).

In 2004–05 Scheme rebates fell to 20.9 per cent of TT-Line operating revenue—the second successive decline (partly due to the fall in passenger and eligible vehicle numbers). This compares to 17.6 per cent of revenue in the first full year of application. Reimbursements had increased from 17.6 per cent of revenue in 1997—98—the first full year of application—to a peak of 23.7 per cent of revenue in 2002–03.

[5] This estimate of approximately 41 000 one-way passenger movements is the difference between the total motor vehicle passenger econometric estimate and the trend analysis of berth only passengers that became motor vehicle passengers due to the Scheme.

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

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 2004–05 the Scheme was administered in accordance with Directions issued in September 2002 (Department of Transport and Regional Services 2002). Significant changes to the Scheme in the September 2002 Ministerial Directions include replacing the previous seasonal structure for rebates by a constant rebate throughout the year, and extending the Scheme 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 2004–05 was provided by the Maritime and Land Transport 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 eight previous reports on the Scheme, the most recent covering 2003–04. 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 ninth annual review of the Scheme, covering 2004–05. 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.

Appendices present the monitoring provisions in the 2002 Ministerial Directions and information on the econometric model.

Summary

- Tourism and many other activities in Tasmania rely on transport services across Bass Strait.
- Passengers accompanying an eligible vehicle across Bass Strait can receive a rebate funded by the Australian Government.
- The aim of Bass Strait Passenger Vehicle Equalisation Scheme is to reduce the cost of seagoing 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 1.36 million adult passengers travelled by air and sea across Bass Strait in 2004–05 (table 2.1). This was an increase of approximately 133 100 (10.8 per cent) on 2003–04. The majority—over 80 per cent—travelled by air. The estimated number of adult sea passengers was 215 600—down 25 000 on 2003–04 (10.4 per cent). The number of visitors choosing sea travel declined by almost 20 000 (12 per cent) and the number of Tasmanian residents travelling by sea declined by over 5 000 (6.9 per cent).

The estimated number of visitors to Tasmania increased by an estimated 18 000 (2.4 per cent) to almost 760 000 in 2004–05. The proportion of adult visitors choosing to travel to Tasmania by sea decreased to 19.3 per cent (down from 22.5 per cent). The number of adult visitors travelling by sea fell by almost 20 000 (12.0 per cent) and the number of adult visitors travelling by air increased by 37 600 (6.5 per cent).

TABLE 2.1 ESTIMATED ADULT RETURN PASSENGERS TRAVELLING BETWEEN TASMANIA AND THE MAINLAND BY PURPOSE, 2004–05[a] ('000)

Purpose of travel	Air	Sea	Total
Visitors to Tasmania			
Holiday/leisure	267.1	102.7	369.7
Visiting friends/relatives	172.9	18.6	191.6
Business	122.2	14.6	136.8
Conference	20.0	1.2	21.1
Other purpose or not specified	29.1	9.2	38.3
Total visitors	611.2	146.3	757.6
Tasmanian residents			
Holiday/leisure	200.1	24.7	224.8
Visiting friends/relatives	160.3	18.7	179.0
Business	125.1	8.8	133.9
Conference	8.2	0.4	8.6
Moving out of Tasmania	5.3	13.9	19.3
Other purpose or not specified	34.7	2.8	37.5
Total Tasmanians	533.8	69.3	603.1
Total passengers	1 145.0	215.6	1 360.6

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

In 2004–05 the estimated number of visitors travelling for holiday or leisure purposes declined for both air and sea, indicating a downturn in tourist numbers to Tasmania (BTRE 2006; and table 2.1 above). More visitors to Tasmania travelled by air than sea, but a higher proportion of sea visitors travelled for holiday/leisure purposes (70 per cent) than air (43 per cent) (table 2.1).

The estimated number of adult Tasmanian residents—excluding day trippers—travelling to the mainland by air and sea was 603 000—an increase of 23.6 per cent on 2003–04 (table 2.1). Around 37 per cent of residents—by both sea and air—travelled for holiday or leisure. The proportion of adult Tasmanians choosing to travel by sea in 2004–05 was 11.5 per cent—down from 15.3 per cent in 2003–04 (BTRE 2006).

SEA SERVICES AND PASSENGERS

Three operators provided sea services in 2004–05: TT-Line, Patrick Shipping and Southern Shipping. TT-Line provided the main sea passenger service across Bass Strait in 2004–05 and carried a 451 915 one-way passengers and 216 733 eligible vehicles. Total sea passengers fell by 53 724 (10.6 per cent) and the number of eligible vehicles fell 11 533 (5 per cent). The number of one-way motor vehicle passengers carried by TT-Line was 395 928—a decrease of 42 913 (9.8 per cent). Berth only passengers also declined by 10 811 (16.2 per cent).

Spirit of Tasmania I and *Spirit of Tasmania II* have operated Melbourne–Devonport since 1 September 2002, replacing the *Spirit of Tasmania* on this route. These two new vessels increased the passenger capacity by 212 per cent and the available motor vehicle capacity by 185 per cent (BTRE 2004). Each ship can carry up to 1 400 passengers and 600 cars but have maximum passenger capacities 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. The *Spirit of Tasmania III* can carry up to 1400 passengers and 410 cars (Sydney Port Corporation 2004). Each trip is 20 hours, twice the duration of the Melbourne–Devonport trip (TT-Line Company Pty Ltd, undated). The Sydney–Devonport service carried 59 524 one-way passengers, including 52 676 motor vehicle passengers, and 28 803 vehicles in the 12 months to June 2005.

In addition to TT-Line, two other operators provided services across Bass Strait in 2004–05. 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 two operators combined carried only 228 motor vehicles in 2004–05, compared with 216 733 carried by TT-Line (table 2.2).

TABLE 2.2 ELIGIBLE MOTOR VEHICLES CARRIED BY OPERATOR 2004–05

Operator	Motor vehicles carried	Share of total (per cent)
TT-Line	216 733	99.9
Patrick Shipping	205	0.1
Southern Shipping	23	0.01
Total vehicles	216 961	100.0

Source Tasmanian Assistance Services—personal communications (October 2005).

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

Between 1995–96 and 2004–05 the number of voyages has increased from 295 to 832 (table 2.3). In addition, the average vessel size—and hence available capacity—increased substantially with the introduction of the *Spirit of Tasmania I and II*. TT-Line states it reduced the numbers of scheduled voyages on both the Sydney and Melbourne services in 2004–05 as a cost cutting measure (TT-Line 2005 p. 18). Voyages by the *Spirit of Tasmania I/II* decreased by 62 (6.9 per cent). The apparent increase in *Spirit of Tasmania III* voyages reflects the first full year of data (table 2.3).

TABLE 2.3 TT-LINE ONE-WAY VOYAGES, 1995–96 TO 2004–05

Voyages (no.)	95–96	96–97	97–98	98–99	99–00	00–01	01–02	02–03	03–04	04–05
Spirit of Tasmania	295	313	323	334	347	379	367	(a)	na	na
Devil Cat	na	na	117	171	108	99	118	na	na	na
Spirit of Tasmania I/II	na	na	na	na	Na	na	na	846	894	832
Spirit of Tasmania III[c]	na	na	na	na	Na	na	na	na	135[b]	220
Total Voyages	295	313	440	505	455	478	485	846	1029	1052

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.
b. Spirit of Tasmania III began operating the Sydney–Devonport route on 13 January 2004. Voyage total for 2003–04 therefore reflects approximately 6 months data.
c. Spirit of Tasmania III operated an extra Melbourne–Devonport service on 15 December 2004 and replaced its sister ships during their biannual dry-dockings from 17 July to 7 August 2004.
Source TT-Line Company Pty Ltd (2005) and previous Annual Reports.

Total TT-Line voyages increased while total traffic declined in 2004–05 (table 2.4).

TABLE 2.4 TT-LINE AVERAGE TRAFFIC PER VOYAGE BY SERVICE, 1995–96 TO 2004–05

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
2004–05	472	271	226	131

na not applicable.
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 Company Pty Ltd (2005) and previous Annual Reports.

The average number of passengers and vehicles per voyage increased on the Sydney service and continued to decline on the Melbourne–Devonport service (table 2.4).

AIR SERVICES AND PASSENGERS

In 2004–05 total domestic air passengers to and from Tasmania increased by 21 per cent. The top five routes accounted for 2.2 million one-way trips—86 per cent—of all air passengers on Tasmanian interstate routes (table 2.5). Devonport–Melbourne was the only route recording a decline. Despite the increase in total air passenger numbers, the average utilisation of seats fell to 70.8 per cent (78.9 per cent in 2003–04).

TABLE 2.5 TOTAL AIR PASSENGERS ('000) BETWEEN TASMANIA AND THE MAINLAND—ONE-WAY TRIPS, 1985–86 TO 2004–05

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
2004–05	967.1	612.8	351.8	109.3	163.4	2 550.2

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).*

Summary

- 1.36 million adult passengers travelled across Bass Strait in 2004–05—an increase of approximately 133 000 (10.8 per cent) on 2003–04.
- The majority of passengers—over 80 per cent—travelled by air in 2004–05. The number of domestic air passengers to/from Tasmania increased 21 per cent.
- An estimated 215 600 adult passengers travelled by sea, a decrease of 25 000 over 2003–04. The number of adult visitors travelling by sea decreased almost 20 000 and the number of adult Tasmanian residents travelling by sea fell by just over 5 000.
- Visitor numbers increased 2.4 per cent to almost 760 000 in 2004–05.
- About half of all visitors travelled for holiday/leisure purposes—70 per cent of sea visitors and 43 per cent of air visitors. In 2004–05 the estimated number of visitors travelling for holiday/leisure purposes declined for both air and sea, indicating a downturn in tourist numbers to Tasmania.
- The proportion of adult visitors choosing to travel to Tasmania by sea was 19.3 per cent (down from 22.5 per cent in 2003–04). The number travelling by sea decreased 19 900 (12.0 per cent) and the number travelling by air increased 37 600 (6.5 per cent).
- 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.
- TT-Line carried a total 451 915 one-way passengers and 216 733 vehicles in 2004–05. Total sea passengers fell by 53 724 (10.6 per cent) and the number of eligible vehicles fell 11 533 (5 per cent).
- The number of one-way motor vehicle passengers carried by TT-Line was 395 928—a decrease of 42 913 (9.8 per cent) over 2003–04.
- The *Spirit of Tasmania III* carried 59 524 one-way passengers—including 52 676 motor vehicle passengers—and 28 803 vehicles in 2004–05.
- Total TT-Line voyages increased while total traffic declined in 2004–05. The average number of passengers and vehicles per voyage increased on the Sydney service and continued to decline on the Melbourne–Devonport service.

CHAPTER 3 OPERATION OF THE SCHEME IN 2004–05

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 or carrying cargo are not eligible for the rebate and are shipped 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 2004–05. 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. TT-Line continues to apply a seasonal fare structure (Chapter 4).

The 1 September 2002 change to a constant rebate reduced 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 ROUTE, 1 JULY 2004 TO 30 JUNE 2005

Eligible Vehicle Class	Rebate ($)
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

Notes. *The round-trip rebate is exactly double the one-way trip rebate. Prior to 1 September 2002 an off peak rebate applied 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.*

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

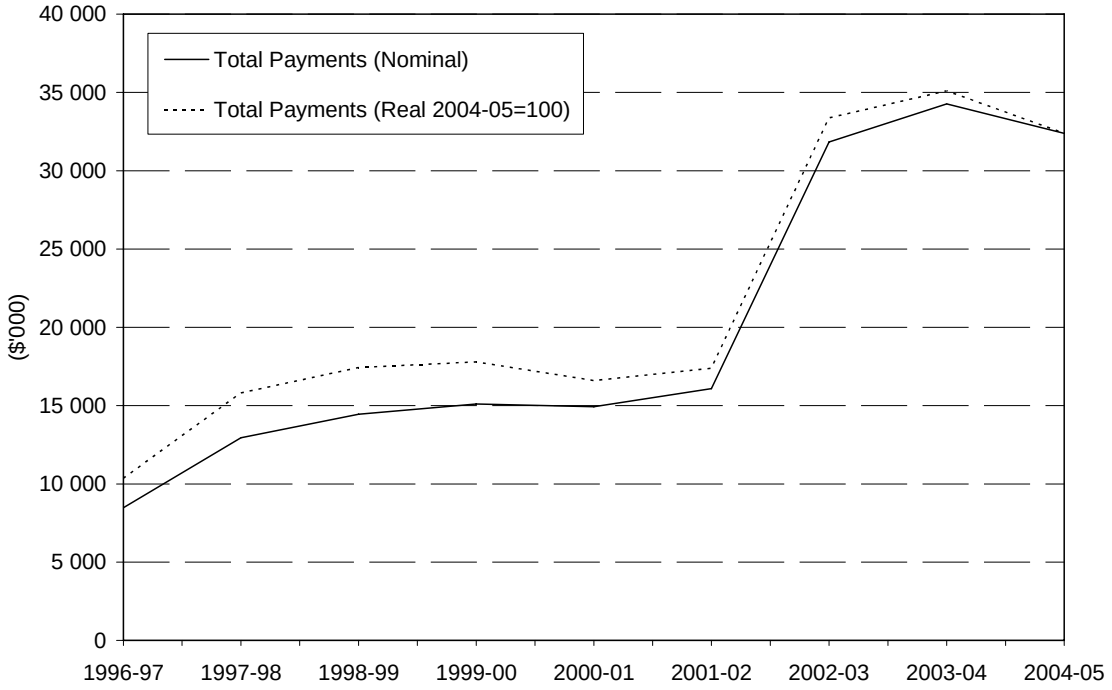
REIMBURSEMENTS AND PAYMENTS UNDER THE SCHEME

The Scheme is demand driven. Total funding therefore varies with the number—and mix—of eligible vehicles carried by sea across Bass Strait.[7]

In 2004–05 the Australian Government spent $32.38 million under the Scheme—a decrease of 5.5 per cent over 2003–04. Over 99 per cent of total spending under the Scheme—$32.35 million—went to eligible passengers with an accompanying vehicle travelling on TT-Line services.

Reimbursements had almost doubled in 2002–03 (figure 3.1)—up 99.6 per cent—due to the combined effect of the increase in capacity with the introduction of the new *Spirit of Tasmania I* and *Spirit of Tasmania II* vessels 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 2004–05



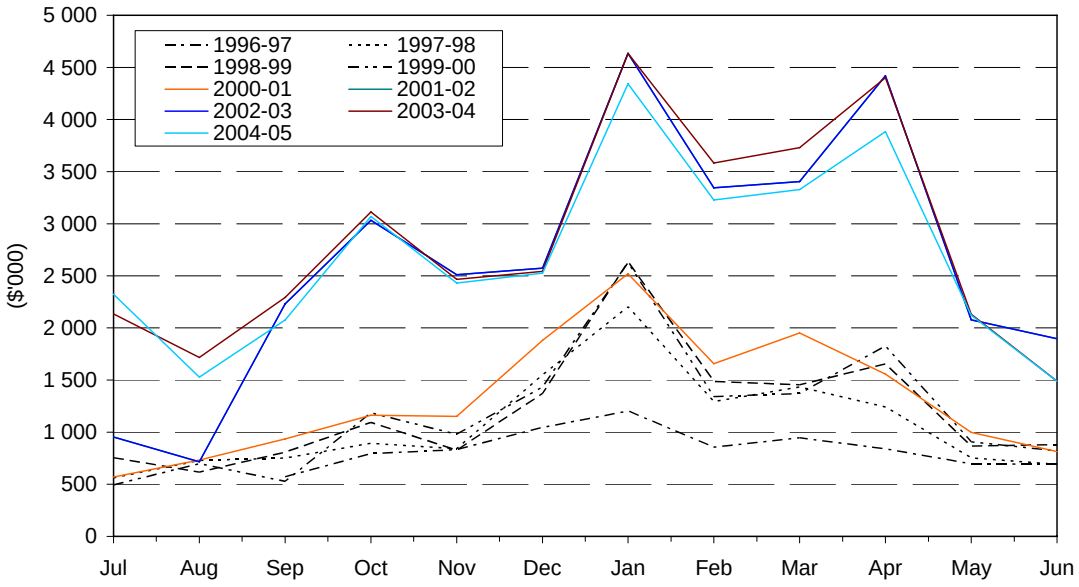
Note: *'Actual' refers to the vehicles actually shipped and disregards advanced payment numbers for scheduled bookings.*
Sources *Tasmanian Assistance Services—personal communications (October 2005 and earlier).*

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 compared with previous years.

In 2004–05 the number of one-way motor vehicle passengers on TT-Line services decreased 42 913—approximately 9.8 per cent—and total reimbursements to TT-Line decreased 5.5 per cent (table 3.2).

[7] Scheme funding for services on the Sydney–Devonport route has been capped at $8 million per annum from 2004–2005 (Department of Transport and Regional Services, undated).

FIGURE 3.2 VALUE OF TT-LINE CLAIMS BY PERIOD



Source *Tasmanian Assistance Services—personal communications (October 2005 and earlier).*

The structure and amount of rebate per vehicle were unchanged in 2004–05 (table 3.1). The reduction in TT-Line's nominal rebate payments (table 3.2) reflects the decline in the total number of eligible vehicles.

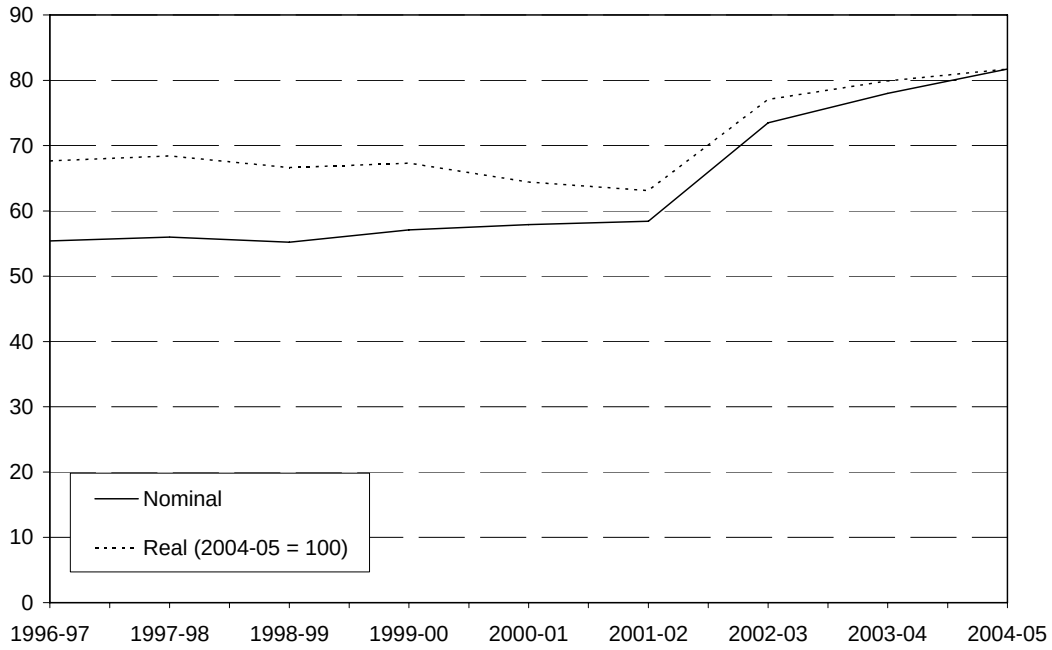
TABLE 3.2 TT-LINE'S AVERAGE REIMBURSEMENT PER MOTOR VEHICLE PASSENGER 1996–97 TO 2004–05

	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	10 354 252	153 045	55.4	67.7
1997–98	12 938 565	15 811 015	231 098	56.0	68.4
1998–99	14 446 755	17 425 796	261 487	55.2	66.6
1999–00	14 211 445	16 743 393	248 745	57.1	67.3
2000–01	15 030 670	16 710 435	259 438	57.9	64.4
2001–02	15 932 170	17 220 845	272 922	58.4	63.1
2002–03	31 793 065	33 334 813	432 498	73.5	77.1
2003–04	34 235 612	35 070 041	438 841	78.0	79.9
2004–05	32 349 808	32 349 808	395 928	81.7	81.7

a. *Real 2004–05 dollars.*
Sources *Tasmanian Assistance Services–personal communications (2005 and earlier); TT-Line–personal communications (2005 and earlier).*

Despite this decline in rebate payments, the average nominal rebate to TT-Line per motor vehicle passenger increased 4.7 per cent to $81.70 in 2004–05 (table 3.2). This largely reflects a decline in the average number of people per vehicle from 2.0 to 1.9. This increase in the average rebate per motor vehicle passenger follows a modest increase in 2003–04 and a substantial increase in 2002–03 (from $58.40 to $73.50, up 25.8 per cent—table 3.2; figure 3.3) in 2002–03. The 2002–03 increase in the average rebate per person followed the Ministerial Directions change to a flat one-way rebate of $150—formerly $100 off-peak and $120 in the shoulder period (BTRE 2004).

FIGURE 3.3 AVERAGE REIMBURSEMENT PER MOTOR VEHICLE PASSENGER ($), 1996–97 TO 2004–05



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.
- Total funding varies with the number and mix of eligible vehicles carried by sea across Bass Strait.
- In 2004–05 the Australian Government spent $32.38 million under the Scheme—a decrease of 5.5 per cent over 2003–04.
- TT-Line motor vehicle passenger one-way trips fell 42 913 (down 9.8 per cent) and reimbursements reduced to $32.35 million (down 5.5 per cent).
- The average nominal rebate per passenger increased 4.7 per cent to $81.70. This reflects a fall in the average number of passengers per eligible vehicle.

CHAPTER 4 CHANGES IN FARES

SEA FARES

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

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.

On 1 August 2004 TT-Line increased passenger fares between Melbourne–Devonport by $3 one-way for all seasons, leaving Sydney–Devonport passenger fares unchanged (TT-Line 2004).[8] This increased the Bureau's benchmark Melbourne–Devonport peak season sea fare for an inside 3 to 4 berth cabin by 1.4 per cent (table 4.1).

TABLE 4.1 BENCHMARK ONE-WAY PASSENGER FARES MELBOURNE–DEVONPORT ($), END 2004–05[a,b]

Passenger type	Off-Peak	Shoulder	Peak
Adult	187	196	215
Pensioner	114	120	132
Senior	159	167	184
Tertiary student	141	148	163
Child/student	97	101	111

a. Calculated using TT-Line fares are for an inside cabin (3-4 berth), the benchmark accommodation for calculating the rebate. Melbourne–Devonport fares exclude meals.

b. Calculated using published TT-Line fare information applicable at 30 June 2005. Actual fare levels during respective seasons may have differed. Season dates in 2004–05 were: Off-peak 27 April 2004–27 August 2004 and 1 May 2005–31 August 2005. Shoulder 28 August 2004–16 December 2004 and 26 January 2005–30 April 2005. Peak season fares applied 17 December 2004–25 January 2005.

Sources TT-Line—personal communications (2005).

On 26 January 2005 TT-Line introduced a new, lower passenger fare structure for the Sydney–Devonport service (TT-Line 2005b). For example, this reduced the Bureau's benchmark peak season sea fare on this route by 43 per cent (table 4.2).

[8] TT-Line had previously increased Melbourne–Devonport fares on 1 September 2003 when overnight passenger fares by an average of 3.2 per cent, while day fares increased by $15 in the peak period and $10 in the shoulder period (TT-Line Company Pty Ltd 2003).

TABLE 4.2 BENCHMARK ONE-WAY PASSENGER FARES SYDNEY–DEVONPORT ($), END 2004–05[a,b]

Passenger type	Off-Peak	Shoulder	Peak
Adult	230	256	270
Senior/Tertiary	196	218	230
Child/student	115	128	135
Pensioner	173	192	203

a. Calculated using TT-Line fares for an inside cabin (3-4 berth), the benchmark accommodation used to calculate the rebate. Sydney–Devonport fares include dinner and brunch.

b. Calculated using published TT-Line fare information applicable at 30 June 2005. Actual fare levels during respective seasons may have differed—TT-Line introduced a new lower passenger fare structure for the Sydney service from 26 January 2005. Season dates 2004–05:
- Off-peak season 27 April 2004–27 August 2004 and 1 May 2005–31 August 2005.
- Shoulder season 28 August 2004–16 December 2004 and 26 January 2005–30 April 2005.
- Peak season 17 December 2004–25 January 2005.

Sources TT-Line—personal communications (2005).

Sydney passenger fares remained higher than for the Melbourne–Devonport route—the Sydney–Devonport fare includes meals and the voyage is longer (approximately 20 hours compared with 10 hours for Melbourne–Devonport service).

In addition to their own fare, TT-Line passengers pay a fare for their accompanying passenger motor vehicle. TT-Line increased vehicle fares three times in 2004–05.

1. On 1 August 2004 off-peak and shoulder vehicle fares were increased to $10 one-way for a standard vehicle on both the Melbourne and Sydney routes—peak period vehicle fares were unchanged at $55 one-way. In raising fares the company stated that no increase in vehicle fares has been made since 1996, and that increases in passenger and vehicle fares "have been brought about due to considerable increases in cost areas such as fuel, security arrangements, insurance, and wages and salaries." (TT-Line 2004).
2. On 26 January 2005 standard one-way vehicle fares for the Sydney service were increased in the off-peak and shoulder periods from $10 to $55, giving the same vehicle fare all year round for this service (TT-Line 2005b).
3. On 15 June 2005 TT-Line further increased its vehicle fares on both Sydney and Melbourne services for all periods to $59 one-way citing increasing security and fuel costs (TT-Line 2005c).

Table 4.3 presents TT-Line vehicle fares—net of the Scheme rebate—as at 30 June 2005. Fares in table 4.3 reflect the 15 June 2005 TT-Line fare increases. Eligible vehicles towing trailers, or eligible vehicles other than motor homes/campervans, receive the standard vehicle rebate of $150 one-way. Most of the increase in vehicle fares was in the off-peak and shoulder periods—$59 one-way for an eligible standard vehicle at the end of June 2005, compared with a nil fare (net of the Scheme rebate) at the end of June 2004.

The benchmark sea package fare is for two adults travelling on the Melbourne-Devonport service in the peak season in a 3-4 berth inside cabin with an eligible standard car and buying two meals at $15 each. The benchmark sea package fare as at the end of June 2005 comprises the passenger fare (2 peak season adult sea fares at $215 per person in a 3-4 berth inside cabin), the full standard vehicle fare without a rebate ($209), and two meals purchased on board ($30).

TABLE 4.3 TT-LINE ONE-WAY NET FARES FOR SELECTED VEHICLE CLASSES ($), ALL ROUTES, 30 JUNE 2005[a]

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	59	59	59
5.1 – 6.0 metres	99	99	99
Campervans/motor homes less than 2 metres wide			
0.1 – 6.0 metres	59	59	59
Motor homes/campervans and vehicles towing caravans[a]			
0.1 – 7.0 metres	59	59	89
7.1 – 8.0 metres	87	111	153
8.1 – 9.0 metres	115	163	217
9.1 – 10.0 metres	143	215	281
10.1 – 11.0 metres	171	267	345
Over 11.0m + $/per metre	28	52	64
Vehicles towing trailers or vehicles other than motor homes/campervans[b]			
0.1 – 6.0 metres	128	162	174
6.1 – 7.0 metres	209	209	239
7.1 – 8.0 metres	237	261	303
8.1 – 9.0 metres	265	313	367
9.1 – 10.0 metres	293	365	431
10.1 – 11.0 metres	321	417	495
Over 11.0m + $/per metre	28	52	64
Motor bike	40	40	40
Motor bike-side car/trailer	95	95	95
Pushbikes	6	6	6

a. Fares reflect vehicle fare increases from 15 June 2005.
b. 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.
Sources TT-Line—personal communications (2005).

Motor vehicle fares for the Patrick service (*Searoad Mersey*) are shown in table 4.4.

As discussed in Chapter 2, the *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 car rate to ship their vehicle with Patrick Shipping. Under this rate, the return leg of the vehicle shipment is free.

TABLE 4.4 MOTOR VEHICLE FARES FOR PATRICK SHIPPING

Vehicle category	Cost one-way[a]
Vehicle up to 4.3 m in length	$317 + 4.1 per cent fuel surcharge + GST
Vehicle 4.3 to 5.5 m in length	$420 + 4.1 per cent fuel surcharge + GST

a. Those planning to return within 3 months may be eligible for a tourist car 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 (2006).

TABLE 4.5 MOTOR VEHICLE FULL FARES FOR SOUTHERN SHIPPING

Vehicle category	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

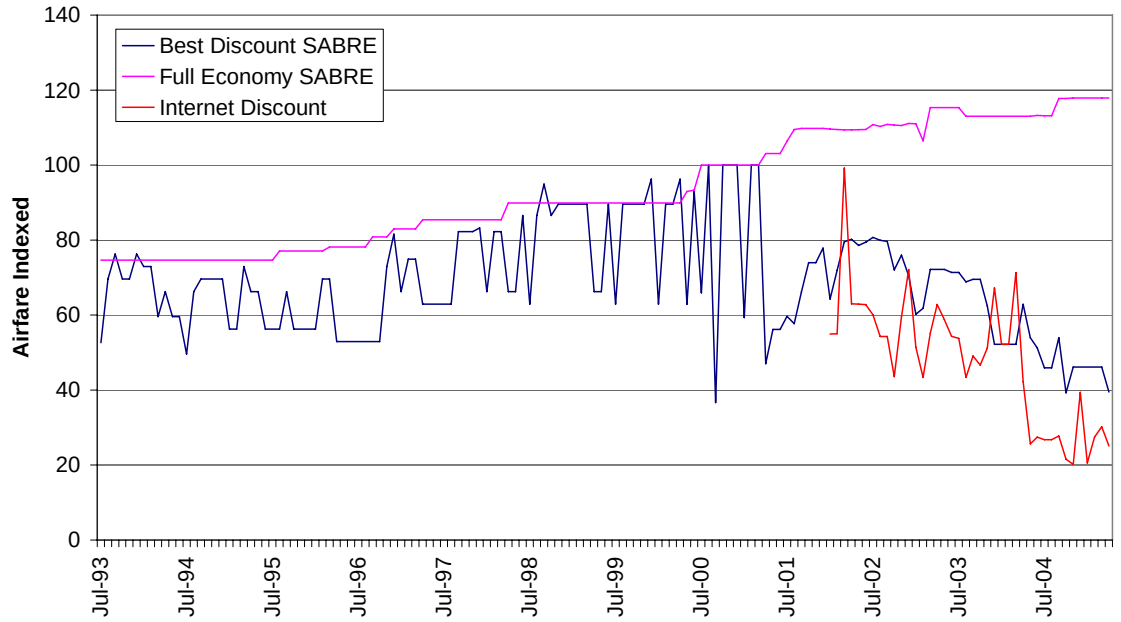
Sources Southern Shipping—personal communications (2005).

AIR FARES

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

Falls in discount air fares appear to be driving the rapid growth in the number of air passengers between the mainland and Tasmania since 2003–04. The Bureau's discount fares index declined 20 per cent between June 2004 and June 2005 (compared with a decline of 28 per cent in the previous year).

FIGURE 4.1 MELBOURNE–HOBART AIR FARE INDICES JULY 1993 TO JULY 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.

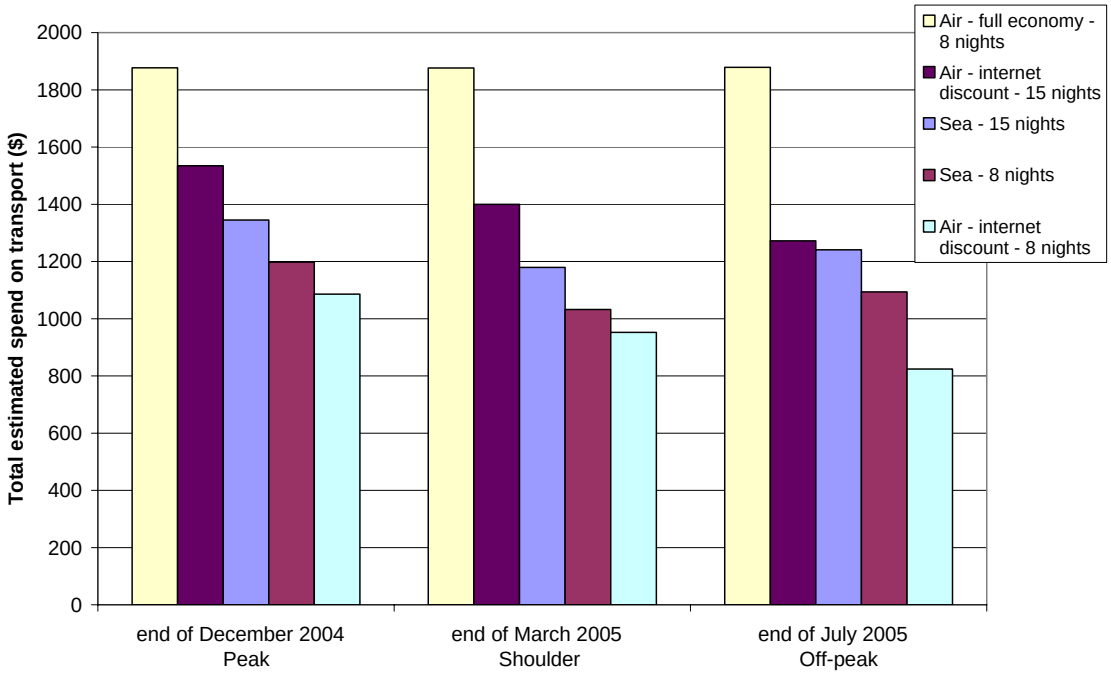
In order to put the rebate for eligible passenger vehicles in context, it is useful to consider the cost of broadly comparable sea and air transport packages—taking into account the average length of stay in Tasmania by sea and air visitors, and differences in visitor spending on transport. The package sea fare used is for two adults[9] and a standard accompanied passenger vehicle between Melbourne and Devonport.

Figure 4.2 compares the cost of this sea transport package with the cost of a fly-drive package for two adults for 8 night and 15 night packages. It should be noted that the average length of stay for air passengers was 8 nights, whereas sea passengers stayed an average 15 nights. The comparison in this figure is a simplified example to illustrate differences between air and sea travel costs and should be treated with caution.

[9] No concessions.

The months chosen for the comparison fall in TT-Line's off-peak, peak and shoulder periods, while the air fares reflect similar levels. Discount air fares are highly variable and may be unavailable or too restrictive for some travellers.

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



Notes *The comparison in this figure is a simplified example to illustrate differences between air and sea travel costs and should be treated with caution. It is based on Tourism Tasmania visitor survey data on average lengths of stay and spends on transport while in Tasmania in 2004–05: The months chosen for the comparison fall in TT-Line's off-peak, peak and shoulder periods, while the air fares also reflect similar levels—however, air fares are variable and can vary week to week. 'Best discount' air fares are subject to availability and restrictions which may make them unsuitable for some travellers. July 2005 sea fares reflect the 15 June 2005 increases. End of July 2005 was chosen for the comparison as this was an off-peak period for air fares.*

Source *TT-Line—personal communications (2005), Tourism Tasmania Tasmanian Visitor Survey—personal communications (2006).*

The average amount spent on transport by air passengers while in Tasmania per night for 2004–05 was $64 and the average spent on transport by sea passengers while in Tasmania was $21—a difference of $43 per night.

In 2004–05 a full price sea package during the peak season was $519 one-way, net of the rebate and including meals. For a return journey and typical fifteen night stay with a $21 per day spend on transport, this gives a total[10] peak season cost for motor vehicle sea passengers of $1 353.

Without the rebate the cost of the peak season sea package would have increased by $300 to $1 653—in this example the rebate has reduced the cost of a peak season sea package by 22.2 per cent. If this were 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 $1 206 ($1 506 without the rebate).

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

For TT-Line's peak season for travel at the end of December 2004 this fly-drive package would have cost $1 877 for a typical eight night stay and a full economy air fare, or $1 086 with a best-discount internet fare. If this was assumed to be a fifteen night stay—equivalent to the average sea passenger stay—then the cost of the fly-drive package with a best discount air fare would have been $1 534.

During the off-peak season—1 May to 31 August—the package sea fare, including the passenger fare, vehicle fare (net of the rebate) and meals, would have been $463 one-way. For a return journey and average fifteen night stay with a $21 per day spend on transport, the off-peak cost for the motor vehicle sea package would have been $1 241. Without the Scheme, the cost of the off-peak sea package would have increased by $300 to $1 541—the rebate in this example has reduced the cost of an off-peak sea package by 24.2 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 $1 094 ($1 394 without the rebate).

For the full economy air fares as at the end of July[11] 2005, the total cost of an eight night fly-drive package would be $1 878. Assuming a best-discount internet discount fare for July 2005 and an eight night stay, the cost of a fly-drive package was $824. For the internet discount fares and a fifteen night stay the cost of an off-peak fly-drive package would be $1 272.

The July 2005 sea package (Figure 4.2) includes the 15 June 2005 increases in eligible vehicle fares of $59 one-way—after this increase the off-peak 15 day sea package is only marginally ($29) cheaper than the off-peak 15 day air package.

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

With these provisos, the comparison of package fares indicates that sea travel was likely to have been a better option for those planning a longer (15 day) stay for all seasons. Those planning a shorter (8 night) stay the fly-drive scenario with a heavily discounted air fare—subject to availability—may have been the best deal in all seasons.

[11] The end of June 2005 was not used as a comparison point as the discount air fare—surveyed for Thursday 30th of June 2005—increased to just below the December 2004 peak air fare, coinciding with school holiday periods in NSW and the ACT.

Summary

- TT-Line increased Melbourne–Devonport passenger fares by $3 one-way from 1 August 2004—increasing the Bureau's peak season benchmark fare by 1.4 per cent.
- TT-Line introduced lower passenger fares for the Sydney–Devonport route from 26 January 2005—reducing the peak season benchmark fare by 43 per cent.
- TT-Line increased vehicle fares a number of times on both the Melbourne and Devonport routes in 2004–05. Fares for an eligible standard vehicle for both routes increased to $59 one-way all year round from 15 June 2005. Most of the impact was on vehicle fares in the off-peak and shoulder periods.
- There were further falls in discount air fares between Tasmania and the mainland in 2004–05. Falling discount air fares have driven rapid growth in air passengers between the mainland and Tasmania.
- A comparison of package fares indicates that sea travel was likely to have been a better option for those planning a longer (15 day) stay for all periods. Those planning a shorter (8 night) stay the fly-drive scenario with a heavily discounted air fare—subject to availability—may have been the best deal in all seasons. This comparison needs to be treated with caution—particularly given the variability of discount air fares.

CHAPTER 5 IMPACT OF THE SCHEME ON TRAFFIC

WHY DEVELOP ECONOMETRIC MODELS?

The rebate substantially reduces the cost of freighting an accompanying vehicle for eligible passengers. In 2004–05 the $150 rebate on a standard car represented 22.4 per cent of the Bureau's benchmark one-way Melbourne–Devonport sea fare for a couple travelling with an eligible passenger car.[12]

The reductions in vehicle fares associated with the Scheme would be expected to stimulate increased sea travel across Bass Strait. Lower fares would potentially attract new travellers as well as travellers from other markets—including other destinations in Australia. Lower vehicle sea fares may also encourage some travellers, notably fly-drive tourists, to switch from air to sea transport. It would also be expected that some berth only sea passengers may choose to travel with their motor vehicle rather than hire a car.

Some of these factors are evident in the traffic trend comparisons. However, changes in the number of sea travellers since the introduction of the Scheme also reflect other factors such as population changes and income growth. 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 used to assess the impact of the Scheme was initially developed using time-series data from 1985–86 to 2000–01. This model 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 package fare and the full economy air fare.

The Bureau re-specified the model for the 2002–03 report to take account of the substantial increases in capacity following the introduction of TT-Line's new ships in September 2002. The introduction of the Sydney service in January 2004 complicated the modelling task. 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 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 monitoring report is the same model used in the 2002–03 and 2003–04 reviews. The model estimates the relationship between the number of

[12] The $150 vehicle rebate makes up 22.4 per cent of the $669 full benchmark sea package fare as at the end of June 2005.

motor vehicle passengers and changes in population, real household disposable income, the sea package fare and the air fare.

The model includes three dummy variables; the first to account for the influence of the 1991–92 Gulf War, the second to account for the increase in capacity resulting from the introduction of the *Spirit of Tasmania I* and *II* from September 2002, and the third to account for changes in 2004–05 including the introduction of the Sydney service.

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 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—this produces increased estimates of the number of motor vehicle passenger trips for previous years. For 2003–04 the estimate has increased from 70 187 to 79 408 (BTRE 2006; table 5.1).

The estimated sea fare (own-price) elasticity of -1.06 obtained from the model indicates that a 1 per cent reduction in the sea fare leads to a 1.06 per cent increase in the number of one-way motor vehicle passengers (table B.2). This is slightly higher than the sea fare elasticity estimate in the 2003–04 version of the model (BTRE 2006).

TABLE 5.1 IMPACT OF THE SCHEME ON MELBOURNE–DEVONPORT MOTOR VEHICLE PASSENGER NUMBERS, ONE-WAY TRIPS, 1996–97 TO 2004–05

	Motor vehicle passenger one-way trips			
Year	Without Scheme (estimates)[c]	With Scheme (actual)	Difference[c]	Per cent change
1996–97[a]	116 447	153 045	36 598	31.4
1997–98	177 136	231 098	53 962	30.5
1998–99	202 259	261 487	59 228	29.3
1999–00	193 196	248 745	55 549	28.8
2000–01	206 897	259 438	52 541	25.4
2001–02	217 651	272 922	55 271	25.4
2002–03	347 301	432 498	85 197	24.5
2003–04[b]	329 707	409 115	79 408	24.1
2004–05[b]	277 113	343 252	66 139	23.9
All years	1 790 594	2 268 348	477 754	26.7

a. Data covers 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 and 2004–05 excludes the Sydney–Devonport route.
c. Estimated values which may vary to previous values reported in earlier reports as the most up-to-date data is used for each subsequent year.
Sources TT-Line data and BTRE analysis.

On the basis of this own-price elasticity, the Bureau estimates that in 2004–05 the Scheme resulted in approximately 66 000 additional one-way trips by motor vehicle passengers between Melbourne and Devonport—an increase of 23.9 per cent relative to

the likely situation without the Scheme (table 5.1). This is 12 500 less than the revised[13] estimate of approximately 79 400 additional one-way passenger trips for 2003–04.

This lower result for 2004–05 compares with traffic data (table 5.1) showing 65 863 fewer one-way motor vehicle passenger trips between Melbourne and Devonport.

As shown in Table 5.1, the estimated number of one-way motor vehicle passengers attributable to the Scheme increased until 1998–99, then ranged between an estimated 52 000 to 56 000 motor vehicle passengers per annum until September 2002.

Following the September 2002 changes to the service and rebate structure, the number of one-way trips by motor vehicle passengers increased to an estimated 85 200 in 2002–03. This declined to approximately 79 400 in 2003–04 and 66 000 in 2004–05.

The substantial increase in passenger numbers from 2002—03 (table 5.1) is due to September 2002 changes that:

- Increased TT Line capacity. 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*[14]; and
- Extended eligibility for the rebate to more vehicle types and increased the off-peak and shoulder season rebates.

The (revised) proportion of motor vehicle passengers attributed to the Scheme has declined from 31.4 per cent of Melbourne–Devonport motor vehicle passengers in 1996–97—when the Scheme was introduced—to 23.9 per cent in 2004–05.

The model results for 2004–05 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).

Reliability of the estimates

The econometric model for Melbourne–Devonport performs well in terms of standard statistical tests. The variables included in the model explain 94 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 2004–05. In addition, all of the estimated coefficients are significant and of the expected sign.

The Gulf War dummy variable in the 2004–05 model was significant at the 20 per cent level. This variable was retained as it is considered important to the model specification—the first Gulf War (1991–92) was associated with a short term reduction in sea passenger numbers on the route—and improved the overall explanatory power of the model.

As the model is affected by data limitations, detailed analysis should be interpreted with caution.[15] For example, it uses annual data, covers a relatively short time period, and does not include some potentially relevant variables. Despite these limitations, the results provide empirical support for the view that the Scheme has contributed to increased sea passenger travel between Melbourne and Devonport.

13 The 2003–04 monitoring report (BTRE 2006) had estimated there were approximately 70 200 additional one-way passengers resulting from the Scheme in 2003–04. The revised estimates for 2003–04 in this 2004–05 monitoring report (table 5.1 above) represent an increase of 13 per cent.

14 For an in-depth analysis of the effects these changes made in 2002–03 refer to BTRE (2004).

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

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.

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 ESTIMATED NUMBER OF ADULT VISITORS TRAVELLING TO TASMANIA, BY PURPOSE AND MODE, 1996–97 TO 2004–05[a,b]

	Visitor numbers ('000)								
Purpose/mode	**96–97**	**97–98**	**98–99**	**99–00**	**00–01**	**01–02**	**02–03**	**03–04**	**04–05**
Holiday/leisure									
Sea	49.5	71.7	85.2	86.0	77.9	79.1	120.2	120.1	102.7
Air	171.8	187.5	191.3	204.5	192.9	180.2	222.7	271.4	267.1
Visiting friends and relatives									
Sea	12.8	16.2	18.3	17.5	17.2	17.6	33.7	22.7	18.6
Air	113.5	102.1	106.9	95.8	114.7	102.7	113.6	149.0	172.9
Business									
Sea	4.0	4.1	4.9	4.8	5.2	5.5	13.3	15.5	14.6
Air	75.8	71.4	70.3	80.3	63.8	85.3	96.9	103.3	122.2
Other [c]									
Sea	7.3	4.4	5.5	3.9	9.2	8.4	11.5	7.7	10.4
Air	47.9	43.6	41.3	38.8	39.0	40.6	39.8	49.7	49.1
Total									
Sea	73.9	96.6	114.1	112.2	109.7	110.8	179.0	166.2	146.3
Air	409.2	404.8	409.8	419.4	410.5	409.0	473.2	573.5	611.2

Note *Data collected by survey and subject to sampling error.*
a. *Excludes minors and day trippers.*
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; 2005).*

Table 5.2 presents data on the number of adult[16] visitors to Tasmania (return trips), by purpose of travel and mode, over the nine years to 2004–05 and includes sea passengers on the Sydney–Devonport service.

Table 5.2 shows that in 2004–05 the estimated number of adult visitors travelling by sea—berth only and motor vehicle passengers—declined almost 20 000 to 146 300

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

(12.0 per cent). Tourism of Tasmania survey data indicates that the number of adult sea passengers peaked at approximately 179 000 in 2002–03.

The number of tourists—visitors with holiday/leisure journey purposes—travelling by sea declined by an estimated 17 500 (14.6 per cent) in 2004–05.

The largest percentage fall (18.1 per cent) was in the visiting friends/relatives category.

For the same 12 month period, the total number of adult air passengers increased by more than 37 000 (6.6 per cent)—this represents a slowing in the rate of growth recorded in 2002–03 and 2003–04.

However, the estimated number of air passengers travelling for holidays or leisure declined in 2004–05 by more than 4 000, or 1.6 per cent (table 5.2)—the 37 000 increase was due to growth in the visiting friends and relatives and business categories.

Trends in other passenger categories

The estimated number of adult visitors who visited friends and relatives in 2004–05 by sea decreased significantly while the number travelling by air increase substantially. This outcome for 2004–05 contrasts with the trend evident since the start of the Scheme—the number of adult sea passengers visiting friends and relatives has increased by approximately 6 200 (107 per cent) between 1996–97 and 2004–05 while the number of air passengers in this category has increased by 59 400 (55 per cent).

As noted in chapter 2, in 2004–05 the number of visitors travelling for holiday or leisure purposes declined for both air and sea, indicating a downturn in tourist numbers to Tasmania.

Trends in sea passenger categories

Figure 5.1 presents data on the number of motor vehicle sea passengers and berth only sea passengers since 1995–96 (one-way trips)—including Sydney–Devonport passengers since 2003–04. The average number of motor vehicle passengers per eligible vehicle has remained around 2.0 since the introduction of the Scheme, with changes in the number of motor vehicle passengers mirroring changes in the number of eligible vehicles.

The number of motor vehicle passengers since the start of the Scheme has generally risen while the number of berth only passengers has generally declined. Motor vehicle passenger traffic rose by 201 per cent between 1995–96 and 2004–05, while berth only passenger traffic fell by 34 per cent. There are two exceptions to the upward trend in motor vehicle passenger numbers since the start of the Scheme:

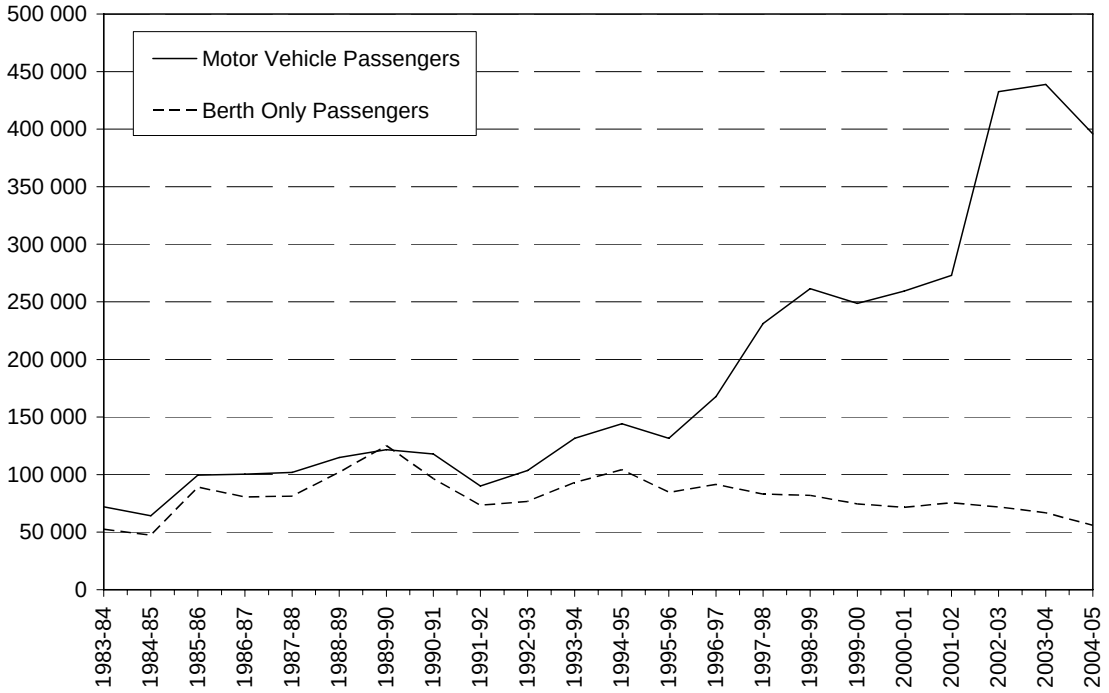
- In 1999–00 the number of motor vehicle passengers fell 5 per cent—this was associated with engine problems on the *Spirit of Tasmania*.
- In 2004–05 the number of motor vehicle passengers fell 9.8 per cent.[17] Tourism Tasmania visitor data indicates the number of leisure visitors by air declined marginally.

Figure 5.1 shows a very large increase in the total 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 net increase in 155 915 passengers was due to an increase of 159 576 in the number of motor vehicle passengers, while the number of berth only passengers fell by 3 661.

[17] Total sea passengers decreased by 53 724 (10.6 per cent). While the number of motor vehicle passengers fell 42 913 (9.8 per cent), the number of berth only passengers also continued to decline—down 10 811 (16.2 per cent).

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 that the Scheme has encouraged substitution between these types of sea travel—that is, it has encouraged sea passengers to take their own motor vehicle.

FIGURE 5.1 NUMBER OF SEA PASSENGERS[a,b] CARRIED ACROSS BASS STRAIT, ONE-WAY TRIPS, 1995–96 TO 2004–05



a. Includes both visitors and Tasmanian residents.
b. Data for 2003–04 and 2004–05 includes the Sydney–Devonport service.
Source TT-Line—personal communications (2005 and earlier).

Types of vehicles

Table 5.3 gives a breakdown of eligible vehicles for which reimbursements were paid.

TABLE 5.3 ELIGIBLE VEHICLES FOR WHICH REIMBURSEMENTS PAID, 2001–02 TO 2004–05

	Number of eligible vehicles				Change from
Eligible Vehicles	**01–02**	**02–03**	**03–04**	**04–05**	**03–04 to 04–05**
Motor cars	128 353	196 871	199 902	188 757	-5.6%
Eligible vehicles + caravan	0	7 359	9 648	10 186	5.6%
Motorcycles	6303	7 023	8 699	8 791	1.1%
Motor homes	0	5 991	9 023	7870	-12.8%
Pushbikes	0	1 188	431	992	130.2%
Buses	324	474	791	365	-53.9%
Total	134 980	218 906	228 494	216 961	-5.0%

Sources Tasmanian Assistance Services–personal communications (September 2003, February 2005, October 2005).

Table 5.3 shows that cars have declined as a proportion of all eligible vehicles since the Scheme was broadened in September 2002. Other vehicle types have increased from 5 per cent of all eligible vehicles in 2001–02 to 13 per cent in 2004–05.

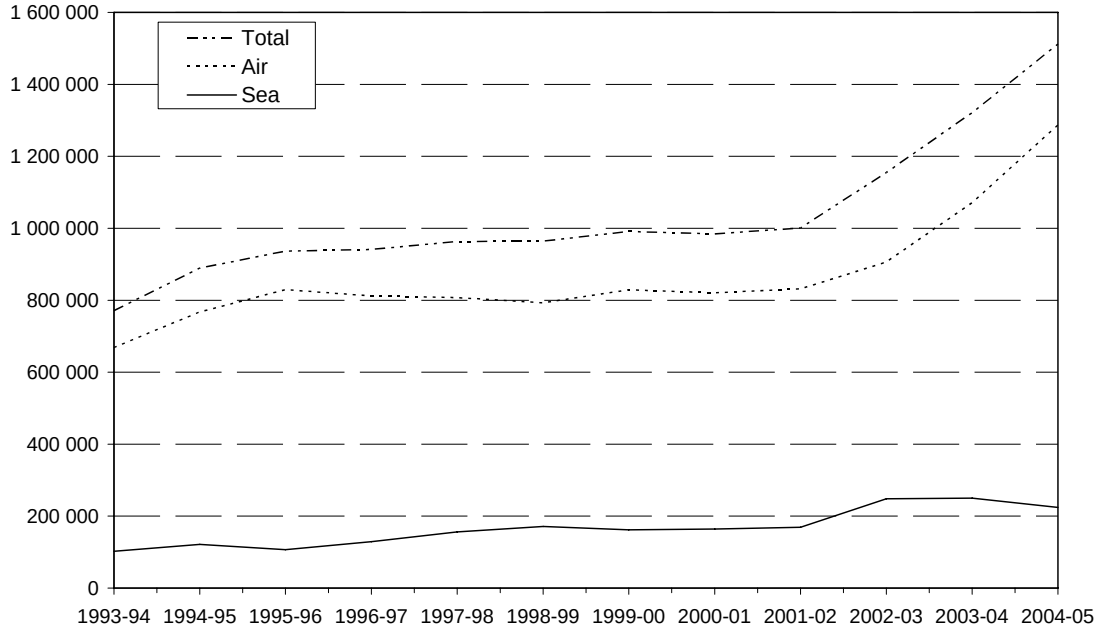
The total number of eligible vehicles declined by 11 533 to 216 961 (down 5 per cent).

Air and sea traffic trends

Figure 5.2 shows the number of sea passengers—who are 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 grew 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 2004–05



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 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. From 2001–02 to 2002–03, sea traffic grew 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 grew less than 1 per cent—despite the Sydney–Devonport service which started in January 2004.

In 2004–05 air passenger numbers continued to grow whereas sea passenger numbers declined. While this reduction in the number of 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—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 contributed to the number of motor vehicle passengers.

ASSESSING THE IMPACT OF THE SCHEME ON TOURISM

When the Scheme was introduced in 1996, the tourism industry was cited as an area where there would be direct benefits of increased demand for sea travel (Chapter 1). The number of new leisure or holiday visitors who travelled because of the rebate, and their additional spending in Tasmania, is an important—albeit partial—indicator of the impact of the Scheme.

The number of motor vehicle passengers has grown substantially since 1996. Other trends indicate that some of this growth has been at the extent of other travel demands—notably the continued decline in berth only passengers, but also potentially reduced air traffic demand.

While lower sea fares may have had an impact on some categories of air travel, the Bureau has not adjusted for any reduction in air travel demand as the econometric modelling of the Melbourne–Tasmania air market found no statistically significant relationship between air demand and the price of sea travel (Appendix C).[18]

Berth only passenger numbers have declined since the introduction of the Scheme in 1996. 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—to provide an indicative estimate of the number of berth only passengers who may have travelled without the Scheme—indicates that the rebate may have reduced the number of berth only sea passenger movements by approximately 41 000 in 2004–05.

Subtracting this estimate of 41 000 fewer berth only passenger movements from the Bureau's econometric estimate of just over 66 000 additional motor vehicle passenger movements indicates that the Scheme may have resulted in a 25 000 net increase in one-way sea passengers between Melbourne and Devonport in 2004–05. Assuming each passenger made a return trip with their vehicle, this equates to 12 500 return motor vehicle passengers.

Tourism Tasmania visitor survey data indicates that approximately half of these new passengers are likely to have been tourists—visitors to Tasmania travelling for holiday or leisure purposes (table 2.1).[19]

The indicative number of new leisure visitors who travelled by sea between Melbourne and Devonport is estimated at approximately 6 250. If these new visitors spent an average of $2 116 per person,[20] then the total additional new tourism spending would have been $13.2 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 on the Melbourne–Devonport service only. Further, it does not include:

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

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

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

- benefits to Tasmanian residents who travelled by sea who may have been eligible, or benefits to eligible visitors travelling for non-leisure purposes;
- benefits to passengers using the Sydney–Devonport ferry service;
- any incremental spending related to longer stays by berth only visitors who decide to take a car, or by visitors switching from air to sea transport who decide to stay longer in Tasmania as a result.

Given an average spend of $2 116, the Scheme would need to have increased the number of additional visitors to Tasmania by 15 300 in 2004–05 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 to Tasmania fell in 2004–05, implying reduced Scheme-related tourism spending.

Summary

- The rebate reduces the cost of freighting an accompanying vehicle for eligible passengers. In 2004–05 the $150 rebate on a standard car represented 22.4 per cent of the Bureau's benchmark one-way Melbourne–Devonport sea fare for a couple travelling with an eligible passenger car.

- The Bureau's econometric modelling indicates the Scheme increased one-way motor vehicle passenger numbers between Melbourne and Devonport by an estimated 66 000 additional one-way trips in 2004–05. This was approximately 13 000 fewer extra one-way motor vehicle passengers than (revised) 2003–04 estimates. This decline is expected given the overall decline in Tasmanian sea passenger traffic in 2004–05.

- The proportion of Melbourne–Devonport motor vehicle passengers attributed to the Scheme was 23.9 per cent in 2004–05—down from 31.4 per cent of motor vehicle passengers when the Scheme was introduced in 1996–97.

- In 2004–05 total sea passengers between the mainland and Tasmania declined while total air passengers continued to grow.

- Since the start of the Scheme the number of motor vehicle passengers has generally risen while the number of berth only passengers has generally declined. This indicates that the Scheme has encouraged sea passengers to take their own motor vehicle.

- Traffic trends since 1996 indicate that the Scheme has contributed to the number of motor vehicle passengers, and encouraged sea passengers to take their own motor vehicle.

- The Bureau's indicative estimate of the number of new leisure visitors who travelled by sea from Melbourne in 2004–05 as a result of the Scheme is approximately 6 250. If each new leisure visitor spent an average $2 116 then the additional new tourism spending would have been $13.2 million in 2004–05.

CHAPTER 6 OPERATOR REVENUE AND EXPENSES

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

TT-LINE PERFORMANCE IN 2004–05

TT-Line recorded a net loss for 2004–05 of $79.3 million (table 6.1) including a write down in the value of the three ships of $43.2 million. This write down in ship values comprised $28.19 million in recognition of currency exchange movements and $11.64 million in interest holding, delivery and alteration costs. TT-Line's operating loss excluding the write down in ship values was $36 million.

TABLE 6.1 SELECTED FINANCIAL INFORMATION FOR TT-LINE 1996–97 TO 2004–05 ($'000)

Category	96–97	97–98	98–99	99–00	00–01	01–02	02–03	03–04	04–05
Total operating revenue	**61 766**	**73 325[a]**	**80 607**	**77 511**	**81 842**	**86 236**	**195 518[b]**	**154 250**	**154 874**
Operating expenses									
Operations—general	22 357	22 724[a]	33 932	40 865	42 864	42 402	69 454	90 900	118 603
Operations—write down	0	0	0	0	0	30 887	0	0	43 237
Ship sale carrying value	0	0	0	0	0	0	62 732	0	0
Hotel services	15 296	15 464	17 783	16 924	17 782	18 130	27 708	33 878	34 306
Customer acquisition	4 893	4 698	6 015	5 900	6 261	6 680	11 437	10 574	13 222
Administration	6 098	6 219	5 707	4 889	6 871	7 462	8 902	8 340	8 593
Other	10 556	22 406	9 793	8 697	2 696	1 958	12 673	13 954	16 192
Total operating expense	**59 200**	**71 511**	**73 230**	**77 275**	**76 474**	**107 519**	**192 906**	**157 646**	**234 153**
Operating profit/loss	**2 566**	**1 814**	**7 377**	**236**	**5 368**	**- 21 283**	**2 612**	**-3 396**	**-79 279[c]**
Abnormals/extraordinaries	0	780	0	0	0	0	0	0	0
Profit/loss	**2 566**	**1 034**	**7 377**	**236**	**5 368**	**- 21 283**	**2 612**	**-3 396**	**-79 279**

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
c. Operating loss for 2004–05 includes the $43.2 million write down in ship values.
Source TT-Line (2005) previous Annual Reports. TT-Line (personal communication January 2001).

There has been significant variability in TT-Line's profitability over the last eight years. TT-Line's operating loss in 2004–05 represents TT-Line's third and largest operating loss since the introduction of the Scheme in 1996–97, and is the first time an operating loss has been recorded in two consecutive years.

Expenses—excluding the $43.2 million ship write down—exceeded revenues by $36.04 million in 2004–05. Operating revenues were $154.87 million (table 6.1), up $600 000 (0.4 per cent). Adjusted operating expenses were $190.9 million, up $33.27 million (21.1 per cent). Significant increases in major operating expenses in 2004–05 included:

- General operations expenses—up almost 31 per cent (+$27.7 million); and
- Customer acquisition costs—up 25 per cent (+$2.6 million).

According to TT-Line the factors having the biggest impact in 2004–05 were reduced passenger numbers coupled with a full year of operating costs for the *Spirit of Tasmania III*—although the company believed that the continuing popularity of budget air fares, oil price increases and renewed interest by Australians in international holidays had also impacted (TT-Line 2005, p. 6 and 18).

In response TT-Line introduced cost cutting measures including reducing the number of sailings on both the Sydney and Melbourne services, and reducing the voyage speed to reduce operating costs and save fuel. The company also introduced a $59 cruise seat sale to target the budget market and allocated an extra $1.5 million to advertising to further promote the Melbourne service (TT-Line 2005, p. 7 and 18).

The Tasmanian Government injected $75.181 million into TT-Line:

- $57.177 million to make debt repayments and reduce debt levels;
- $7.84 million to fund committed capital projects; and
- $10.164 million to cover the company's operating deficit (TT-Line 2005, p. 18).

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.

TABLE 6.2 FINANCIAL INDICATORS (ADJUSTED) FOR TT-LINE, 1996–97 TO 2004–05

Indicator	96–97	97–98	98–99	99–00	00–01	01–02	02–03	03–04	04–05
Operating rev. per voyage[a]	197 335	166 648	159 618	170 354	171 218	177 806	158 710[c]	149 903	147 219
Operating expenses[b]									
per passenger	228	228	213	239	231	220[d]	258[d]	312	422[e]
per voyage	189 137	162 525	145 010	169 835	159 987	158 004[d]	153 870[d]	153 203	181 479[e]

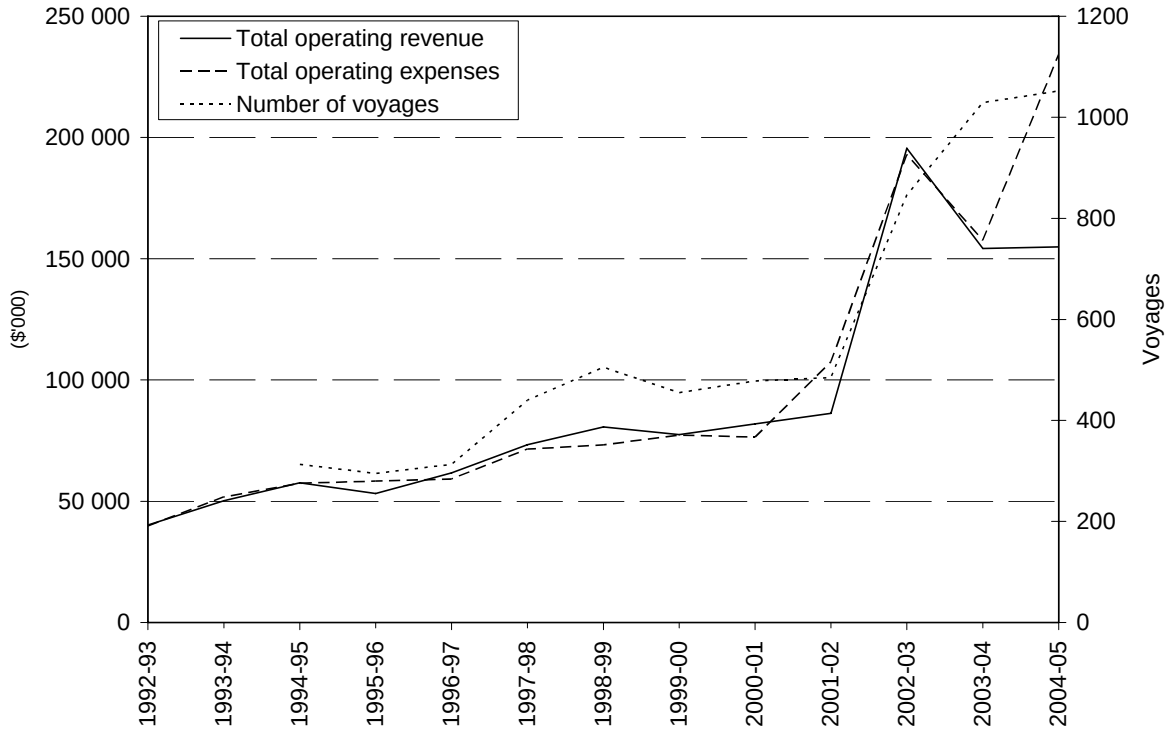
a. Total revenue divided by the number of voyages.
b. Incorporates expenses for passengers, vehicles and freight.
c. Revenue adjusted to exclude gross proceeds from the sale of Spirit of Tasmania in 2002–03.
d. Expenses adjusted to exclude write down in carrying value of Spirit of Tasmania in 2001–02 and carrying value of this ship in 2002–03.
e. Expenses adjusted to exclude write down of $43.24 million in the total value of all three ships.
Source TT-Line (2005) and previous Annual Reports; BTRE estimates.

After adjusting for capital items:

- Average revenue per voyage has fallen since 2001–02.
- (Adjusted) average voyage operating expenses in 2004–05 increased by 16.5 per cent. This followed a decrease in average voyage expenses after the replacement of the *Spirit of Tasmania* in September 2002.
- The average (adjusted) cost per passenger has increased since 2001–02.

Figure 6.1 shows the gap between operating revenue and operating costs (including the $43.2 million write down in ship values) and the increasing number of TT-line voyages.

FIGURE 6.1 TT-LINE OPERATING REVENUE, EXPENSES AND NUMBER OF VOYAGES



Source TT-Line (2005) and previous Annual Reports.

Table 6.3 shows reimbursements to TT-Line and their operating revenue.

Reimbursements had generally increased from $8.47 million (17.6 per cent of revenue) in 1997–98—the first full year of application—to a peak of $34.24 million (22.2 per cent of revenue) in 2003–04, before declining to $32.3 million in 2004–05 (figure 6.2). This decline in 2004–05 was largely due to the fall in eligible vehicle numbers.

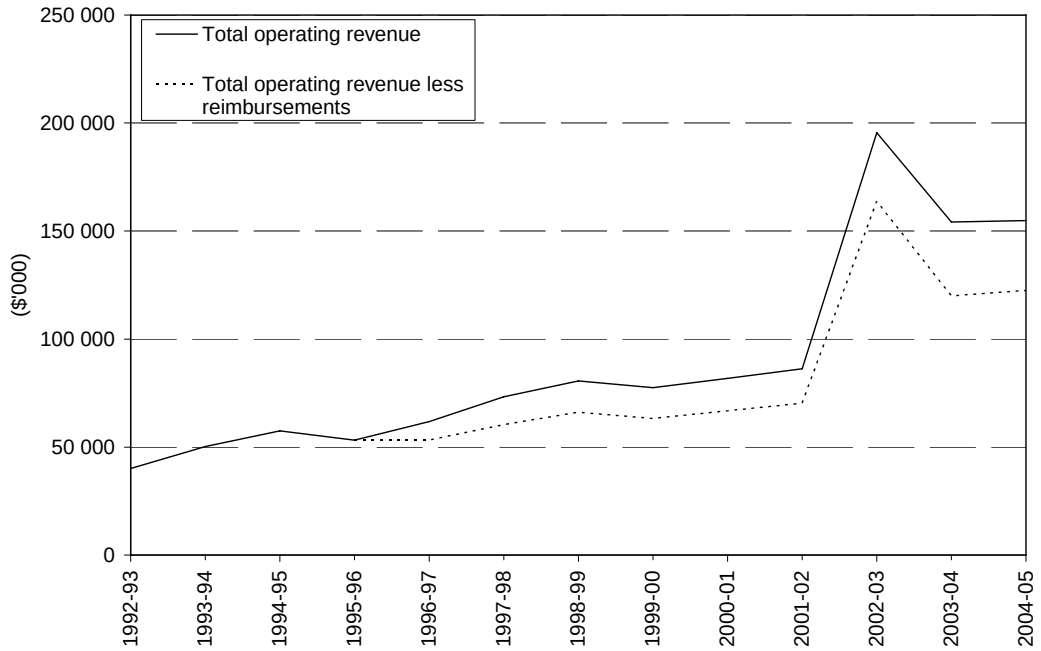
However, rebates had reached a peak of 23.7 per cent of TT-Line revenue in 2002–03. In 2004–05 reimbursements declined as a proportion of TT-Line's operating revenue to 20.9 per cent, the second successive decline since 2002–03. This may in part reflect the higher passenger fares on the Sydney–Devonport service—given that the standard rebate of $150 applies to both routes—effectively diluting the rebate as a proportion of total TT-Line revenue.

TABLE 6.3 TT-LINE REIMBURSEMENTS AND (ADJUSTED) OPERATING REVENUE, 1996–97 TO 2004–05

Year	Reimbursements paid to TT-Line ($)	TT-Line operating revenue ($)	Reimbursements as a proportion 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
2004–05	32 349 808	154 874 000	20.9

a. Excludes gross proceeds ($61.2 million) from the sale of Spirit of Tasmania in 2002–03.
Source TT-Line (2005) and previous Annual Reports.

FIGURE 6.2 ADJUSTED TT-LINE REVENUE AND REVENUE NET OF SCHEME REBATES, 1992–93 TO 2004–05



Note Excludes gross proceeds ($61.2 million) from the sale of Spirit of Tasmania in 2002–03.
Source TT-Line (2005) and previous Annual Reports.

Summary

- TT-Line reported a net loss for 2004–05 of $79.3 million—including a write down in the value of the three ships of $43.2 million.
- The $43.2 million write down comprised $28.19 million for currency exchange movements and $11.64 million in interest holding, delivery and alteration costs.
- The operating loss excluding the write down in ship values was $36 million.
- Operating revenues increased $600 000 (0.4 per cent) in 2004–05. Adjusted operating expenses increased $33.27 million (21.1 per cent).
- Since 2001–02 the average revenue per voyage has fallen and the average (adjusted) cost per passenger has increased. (Adjusted) average voyage operating expenses in 2004–05 increased by 16.5 per cent.
- Factors having the biggest impact in 2004–05 were reduced passengers and a full year of operating costs for the *Spirit of Tasmania III* (TT-Line Company Pty Ltd 2005).
- The Tasmanian Government injected $75.181 million into TT-Line for debt repayments/reductions ($57.177 million) and capital projects ($7.84 million), with the balance to cover the operating deficit (TT-Line Company Pty Ltd 2005).
- In 2004–05 Scheme rebates fell to 20.9 per cent of TT-Line operating revenue—the second successive decline (partly due to the fall in passenger and eligible vehicle numbers). Reimbursements had increased from 17.6 per cent of revenue in 1997–98—the first full year of application—to a peak of 23.7 per cent of revenue in 2002–03.

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 the number of motor vehicle passengers travelling on the Melbourne to 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:

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

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*;

$DSYD$ = Dummy Sydney service - A new dummy variable to account for changes in 2004–05 including the new Sydney service;

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 2004–05 (table B.1).

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

Year	Motor vehicle passengers (one-way)[a] ('000)	Air Fare Index[b, d]	Sea Fare[c, d] ($/package)	Real Income[e] ($ billion)	Population[f] (million)
1985–86	99.5	41.0	291	326.3	15.7
1986–87	100.3	44.5	317	327.1	15.9
1987–88	101.9	47.2	317	333.9	16.1
1988–89	114.8	49.9	353	353.4	16.8
1989–90	121.6	55.2	390	379.1	17.1
1990–91	117.8	60.4	427	371.4	17.3
1991–92	90.1	64.6	450	373.1	17.5
1992–93	103.6	59.8	413[g]	383.0	17.7
1993–94	131.5	64.9	413[g]	394.9	17.9
1994–95	144.1	64.9	445	412.0	18.1
1995–96	131.5	67.2	445	428.0	18.3
1996–97	167.8	71.5	355	437.8	18.5
1997–98	231.1	75.2	371	444.4	18.7
1998–99	261.5	78.2	392	460.4	18.9
1999–00	248.7	78.6	402	479.7	19.2
2000–01	259.4	87.7	475	497.1	19.4
2001–02	272.9	95.1	475	508.3	19.7
2002–03	432.5	97.4	497	511.4	19.9
2003–04	409.1	96.7	509	536.0	20.1
2004–05	343.3	100.0	515	555.2	20.4

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 (nominal dollars).

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

d. The air fare and sea package fare indices are in nominal rather than real dollars—this implies the expenditure on travel is not a direct substitute for other goods and services.

e. Real household disposable income of Australians at current (2004–05) prices.

f. Population of Australia.

g. 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.

Source TT-Line (2005) and previous Annual Reports, TT-Line—personal communications (December 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 0.94 suggests that the model is a good fit. It indicates that 94 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, 2004–05 dummy and increased ship capacity. Around 6 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. The Gulf War dummy (1991–92) variable is significant at or about the 20 per cent level. This dummy variable has been retained as (*a priori*) it is important—sea passenger numbers fell during the first Gulf War—and including it does improve the model.

TABLE B.2 REGRESSION RESULTS FOR THE MELBOURNE–DEVONPORT SEA MODEL 2004–05

Variable	Estimated Coefficient	T-Statistics
Y – Real Income	2.60	2.10
P – Sea Fare	-1.06	-3.20
Q – Full Economy Air Fare	0.87	1.87
Gulf War 1991-92 (DGW)	-0.20	-1.43
Introduction of the *Spirit of Tasmania I/II* 2001–02 on (DSP)	0.44	-2.35
2004–05 dummy (DSYD)	-0.33	4.47
Intercept	-18.18	-3.33
Adjusted R^2	0.94	

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 2.6 (previously 2.8). This means that a 1 per cent increase (decrease) in the level of per capita real household income will result in a 2.6 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 -1.06 (previously -0.9). The own-price elasticity indicates that a 1 per cent decrease (increase) in the price of sea travel will result in a 1 per cent increase (decrease) in the number of motor vehicle passenger movements.

The coefficient of the full economy air fare variable reported in the annual model in table B.2 is significant and of the expected sign. Full economy fares have been used because of the lack of discount fare data series (October 1992 onwards). Full economy fares have increased since budget airlines entered the Tasmanian market, rather than decreased. *A priori*, an increase in competition would be expected to reduce air fares, thereby increasing motor vehicle passenger numbers. While discount air fares have fallen substantially, the discount air fare series is generally not significant[21] in explaining sea passenger movements.

The cross-price (air fare) elasticity is 0.87 (table B.2)—previously 0.8. This indicates a 1 per cent increase (decrease) in the full economy air fare will result in a 0.87 per cent increase (decrease) in the number of motor vehicle passenger movements travelling by sea on the Melbourne–Devonport route.[22]

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 (59 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. 22 per cent of air passengers travelled across Bass Strait for business purposes, compared with 11 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 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 new dummy variable for 2004–05 (DSYD) was significant[23] and negative in sign—approximately 111 000 fewer one-way motor vehicle passengers travelled in 2004–05. A number of factors may explain this estimate—2004-05 saw the first full year of the new Sydney service, which would be expected to reduce the number of motor vehicle passengers on the Melbourne-Devonport service. However, this does not explain all the decline as the Sydney service carried only 52 676 one-way motor vehicle passengers. Other factors that may explain the reduction include continued falls in discount air fares—improving the competitiveness of air travel at the expense of sea travel—and the apparent drop in the total number of tourists[24] visiting Tasmania.

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

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

22 For 2003–04 an econometric air model was investigated to see if there was significant passenger switching between the two modes (BTRE 2006). The analysis concluded that air travellers as a group are insensitive to changes in the sea fares. Further information on the air model can be found in *BTRE (2006),* Appendix C.

23 Excluding the DSYD variable reduces the overall explanatory power of the model and gives an estimate for the real income variable (1.81) that is well below previous results.

24 Tourism Tasmania visitor survey data indicates that the number of leisure visitors to Tasmania (by air as well as sea) declined in 2004–05.

other factors. For example, the time-series annual data cover a period of only 20 years, with the Scheme operating for just nine 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. The Sydney–Devonport route takes approximately 20 hours, whereas the Melbourne–Devonport route only takes approximately 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 passenger fares were significantly higher than the Melbourne–Devonport 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 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 eighteen months worth of data for the new service it is not possible to reliably introduce the Sydney–Devonport route data into the model. Given differences in the routes and pricing, it is probable that a new model for the Sydney–Devonport route will be required. 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 travelling on Melbourne–Tasmania air routes. The econometric model of the Melbourne–Tasmania 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:

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

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 discount 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;

DVB = Dummy Virgin Blue – Dummy variable to account for the influence of an increase in the air passenger capacity following the introduction of Virgin Blue;

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.

This model specification differs from the 2003–04 model (BTRE 2006) in that it includes the best discount air fare rather than the full economy air fare, and includes a dummy variable for the entry of Virgin Blue.

The Bureau adjusted the monthly data for seasonality and estimated the model using monthly time-series data from October 1992 to June 2005.

RESULTS OF THE MELBOURNE–TASMANIA AIR MODEL

The estimated regression results for the 2004–05 Melbourne–Tasmania air model are presented in table C.1.

TABLE C.1 REGRESSION RESULTS FOR THE MELBOURNE–TASMANIA AIR MODEL 2004–05

Variable	Estimated coefficients	T-Statistics
Y – Real income	0.443	8.272
Q – Best discount air fare	-0.132	-4.438
DAC – Dummy Ansett collapse	-0.104	-5.000
DJS – Dummy Jetstar	0.042	1.681
DVB – Dummy Virgin Blue	0.042	2.379
Intercept	7.662	13.52
Adjusted R^2	0.72	

Source BTRE analysis.

Overall, the adjusted R^2 value of 0.72 suggests that the model is a reasonable fit. All variables are significant[25] and have the expected sign. As may be expected, per capita income and discount air fares are both significant factors in explaining air travel.

As with the 2003–04 model, the rebate-inclusive sea fare was not a significant explanatory variable and was therefore excluded (table C.1). This suggests that sea fares are not significant in explaining the number of Melbourne–Tasmania air passengers—however, as with the econometric model for sea travel, this result should be interpreted with caution as the analysis is constrained by data limitations.

Possible reasons for sea fares being a poor explanator of air travel include:

- Air passengers as a group are likely to be more time sensitive than sea passengers. For example, people travelling for business are more time sensitive and therefore far less likely to view air and sea as substitutes. The proportion of travellers travelling for non-leisure reasons is 57 per cent for air and 30 per cent for sea.
- The lack of a series on hire car rates for the full period. In choosing between sea and air travel, potential travellers would consider the total cost of travel. For visitors, 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.

These air model results indicate that there is no significant passenger substitution from air travel to sea travel due to changes in the rebate-inclusive sea fare. It has therefore been assumed that the additional one-way motor vehicle passengers (table 5.1) who travelled due to the rebate would not otherwise have travelled by air.

[25] The Jetstar dummy variable is significant at the 10 per cent level.

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