BASS STRAIT PASSENGER VEHICLE EQUALISATION SCHEME

BTRE MONITORING REPORT NO. 5
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Indemnity Statement

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FOREWORD

This report presents the results of the BTRE's fifth annual review of the Bass Strait Passenger Vehicle Equalisation Scheme. It covers the operation and impact of the Scheme up to (and including) 2000-01.

The BTRE gratefully acknowledges the assistance provided by TT-Line, Tourism Tasmania and Tasmanian Assistance Services.

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EXECUTIVE SUMMARY

This report presents the results of the BTRE's fifth annual review of the Bass Strait Passenger Vehicle Equalisation Scheme. It incorporates data for 2000-01 and earlier years. Subsequent developments, including a widening of the Scheme's coverage and the introduction of larger ferries and more frequent services in 2002, will be covered in future BTRE monitoring reports.

TRANSPORT ACROSS BASS STRAIT

Tasmania is reliant on air and sea transport for the movement of cargo and passengers to or from locations outside the State.

In 2000-01, around 935 000 adult visitors and Tasmanian residents travelled between Tasmania and the mainland. Approximately 17 per cent of these passengers used sea transport, with the remainder travelling by air. Most of the visitors travelled to Tasmania for holiday/leisure, to visit friends and relatives or for business purposes.

TT-Line provided the main Bass Strait shipping service for passengers and accompanied vehicles in 2000-01. It operated two vessels on the route—the *Spirit of Tasmania* throughout the year and the *Devil Cat* in the December-April period. The other operators were Southern Shipping and Holyman Shipping.

THE SCHEME

In August 1996 the Commonwealth Government announced the introduction of the Bass Strait Passenger Vehicle Equalisation Scheme. The Scheme provides a rebate against the fare charged by a ferry operator to transport an accompanied passenger vehicle between Tasmania and mainland Australia.

The rebate is intended to provide a net fare, for an eligible vehicle plus its driver, that is comparable to the notional cost of driving an equivalent distance on a highway. Payments under the Scheme in 2000-01 totalled $15.0 million, a 6 per cent increase from the figure of $14.2 million in the previous year.

The Ministerial Directions that governed the operation of the Scheme in 2000-01 required the BTRE to monitor the effectiveness of the Scheme on an annual basis, with specific regard to:

- movement in a service operator's annual operating costs;
- movement in a service operator's revenue; and
- the number of eligible passengers and eligible passenger vehicles.

Other relevant factors are the aim of the Scheme, which is to reduce the cost of sea travel for eligible passengers, and the impact on Tasmanian tourism.

FARES AND TRAFFIC LEVELS

The introduction of the Scheme in 1996 resulted in an initial decrease of 25-30 per cent in the fares for a standard vehicle and two accompanying passengers using a standard cabin. The proportional reduction in fares attributable to the Scheme declined between 1996-97 and 2000-01, as gross fares increased but there was no change in the levels of the rebate over this period.

Traffic has risen significantly since the introduction of the Scheme, with increases of 53 per cent in sea passenger numbers and 102 per cent in vehicle numbers between 1995-96 and 2000-01. Fare reductions of the magnitude associated with the Scheme would be expected to stimulate increased travel by sea across Bass Strait.

TT-Line's passenger and vehicle fares increased by 7.2 per cent at the beginning of 2000-01 following the introduction of the GST. There was a further increase of 4 per cent in passenger fares during the year as a result of rises in fuel prices.

IMPACT OF THE SCHEME

The BTRE has developed an econometric model of motor vehicle passenger traffic, and undertaken trend comparisons, to identify the impact of the Scheme.

The model is specified in terms of population, income, sea fare and air fare variables. It indicates that, up to the end of 2000-01, the Scheme resulted in the movement of an additional 207 800 motor vehicle passengers across Bass Strait. This was an increase of 22 per cent relative to the situation without the Scheme.

The model performs reasonably well in terms of standard statistical tests. However, the detailed results should be interpreted with some caution as the model is affected by data limitations. Despite these limitations, the model provides strong support for the view that the Scheme has contributed significantly to the increase in sea traffic across Bass Strait since 1995-96.

Comparisons of trends in traffics that are directly affected by the Scheme with trends in traffics that are not covered by the Scheme provide further support for the view that it has contributed significantly to traffic growth:

- The rate of growth in leisure travellers using sea transport (mainly covered by the Scheme) on the route has been well above the rate for leisure travellers using air transport (not covered by the Scheme).

- There was a major change in the trends of sea and air traffic after the introduction of the Scheme, with sea passenger traffic moving from stagnation to substantial growth while air traffic moved from strong growth to stagnation.
- The number of motor vehicle passengers (covered by the Scheme) carried by sea across Bass Strait has generally been increasing, but the number of berth-only sea passengers (not covered by the Scheme) has been declining.

The results of the econometric model and the trend comparisons provide strong support for the view that the Scheme has contributed significantly to growth in sea passenger travel across Bass Strait since 1995-96.

TT-LINE REVENUE AND EXPENSES

TT-Line's revenue has generally increased since the early 1990s, although there have been some short-term declines. Operating revenue in 2000-01 was $81.8 million, a record for the company and 6 per cent above the figure for the previous year. Payments under the Scheme were equivalent to around 18 per cent of TT-Line's total revenue in 2000-01.

Over the longer period from 1996-97 to 2000-01, TT-Line's operating revenue has risen by 33 per cent (21 per cent in real terms). This increase particularly reflects growth in the numbers of passengers and vehicles carried across Bass Strait.

TT-Line's operating expenses have generally increased since the early 1990s. However, there was a 1 per cent decline in the latest period to $76.5 million in 2000-01. The reduction follows a significant increase in 1999-2000, when TT-Line incurred additional maintenance expenditure following engine problems on the *Spirit of Tasmania.*

Over the longer period from 1996-97 to 2000-01, TT-Line's operating expenses have risen by 29 per cent (18 per cent in real terms). Contributing factors include the costs attributable to the operation of a second vessel (the *Devil Cat*), an increased number of voyages by the *Spirit of Tasmania,* and higher fuel prices.

There has been significant variability in TT-Line's operating profit over the last five years. The operating profit of $5.4 million in 2000-01 was well above the figure of $236 000 in the previous year when the engine problems on the *Spirit of Tasmania* resulted in additional costs and fewer voyages.

CHAPTER 1 INTRODUCTION

Tasmania is reliant on air and sea transport for the movement of cargo and passengers to or from locations outside the State. Passenger and vehicle services across Bass Strait are particularly important, as tourism is a major component of Tasmania's economy.

OVERVIEW OF BASS STRAIT TRAVEL

Table 1.1 provides information on passenger journeys between Tasmania and the mainland in 2000-01.

Approximately 935 000 adult passengers travelled across Bass Strait in 2000-01. They comprised 531 000 domestic and overseas visitors to Tasmania (57 per cent of total passengers) and 404 000 Tasmanian residents travelling to the mainland (43 per cent of total passengers).

Most of the domestic and overseas visitors travelled to Tasmania for holiday / leisure (51 per cent), to visit friends and relatives (25 per cent), or for business purposes (15 per cent). Around 79 per cent of visitors used air transport across Bass Strait, and 21 per cent travelled by sea.

Tasmanian residents who travelled to the mainland primarily went for holiday / leisure (31 per cent), to visit friends and relatives (29 per cent) or for business purposes (29 per cent). Around 89 per cent of Tasmanians travelled by air, and 11 per cent used sea transport.

SERVICES AND OPERATORS

TT-Line operated the two ferries that provided the main sea passenger services across Bass Strait in 2000-01.[1] These vessels carried 17 per cent of adult passengers (air and sea) on the route, as well as most of the accompanying motor vehicles.

The *Spirit of Tasmania* transported around 89 per cent of the sea passengers moved across Bass Strait (TT-Line pers. comm. June 2002). This vessel, which

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[1] These two vessels were subsequently withdrawn from the Bass Strait route and replaced by two larger ferries during 2002.

commenced service on the route in November 1993, operated all year round and completed 379 voyages in 2000-01. It could carry around 1300 passengers and up to 360 vehicles and 70 standard shipping containers on each voyage.

The *Devil Cat* carried around 11 per cent of the sea passengers moved across Bass Strait. This high-speed catamaran operated over four months during the peak season in summer and autumn, and completed 99 crossings in 2000-01. It had a capacity of nearly 700 passengers in aircraft-type seating, and could carry more than 200 cars (with a reduced passenger load).

Small numbers of vehicles were also carried on the *Matthew Flinders* (operated by Southern Shipping) and the *Mersey Searoad* (operated by Holyman Shipping) during 2000-01.

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).

TABLE 1.1 NUMBER OF ADULT PASSENGERS TRAVELLING BETWEEN TASMANIA AND THE MAINLAND, 2000-01[a]

Purpose of travel	*Air*	*Sea*	*Total*
Visitors to Tasmania			
Holiday/leisure	193 478	78 477	271 955
VFR[b]	115 065	17 285	132 350
Business	72 099	5 495	77 594
Conference	17 739	1 059	18 798
Other/not specified	21 755	8 517	30 272
Total visitors	420 136	110 833	530 969
Tasmanians			
Holiday/leisure	106 295	17 393	123 688
VFR[b]	105 524	12 002	117 526
Business	110 999	4 124	115 123
Conference	5 702	684	6 386
Other/not specified	31 262	9 827	41 089
Total Tasmanians	359 782	44 030	403 812
Total passengers	*779 918*	*154 863*	*934 781*

a. Excludes minors. Includes day trippers/excursionists.

b. Visiting friends and relatives.

Source Tourism Tasmania (2002a).

The Scheme applied to travel from 1 September 1996. It provided a rebate against the fare charged by a ferry operator to transport an accompanied passenger vehicle across Bass Strait. On 1 March 2001, the Scheme was extended to cover the carriage of passenger vehicles between King Island and mainland Australia. As sea passenger services were not provided on this 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. During 2000-01 it was administered in accordance with the Ministerial Directions that were issued in September 1999 and January 2001 by the Minister for Regional Services, Territories and Local Government (DOTARS 1999, 2001). The discussion in this report focuses on the impact of the Scheme under these Ministerial Directions.

New Ministerial Directions issued in April 2002 by the Minister for Transport and Regional Services resulted in substantial changes to the Scheme. The previous seasonal structure for rebates was replaced by constant rebates throughout the year, and the Scheme was expanded to cover caravans, motor homes, vehicles of people with disabilities, and bicycles (DOTARS 2002). The impact of these changes will be incorporated in the next BTRE monitoring report, which will cover 2001-02.

The Ministerial Directions are administered by Tasmanian Assistance Services (part of Centrelink). Direction and funding are provided by the Transport Programmes Division of the Department of Transport and Regional Services.

REQUIREMENT FOR MONITORING

The Ministerial Directions (see appendix I) require the Bureau of Transport and Regional Economics (BTRE) to monitor the effectiveness of the Scheme on an annual basis. They state that the BTRE should have specific regard to movements in a service operator's revenue and annual operating costs, and in the annual number of eligible passengers and eligible passenger vehicles carried by the operator.

The Bureau of Transport Economics (now the BTRE) prepared reports on the Scheme in 1998, 1999, 2000 and 2001. The most recent report covered 1999-2000. The BTE generally concluded that the fare reductions provided by the Scheme appeared to be resulting in increased sea travel across Bass Strait.

OUTLINE OF THE REPORT

This report presents the results of the fifth annual review of the effectiveness of the Scheme, covering 2000-01. It incorporates data provided by TT-Line (from its management database and annual reports), Tasmanian Assistance Services and Tourism Tasmania.

Chapter 2 covers the operation of the Scheme in terms of its coverage, calculation of the rebate, the method of payment, and levels of payments.

The impact of the Scheme on fares and traffic levels is examined in chapter 3. The analysis includes the results of econometric modelling undertaken by the BTRE.

Chapter 4 covers changes in TT-Line's revenue and operating expenses.

Concluding comments are contained in chapter 5.

Appendixes present the monitoring provisions in the 1999 and 2001 Ministerial Directions and more detailed information on the construction of the econometric model.

CHAPTER 2 OPERATION OF THE SCHEME

The operation of the Bass Strait Passenger Vehicle Equalisation Scheme can be considered in terms of its coverage, calculation of the rebate, the method of payment, and payments under the Scheme.

COVERAGE

During 2000-01, the Scheme covered passenger vehicles (motor cars, buses and motorcycles) with an accompanying driver.[2] It applied to any ship operator providing passenger and vehicle services across Bass Strait or carrying vehicles between King Island and mainland Australia.

The Ministerial Directions specify that a rebate may be available in exceptional circumstances when a driver is not able to travel on the same vessel as the vehicle. In this situation, the driver must travel on a commercial airline on or about the day that the vehicle is transported by sea. Exceptional circumstances may include periods when passenger ferry services are temporarily suspended for maintenance purposes. To qualify for a rebate under these provisions, the driver must be able to demonstrate that the circumstances could not have been foreseen and that the need for travel at this time was unavoidable.

Any new operator entering the trade is eligible to participate in the Scheme under the same conditions as an existing operator. This arrangement is intended to provide certainty in the market place as to how the Scheme would apply to new operators' services.

Three operators carried eligible vehicles across Bass Strait during 2000-01:

- TT-Line, operating the *Spirit of Tasmania* (Devonport—Melbourne) all year round and the *Devil Cat* (George Town—Melbourne) in the high season[3];

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[2] Motor cars include vans, utilities, four-wheel-drive vehicles, campervans and station wagons. Buses include minibuses, coaches and buses, being motor vehicles equipped to seat more than eight adult passengers. After the period covered by this report, the Scheme was extended to caravans, motor homes, vehicles of people with disabilities, and bicycles.

[3] The *Devil Cat* made its last Bass Strait crossing for TT-Line on 7 April 2002. The *Spirit of Tasmania* was withdrawn from service in September 2002 when TT-Line introduced two larger vessels, *Spirit of Tasmania I* and *Spirit of Tasmania II*.

- Southern Shipping, operating the *Matthew Flinders* (Bridport—Port Welshpool via Flinders Island and Deal Island) all year round; and
- Holyman Shipping (now Patrick Shipping), operating the *Mersey Searoad* (weekly calls at King Island as part of a Devonport—Melbourne service) all year round.[4]

Southern Shipping received reimbursements totalling only $5 980 for 52 eligible motor cars and two eligible motorcycles in 2000-01 (Tasmanian Assistance Services, pers. comm. Apr. 2002).[5] Holyman Shipping was reimbursed a total of $7 200 for the carriage of 48 eligible motor cars. This report therefore focuses on the major operator, TT-Line.

CALCULATION OF THE REBATE

The rebate is intended to provide a net fare, for an eligible passenger vehicle plus its driver, that is comparable to the notional cost of driving an equivalent distance on a highway (the equivalent highway cost).

The net fare for an eligible passenger vehicle plus its driver is the sum of the vehicle and passenger gross fares[6] less the appropriate rebate. It is the fare actually paid by the passenger. For the purposes of the rebate calculation in 2000-01, the adult fare for a 2-4 share 'inside cabin' on the *Spirit of Tasmania* was used as the passenger fare benchmark. This type of accommodation represented approximately 50 per cent of the berths available on the *Spirit of Tasmania.* For the calculations, the rebate was based on the fare for a passenger vehicle of no more than five metres in length.

The equivalent highway cost is based on the sea distance between the pilot pick-up points of the ports of Devonport and Melbourne (427 kilometres) multiplied by the estimated running cost for an average family saloon. This provided an equivalent highway cost of $170 for a one-way trip at the commencement of the Scheme. The rebate is capped at a maximum of $150 per eligible vehicle and eligible passenger for a one-way trip. The rebate for a motorcycle was set at 50 per cent of the rebate applicable to a motor car or bus.

Due to the seasonal nature of demand, TT-Line's passenger and vehicle fares vary during the year (low, shoulder and high seasons). The rebate for the main

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4 Holyman Shipping carried eligible vehicles between King Island and Melbourne, with eligible passengers travelling on a commercial air service.

5 Unlike TT-Line, Southern Shipping does not submit monthly claims. The company usually claims retrospectively three or four times per year. As a result, the 2000-01 claim period does not equate to the financial year and includes some vehicles carried during 1999-2000.

6 The gross fare is the amount charged by the service operator for the carriage of an eligible passenger and an eligible passenger vehicle, prior to the deduction of the rebate.

Bass Strait route also varied on a seasonal basis in 2000-01.[7] The largest rebate was applied during the high season and the smallest rebate was applied during the low season. Table 2.1 presents the rebates that applied on the main Bass Strait route in 2000-01. On the King Island route, there was a one-way rebate of $150 (motor car, bus) or $75 (motorcycle) all year round.

Table 2.2 shows TT-Line's net fares for accompanied vehicles at 30 June 2001. These fares are equivalent to the gross fare less the rebate for each vehicle class. Seasonal variation in net fares is particularly noticeable for vehicles wider than 1.9 metres or greater than 6.0 metres in length, reflecting TT-Line's approach to encouraging efficient use of shipboard space.

The Minister reviews the level of the rebate each year. The rebates remained unchanged from the commencement of the Scheme until 2002 when new Ministerial Directions were issued by the Minister for Transport and Regional Services. As noted in chapter 1, the changes included the introduction of constant year-round rebates and expansion of the coverage of the Scheme. They will be covered in the next BTRE monitoring report, which will incorporate data for 2001-02.

METHOD OF PAYMENT

The rebate is provided to the driver of an eligible passenger vehicle as a reduction in the fare charged by the relevant service operator. The onus is on the service operator to determine the eligibility of the passenger for the rebate, apply the rebate to the passenger's gross fare, and claim reimbursement of the rebate from the Commonwealth. Tasmanian Assistance Services conduct quarterly audits of TT-Line claims.

TABLE 2.1 ONE-WAY TRIP REBATE FOR DRIVER WITH ELIGIBLE VEHICLE ON MAIN BASS STRAIT ROUTE, 2000-01

	$		
Eligible vehicle class	*Low season*[a]	*Shoulder season*[b]	*High season*[c]
Motor car or bus	100	120	150
Motorcycle	50	60	75

a. 1 July 2000—1 September 2000 and 30 April 2001—30 June 2001.

b. 2 September 2000—8 December 2000 and 29 January 2001—29 April 2001.

c. 9 December 2000—28 January 2001.

Note The round-trip rebate is exactly double the one-way trip rebate, provided the northbound and southbound trips are undertaken in the same season.

Source DOTARS (2001, p. 15).

7 After the period covered by this report, the seasonal structure for rebates was replaced by constant rebates throughout the year. The new structure applied from 1 September 2002.

The Ministerial Directions limit a service operator to no more than one claim for reimbursement in any one calendar month. The operator is allowed to claim:

(a) for an eligible passenger who has travelled within the previous 12 months; and

(b) subject to possible provision of a surety[8], for an eligible passenger who has not yet travelled, but who has booked and paid for travel to be undertaken during the period for which the claim is made.

TT-Line provides Tasmanian Assistance Services with a completed claim form on a monthly basis. The form indicates the scheduled voyages and expected number of vehicles for the next period, and actual numbers for the previous period. Tasmanian Assistance Services determine the rebate on the basis of the schedule for the next period and an adjustment to reflect the difference between expected and actual activity in the previous period.

PAYMENTS UNDER THE SCHEME

The level of payments under the Scheme is open-ended and varies with the number (and type) of eligible vehicles carried by sea across Bass Strait.

TABLE 2.2 TT-LINE ONE-WAY NET FARES FOR SELECTED VEHICLE CLASSES, 30 JUNE 2001

$

Eligible vehicle class	*Low season*	*Shoulder season*	*High season*
Motorcycle	30	30	38
Vehicle ≤ 6 metres long, ≤ 1.9 metres wide			
1.0-5.0 metres long	40	40	55
5.1-6.0 metres long	67	67	93
Vehicle ≤ 6 metres long, > 1.9 metres wide			
1.0-6.0 metres long	87	168	171
Vehicle > 6 metres long			
6.1-7.0 metres long	134	221	239
7.1-8.0 metres long	181	274	308
8.1-9.0 metres long	228	327	377
9.1-10.0 metres long	275	380	446
10.1-11.0 metres long	322	433	515
Vehicle > 11.0 metres long[a]	47	53	69

a. Charge per metre.

Source TT-Line (2000a, pp. 20-21).

[8] The Secretary to the Department has discretion to request provision of a surety from an operator in order for the operator to be reimbursed in advance of travel being undertaken by eligible passengers.

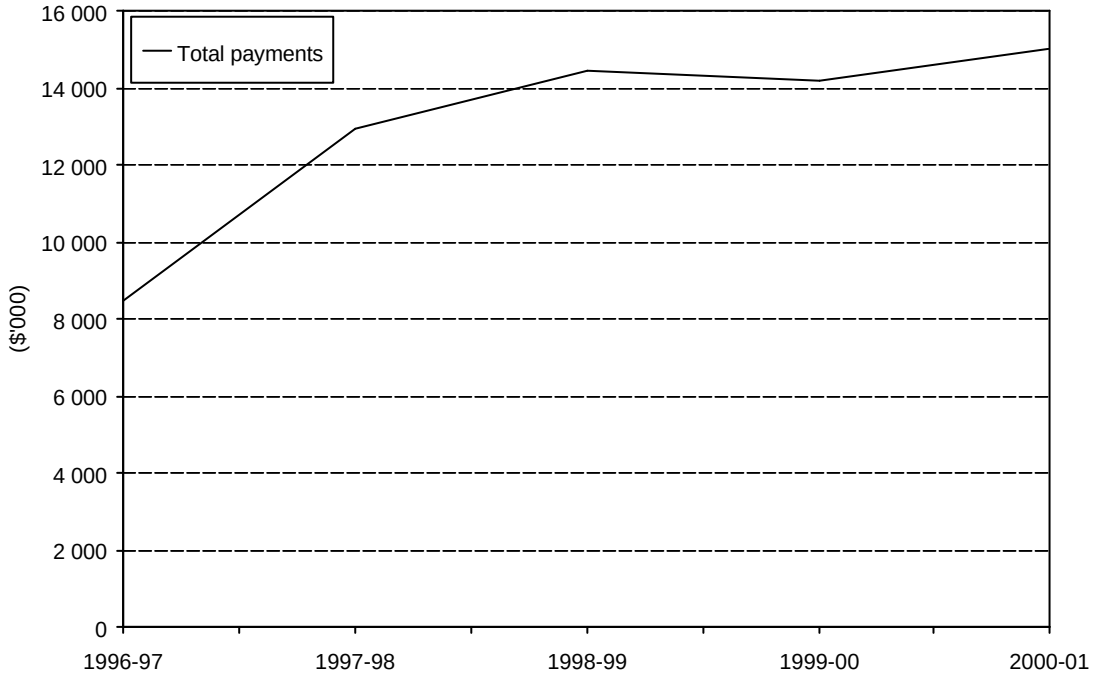
Figure 2.1 presents data on reimbursements to operators under the Scheme since 1996-97. It indicates a significant increase in payments, from $8.5 million to $15.0 million over this period. However, it should be noted that payments in 1996-97 covered only 10 months, from the start of the Scheme in September 1996. TT-Line accounted for 99.9 per cent of total payments in 2000-01.

Reimbursements increased over the most recent period in figure 2.1, with a rise of 6 per cent from $14.2 million in 1999-2000 to $15.0 million in 2000-01. The payments to the three operators in 2000-01 involved 127 040 eligible vehicles—121 399 motor cars (95.6 per cent of eligible vehicles), 5 241 motorcycles (4.1 per cent) and 400 buses (0.3 per cent).

Table 2.3 presents data on reimbursements to TT-Line in individual claim periods during 2000-01 and the previous year. It indicates significant monthly variation in payments, reflecting the seasonal nature of traffic across Bass Strait and seasonal changes in the level of the rebate during these years.

Figure 2.2 provides information on the timing of the reimbursements to TT-Line from the commencement of the Scheme to 2000-01. The pattern of payments over the last four years has been reasonably consistent, but differs significantly from the pattern in 1996-97. In particular, payments between December and April have typically been much higher over the last four years. This change reflects the introduction of the *Devil Cat* which provided increased capacity during December-April when the *Spirit of Tasmania* was heavily utilised.

FIGURE 2.1 REBATE REIMBURSEMENTS UNDER BASS STRAIT PASSENGER VEHICLE EQUALISATION SCHEME, 1996-97 TO 2000-01



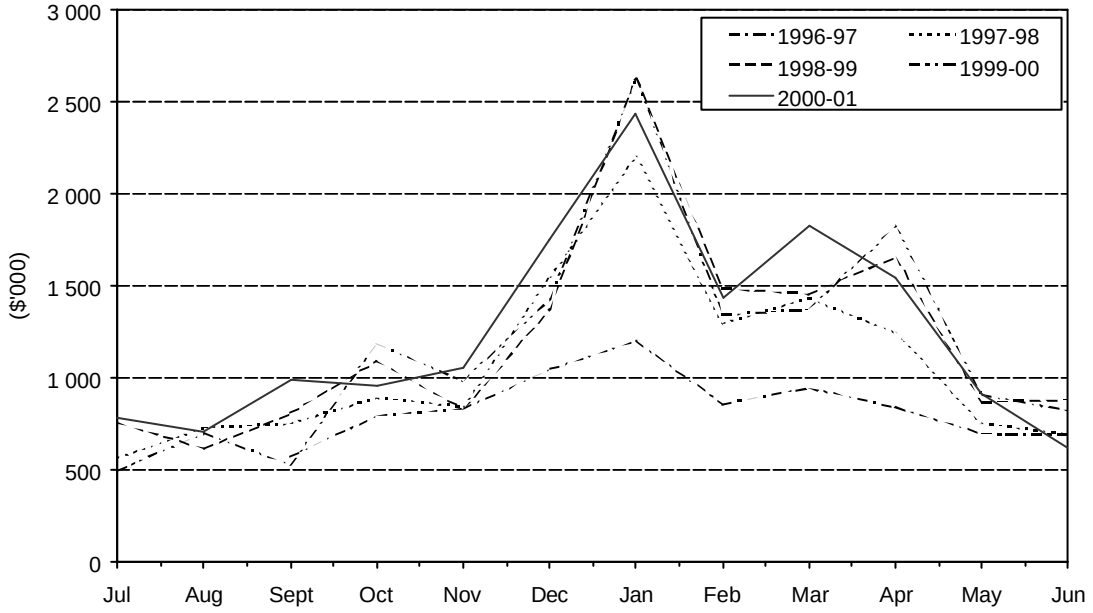
Source Tasmanian Assistance Services (pers. comm. Feb. 2001, May 2002).

TABLE 2.3 REIMBURSEMENTS TO TT-LINE BY CLAIM PERIOD, 1999-2000 AND 2000-01

	1999-2000		*2000-01*		
Claim period	*Claims (no.)*	*Total rebates ($)*	*Claims (no.)*	*Total rebates ($)*	*Change in rebates (per cent)*
July	4 959	494 050	7 933	788 150	59.5
August	7 020	698 000	7 098	704 450	0.9
September	5 251	528 410	8 400	993 490	88.0
October	10 163	1 185 240	8 163	959 100	-19.1
November	8 287	979 200	9 123	1 058 820	8.1
December	10 476	1 432 395	12 354	1 751 610	22.3
January	18 649	2 626 170	16 881	2 435 490	-7.3
February	11 606	1 340 940	12 394	1 433 760	6.9
March	11 814	1 371 240	15 746	1 823 280	33.0
April	15 591	1 827 600	13 280	1 542 120	-15.6
May	9 140	907 250	9 308	918 200	1.2
June	8 266	820 950	6 258	622 200	-24.2
Total	*121 222*	*14 211 445*	*126 938*	*15 030 670*	*5.8*

Source Tasmanian Assistance Services (pers. comm. Feb. 2001, May 2002).

FIGURE 2.2 REIMBURSEMENTS TO TT-LINE, BY CLAIM PERIOD, 1996-97 TO 2000-01



Source Tasmanian Assistance Services (pers. comm. Feb. 2001, May 2002).

CHAPTER 3 IMPACT ON FARES AND TRAFFIC LEVELS

The Ministerial Directions for 2000-01 required the BTRE to monitor the effectiveness of the Scheme on an annual basis, with specific regard to:

- movement in a service operator's annual operating costs;
- movement in an operator's revenue; and
- the number of eligible passengers and eligible passenger vehicles carried per annum by the operator.[9]

In considering the Scheme's effectiveness, it is also appropriate to take into account the aim of the Scheme, which is 'to reduce the cost of seagoing travel for eligible passengers'[10] (DOTARS 2001, p. 3). In addition, when announcing the Scheme, the then Minister for Transport and Regional Development noted that it would help to kick-start the Tasmanian tourist industry and provide a boost to the Tasmanian economy as a whole (Sharp 1996, p. 1).

This chapter examines the effectiveness of the Scheme in terms of fares and traffic. TT-Line's operating revenue and expenses are considered in chapter 4.

FARES

The introduction of the Scheme resulted in a significant reduction in the vehicle fares paid by eligible passengers. There were subsequently some rises in passenger and vehicle fares as a result of factors such as increases in fuel costs.[11]

Impact of the rebate

Table 3.1 provides information on the impact of the rebate on fares paid by passengers with an accompanying vehicle on the *Spirit of Tasmania*. It covers the

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9 This is the provision in the Ministerial Directions that applied during 2000-01. The Ministerial Directions issued in April 2002 added another component, 'number of passengers travelling under related bookings'.

10 An eligible passenger is defined as a passenger accompanied by an eligible passenger vehicle on a Bass Strait service, being the driver of that passenger vehicle.

11 These increases would have been partly offset by higher low and shoulder season rebates introduced on 1 September 2002. These higher rebates are not covered in this report.

total fare for a standard vehicle, the driver and one other passenger, as the rebate affects the total travel costs of the passengers (including the cost of transporting their vehicle). This reflects the average ratio of approximately two accompanying passengers per car on the route since 1996-97. The analysis is based on 'package' fares for adult passengers with a standard vehicle and cabin.

The 'package gross fare' is the total payment received by TT-Line to transport the vehicle and accompanying passengers across Bass Strait. The 'package net fare' is the total fare paid by the passengers (including payment for carriage of the vehicle), and is equal to the 'package gross fare' less the rebate paid by the Commonwealth Government under the Scheme.

The data in table 3.1 indicate that the introduction of the Scheme resulted in an initial decrease of 25-30 per cent in the fares paid by travellers for the carriage of a standard vehicle and two accompanying adult passengers using a 2-4 berth share inside cabin. The proportional reductions would have been lower for passengers using more expensive cabins, and higher for passengers using less expensive accommodation.

The levels of the rebate did not change between September 1996 and the end of 2000-01. As gross fares increased over this period, the proportional reduction in the 'package net fare' attributable to the rebate declined. Table 3.1 indicates that, at 30 June 2001, the rebate provided a 20-24 per cent reduction in the fares paid for the standard vehicle and two accompanying adult passengers (2-4 berth share inside cabin).

Changes in 2000-01

The introduction of *A New Tax System* and increases in fuel prices had significant effects on TT-Line's costs and fares during 2000-01.

TABLE 3.1 IMPACT OF REBATES ON ONE-WAY FARES FOR *SPIRIT OF TASMANIA*, 1996 AND 2001

Period/payments[a]	*Low season*	*Shoulder season*	*High season*
1 September 1996			
Package gross fare[b]	405	435	505
Rebate	100	120	150
Package net fare	305	315	355
30 June 2001			
Package gross fare[b]	502	542	625
Rebate	100	120	150
Package net fare	402	422	475

a. For the purposes of the analysis, the fares are based on a 2-4 berth share inside cabin. The package gross fares and package net fares include two adult passengers and one standard motor vehicle.

b. Incorporates fares of $125/$145/$185 for the standard vehicle and $140/$145/$160 for each passenger in 1996, and $140/$160/$205 for the standard vehicle and $181/$191/$210 for each passenger in 2001.

Sources TT-Line (1996a; 2000a).

The GST was applied to a range of goods and services sold in Australia from 1 July 2000. However, *A New Tax System* also abolished some duties/taxes and enabled each business to claim input tax credits for any GST included in the prices of goods and services used by the business.[12]

The increase in TT-Line's passenger and vehicle fares on 1 July 2000 was 7.2 per cent. This mainly reflected the nominal GST rate of 10 per cent less the cost savings attributable to the abolition of fuel excise duty as well as the availability of some input tax credits. The fare increase was calculated for TT-Line by KPMG, which used a standard costing and tax model. It was also examined by the Victorian and Tasmanian offices of the Australian Competition and Consumer Commission (ACCC).

A second passenger fare increase, of 4 per cent, was implemented on 1 January 2001. This increase was intended to cover increases in fuel costs that had occurred earlier in the year.

Table 3.2 presents benchmark passenger fares for the *Spirit of Tasmania* in the fare schedule that was current at the end of 2000-01. TT-Line's low and shoulder season fares for passengers increased by an average of around 11-12 per cent (2-4 berth share inside cabin) between the end of 1999-2000 and the end of 2000-01. It appears that the increase for high season travel was greater, possibly reflecting some restructuring of the fare schedule.

Gross fares for vehicles rose by around 7-8 per cent. However, net fares for vehicles (ie after deduction of the rebate) increased by a higher proportion as the levels of the rebate were unchanged over the period.

PASSENGER AND VEHICLE TRAFFIC

The number of eligible passengers and eligible vehicles carried across Bass Strait by sea is a fundamental element in the analysis of the Scheme. There have been significant increases in passenger and vehicle numbers.

Changes since 1990-91

Figure 3.1 illustrates changes in the total number of passengers (eligible passengers and other passengers) carried by TT-Line over the 11 years to 2000-01. There has been a general upward trend in traffic, although this has been accompanied by significant volatility.

Passenger traffic has exhibited two main periods of growth, with the second period commencing in 1996-97 when the Scheme was introduced. Between

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[12] *A New Tax System* included the implementation of a Goods and Services Tax (GST), the abolition of excise duty on fuel oil (7.426 cents per litre on 1 July 2000) and on diesel fuel (35.694 cents per litre on 1 July 2000), and the elimination of wholesale sales tax. From 1 February 2002, the fuel rebates were 7.557 cents per litre and 38.143 cents per litre.

1995-96 and 1998-99, there was an increase of 59 per cent in passenger numbers. Figure 3.1 also indicates three short periods of traffic decline, which appear to be attributable to a range of one-off factors (e.g. the Gulf War in 1991-92 and engine problems on the *Spirit of Tasmania* in 1999-2000).

The total number of vehicles carried by TT-Line has broadly followed changes in the total number of passengers since 1990-91. However, vehicle traffic appears to have been less volatile. There was a 97 per cent rise in vehicle numbers between 1995-96 and 1998-99. As eligible vehicles comprise around 99 per cent of the vehicles carried by TT-Line, changes in the total number of vehicles closely reflect changes in the number of eligible vehicles.

Over the period from 1995-96 to 2000-01, sea passenger traffic on the Bass Strait route increased by 53 per cent. The number of vehicles rose by 102 per cent.

Changes in 2000-01

The data in table 3.3 indicate that the total number of passengers carried by TT-Line increased by 2 per cent in 2000-01 compared with the previous year. There was a rise of 6 per cent in the total number of vehicles.

The increase in vehicle traffic in 2000-01 more than offset the decline in the previous year when the *Spirit of Tasmania* lost 20 voyages due to engine problems and the *Devil Cat* undertook fewer voyages. Passenger traffic recovered only part of the fall that occurred in the previous period.

The average number of passengers per voyage declined by 3 per cent in 2000-01 compared with the previous year. For vehicles, there was a marginal rise.

EFFECTS OF THE SCHEME

Fare reductions of the magnitude associated with the Scheme would be expected to stimulate increased travel by sea across Bass Strait. They would potentially attract travellers from other markets (e.g. other destinations in Australia) and might encourage some Bass Strait travellers (particularly fly-drive tourists) to switch to sea transport.

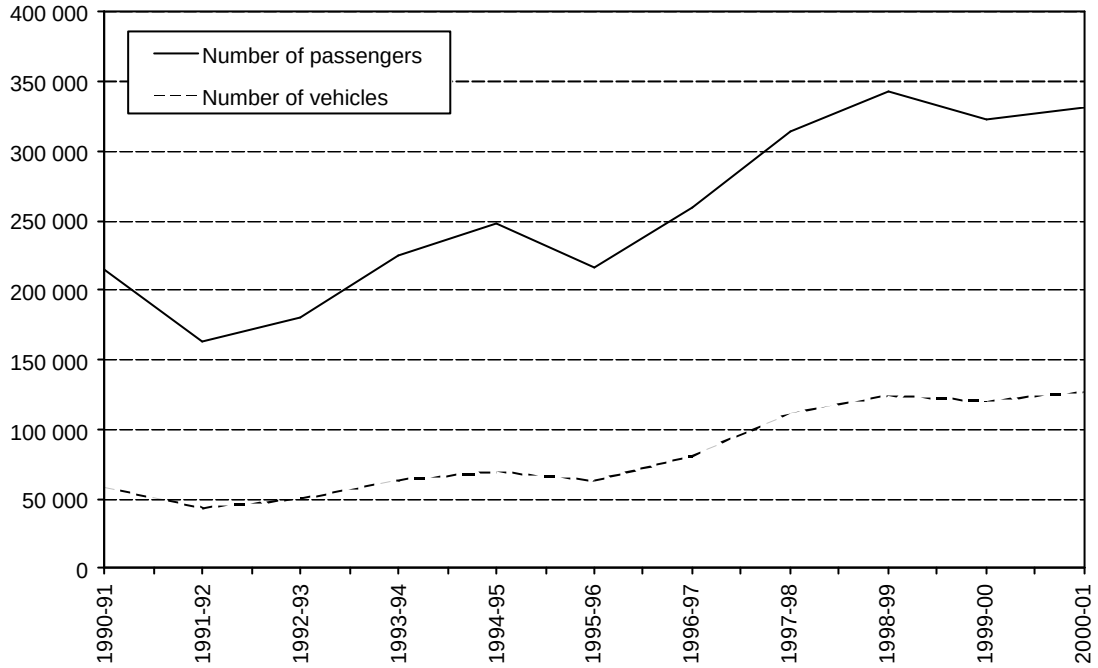
TABLE 3.2 BENCHMARK ONE-WAY PASSENGER FARES FOR *SPIRIT OF TASMANIA*, END OF 2000-01[a]

Passenger type	*Low season*	*Shoulder season*	*High season*
Adult	181	191	210
Seniors	154	162	178
Tertiary student	134	144	160
Child/student	90	97	107

a. Fares are for an inside cabin (2-4 berth). This was the benchmark accommodation on the *Spirit of Tasmania* for the purposes of calculating the rebate.

Source TT-Line (2000a).

FIGURE 3.1 NUMBERS OF PASSENGERS AND VEHICLES (ONE-WAY) CARRIED BY TT-LINE, 1990-91 TO 2000-01



Note The passenger data in this figure are expressed in terms of one-way trips (i.e. one return journey is counted as two trips). They are not directly comparable with the passenger data in figure 3.3, which are expressed in terms of passenger journeys (i.e. one return journey is counted as one trip). There are also some differences between figures 3.1 and 3.3 in the treatment of travel by minors and day trippers/excursionists.

Sources TT-Line (2001b) and earlier issues. TT-Line (pers. comm. Jan. 2001). PDC (1994) and earlier issues.

TABLE 3.3 SELECTED OPERATIONAL DATA FOR TT-LINE, 1995-96 TO 2000-01

Indicator	*1995-96*	*1996-97*	*1997-98*	*1998-99*	*1999-2000*	*2000-01*
Traffic						
Passengers (no.)	215 986	259 169	314 232	343 338	323 211	330 961
Vehicles (no.)	63 029	80 637	111 400	124 395	120 084	127 124
Freight (teus)	23 199	22 112	19 116	20 589	17 816	21 771
Voyages (no.)						
Spirit of Tasmania	295	313	323	334	347	379
Devil Cat	np	np	117	171	108	99
Total voyages	295	313	440	505	455	478
Traffic per voyage						
Passengers	732	828	714	680	710	692
Vehicles	214	258	253	246	264	266

np not applicable.

Source TT-Line (2001b) and earlier issues.

The increases in sea travel since the introduction of the Scheme may also reflect other factors such as population or income growth. The BTRE has therefore developed an econometric model, as well as undertaking trend comparisons, to identify the impact of the Scheme.

Econometric model

The model developed by the BTRE estimates the relationship between motor vehicle passenger numbers (i.e. eligible passengers plus their travelling companions) and changes in population, real household disposable income, the sea fare, and the air fare. It is described in appendix II.

The sea fare (own-price) elasticity estimated from the model can be used to calculate the net impact of the Scheme on motor vehicle passenger numbers. The estimated elasticity is -0.8, which is lower than the elasticity (-1.3) in the Bass Strait Visitor Access Study (Tourism Council of Tasmania 2001, p. 36). It should be noted that the BTRE's elasticity is based on detailed analysis of data for the Bass Strait route, whereas the figure in the Access Study is based on observed market reactions and a literature review.

Table 3.4 presents the estimates of the impact of the Scheme based on the BTRE's model. The analysis indicates that, in its first 10 months of operation, the Scheme resulted in the movement of an additional 29 600 motor vehicle passengers across Bass Strait. This represented an increase of 24 per cent, relative to the situation without the Scheme. If the proportion of motor vehicle passengers comprising visitors to Tasmania was the same as the proportion of all sea passengers comprising visitors to the State (i.e. 72 per cent), the Scheme would have resulted in around 650 extra jobs in Tasmania in the first year.[13]

TABLE 3.4 IMPACT OF THE SCHEME ON MOTOR VEHICLE PASSENGER NUMBERS

	Motor vehicle passenger numbers			
Year	*Without Scheme*	*With Scheme*	*Difference*	*% change*
1996-97[a]	123 441	153 045	29 604	24.0
1997-98	187 510	231 098	43 588	23.2
1998-99	213 729	261 487	47 758	22.3
1999-00	203 989	248 745	44 756	21.9
2000-01	217 326	259 438	42 112	19.4
All years	945 995	1 153 813	207 818	22.0

a. Data cover 10 months only in 1996-97 as the Scheme commenced on 1 September 1996. Actual traffic (i.e. with the Scheme) in the full year 1996-97 was 167 788 persons.

Sources TT-Line data and BTRE analysis.

[13] Employment impact was estimated on the basis of the additional passenger numbers, average tourist expenditure (Tourism Tasmania 2002b, p. 12), and a multiplier prepared by the Centre for Regional Economic Analysis (Tourism Council of Tasmania 2001, pp. 26-27).

Table 3.4 indicates that, from 1996-97 to 2000-01, the Scheme resulted in an estimated increase of 207 800 motor vehicle passengers (22 per cent). The total number of motor vehicle passengers increased by 55 per cent over this period.

The BTRE's model probably provides a conservative estimate of the impact of the Scheme. If the elasticity in the Bass Strait Visitor Access Study was used, the increases would be 42 600 motor vehicle passengers (39 per cent) in the first 10 months, and 301 400 motor vehicle passengers (35 per cent) from 1996-97 to the end of 2000-01. This would potentially involve an extra 930 jobs in the first year.

The model developed by the BTRE performs reasonably well in terms of standard statistical tests. However, the detailed results should be interpreted with caution as the model is affected by data limitations. For example, it covers a relatively short time period and does not include some potentially relevant variables (e.g. capacity constraints prior to the introduction of larger ferries).

Despite these limitations, the model provides strong support for the view that the Scheme has contributed significantly to the increase in sea passenger travel across Bass Strait since 1995-96.

Trend comparisons

The BTRE has also compared trends in traffics that are covered by the Scheme with trends in related traffics that are not covered by the Scheme. Consistently superior growth in traffics covered by the Scheme would provide some additional evidence to support the view that the Scheme has contributed to increased sea passenger movements across Bass Strait. The available data indicate that around three-quarters of sea passengers (i.e. eligible passengers and their travelling companions) are directly affected by the Scheme.

Tourist traffic

It was noted in chapter 1 that the introduction of the Scheme was expected to result in direct benefits to the Tasmanian tourist industry. Table 3.5 presents Tourism Tasmania data on the number of adult visitors to Tasmania, by purpose of travel and mode, over the five years to 2000-01.[14] The data are not directly comparable with TT-Line figures, which are expressed in terms of one-way trips and also include children.

Table 3.5 indicates that, for visitors travelling on holidays or to visit friends and relatives, the number of sea passengers (mainly covered by the Scheme) increased much more rapidly than the number of air passengers (not covered by the Scheme). In particular, the number of holiday/leisure travellers using sea transport rose by 57 per cent, while the number of these travellers using air

[14] Percentage changes in traffic over the five years should be interpreted with caution, as they are substantially affected by the initial and final years used in the analysis.

transport grew by only 12 per cent. The comparable figures for VFR travellers were 34 per cent and 1 per cent. This pattern is consistent with the view that the Scheme has contributed to increased sea passenger traffic across Bass Strait.

In its fourth monitoring report, the BTE also attempted to compare trends in Tasmanian and Australian domestic travel over the period from 1996-97 (BTE 2001, p. 16). However, comparable data for domestic travel are not available.

Air and sea traffic

Figure 3.2 presents information on sea passengers (mainly covered by the Scheme) and air passengers (not covered by the Scheme) carried between the mainland and Tasmania since 1993-94.

In the period up to 1995-96, air traffic grew strongly while sea traffic was virtually unchanged. In the next period, from 1995-96 (the year prior to the introduction of the Scheme) to 1998-99, sea traffic grew strongly (up 60 per cent) and air traffic declined slightly (down 4 per cent). The most recent period (1998-99 to 2000-01) included special circumstances (i.e. the breakdown of the *Spirit of Tasmania*), and there was little overall change in sea or air traffic. Over the

TABLE 3.5 NUMBER OF ADULT VISITORS TRAVELLING TO TASMANIA, BY PURPOSE AND MODE, 1996-97 TO 2000-01[a]

	Visitors (no.)					*Change over period*
Purpose/mode	*1996-97*	*1997-98*	*1998-99*	*1999-2000*	*2000-01*	*(per cent)*
Holiday/leisure						
Sea	49 563	71 712	85 258	86 000	77 950	57
Air	171 808	187 588	191 327	204 500	192 984	12
VFR[b]						
Sea	12 887	16 266	18 356	17 500	17 285	34
Air	113 579	102 104	106 932	95 800	114 757	1
Business						
Sea	4 079	4 188	4 987	4 800	5 271	29
Air	75 886	71 490	70 320	80 300	63 810	-16
Other[c]						
Sea	7 384	4 497	5 536	3 900	9 208	25
Air	47 993	43 651	41 306	38 800	39 001	-19
Total						
Sea	73 913	96 663	114 137	112 200	109 714	48
Air	409 266	404 833	409 885	419 400	410 552	0

a. Excludes minors and day trippers/excursionists.

b. Visiting friends and relatives.

c. Includes attendance at conferences and other purposes.

Source Tourism Tasmania (2002a).

longer period from 1995-96 to 2000-01, the number of sea passengers increased by 53 per cent while air passenger numbers were virtually unchanged.

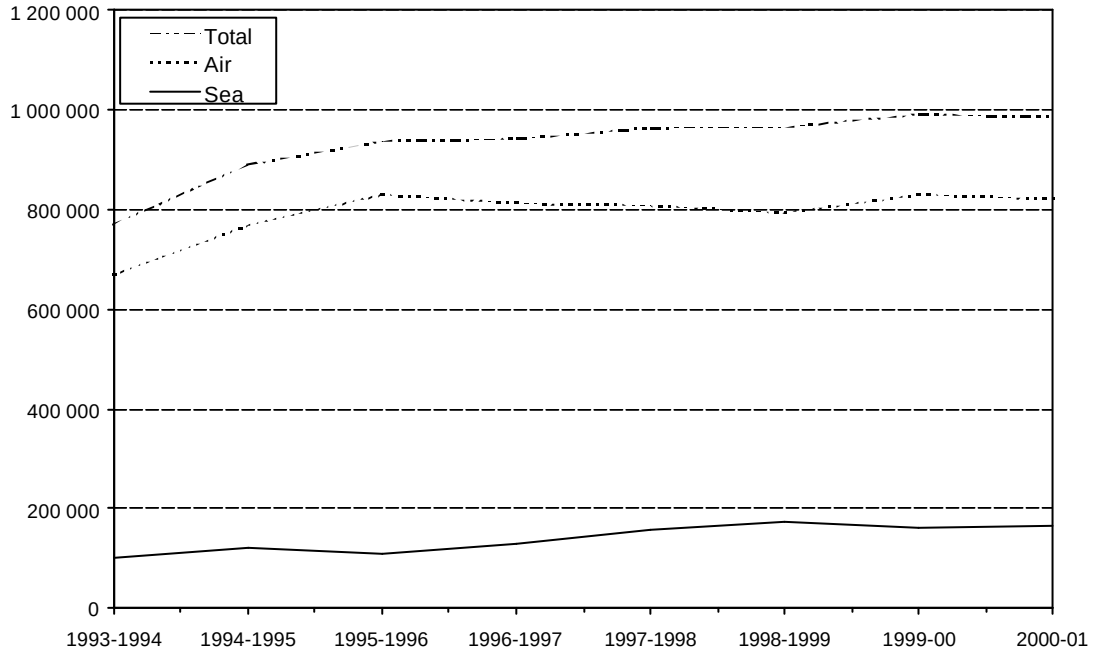
The introduction of the Scheme was therefore accompanied by a significant change in the trends of sea and air transport. This pattern is consistent with the view that the Scheme has contributed to increased sea passenger traffic between the mainland and Tasmania.

Categories of sea passengers

Figure 3.3 presents data on motor vehicle passengers (i.e. eligible passengers plus their companions) and berth-only passengers since 1995-96. As the average number of passengers per eligible vehicle has remained around 2.0 since the introduction of the Scheme, changes in the number of motor vehicle passengers closely reflect changes in the number of eligible passengers.

The number of motor vehicle passengers has generally increased since the start of the Scheme, while the number of berth-only passengers has steadily declined. The number of motor vehicle passengers rose by 97 per cent between 1995-96 and 2000-01, while the number of berth-only passengers fell by 15 per cent.

FIGURE 3.2 NUMBERS OF SEA AND AIR PASSENGERS CARRIED ACROSS BASS STRAIT, 1993-94 TO 2000-01[a]



a. Includes day travellers, Tasmanians and visitors (adults and minors).

Note The sea passenger data in this figure are expressed in terms of passenger journeys (i.e. one return journey is counted as one trip). They are not directly comparable with the sea passenger data in figure 3.1, which are expressed in terms of one-way trips (i.e. one return journey is counted as two trips).

Source Tourism Tasmania (2002a).

The only exception to the upward trend in the number of motor vehicle passengers occurred between 1998-99 and 2000-01, when there was a 1 per cent decline. A 5 per cent fall in 1999-2000, associated with the engine problems on the *Spirit of Tasmania*, was almost outweighed by a rise in 2000-01. The number of berth-only passengers continued to decline from 1998-99 to 2000-01.

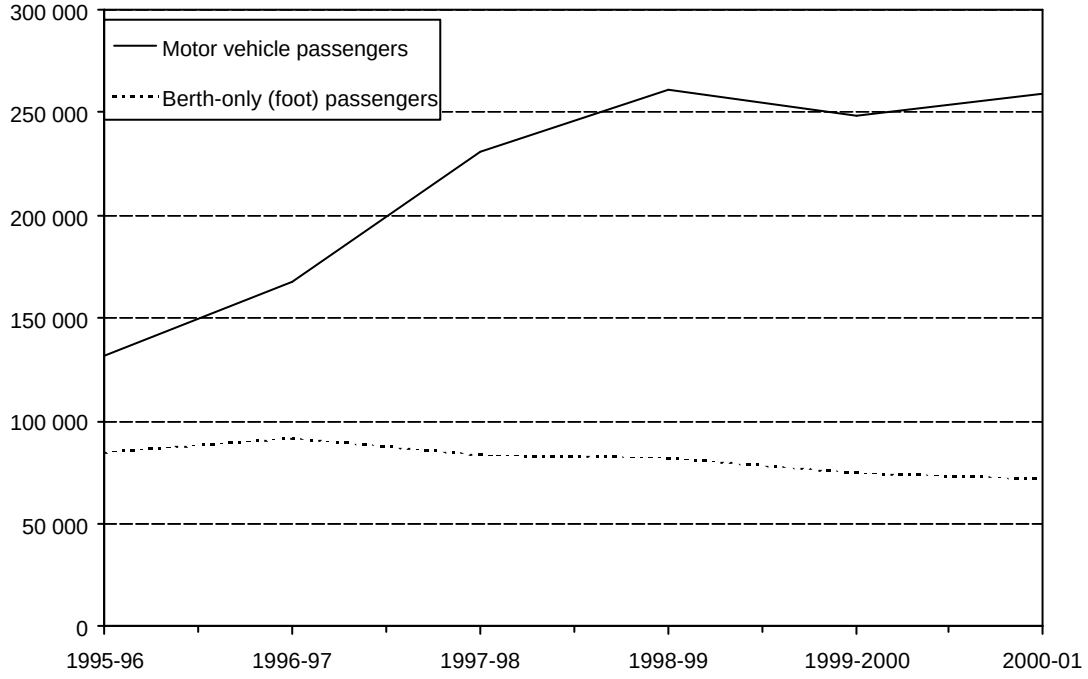
The differing trends in motor vehicle passengers (directly affected by the Scheme) and berth-only passengers (not covered by the Scheme) suggest that the Scheme has contributed to traffic growth. As the Scheme has narrowed the differential between motor vehicle passenger and berth-only passenger fares, it may have encouraged some substitution between the two types of travel.

ASSESSMENT

The BTRE's model indicates that the Scheme has contributed significantly to increased sea passenger travel across Bass Strait. The detailed results should be interpreted with some caution as the model is affected by data limitations. It should also be noted that the increased traffic includes Tasmanian residents and travellers diverted from air transport as well as additional visitors to Tasmania.

The comparisons of traffic trends provide some further evidence that the Scheme has contributed significantly to the increase in sea passenger traffic. However, it should be noted that these analyses are partial and do not control for other factors that may affect sea passenger traffic.

FIGURE 3.3 NUMBER OF SEA PASSENGERS CARRIED ACROSS BASS STRAIT, BY CATEGORY, 1995-96 TO 2000-01



Source TT-Line (pers. comm. June 2002) and earlier communications.

CHAPTER 4 TT-LINE REVENUE AND EXPENSES

The Ministerial Directions require the BTRE's annual monitoring to have specific regard to movements in a service operator's annual revenue and operating costs. The analysis in this chapter focuses on the financial performance of TT-Line, which has accounted for almost all of the payments under the Scheme.

OPERATING REVENUE

TT-Line's total revenue has generally increased since the early 1990s, although there have also been two short-term declines.

Changes since 1996-97

Table 4.1 and figure 4.1 provide historical information on TT-Line's revenue. Annual operating revenue rose by 33 per cent (21 per cent in real terms) over the period from 1996-97 to 2000-01. The largest increase occurred between 1996-97 and 1997-98, when there was a rise of 19 per cent following a 21 per cent increase in passenger traffic (see table 3.3). These were also the first two years in which the Scheme operated.

Table 4.2 presents various financial indicators for TT-Line. It indicates that average operating revenue per passenger increased by 18 per cent (7 per cent in real terms) between 1996-97 and 2000-01. Average operating revenue per vehicle rose by 5 per cent (representing a decline of 5 per cent in real terms) over this period.

Average operating revenue per voyage fell by 13 per cent (21 per cent in real terms) between 1996-97 and 2000-01. It initially declined and then partly recovered in 1999-2000 and 2000-01.

Changes in 2000-01

TT-Line's operating revenue in 2000-01 was $81.8 million, a record for the company. It was 6 per cent above the figure for the previous year when capacity was adversely affected by the engine problems on the *Spirit of Tasmania*. Revenue was virtually unchanged in real terms over this period.

TABLE 4.1 SELECTED FINANCIAL INFORMATION FOR TT-LINE, 1996-97 TO 2000-01
($'000)

Category	*1996-97*	*1997-98*	*1998-99*	*1999-2000*	*2000-01*
Total operating revenue	61 766	73 325[a]	80 607	77 511	81 842
Operating expenses					
Operations	22 357	22 724	33 932	40 865[b]	42 864[b]
Hotel services	15 296	15 464	17 783	16 924	17 782
Customer acquisition	4 893	4 698	6 015	5 900	6 261
Administration	6 098	6 219	5 707	4 889	6 871
Other[c]	10 556	22 406[d]	9 793	8 697[e]	2 696
Total operating expenses	59 200	71 511	73 230	77 275	76 474
Operating profit/loss	2 566	1 814	7 377	236	5 368
Abnormals/extraordinaries	0	780	0	0	0
Profit/loss	2 566	1 034	7 377	236	5 368

a. Includes $8.0 million revenue from the *Devil Cat* and catamaran trial.

b. Includes depreciation and amortisation (previously in the 'other' category).

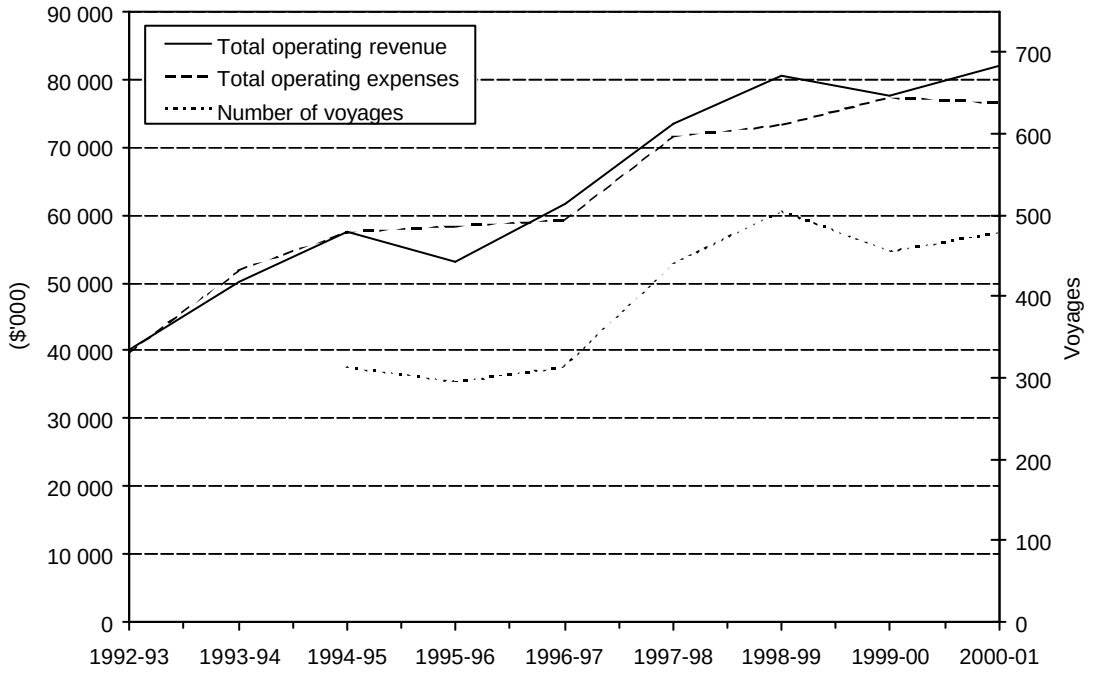
c. Depreciation was included in this category prior to 1999-2000.

d. Includes $11.6 million operating expenses from the *Devil Cat* and catamaran trial.

e. TT- Line's 1999-2000 operating expenses were affected by the breakdown of the *Spirit of Tasmania*, which added approximately $5.4 million to total operating expenses (i.e. above the expected insurance recovery).

Sources TT-Line (2001b) and earlier issues. TT-Line (pers. comm. Jan. 2001).

FIGURE 4.1 TT-LINE'S OPERATING REVENUE AND EXPENSES, 1992-93 TO 2000-01



Sources TT-Line (2001b) and earlier issues.

Table 4.2 indicates that average operating revenue per passenger was unchanged (representing a decline of 6 per cent in real terms) in 2000-01 compared with the previous year. Average operating revenue per vehicle fell by 4 per cent (10 per cent in real terms).

Average operating revenue per voyage was virtually unchanged in 2000-01 compared with 1999-2000. This followed a significant rise in the previous period.

Impact of the Scheme

Figure 4.2 indicates the amount of TT-Line's operating revenue that is directly attributable to the Scheme (i.e. excluding the additional revenue flowing from increased traffic that is generated by lower fares). Rebates paid to TT-Line (and passed on to passengers in the form of lower fares for eligible vehicles) were equivalent to around 18 per cent of the Line's total revenue in 2000-01.

OPERATING EXPENSES

TT-Line's total operating expenses have generally increased since the early 1990s. The only exception was a slight decline in 2000-01 following the additional expenses for engine repairs in 1999-2000.

Changes since 1996-97

Table 4.1 and figure 4.1 provide historical information on TT-Line's operating expenses. Total operating expenses increased by 29 per cent (18 per cent in real

TABLE 4.2 FINANCIAL INDICATORS FOR TT-LINE, 1996-97 TO 2000-01

Indicator	*1996-97*	*1997-98*	*1998-99*	*1999-2000*	*2000-01*
Operating revenue					
Per passenger[a]	106	99	120	125	125
Per vehicle[b]	145	126	150	159	152
Per voyage[c]	197 335	166 648	159 618	170 354	171 218
Operating expenses[d]					
Per passenger	228	228	213	239	231
Per voyage	189 137	162 525	145 010	169 835	159 987
Operating profit/loss					
Per voyage	8 198	4 123	14 608	519	11 230

a. Passenger revenue divided by number of passengers.

b. Vehicle revenue divided by number of vehicles.

c. Total revenue divided by the number of voyages.

d. Incorporates expenses for passengers, vehicles and freight.

Sources Estimated from data in table 3.3, table 4.1 and TT-Line (pers. comm. Jan. 2001, Apr. 2002).

terms) between 1996-97 and 2000-01. Contributing factors included the costs attributable to the operation of a second vessel (the *Devil Cat*), an increased number of voyages by the *Spirit of Tasmania*, and higher fuel prices.

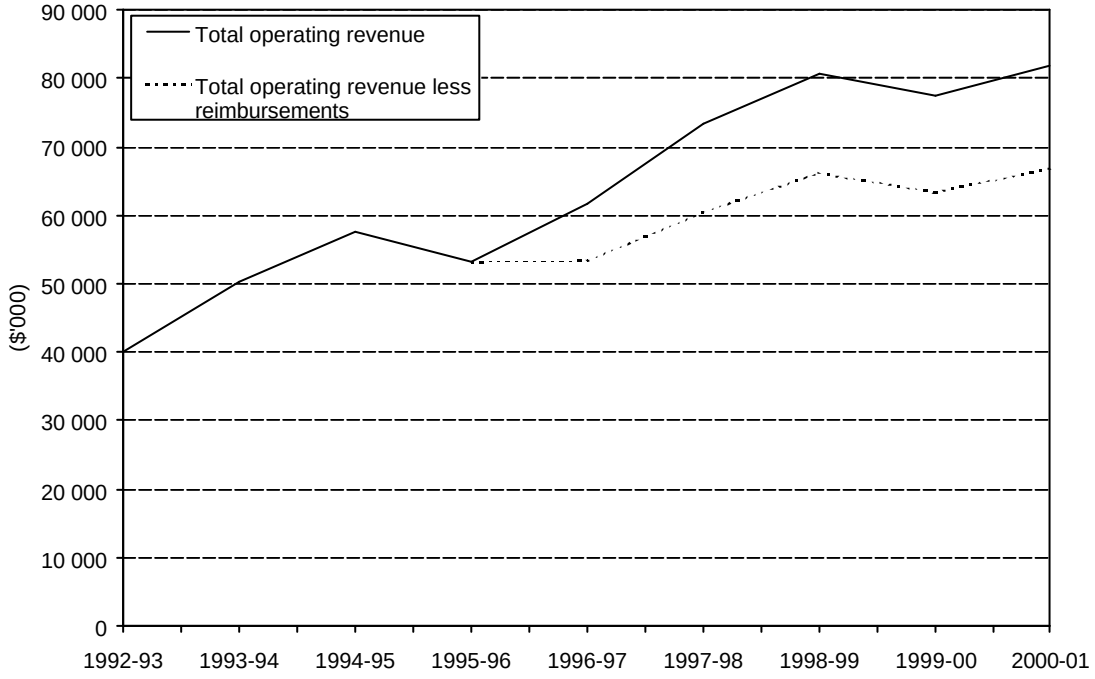
Table 4.2 presents various financial indicators for TT-Line. It indicates that average operating expenses on a per passenger basis increased by 1 per cent (representing a decline of 8 per cent in real terms) between 1996-97 and 2000-01. This ratio has some shortcomings since the operating expenses in the numerator also include expenses for vehicles and freight. However, it provides some useful information on trends in unit costs.

Average operating expenses per voyage declined by 15 per cent (23 per cent in real terms) between 1996-97 and 2000-01. A large reduction between 1996-97 and 1998-99 was followed by an increase in 1999-2000 and a smaller reduction in 2000-01.

Changes in 2000-01

TT-Line's operating expenses in 2000-01 totalled $76.5 million, a 1 per cent decline (7 per cent in real terms) compared with the previous year (table 4.1). This reduction, which occurred despite an increase in the number of voyages, reflected a return to more typical conditions following significant maintenance expenditure on the *Spirit of Tasmania* in 1999-2000.

FIGURE 4.2 TT-LINE'S REVENUE AND REIMBURSEMENTS, 1992-93 TO 2000-01



Sources TT-Line (2001b) and earlier issues. Tasmanian Assistance Services (pers. comm. Feb. 2001, May 2002).

As a result of rises in fuel prices, TT-Line's fuel costs increased from $3.6 million in 1998-99 to $5.6 million in 1999-2000. There were further rises in prices during 1999-2000, but they were partly offset by the abolition of excise duty on fuel oil. The net effect on TT-Line's fuel costs was an increase to $6.0 million in 2000-01, although prices peaked during the year and later fell.

Table 4.2 indicates that average operating expenses on a per passenger basis declined by 3 per cent (9 per cent in real terms) in 2000-01 compared to the previous year. As noted earlier, this indicator should be interpreted with caution as it has some shortcomings.

Average operating expenses per voyage declined by 6 per cent (11 per cent in real terms). This reversed the large increase in the previous period. It reflects a reduction in total operating costs and an increase in the number of voyages in 2000-01 compared to the previous year.

PROFITABILITY

TT-Line earned an operating profit of $5.4 million in 2000-01 (table 4.1). This was well above the figure of $236 000 in the previous year when profitability was adversely affected by lower revenue and higher operating costs.

Table 4.1 indicates that there has been significant variability in TT-Line's profitability. The major contributing factors have included one-off repair/ maintenance costs, changes in passenger numbers (and hence revenue), variations in the number of voyages, and fluctuations in fuel prices.

CHAPTER 5 CONCLUDING COMMENTS

The introduction of the Bass Strait Passenger Vehicle Equalisation Scheme in September 1996 resulted in a significant decline in the cost of sea travel between the mainland and Tasmania. There was an initial fare reduction of 25-30 per cent for a standard vehicle and accompanying passengers using a standard cabin. Rebates paid to TT-Line (and passed on to passengers in the form of lower fares for eligible vehicles) were equivalent to around 18 per cent of the Line's total revenue in 2000-01.

Fare reductions of this magnitude would be expected to stimulate increased sea traffic across Bass Strait. There was substantial growth in the numbers of passengers and vehicles carried by sea on the route between 1995-96 and 2000-01. However, some of this traffic growth could be attributable to other factors such as increases in population and incomes.

The BTRE's econometric model provides strong support for the view that the Scheme has contributed significantly to the increase in sea passenger travel across Bass Strait. The detailed results should be interpreted with some caution as the analysis is constrained by data limitations.

The BTRE's comparisons of trends in different traffics (i.e. covered / not covered by the Scheme) provide further support for the view that the Scheme has contributed significantly to increased sea traffic across Bass Strait:

- The rate of growth in leisure travellers using sea transport on the route has been well above the rate for leisure travellers using air transport.
- There was a major change in the trends of sea and air traffic after the introduction of the Scheme, with sea passenger traffic moving from stagnation to substantial growth while air traffic moved from strong growth to stagnation.
- The number of motor vehicle passengers carried by sea across Bass Strait has generally been increasing, but the number of berth-only sea passengers has been declining.

TT-Line's revenue and operating expenses have generally risen over time, although there have also been short-term declines. Revenue in 2000-01 was a record for the company, while operating expenses declined slightly compared with the previous year. TT-Line's profit recovered significantly in 2000-01.

APPENDIX I MONITORING PROVISIONS IN 1999 AND 2001 MINISTERIAL DIRECTIONS

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

16.2 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* and *eligible passenger vehicles* carried per annum by the *Operator.*[15]

16.3 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.

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[15] This is the provision in the Ministerial Directions that applied during 2000-01. The Ministerial Directions issued in April 2002 added another component, 'number of passengers travelling under related bookings'.

APPENDIX II MODEL OF SEA PASSENGER TRAFFIC

This appendix describes the econometric model developed by the BTRE to estimate the impact of the Scheme on sea passenger traffic across Bass Strait.

MODEL SPECIFICATION

The impact of the Scheme on the number of motor vehicle passengers is analysed using a multivariate time-series econometric model. This model is better than a time trend or univariate time-series model as it can accommodate several explanatory variables and analyse their individual influence on the number of motor vehicle passengers.

The model developed by the BTRE is specified in a double logarithmic linear functional form. This type of model is easy to estimate and provides superior fit, and the estimated parameters can be directly interpreted as elasticities. Moreover, the double logarithmic linear functional form has been successfully used in many previous empirical studies of travel demand.

The most appropriate approach to modelling the relationship between passenger traffic and factors influencing it is to specify the model separately for domestic and international passengers and by purpose of visit. This is because domestic and international passengers have different levels of income, and face different prices as a result of exchange rates. In addition, leisure passengers and non-leisure passengers respond differently when there is a change in income or prices.

The segmented modelling approach could not be used in the BTRE's analysis of the Scheme, mainly due to the unavailability of data by country of residence and purpose of visit. In addition, data on the number of motor vehicle passengers are available for only a limited period. An aggregate motor vehicle passenger model is therefore estimated and used to analyse the impact of the Scheme on the number of motor vehicle passengers.

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

$$\ln V_t = b_1 + b_2 \ln Y_t + b_3 \ln P_t + b_4 \ln Q_t + b_5 D_t + u_t$$

where,

V = Per capita number of motor vehicle passengers;

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

P = TT-Line's one-way package sea fare (including reductions under the Scheme from 1996-97);

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

D = Dummy variable to take account of the influence of the Gulf War on the number of motor vehicle passengers;

u = Error term;

β^S = Regression parameters; and

t = Time period.

P and Q represent respectively the own-price and cross-price variables. The own-price elasticity (i.e. the responsiveness of passengers to changes in the sea fare) would be expected to be negative, with a decrease in the TT-Line package fare leading to an increase in the number of motor vehicle passengers. On the other hand, the cross-price elasticity would be expected to be positive, implying that an increase in the air fare would motivate more passengers to travel by sea.

Population would be expected to have a positive influence on the number of motor vehicle passengers, implying that more people means more travel. In the BTRE model, the influence of population on the number of motor vehicle passengers is included by specifying the model on a per capita basis using the population of Australia. This approach avoids the problem of collinearity[16] between the population and income variables.

The model does not include some other variables which might be expected to affect sea passenger traffic across Bass Strait. Some of these variables (e.g. the carrying capacity and utilisation of TT-Line's vessels, changes in general price levels) were included in initial estimations of the model, but were found to be not significant. Other variables, which could not be incorporated in the model due to either unavailability of data or the nature of an aggregate model, were:

- $A exchange rates (affecting relative costs of domestic and overseas travel);
- other aspects of economic conditions (e.g. domestic unemployment, interest rates); and

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[16] The term collinearity refers to the existence of a single exact linear relationship between two explanatory variables in a regression model. If two such variables are included independently in a regression model, the estimated R^2-value tends to be relatively high and the estimated t-ratios tend to be relatively low. This implies that any conclusion made on the basis of such regression statistics is likely to be misleading.

- expenditure on tourism promotion for Tasmania and the rest of Australia.

DATA

The aggregate motor vehicle passenger model is estimated using annual time-series data from 1985-86 to 2000-01. Although data for the model variables are available from 1978-79, the earlier data could not be used because there was a major change in Melbourne-Tasmania ferry services in 1985. In that year, ANL withdrew the *Empress of Australia* and TT-Line introduced the *Abel Tasman*.

The time-series data used to estimate the model are presented in table II.1 and figure II.1. The data were obtained from TT-Line, the Australian Bureau of Statistics (ABS) and data series maintained by the BTRE.

The data indicate that the number of motor vehicle passengers increased by 3 per cent per annum prior to the introduction of the Scheme (1985-86 to 1995-96) and by 15 per cent per annum after the Scheme commenced (1995-96 to 2000-01). The strong growth in the immediate post-implementation period seems to be significantly influenced by the reduction in the package sea fare.

Real household disposable income and the air fare are the other two variables included in the model. The average increase of 4 per cent per annum in real household disposable income and 5 per cent per annum in the air fare in the post-implementation period could have encouraged additional people to travel to and from Tasmania using sea transport.

Ideally, the package air fare (e.g. a discount air fare plus the cost of a hire car) would be used in the model. However, the economy fare was used as it was the closest fare for which data were available over the period covered by the model.

MODEL RESULTS

The estimated regression results are presented in table II.2. The adjusted R^2-value of 0.93 suggests that the model is a good fit. It indicates that 93 per cent of the variation in motor vehicle passenger numbers over the period from 1985-86 to 2000-01 is explained by the variables included in the model. All of the estimated coefficients have the expected sign and, except for the coefficient of the air fare variable, are highly significant. The coefficient of the air fare variable is significant at the 0.07 level of significance.

In terms of the total impact on the number of motor vehicle passengers, the most important variable is per capita real household disposable income, with an estimated elasticity of 3.0. This means that a 1 per cent increase (decrease) in the level of per capita real household disposable income will result in a 3 per cent increase (decrease) in the number of motor vehicle passengers.

The second most important variable is the sea fare (own-price), with an estimated elasticity of –0.8. The own-price elasticity indicates that a 1 per cent

decrease (increase) in the price of sea travel will result in a 0.8 per cent increase (decrease) in the number of motor vehicle passengers.[17]

The estimated own-price elasticity is lower than the own-price elasticity (-1.3) presented in the Bass Strait Visitor Access Study (Tourism Council of Tasmania 2001, p. 36). The difference in the elasticities could result from the method of elasticity estimation, the type of passengers and sea fares included in the study, the length of the estimation period or the number of variables taken into account while estimating the elasticities. If the income variable is dropped from

TABLE II.1 MOTOR VEHICLE PASSENGER NUMBERS, AIR FARE, SEA FARE, REAL HOUSEHOLD DISPOSABLE INCOME AND POPULATION

Year	*Passengers*[a] *('000)*	*Air fare*[b] *($/passenger)*	*Sea fare*[c] *($/package)*	*Real income*[d] *($b)*	*Population*[e] *(million)*
1985-86	99.5	136	291	288.2	15.7
1986-87	100.3	148	317	288.9	15.9
1987-88	101.9	157	317	294.7	16.1
1988-89	114.8	166	353	311.6	16.8
1989-90	121.6	184	390	329.0	17.1
1990-91	117.8	201	427	322.6	17.3
1991-92	90.1	215	450	324.6	17.5
1992-93	103.6	199	413[f]	328.8	17.7
1993-94	131.5	201	413[f]	335.8	17.9
1994-95	144.1	216	445	350.3	18.1
1995-96	131.5	223	445	361.6	18.3
1996-97	167.8	238	355	374.0	18.5
1997-98	231.1	250	371	381.3	18.7
1998-99	261.5	260	392	401.6	18.9
1999-00	248.7	262	402	418.1	19.2
2000-01	259.4	289	475	438.5	19.4

a. Motor vehicle passengers carried by TT-Line.

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

c. Average one-way TT-Line package net fare during peak season. Includes two adults and a standard vehicle.

d. Real household disposable income of Australians at 1999-2000 prices.

e. Population of Australia.

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

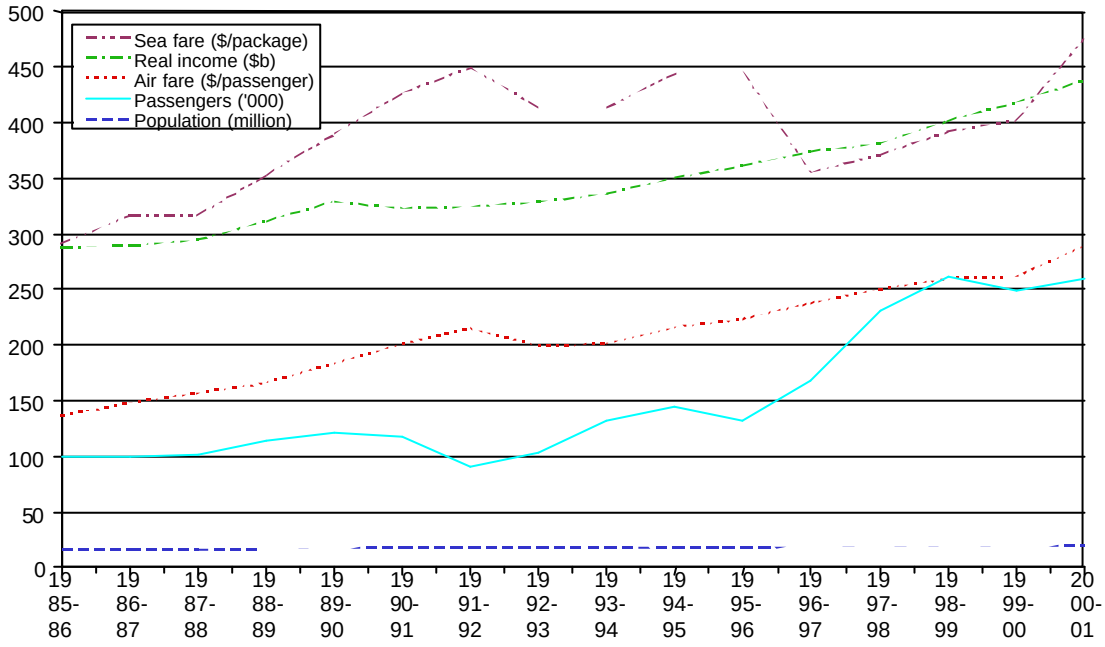
Sources TT-Line (2000a) and earlier issues. TT-Line (2001b) and earlier issues. TT-Line (pers. comm. Aug. 2002). ABS (2002). BTRE (2002).

[17] As the BTRE's model uses peak period fares for the sea fare variable, the fare reductions used to estimate the impact of the Scheme are probably slightly above the average reductions across all seasons / passengers. However, given the relatively low own-price elasticity estimated from the model and inter-seasonal variations in elasticities, the use of peak period fares does not affect the validity of the findings in relation to the Scheme.

the BTRE's model, the own-price elasticity is observed to be –1.2. However, the income variable should not be excluded as it is the statistically most important variable influencing the number of motor vehicle passengers on the Melbourne-Tasmania route.

The BTRE's model indicates that the cross-price (air fare) elasticity is 0.7. The elasticity is lower than the income and own-price elasticities, and is not highly significant in terms of the standard statistical tests. This implies that the air fare does not have a major influence on the number of motor vehicle passengers on the Melbourne-Tasmania route. This finding is broadly consistent with the results of the Bass Strait Visitor Access Study (Tourism Council of Tasmania 2001, p. 39) which concluded that the cross-price elasticity of ferry demand with respect to air fare is 0.4. The difference in the estimated elasticities could reflect one or more of the factors identified in the discussion of own-price elasticities.

FIGURE II.1: MODEL VARIABLES, 1985-86 TO 2000-01



Sources TT-Line (2000a) and earlier issues. TT-Line (2001b) and earlier issues. TT-Line (pers. comm. Aug. 2002). ABS (2002). BTRE (2002).

TABLE II.2 REGRESSION STATISTICS

Variable	*Estimated coefficient*	*t-ratio*	*Significance level*	*Other statistics*
Intercept	-33.211	-3.98	0.01	
$logY_t$	2.975	3.21	0.01	N=16
$logP_t$	-0.807	-2.69	0.02	Adjusted-R^2 = 0.93
$logQ_t$	0.718	2.02	0.07	DW = 2.06
D_{GWt}	-0.224	-1.96	0.08	

Source BTRE analysis

The estimated coefficient of the dummy variable indicates that the Gulf war in 1991-92, through its impact on global economic activity, adversely affected the number of motor vehicle passengers on the Melbourne-Tasmania route.

LIMITATIONS OF THE MODEL

The detailed results of the BTRE's model should be interpreted with some caution, as the analysis is constrained by data limitations. In particular, the time-series data cover a period of only 16 years, with just 5 years involving the period since the commencement of the Scheme.

Several other limitations of the estimated model should also be recognised:

- The relationship between passenger numbers and the income and price variables has not been fully explained by the model. This means that a small portion of variation (7 per cent) in passenger numbers is still unexplained.
- The use of Australian real household income in the model may not accurately represent the income of all motor vehicle passengers. Motor vehicle passengers include individuals from different States and from overseas. Therefore, the estimated income elasticity needs to be carefully interpreted.
- The use of the full economy air fare for the air fare variable does not adequately reflect the discounted fares (including changes in the availability of discounts) and costs of hire cars which are generally considered by leisure travellers deciding between air and sea travel.
- The model does not differentiate between domestic and overseas passengers in terms of their purchasing power. In other words, it does not take account of the influence of exchange rates on prices of sea travel for overseas passengers. Hence, the estimated price elasticity may contain some margin of error.
- The model does not include some variables (e.g. capacity on the route, unemployment, interest rates and expenditure on tourism promotion activities for Tasmania and other parts of Australia) which would be expected to have some effect on motor vehicle passenger numbers.

Despite these limitations, the model provides strong support for the view that the Scheme has contributed significantly to the increase in sea passenger travel on the Melbourne–Tasmania route since 1995-96.

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