

BTE Road Construction Price Indexes: 1974/75 to 1984/85

Information Paper

This Information Paper presents input-price indexes for national road construction activity for the period 1974-75 to 1984-85. Earlier values of the indexes, going back to 1969-70, can be found in BTE Report 49, Road Construction Price Indexes: 1969-70 to 1980-81. The BTE has compiled these indexes for use in its studies of the Australian road system. The indexes are also being published to assist those who require up-to-date information on movements in the prices of inputs to road construction.

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**BTE Road Construction
Price Indexes:
1974-75 to 1984-85**



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FOREWORD

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SUMMARY

The Bureau of Transport Economics (BTE) reviewed various road construction price indexes and produced new input-price indexes for the road construction industry for the period 1969-70 to 1980-81 in BTE Report 49, *Road Construction Price Indexes 1969-70 to 1980-81*. The BTE indexes have been updated for each financial year since 1981-82¹. This Paper contains a further update of the BTE input-price indexes for the financial year 1984-85. Preliminary data which were used in compiling the indexes for 1983-84 have now been updated, and this has resulted in minor amendments to the 1983-84 figures.

The BTE Road Construction Price Indexes were designed for use in the BTE's 1984 assessment of the Australian road system and, in particular, for the analysis of trends in road expenditure at constant prices. However, they also provide a general guide to trends in road construction costs in Australia. Important considerations in devising the indexes were that they should be statistically robust, timely, readily capable of being updated and easily interpreted.

The BTE price index for overall road construction activity registered a 5.9 per cent increase in 1984-85. This is the smallest rise recorded by the index since it was first produced for 1969-70. The rate of growth of the index has fallen substantially since the large increases registered in 1979-80 and 1980-81 of 15.9 per cent and 15.5 per cent respectively. There were substantial rises in fuel and bitumen prices in those two years. All components of the index showed small to moderate increases in 1984-85, with salaried labour recording the largest rise of 8.0 per cent. The bitumen index registered the smallest rise of 1.1 per cent.

1. The updates for the financial years 1981-82, 1982-83 and 1983-84 are presented in BTE Information Papers 7, 9 and 12.

CHAPTER 1-INTRODUCTION

Road construction price indexes are important tools for assessing the impact of changes in funding levels on the physical level of the provision of road infrastructure. Such indexes have been developed in Australia by a number of agencies and for a variety of purposes.

BTE Report 49, *Road Construction Price Indexes 1969-70 to 1980-81* (BTE 1981) sets out details of a number of Australian road construction price indexes:

- . national indexes compiled previously by the BTE and by the former Commonwealth Bureau of Roads (CBR);
- . State indexes produced by individual State road authorities (SRAs); and
- . implicit price indexes derived from the Australian Bureau of Statistics (ABS) National Accounts (which have sometimes been used as a proxy for price changes in the road construction industry).

In addition, new BTE input-price indexes for the road construction segment of the Australian economy were presented for the period 1969-70 to 1980-81 in that Report. The reader is referred to the Report for a full explanation of the indexes, and the reasons for choosing the form of specification of the new indexes. The BTE indexes introduced in Report 49 have the following features:

- . they are input-price indexes, and employ input components closely related to road authorities' actual expenditure items;
- . the overall index relates to Australia as a whole, and is composed of three sub-indexes relating to maintenance, SRA construction and local government authority (LGA) construction; and
- . each of the sub-indexes contains the following input components: salaried labour, other labour, fuel, bitumen, other materials and plant acquisition and replacement.

The BTE indexes were updated for the years 1981-82, 1982-83 and 1983-84 in Information Papers 7, 9 and 12 (BTE 1983, 1984 and 1985). This Information Paper presents the update of the indexes for the financial year 1984-85.

The Paper is organised in the following manner. Chapter 2 presents an outline of how the BTE Road Construction Price Indexes are constructed, including the weights attached to the three sub-indexes and to the various input components. The indexes, and their component indexes, are set out on an annual basis for the period 1974-75 to 1984-85 in Chapter 3. The chapter also makes some comparisons of the BTE input price index for overall activity with SRA road construction indexes, an ABS implicit price deflator and the ABS Consumer Price Index (CPI). Some concluding remarks are presented in Chapter 4.

CHAPTER 2-OUTLINE OF BTE INDEXES

TYPE OF INDEX

BTE Road Construction Price Indexes are input-price indexes. That is, they measure changes in the prices of inputs to road construction on the basis of general national price indexes. No adjustment for productivity is made. BTE Report 49 (BTE 1981) examined the issues involved in measuring productivity changes (and associated changes in the quality and composition of both inputs and outputs), with a view to deriving an output-cost index which reflects changes in input prices and productivity. It was concluded in that Report that further substantial work on obtaining comparable data on unit cost movements in the road construction industry would be necessary to estimate productivity changes and output costs in a robust manner.

The BTE index for overall road construction activity relates to Australia as a whole, and no disaggregation by State was attempted. It is made up of three sub-indexes:

- . construction by SRAs
- . construction by LGAs
- . total maintenance.

INPUT COMPONENT INDEXES

The major input categories to the road construction industry were identified as:

- . Labour - Salaried
- Other
- . Materials - Fuel
- Bitumen
- Other
- . Plant acquisition and replacement.

The component indexes considered appropriate to measure price movements in these input categories are set out in Table 2.1.

Up until 1980-81, fuel prices were measured by an automotive distillate index which is an unpublished component of the ABS Price Indexes of Articles Produced by Manufacturing Industry. Prices used by the ABS in compiling these indexes are manufacturers' selling prices exclusive of excise and sales tax. However, because of a number of changes in excise duty and franchise fees on automotive distillate in recent times (in particular the abolition of the off-road exemption from diesel fuel excise in the 1982-83 Commonwealth Budget (BTE 1983, pp. 3-4)), it was decided to measure fuel prices (from 1981-82 to 1983-84) by means of an index which measures wholesale prices to dealers inclusive of excise tax and franchise fees.

TABLE 2.1-INPUT COMPONENT INDEXES

<i>Component</i>	<i>Price indexes</i>	<i>Source</i>
Labour		
Salaried	Average weekly earnings, males, Australia	ABS, Average weekly earnings, Australia (Cat. No. 6302.0)
Other	Weighted average minimum weekly award rate, wage earners, males, all industry groups, Australia	ABS, Award rates of pay indexes, Australia (Cat. No. 6312.0) ^a
Materials		
Fuel	Price index of automotive distillate	Petroleum Products Pricing Authority 'Typical Maximum Justified Prices' ^b and ABS, Consumer Price Index, Automotive fuel index, weighted average of six State capital cities (Cat. No. 6401.0)
Bitumen	Price of bitumen index	The Shell Company of Australia's Melbourne price of road-making grade of bitumen

TABLE 2.1 (Cont)-INPUT COMPONENT INDEXES

<i>Component</i>	<i>Price indexes</i>	<i>Source</i>
Other materials and store items	Price index of materials used in building (other than house building), Australia	ABS, Price index of materials used in building other than house building, six State capital cities (Cat. No. 6407.0)
Plant acquisition and replacement	Price index of construction and earth moving machinery and equipment	ABS unpublished ^C

- a. Prior to 1981-82 'other labour' costs were measured by an ABS Wage Rates index, which has been replaced by the Award Rates of Pay Index.
- b. Prior to 1981-82 fuel prices were measured by an index of automotive distillate prices, which is an unpublished component of ABS Price Indexes of Articles Produced by Manufacturing Industry (Cat. No. 6412.0); between 1981-82 and 1983-84, by PPPA's 'Typical Maximum Justified Prices' as described below. In 1984-85 fuel prices were measured by a specially constructed index, involving PPPA's 'Typical Maximum Justified Prices' and ABS, Automotive fuel index.
- c. The index for Australian Standard Industrial Classification (ASIC) Class 3332 is an unpublished component of ABS Price Indexes of Articles Produced by Manufacturing Industry (Cat. No. 6412.0), and is available on request from the ABS.

This new fuel component index introduced in 1981-82 was derived by calculating an average price (over all companies) of automotive distillate for each of the six capital cities based on Petroleum Products Pricing Authority (PPPA) 'Typical Maximum Justified Prices' at 31 December of each year¹. These prices include Commonwealth excise charges and State franchise fees. The average prices are weighted by the population proportion relating to each city; ABS population estimates for 1979-80 are used so that these weights have the same base as other weights in the indexes.

From April 1984, the PPPA ceased producing its 'Typical Maximum

1. Prior to 1982-83 the Commonwealth excise duty on automotive distillate was deducted from this price since fuel used in off-road activities was then exempt from the duty; this off-road exemption was terminated in the 1982-83 Commonwealth Budget.

Justified Prices'. This necessitated the use of a specially constructed index which involves splicing together the fuel index based on PPPA's 'Typical Maximum Justified Prices' and ABS Automotive fuel index to provide a comparable movement in fuel price in 1984-85.

Prior to 1981-82 the 'Other Labour' component was measured by an index of ABS Wage Rates. These Wage Rates have been discontinued and replaced by the new series ABS Award Rates of Pay Indexes, which are used as the basis of the 'Other Labour' component from 1981-82 onwards. The Wage Rates indexes were based on the occupation structure in 1954, and included only those awards relating solely or mainly to 'wage' earners (as opposed to 'salary' earners)¹. The Award Rates of Pay Indexes are based on the occupation structure existing in May 1976. All full-time adult wage and salary earners whose rates of pay are normally varied in accordance with awards, determinations or registered collective agreements are covered in the new indexes. However, the new index relating only to wage earners is employed in the BTE Road Construction Price Indexes. Salary earners are covered by the 'Salaried Labour' component.

COMPONENT WEIGHTINGS

The BTE index for overall road construction activity is made up of three sub-indexes which have the following weights attributed to them:

- . SRA construction - 35 per cent
- . LGA construction - 31 per cent
- . Maintenance - 34 per cent.

The weights relating to the six input components for each of the sub-indexes and the overall activity index are set out in Table 2.2. Estimated expenditure on the input components in the base year 1979-80 was used to determine the weights employed. Further details of the derivation of the weights is given in BTE (1981, pp. 22-25).

1. 'Wage' earners are engaged mainly in manual work and/or employed in blue collar occupations. 'Salary' earners are engaged mainly in non-manual work and/or employed in white collar occupations.

TABLE 2.2-COMPONENT WEIGHTS, ESTIMATED FOR BASE YEAR 1979-80
(per cent)

<i>Component</i>	<i>Sub-indexes</i>			<i>Overall activity</i>
	<i>SRA construction</i>	<i>LGA construction</i>	<i>Maintenance</i>	
Labour				
Salaried	22.8	20.4	15.9	19.7
Other	32.1	32.1	44.1	36.1
Total	54.9	52.5	60.0	55.8
Materials				
Fuel	9.1	10.3	11.7	10.4
Bitumen	9.3	9.4	6.2	8.3
Other	20.9	18.2	14.6	17.9
Plant acquisition and replacement	5.8	9.6	7.5	7.6
Total	100.0	100.0	100.0	100.0

Source: BTE (1981, Table 4.3).

CHAPTER 3-BTE ROAD CONSTRUCTION PRICE INDEXES

In the first part of this chapter the input component indexes of the BTE Road Construction Price Indexes are tabulated and reviewed for the period 1974-75 to 1984-85. These component indexes are then combined with the component weights to produce the sub-indexes (SRA construction, LGA construction and maintenance) and the index for overall road construction activity for 1974-75 to 1984-85. The chapter concludes with some comparisons of the BTE input-price index for overall activity with SRA road construction indexes, the ABS implicit price deflator for private sector fixed capital expenditure on non-dwelling construction and the ABS Consumer Price Index.

INPUT COMPONENTS

The six input component indexes for 1974-75 to 1984-85 are set out in Table 3.1 and are presented in diagrammatic form in Figure 3.1. It can be observed from these data that:

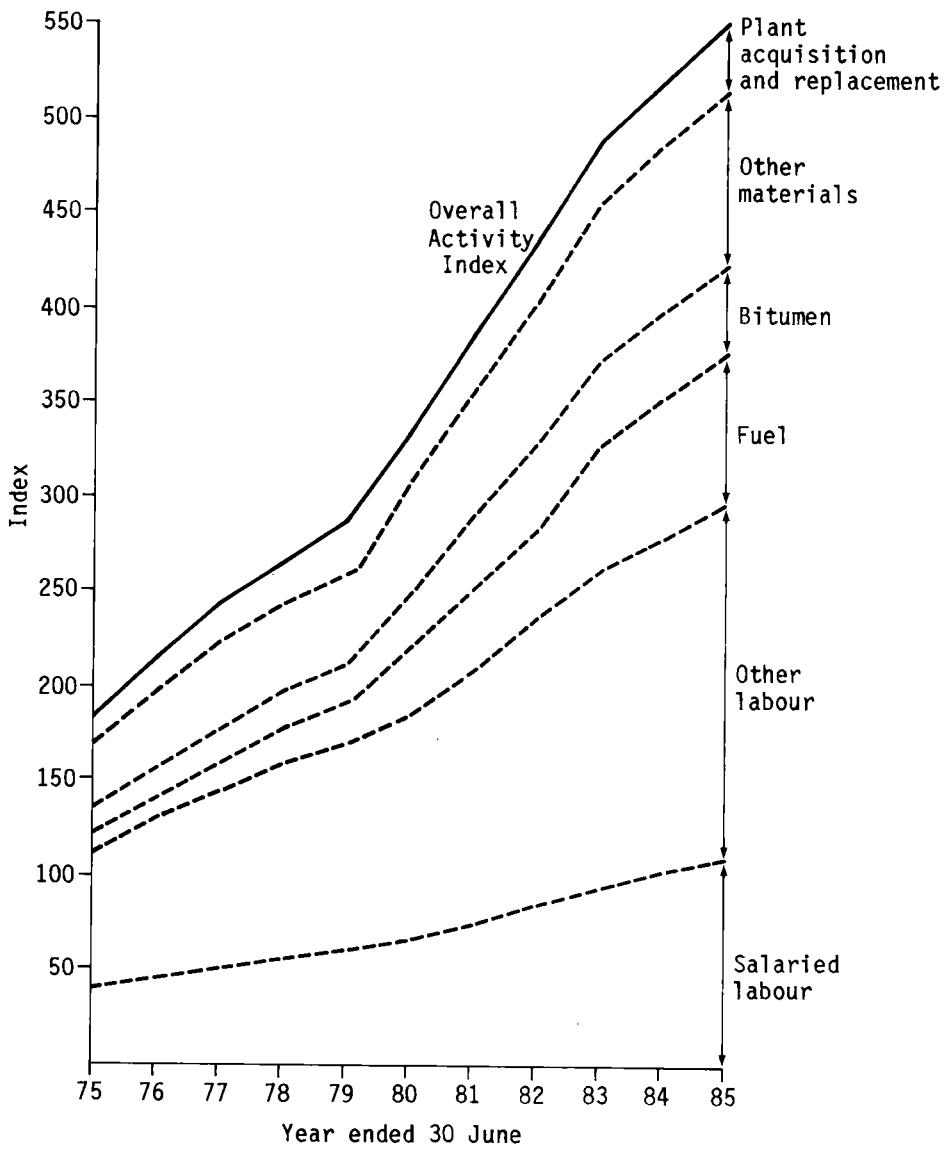
- . The rate of growth in labour costs in 1984-85 continued the decline shown since 1982-83. Indeed the growth rate for labour as a whole (both salaried and other) was the smallest since the BTE indexes commenced in 1969-70, with the next smallest increase occurring in 1978-79. The growth in labour costs gradually declined from the high 25.4 per cent in 1974-75 to a moderate 7.7 per cent in 1978-79, and then accelerated again in 1980-81 and 1981-82.
- . The slow down in the rate of increase in fuel prices shown in 1983-84 continued into 1984-85, which shows the smallest rise since 1973-74. There had previously been large rises in fuel prices in 1975-76 and again in the years 1977-78 to 1980-81 and in 1982-83.
- . There was a very small rise in bitumen prices in 1984-85, as there had been in the previous two years. This component had registered significant increases in 1974-75 and again in 1979-80 and 1980-81.
- . Prices of 'other materials' rose by a modest amount in 1984-85,

TABLE 3.1-COMPONENT INDEXES OF BTE ROAD CONSTRUCTION PRICE INDEXES^a

(Base year 1979-80, adjusted so that 1969-70 = 100.0)

Year ended 30 June	Salaried ^b		Other ^c		Fuel ^d		Bitumen		Other materials		Plant acquisition and replacement	
	Percentage		Percentage		Percentage		Percentage		Percentage		Percentage	
	Index	change	Index	change	Index	change	Index	change	Index	change	Index	change
1975	194.4	25.4	205.7	30.5	125.9	14.2	189.3	72.4	162.2	23.0	144.4	20.2
1976	222.3	14.4	236.0	14.7	169.3	34.5	212.6	12.3	186.6	15.0	169.4	17.3
1977	249.9	12.4	266.2	12.8	192.4	13.6	254.5	19.7	208.4	11.7	198.2	17.0
1978	274.6	9.9	290.6	9.1	232.9	21.0	272.8	7.2	226.0	8.4	215.8	8.9
1979	295.7	7.7	309.7	6.6	308.7	32.5	274.7	0.7	242.6	7.3	228.1	5.7
1980	324.9	9.9	336.9	8.8	497.4	61.1	380.8	38.6	274.2	13.0	252.1	10.5
1981	369.1	13.6	373.9	11.0	631.8	27.0	512.4	34.6	309.7	12.9	281.5	11.7
1982	422.7	14.5	420.3	12.4	697.8	10.4	606.9	18.4	344.0	11.1	311.1	10.5
1983	465.3	10.1	467.6	11.3	962.5	37.9	615.6	1.4	383.3	11.4	328.4	5.6
1984	508.0r	9.2r	492.7r	5.4r	1067.4	10.9	630.0	2.3	403.6r	5.3r	333.0r	1.4r
1985	548.8p	8.0p	517.7p	5.1p	1147.5	7.5	637.1	1.1	425.5p	5.4p	357.5p	7.4p

- a. The data series used to compute the component indexes are set out in Table 2.1.
- b. The ABS Average Weekly Earnings series is used to measure 'Salaried Labour'. From the September quarter 1981, this series was based on a new survey of employers which replaced the previous series based principally on information from payroll tax returns. The new series was linked to the old in order to provide an index on a comparable basis over the whole period.
- c. The new ABS Average Weekly Award Rates Index is used to measure 'Other Labour' from 1981-82 onwards. This series replaced the Wage Rates indexes which were used in the BTE indexes prior to 1981-82 (see Chapter 2 for details). The new index was linked to the old in order to provide an index on a comparable basis over the whole period.
- d. An automotive distillate index (which is an unpublished component of ABS Price Indexes of Articles Produced by Manufacturing Industry) was used as the fuel component index until 1980-81; another series based on the Petroleum Products Pricing Authority's 'Typical Maximum Justified Prices' of automotive distillate was used from 1981-82 to 1983-84 (see Chapter 2 for details); a new especially constructed series based on PPPA fuel index and ABS automotive fuel index is used in 1984-85.
- p provisional estimates.
- r revisions to the index values presented in Information Paper 12 (BTE 1985) resulting from updated information.



Note: The curve for each component index reflects its relative weight in the total activity index, as well as the growth in the price of that component.

Figure 3.1-Component Indexes of BTE Road Construction Price Indexes

again moving in line with general increases in prices in the economy as they have done over the past decade.

- . The increase of 7.4 per cent in the 'plant acquisition and replacement' index in 1984-85 was much larger than the 1.4 per cent rise recorded in 1983-84.

RESULTANT INDEXES

Combining the component weights (Table 2.2) with the component indexes (Table 3.1) yields the road construction input-price indexes set out in Table 3.2. The indexes were computed for the base year 1979-80, but have been scale-adjusted so that 1969-70 = 100.0 for easier analysis. The major conclusions to be drawn are:

- . The 1984-85 increase in the overall activity index was 5.9 per cent, which is the smallest rise recorded by the index since it was first produced for 1969-70. This increase is slightly less than the rise registered for the previous year. It was pointed out in Information Paper 9 (BTE 1984, p. 15) that 'the growth in road construction costs eased somewhat in the latter half of 1982-83' and this trend has continued through 1984-85.
- . Price movements in the three sectors examined (SRA construction, LGA construction and maintenance) were very similar in 1984-85, as has generally been the case since 1969-70.

In interpreting these BTE Road Construction Price Indexes, it must be remembered that the indexes are based on input prices, and therefore they do not reflect productivity gains. To the extent that such gains occur, the indexes will tend to overstate increases in output costs and output prices for the road construction industry.

COMPARISON WITH OTHER INDEXES

In Table 3.3, the BTE input-price index for overall road construction activity is compared with the ABS implicit price deflator for private sector gross fixed capital expenditure on non-dwelling construction (which has been used as a proxy for price changes in road construction), the Queensland Main Road Department (MRD) input-price index and the input-cost indexes¹ of the New South Wales Department of Main Roads (DMR), the Road Construction Authority (RCA) in Victoria

1. Input cost-indexes measure the costs of representative units of inputs to the road construction industry, as indicated by actual costs incurred by road authorities.

TABLE 3.2-BTE ROAD CONSTRUCTION INPUT-PRICE INDEXES^a

(Base year 1979-80, adjusted so that 1969-70 = 100.0)

Year ended 30 June	SRA construction		LGA construction		Maintenance		Overall activity	
	Index	Percentage change	Index	Percentage change	Index	Percentage change	Index	Percentage change
1975	181.6	28.7	179.7	28.5	183.1	28.4	181.5	28.5
1976	209.7	15.5	207.9	15.7	212.1	15.8	209.9	15.6
1977	237.4	13.2	235.9	13.5	240.2	13.2	237.9	13.3
1978	260.3	9.6	258.7	9.7	263.7	9.8	260.9	9.7
1979	280.7	7.8	279.2	7.9	285.5	8.3	281.8	8.0
1980	325.1	15.8	324.6	16.3	330.3	15.7	326.7	15.9
1981	376.1	15.7	375.9	15.8	380.1	15.1	377.4	15.5
1982	424.8	12.9	424.2	12.8	428.0	12.6	425.8	12.8
1983	476.8	12.2	476.7	12.4	484.9	13.3	479.6	12.6
1984	507.0r	6.3r	506.2r	6.2r	515.5r	6.3r	509.7r	6.3r
1985	536.6p	5.8p	536.0p	5.9p	545.9p	5.9p	539.7p	5.9p

- a. The indexes are derived by combining the component weights (Table 2.2) with the component indexes (Table 3.1).
- b. The overall activity index and the sub-indexes were derived for the base year 1979-80, and then scale-adjusted to give 1969-70 = 100.0, to facilitate analysis. Note that the adjusted scale (1969-70 = 100.0) version of the overall activity index cannot be derived simply from the three sub-indexes (SRA construction, LGA construction and maintenance) by using the weights given in the text. Similarly, in the adjusted scale, the three sub-indexes cannot be derived simply from the component indexes in Table 3.1. Each of the required indexes must be constructed from the component indexes at their base year (1979-80 = 100.0).
- p provisional estimates.
- r revisions to the index values presented in Information Paper 12 (BTE 1985) resulting from updated information.

TABLE 3.3-COMPARISONS WITH BTE ROAD CONSTRUCTION PRICE INDEX

(1969-70 = 100.0)

Year ended 30 June	BTE input-price index (overall activity)		SRA input-price index		SRA input-cost indexes						ABS implicit price deflator ^a	
			MRD (Qld)		DMR (NSW) ^b		RCA (Vic) ^{c d}		HD (SA) ^d		Private sector	
	Index	Percentage change	Index	Percentage change	Index	Percentage change	Index	Percentage change	Index	Percentage change	Index	Percentage change
1975	181.5	28.5	192.6	29.1	187.5	28.2	193.7	17.3	196.9	18.3	180.6	27.9
1976	209.0	15.6	222.2	15.4	217.0	15.7	222.2	14.7	231.5	17.6	209.4	15.9
1977	237.9	13.3	248.5	11.8	244.4	12.6	241.4	8.6	260.0	12.3	234.5	12.0
1978	260.9	9.7	270.1	8.7	264.6	8.3	257.9	6.8	278.2	7.0	254.8	8.6
1979	281.8	8.0	287.0	6.3	281.4	6.3	273.5	6.0	302.9	8.9	274.2	7.6
1980	326.7	15.9	314.9	9.7	323.3	14.9	324.4	18.7	337.7	11.5	303.0	10.5
1981	377.4	15.5	353.9	12.4	373.2r	15.5r	367.5	13.3	377.6	11.8	340.0	12.2
1982	425.8	12.8	396.1	11.9	435.2r	16.6r	414.9	12.9	429.7	13.8	383.9	12.9
1983	479.6	12.6	441.2	11.4	512.7r	17.8r	450.7	8.6	479.5	11.6	435.8	13.5
1984	509.7r	6.3r	469.2r	6.3r	548.6r	7.0r	482.8	7.1	542.6	13.1	457.9r	5.1r
1985	539.7p	5.9p	494.1p	5.3p	571.1p	4.1p	507.8	5.2	558.0	2.8	488.2p	6.6p

a. Gross fixed capital expenditure non-dwelling construction.

b. The DMR (NSW) input-cost index has been extensively reviewed from 1980-81. The new index is based on a wider range of representative inputs to the road construction industry in New South Wales, such as property acquisition and financing costs which were not included in the index prior to the 1980-81 financial year. This has necessitated revisions to the DMR (NSW) input-cost index starting from 1981.

c. Previously the Country Roads Board (CRB (Vic)).

d. The RCA (Vic) and HD (SA) input-cost indexes relate to costs at 30 June of the designated year (not average costs over the year).

p provisional estimates.

r revisions to the index values presented in Information Paper 12 (BTE 1985) resulting from updated information.

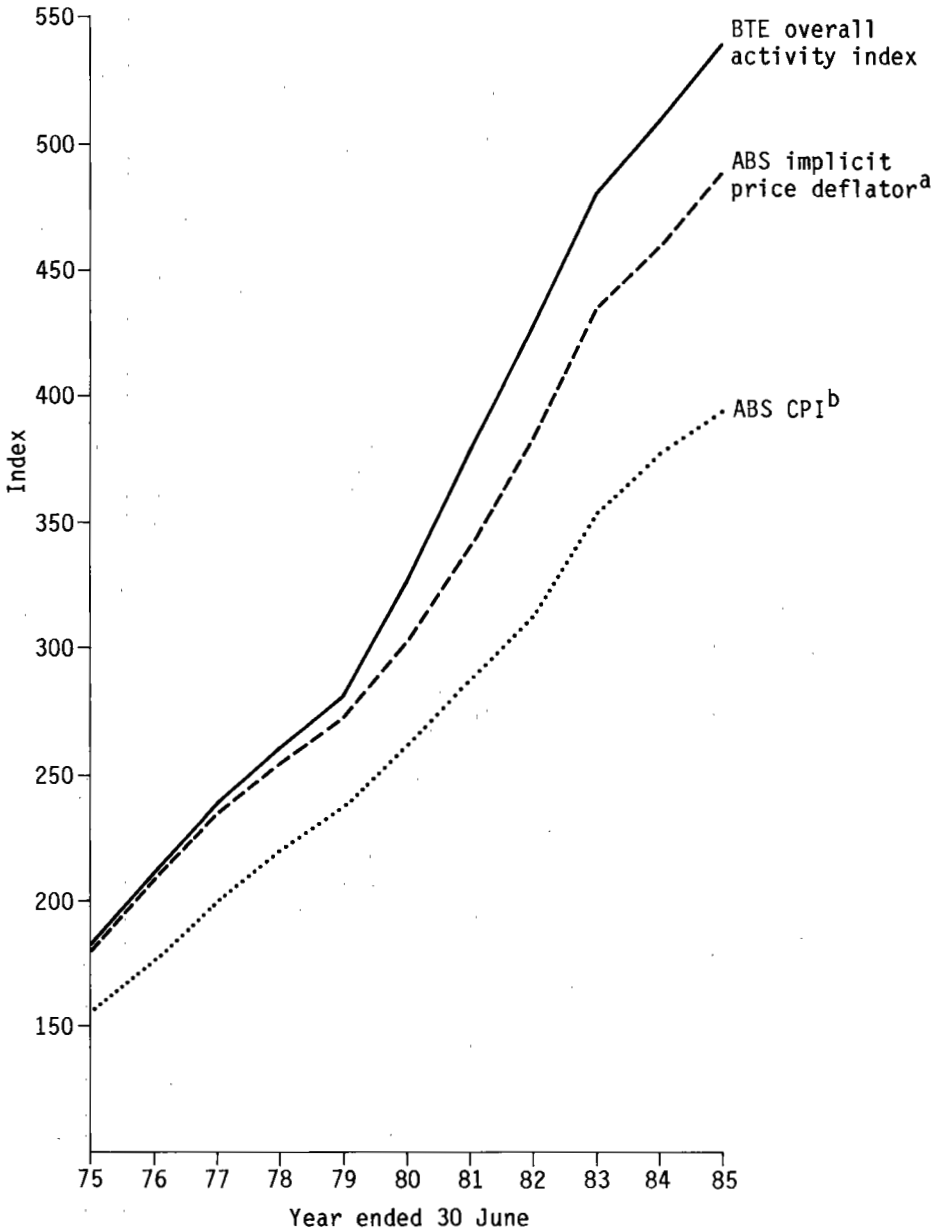
Sources: Table 3.2. BTE (1985, Table 3.3). ABS (1985e). Personal communication with SRAs.

(previously the Country Roads Board (CRB)) and the South Australian Highways Department (HD).

On the basis of these comparisons the following points can be made:

- . Most of the road construction indexes produced by the various authorities recorded increases in 1984-85 in the range of 2 to 6 per cent. The HD (SA) index registered the smallest increase (2.8 per cent) unlike the previous year when it recorded the highest increase of the indexes presented. The BTE index showed the largest increase of the indexes presented (5.9 per cent).
- . In 1984-85, the ABS implicit price deflator for private sector fixed capital expenditure on non-dwelling construction showed a slightly larger rise than the BTE input-price index. Over the period 1969-70 to 1984-85 the two indexes have increased at about the same rate except for the two years 1979-80 and 1980-81, when there were very substantial rises in fuel and bitumen prices.

Price movements in the road construction industry are compared with general price movements in the economy in Figure 3.2. This figure presents, for the period 1974-75 to 1984-85, the BTE input-price index for overall road construction activity, the ABS implicit price deflator for private sector fixed capital expenditure on non-dwelling construction and the ABS Consumer Price Index (CPI), which measures changes in the retail price of a 'basket' of goods and services which are considered representative of metropolitan household spending habits. The major reason for the faster growth in road construction prices over the past decade, as illustrated in Figure 3.2, has been the impact of rapid increases in fuel and bitumen prices. Another important factor is the relatively labour intensive nature of the road construction industry.



- a. ABS implicit price deflator for gross fixed capital expenditure on non-dwelling construction in the private sector.
- b. ABS Consumer Price Index (Cat.No. 6401.0).

Figure 3.2-Comparisons with BTE input-price index (overall activity)

CHAPTER 4-CONCLUDING REMARKS

The rate of growth of the BTE input-price index for overall road construction activity was 5.9 per cent in 1984-85, which is the smallest rise recorded in the index since it was first produced for 1969-70. This increase is slightly less than that registered in the previous year. The large rises of 15.9 per cent and 15.5 per cent registered in 1979-80 and 1980-81 occurred principally because of substantial rises in fuel and bitumen prices. All components indexes, except plant acquisition and replacement and other materials, showed continued decline in their rate of increase. The salaried labour component recorded the largest rise in 1984-85, 8.0 per cent.

Increases in the BTE Road Construction Price Index for overall activity over the last five years of 5.9 per cent (1984-85), 6.3 per cent (1983-84), 12.6 per cent (1982-83), 12.8 per cent (1981-82) and 15.5 per cent (1980-81) can be compared with corresponding increases in other price indexes for these five years:

- . in the CPI of 4.2 per cent, 6.9 per cent, 11.5 per cent, 10.4 per cent and 9.4 per cent; and
- . in the implicit price deflator for private sector fixed capital expenditure on non-dwelling construction of 6.6 per cent, 5.1 per cent, 13.5 per cent, 12.9 per cent and 12.2 per cent.

Road construction prices have tended to rise more rapidly than other indexes such as the CPI and the implicit price deflator when there have been rapid increases in fuel and bitumen prices. Road construction prices are also sensitive to changes in labour costs as the road construction industry is relatively labour intensive.

Finally, it should be remembered that the BTE Road Construction Price Indexes are based on input, and not output, prices. Therefore they do not reflect productivity gains.

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ABBREVIATIONS

ABS	Australian Bureau of Statistics
AGPS	Australian Government Publishing Service
ASIC	Australian Standard Industrial Classification
BTE	Bureau of Transport Economics
CBR	Commonwealth Bureau of Roads
CPI	Consumer Price Index
CRB	Country Roads Board (Vic)
DMR	Department of Main Roads (NSW)
HD	Highways Department (SA)
LGA	Local Government Authority
MRD	Main Roads Department (Qld)
PPPA	Petroleum Products Pricing Authority
RCA	Road Construction Authority (Vic)
SRA	State Road Authority