

Subject	Cost adjustment of public transport services – new index formulae
Circulation	Regional Authority Transport Officers Local Government New Zealand Bus and Coach Association Fullers Ferries Passenger Transport Advisory Group Audit New Zealand Controller and Auditor General New Zealand Transport Agency staff
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Date of issue	12 March, 2009

Purpose

1. To notify regional authorities and other stakeholders of new cost index formulae for diesel bus and ferry contracts. This circular is a supplement to the previously issued General Circular 09/02. Together they put into effect decisions made in the Board paper *Cost Adjustment of Public Transport Contracts* (No. 08/10/0077).

Background

2. In response to stakeholder concerns about the current index formula and the variety of ways in which it is being applied by regional authorities, NZTA's predecessor agency agreed to conduct a review of cost adjustment as a component of the Public Transport Procurement Review. General Circular 09/02 put into effect the Board's decisions relating to the method of applying cost indexation while this circular puts into effect the new index formulae.
3. The NZ Institute of Economic Research (NZIER) were engaged to review the formula and its method of application. Part of NZIER's brief was to conduct a confidential survey of operators' cost structures. Although the response rate was low, NZIER obtained further cost information from the four main regional councils, PriceWaterhouseCoopers, and benchmarking reports from Australia and the UK and the index recommended to the Board reflected this dataset.
4. Since the Board made its decision, the Bus and Coach Association commissioned another survey which received a very good response rate and NZTA has updated the Diesel Bus Index in light of this new information.
5. The Ferry Index has also been updated in light of advice recently received from Statistics NZ regarding the availability of one of the component series that NZTA was proposing to use.

Coverage

6. This policy applies to diesel bus and ferry contracts and the attached appendix replaces the relevant provisions of the *Competitive Pricing Procedures Manual volume 2*, and section 7.28 of the *Interim*

Procurement Manual, i.e. the changes apply regardless of which manual is in use. The amendment to the manuals takes effect immediately.

NZTA support

7. NZTA will continue to publish the *Cost Adjustment Factors for Public Passenger Transport*, for as long as required under existing contract terms and conditions.
8. The information contained in this circular will be incorporated into the final version of the *Procurement Manual*. NZTA welcomes any suggestions for how the explanatory material could be improved when the manual is updated.

Enquiries

9. If you have any queries or feedback, please contact Jeremy Traylen, Senior Policy Advisor, NZTA National Office, DDI (04) 894 6432, email jeremy.traylen@nzta.govt.nz



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Appendix G – Cost Indices for Public Transport

G.1 Contract price adjustment

Contracts awarded under NZTA's procurement procedures must specify that amounts payable under the contract will be adjusted in line with an index published by NZTA (see Section 7.28).

G.2 Derivation of cost indices

NZTA's indexation formulae use price series published by Statistics New Zealand supplemented by other publicly available statistics. Statistics NZ occasionally issues revised values for the indices that it publishes: NZTA reserves the right to ignore such revisions if they are considered immaterial.

G.2.1 Diesel Bus Index

Price series used to calculate the Diesel Bus Index:

Cost Component	Source
Labour costs – wages and salaries	Drivers and mobile machinery operators – Statistics NZ series LCIQ.SF43J4
Labour costs – other (e.g. leave entitlements, superannuation)	Private sector non-wage costs – Statistics NZ series LCIQ.SE48Z9
Fuel	Commercial Diesel (Bulk) – Statistics NZ series NRGQ.SICZ7 ¹
Road User Charges	Agency derived index based on actual movements in road user charges
Other (includes capital costs)	Road Passenger Transport excluding fuel – private series from Statistics NZ based on Road Passenger Transport PPIQ.SPNI01210

G.2.2 Ferry Index

Price series used to calculate the Ferry Index:

Cost Components	Source
Labour costs – wages and salaries	Drivers and mobile machinery operators – Statistics NZ series LCIQ.SF43J4
Labour costs – other (e.g. leave entitlements, superannuation)	Private sector non-wage costs – Statistics NZ series LCIQ.SE48Z9
Fuel	Commercial Diesel (Bulk) – Statistics NZ series NRGQ.SICZ7
Other	Water transport – Statistics NZ series PPIQ.SNIO3

G.2.3 Fuel index

Provision will be made for regional fuel levies and if necessary more than one Diesel Bus Index will be published by NZTA. NZTA reserves the right to ignore regional differences of less than 3c per litre as immaterial (a change of 3c in the fuel price changes the Diesel Bus Index by around half a percent). For example a 5c levy would be considered material but a 2c levy would not.

¹ It was previously proposed to create an NZTA fuel index based on the MED price survey.

G.2.4 Agency Road User Charges Index

NZTA will calculate an index based on actual movements in road user charges. For the purposes of calculating an index the following assumption will be made about the composition of the bus fleet:

RUC charging category	Proportion of bus fleet
12 tonnes, VT2	83%
15 tonnes, VT5	17%

G.2.5 Labour costs – other

Statistics NZ publishes this as an annual, rather than quarterly, series. It is usually published in October for the June Quarter, while other series for the June Quarter are normally published in September. Because of this difference in publishing schedule, the index movement will be applied to the September Quarter of the NZTA index, and then assumed to remain constant for the following three quarters.

G.3.1 Weights applied to the Diesel Bus Index

The weights applied to the cost components in the Diesel Bus Index formulae are based on estimates of operators cost structures as provided by the Bus and Coach Association:

Results from bus operator survey:

Cost category	Operator Survey 12 months to September 2008	Adjusted to 3 months to June 2008 (i.e. index base quarter)
Labour costs (including on costs)	44.7%	43.94%
Fuel, oil & lubricants	13.3%	14.58%
Road user charges	4.6%	4.43%
All other operating expenses	37.4%	37.05%

To produce the final index, the weightings for labour costs have been disaggregated into “wages” and “other labour costs” and rounded to 1 decimal place:

Diesel Bus Index formula (Base period – September 2008 quarter)

Cost Component	Weighting
Labour costs – wages and salaries	36.8%
Labour costs – other	7.2%
Fuel	14.6%
Road User Charges	4.4%
Other	37.0%

G.3.2 Weights applied to the Ferry Index

The weights applied in the Ferry index were based on the advice given in the NZIER report. There is some overlap between index components with fuel also making up 9.2% of the water transport series. Although fuel has been given a nominal weighting of 20%, the effective weighting is 24.14%², which is in the range recommended by NZIER.³

² 20% explicit weighting for fuel + 9.2%*45% = 24.14%

³ Table 19 Passenger Transport Cost Structure – Ferries

At present the weights are calculated for an index base period of March 2007, which covers the period examined in the NZIER report. As the two new public transport indices share some common components it would be advantageous to align the base periods of the two indices to make their calculation simpler and more transparent. Therefore NZTA intends to recalibrate the Ferry index weights to reflect a September 2008 base quarter and incorporate the revision into the final version of the *Procurement Manual*. Note that changing the base quarter will not affect the rate at which the Ferry index escalates.

Ferry Index formula (Base period – March 2007 quarter)

Cost Component	Weighting
Labour costs – wages and salaries	0.30
Labour costs - other	0.05
Fuel	0.20
Other (includes some fuel)	0.45

G.3.3 Updating the weights used in the indices

The explicit weights used in the formula only match the weights estimated from operators’ cost structures in the base period, where the component series all have an equal value of 1000. Over time the relative changes to the values of the component series will accurately reflect the average industry change in cost structures to the extent that these are driven by changes in input prices (e.g. wage rates, fuel prices). It is therefore not necessary to constantly update the weights used in the formula to reflect changes in input prices.

The index does not, however, pick up changes in operator costs relating to changes in input use patterns (e.g. increase in fuel efficiency). Therefore NZTA will review the index formulae approximately every five years to pick up any long term trends in input use.

G.4 Publication of indices

Index values dating back to September 2003 quarter are given in Table 1 below. Table 1 will be updated quarterly and published on the NZTA website, in line with the following schedule:

Indexation schedule:

Service operates (quarter)	Index published (month)	Payment (month) ⁴
January, February, March	May	June
April, May, June	August	September
July, August, September	November	December
October, November, December	February	March

⁴ See the guidelines in Section 7.28

TABLE 1 – Public Transport Cost Indices

Quarter	Diesel Bus Index (June 2008 Base)	Ferry Index (March 2007 Base)
September 2003	778	829
December 2003	781	833
March 2004	784	835
June 2004	795	855
September 2004	805	872
December 2004	816	888
March 2005	821	894
June 2005	833	915
September 2005	855	951
December 2005	857	950
March 2006	867	967
June 2006	893	1019
September 2006	903	1027
December 2006	894	996
March 2007	898	1000
June 2007	910	1010
September 2007	931	1036
December 2007	950	1068
March 2008	967	1094
June 2008	1000	1162
September 2008	1027	1196
December 2008	995	1117

WORKED EXAMPLES

Note: the index values used in these examples are completely hypothetical

Example 1–

The tender for a bus contract closes on 1 February 2009 for a service that commences on 1 November 2009. The agreed gross value of the contract is \$480,000 per annum. The tender closed during the March 2009 quarter when the Diesel Bus Index has a value of 1186.

The contract commences during the December 2009 quarter, when the index has a value of 1210. Note that in this quarter there are only two months of service delivery. The movement in the index is $(1210-1186)/1186$ or approximately 2%. As the contract value is \$40,000 per month, the first quarterly payment for inflation will be $2.0236\% * \$80,000 = \$1,619$. It is expected that the value of the index for this quarter will be published in February, and therefore the \$1,619 will be paid in the month of March. This is in addition to the two monthly contract payments of \$40,000 that would already have been paid.

The second quarter of operation is March 2010 when the index has a value of 1222. The movement of the index (since the quarter in which tenders closed) is now $(1222-1186)/1186$ or approximately 3%. This can be interpreted as meaning that input prices have increased by 3% since the time in which the contract was priced (it does not mean that prices have increased by 3% since the previous quarter). The second quarterly inflation adjustment payment will be $3.03541\% * \$120,000 = \$3,642$. This should be paid in the month of June, and is in addition to the three monthly contract payments of \$40,000 that would already have been paid.

Summary of the first 4 quarterly adjustments:

Quarter of operation	Index value (Illustration only)	% Change since tender closed (March 09 = 1186)	Contract value for the quarter @ \$40,000 per month	Inflation payment
December 2009	1210	2.0236	\$80,000	\$1,619
March 2010	1222	3.03541	\$120,000	\$3,642
June 2010	1236	4.21585	\$120,000	\$5,059
September 2010	1261	6.32377	\$120,000	\$7,588

Example 2 –

This example illustrates the method of resetting the value of contracts at the time of mid-point review (see section 7.27). Suppose the contract in Example 1 has a mid-point review after 5 years of operation i.e. in December 2014. At this time the value of the index is 1518, and the quarterly inflation payment has reached \$33,592, alongside monthly contract payments of \$40,000. There have been no service level variations.

The contract price is reset to reflect the movement of the index to date i.e. the value becomes \$614,368 per annum, or \$51,197 per month. The mid-point review quarter is now used as the reference point for calculating index movements, rather than the quarter in which tenders closed. E.g. in March 2015 the value of the index is 1540 and therefore the index movement is $(1540-1518)/1518$, or approximately

1.5%. The inflation payment will be \$2,226. If the contract price was not reset, the monthly service payments would remain at \$40,000 but the inflation payment would be \$35,817 in the March 2015 quarter.

Comparison of contract price resetting approach – March 2015 quarter:

	Price re-setting approach	Not reset
Payment for January service	\$51,197	\$40,000
Payment for February service	\$51,197	\$40,000
Payment for March service	\$51,197	\$40,000
Payment for inflation	\$2,226	\$35,817
TOTAL	\$155,817	\$155,817