

APPENDIX F TRANSFUND PRICE ADJUSTMENT FORMULA

F1 **Contract price adjustment for cost fluctuation**

Contracts awarded under Transfund New Zealand's CPPs may specify that amounts payable under the contract will be adjusted in line with a Transfund formula (refer sections 3.6.1 and 5.6.1 of this Manual).

F2 **Derivation of cost adjustment factors**

The Transfund price adjustment formula uses indices published by Statistics New Zealand plus a Bitumen Price Index calculated by Transfund. These indices are combined, using appropriate weights, to produce cost adjustment factors (Table 1) for five different categories of work.

The Statistics New Zealand indices used are:

- Labour Index.
- Producer Price Index (Construction, Transport and Storage, Road Transport, Non-Metallic Mineral Production).
- All Farming Inputs Price Index (Fuel and Oil).
- Consumer Price Index (Private Transport).

Table 2 shows the Statistics New Zealand indices used in the price adjustment formula. Table 3 shows the Bitumen Price Index used to calculate the "Revised Reseal" cost adjustment factors.

F3 **Use of cost adjustment factors**

The amount payable under a contract is multiplied by a cost adjustment factor, taken from Table 1. Table 1 shows cost adjustment factors for the different categories of work.

Take care to use the correct line in the table, corresponding to when tenders closed, and the correct column, corresponding to when the work being paid for was done.

F4 **Publication of cost adjustment factors and indices**

Tables 1, 2 and 3 are updated quarterly. Updated tables are published on the Transfund New Zealand web site (www.transfund.govt.nz).

F5 Table of weights

The table below gives the weights applied to the Statistics New Zealand indices and Transfund's Bitumen Price Index, to calculate the cost adjustment factors shown in Table 1.

Table of Weights

INDEX	CATEGORY OF WORK					
	Maintenance	Construction	Revised Reseal	Reseal	Bridges	Professional Services
Construction (PPIQ.SNE)	0.20	0.20	0.20	0.20	0.10	0.00
Transport & Storage (PPIQ.SNI)	0.05	0.05	0.05	0.05	0.05	0.00
Road Transport (PPIQ.SNI01)	0.05	0.05	0.00	0.00	0.00	0.00
Bitumen Price Index (Refer Table 3)	0.00	0.00	0.40	0.00	0.00	0.00
Fuel & Oil (FPIQ.SI9J)	0.10	0.10	0.00	0.40	0.20	0.00
Labour Index (LCIQ.SE53Z9)	0.50	0.40	0.15	0.15	0.30	0.80
Non Metallic Mineral Production (PPIQ.SNC12)	0.10	0.20	0.20	0.20	0.35	0.00
CPI Private Transport (CPIQ.SE9F2)	0.00	0.00	0.00	0.00	0.00	0.20

F6 Derivation of the Bitumen Price Index

Transfund's Bitumen Price Index, calculated monthly, is based on:

- The average monthly spot price for Singapore HSFO 180, published by Platts Asia-Pacific.
- The average monthly \$US/\$NZ exchange rate, published by the Reserve Bank of New Zealand.

The Bitumen Price Index for any given month is calculated as follows.

$$\text{BPI}(\text{this month}) = [(\text{HSFO}(\text{previous month}) \times (\text{\$/\$NZ}(\text{previous month}) \times 1.35) - \text{Jan 95}(\text{base}) + 410] \times (1,000/410)$$

Using actual values for August 2001:

$$\begin{aligned}\text{BPI}(\text{Aug 01}) &= [(131.9716 \times 2.4468 \times 1.35) - 204.59 + 410] \times 1,000/410 \\ &= 1,564\end{aligned}$$

Points to note about calculation of the index are:

- 1 A lag of one month is used. That is input data from this month determines the index for next month.
- 2 The initial (January 1995) "raw" index value (410) is the New Zealand Refining Co list price for bitumen, in NZ dollars per tonne, at that time.
- 3 Each month the "raw" index changes by 1.35 times the \$NZ change in the Singapore HSFO 180 price for that month.
- 4 The actual index is calculated from the "raw" index by raising to a base of 1000 (at January 1995) and lagging one month.

TABLE 1: COST ADJUSTMENT FACTORS**PART 1 – MAINTENANCE**

Quarter in which tenders closed	Quarter to which contract price is being updated.				
	Mar '01	Jun '01	Sep '01	Dec '01	Mar '02
Jun '96	1.1477	1.1508	1.1545	1.1492	1.1481
Sep '96	1.1429	1.1460	1.1498	1.1444	1.1433
Dec '96	1.1341	1.1372	1.1409	1.1357	1.1347
Mar '97	1.1293	1.1324	1.1361	1.1309	1.1298
Jun '97	1.1288	1.1318	1.1355	1.1301	1.1290
Sep '97	1.1248	1.1278	1.1315	1.1261	1.1250
Dec '97	1.1201	1.1231	1.1267	1.1214	1.1203
Mar '98	1.1217	1.1248	1.1284	1.1228	1.1216
Jun '98	1.1228	1.1260	1.1295	1.1236	1.1224
Sep '98	1.1190	1.1221	1.1256	1.1198	1.1186
Dec '98	1.1175	1.1207	1.1242	1.1183	1.1171
Mar '99	1.1181	1.1212	1.1247	1.1188	1.1175
Jun '99	1.1140	1.1171	1.1206	1.1148	1.1135
Sep '99	1.0935	1.0964	1.1000	1.0948	1.0937
Dec '99	1.0757	1.0786	1.0822	1.0775	1.0766
Mar '00	1.0584	1.0613	1.0648	1.0606	1.0599
Jun '00	1.0450	1.0477	1.0513	1.0474	1.0468
Sep '00	1.0201	1.0227	1.0264	1.0231	1.0227
Dec '00	0.9889	0.9915	0.9951	0.9924	0.9923
Mar '01	1.0000	1.0027	1.0062	1.0028	1.0025
Jun '01		1.0000	1.0035	1.0002	0.9998
Sep '01			1.0000	0.9966	0.9962
Dec '01				1.0000	0.9995
Mar '02					1.0000

Please note – the latest values of these adjustment factors can be found on the Transfund New Zealand web site (www.transfund.govt.nz)

TABLE 1: Continued

PART 2 – CONSTRUCTION

Quarter in which tenders closed	Quarter to which contract price is being updated.				
	Mar '01	Jun '01	Sep '01	Dec '01	Mar '02
Jun '98	1.1269	1.1298	1.1331	1.1271	1.1256
Sep '98	1.1233	1.1262	1.1295	1.1236	1.1221
Dec '98	1.1223	1.1251	1.1284	1.1225	1.1209
Mar '99	1.1234	1.1262	1.1295	1.1236	1.1220
Jun '99	1.1194	1.1223	1.1255	1.1196	1.1180
Sep '99	1.0989	1.1016	1.1049	1.0997	1.0983
Dec '99	1.0810	1.0836	1.0869	1.0822	1.0811
Mar '00	1.0625	1.0650	1.0684	1.0641	1.0631
Jun '00	1.0488	1.0513	1.0547	1.0508	1.0499
Sep '00	1.0231	1.0255	1.0289	1.0256	1.0249
Dec '00	0.9897	0.9921	0.9955	0.9927	0.9923
Mar '01	1.0000	1.0025	1.0058	1.0023	1.0016
Jun '01		1.0000	1.0033	0.9999	0.9992
Sep '01			1.0000	0.9965	0.9958
Dec '01				1.0000	0.9992
Mar '02					1.0000

PART 3 – BRIDGES

Quarter in which tenders closed	Quarter to which contract price is being updated.				
	Mar '01	Jun '01	Sep '01	Dec '01	Mar '02
Jun '98	1.1544	1.1596	1.1615	1.1487	1.1451
Sep '98	1.1501	1.1553	1.1572	1.1445	1.1409
Dec '98	1.1494	1.1547	1.1565	1.1438	1.1402
Mar '99	1.1513	1.1565	1.1583	1.1455	1.1419
Jun '99	1.1478	1.1531	1.1549	1.1421	1.1385
Sep '99	1.1172	1.1221	1.1241	1.1127	1.1095
Dec '99	1.0931	1.0978	1.0999	1.0895	1.0866
Mar '00	1.0690	1.0735	1.0757	1.0660	1.0634
Jun '00	1.0513	1.0556	1.0579	1.0489	1.0464
Sep '00	1.0175	1.0214	1.0239	1.0161	1.0140
Dec '00	0.9784	0.9822	0.9847	0.9779	0.9763
Mar '01	1.0000	1.0041	1.0063	0.9981	0.9960
Jun '01		1.0000	1.0023	0.9942	0.9921
Sep '01			1.0000	0.9918	0.9897
Dec '01				1.0000	0.9977
Mar '02					1.0000

Please note – the latest values of these adjustment factors can be found on the Transfund New Zealand web site (www.transfund.govt.nz)

TABLE 1: Continued

PART 4 – REVISED RESEAL

Quarter in which Tenders Closed	Month to which contract price is being updated.														
	Jan '01	Feb '01	Mar '01	Apr '01	May '01	Jun '01	Jul '01	Aug '01	Sep '01	Oct '01	Nov '01	Dec '01	Jan '02	Feb '02	Mar '02
Mar '96	1.3462	1.3015	1.3453	1.3653	1.3935	1.4071	1.3769	1.3575	1.3716	1.4101	1.3377	1.2638	1.2784	1.2692	1.2978
Jun '96	1.3229	1.2795	1.3220	1.3413	1.3687	1.3818	1.3527	1.3339	1.3476	1.3849	1.3147	1.2431	1.2572	1.2484	1.2760
Sep '96	1.3449	1.3000	1.3440	1.3640	1.3924	1.4060	1.3757	1.3562	1.3704	1.4090	1.3363	1.2622	1.2768	1.2676	1.2963
Dec '96	1.2822	1.2414	1.2814	1.2995	1.3253	1.3377	1.3104	1.2927	1.3056	1.3408	1.2747	1.2073	1.2207	1.2123	1.2383
Mar '99	1.3600	1.3142	1.3591	1.3795	1.4084	1.4223	1.3913	1.3714	1.3859	1.4253	1.3511	1.2754	1.2904	1.2810	1.3102
Jun '99	1.2888	1.2474	1.2880	1.3064	1.3325	1.3450	1.3173	1.2994	1.3125	1.3481	1.2812	1.2129	1.2264	1.2179	1.2443
Sep '99	1.1980	1.1622	1.1972	1.2132	1.2358	1.2467	1.2231	1.2076	1.2189	1.2499	1.1919	1.1328	1.1445	1.1372	1.1600
Dec '99	1.0977	1.0680	1.0971	1.1103	1.1291	1.1380	1.1190	1.1062	1.1155	1.1414	1.0934	1.0445	1.0542	1.0482	1.0671
Mar '00	1.0737	1.0450	1.0731	1.0860	1.1041	1.1127	1.0944	1.0820	1.0910	1.1161	1.0687	1.0225	1.0319	1.0261	1.0443
Jun '00	1.0195	0.9941	1.0190	1.0304	1.0464	1.0541	1.0382	1.0272	1.0352	1.0575	1.0185	0.9746	0.9830	0.9778	0.9940
Sep '00	0.9965	0.9737	0.9980	1.0092	1.0248	1.0323	1.0168	1.0061	1.0139	1.0357	0.9956	0.9547	0.9629	0.9579	0.9737
Month in which Tenders Closed															
Oct '00	0.9350	0.9131	0.9346	0.9446	0.9585	0.9651	0.9516	0.9421	0.9490	0.9685	0.9330	0.8968	0.9042	0.8997	0.9137
Nov '00	0.9113	0.8909	0.9109	0.9203	0.9331	0.9393	0.9269	0.9181	0.9245	0.9428	0.9097	0.8761	0.8830	0.8788	0.8918
Dec '00	0.9285	0.9070	0.9281	0.9380	0.9516	0.9581	0.9449	0.9355	0.9423	0.9615	0.9286	0.8911	0.8984	0.8940	0.9077
Jan '01	1.0000	0.9738	0.9995	1.0114	1.0279	1.0359	1.0192	1.0078	1.0161	1.0391	0.9967	0.9533	0.9621	0.9567	0.9735
Feb '01	1.0000	1.0000	1.0275	1.0402	1.0580	1.0665	1.0484	1.0362	1.0451	1.0697	1.0242	0.9778	0.9872	0.9815	0.9994
Mar '01	1.0000	1.0000	1.0000	1.0119	1.0285	1.0365	1.0197	1.0083	1.0166	1.0397	0.9972	0.9538	0.9626	0.9572	0.9739
Apr '01	1.0000	1.0000	1.0000	1.0000	1.0161	1.0239	1.0077	0.9966	1.0047	1.0271	0.9858	0.9436	0.9521	0.9469	0.9632
May '01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0074	0.9920	0.9813	0.9891	1.0107	0.9710	0.9305	0.9386	0.9336	0.9493
Jun '01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9849	0.9744	0.9821	1.0033	0.9643	0.9245	0.9325	0.9276	0.9430
Jul '01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9891	0.9970	1.0192	0.9784	0.9367	0.9451	0.9400	0.9561
Aug '01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0082	1.0310	0.9890	0.9462	0.9548	0.9495	0.9660
Sep '01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0224	0.9812	0.9392	0.9477	0.9425	0.9587
Oct '01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9609	0.9211	0.9291	0.9242	0.9396
Nov '01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9558	0.9647	0.9592	0.9763
Dec '01	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0100	1.0038	1.0230
Jan '02	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0127
Feb '02	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0190
Mar '02	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Note: The above "Revised Reseal" cost adjustment factors use the Bitumen Price Index as an input. The Bitumen Price Index in turn uses the Singapore High Sulphur Fuel Oil (HSFO) 180CST price as an input.

A table of the previous "Reseal" cost adjustment factors, which uses the All Farming Inputs Price Index (Fuel and Oil), is available on request from Transfund. Road controlling authorities that have chosen to continue to use the previous "Reseal" index to calculate price adjustments, on contracts that existed prior to September 2001, will need to obtain this table. To do so contact Colin Tubb at Transfund National Office, DDI (04) 916 4283 or email colin.tubb@transfund.govt.nz.

For details of Transfund's policy on the change from the "Reseal" index to the "Revised Reseal" index, refer to Transfund General Circular 01/07 "Competitive Pricing Procedures - Changes to the Reseal Price Adjustment Index" dated August 2001.

Please note – the latest values of these adjustment factors can be found on the Transfund New Zealand web site (www.transfund.govt.nz)

TABLE 1: Continued

PART 5 – PROFESSIONAL SERVICES

Quarter in which tenders closed	Quarter to which contract price is being updated.				
	Mar '01	Jun '01	Sep '01	Dec '01	Mar '02
Jun '91	1.1486	1.1576	1.1615	1.1610	1.1670
Sep '91	1.1482	1.1572	1.1611	1.1606	1.1665
Dec '91	1.1431	1.1520	1.1559	1.1555	1.1614
Mar '92	1.1402	1.1490	1.1529	1.1525	1.1584
Jun '92	1.1374	1.1463	1.1502	1.1498	1.1557
Sep '92	1.1311	1.1398	1.1437	1.1434	1.1492
Dec '92	1.1259	1.1345	1.1385	1.1382	1.1440
Mar '93	1.1218	1.1305	1.1344	1.1341	1.1399
Jun '93	1.1176	1.1262	1.1301	1.1299	1.1357
Sep '93	1.1177	1.1264	1.1302	1.1299	1.1357
Dec '93	1.1159	1.1245	1.1284	1.1281	1.1339
Mar '94	1.1149	1.1236	1.1274	1.1271	1.1328
Jun '94	1.1129	1.1216	1.1254	1.1250	1.1308
Sep '94	1.1072	1.1158	1.1196	1.1193	1.1250
Dec '94	1.1044	1.1130	1.1168	1.1165	1.1222
Mar '95	1.1022	1.1108	1.1146	1.1142	1.1199
Jun '95	1.1002	1.1088	1.1126	1.1122	1.1179
Sep '95	1.0966	1.1052	1.1089	1.1084	1.1141
Dec '95	1.0908	1.0994	1.1031	1.1026	1.1082
Mar '96	1.0854	1.0939	1.0975	1.0971	1.1027
Jun '96	1.0835	1.0920	1.0957	1.0952	1.1008
Sep '96	1.0787	1.0872	1.0909	1.0903	1.0959
Dec '96	1.0735	1.0819	1.0855	1.0849	1.0905
Mar '97	1.0682	1.0767	1.0802	1.0796	1.0852
Jun '97	1.0672	1.0757	1.0792	1.0784	1.0840
Sep '97	1.0655	1.0740	1.0775	1.0767	1.0822
Dec '97	1.0578	1.0662	1.0697	1.0690	1.0744
Mar '98	1.0560	1.0645	1.0679	1.0671	1.0726
Jun '98	1.0545	1.0630	1.0664	1.0655	1.0710
Sep '98	1.0538	1.0623	1.0656	1.0647	1.0702
Dec '98	1.0533	1.0620	1.0652	1.0642	1.0697
Mar '99	1.0506	1.0592	1.0625	1.0614	1.0669
Jun '99	1.0484	1.0570	1.0602	1.0591	1.0646
Sep '99	1.0375	1.0459	1.0492	1.0483	1.0537
Dec '99	1.0298	1.0381	1.0414	1.0406	1.0460
Mar '00	1.0226	1.0308	1.0341	1.0334	1.0387
Jun '00	1.0173	1.0254	1.0287	1.0280	1.0333
Sep '00	1.0048	1.0127	1.0161	1.0156	1.0208
Dec '00	0.9995	1.0074	1.0107	1.0103	1.0154
Mar '01	1.0000	1.0079	1.0112	1.0106	1.0158
Jun '01		1.0000	1.0033	1.0028	1.0079
Sep '01			1.0000	0.9994	1.0045
Dec '01				1.0000	1.0051
Mar '02					1.0000

Please note – the latest values of these adjustment factors can be found on the Transfund New Zealand web site (www.transfund.govt.nz)

TABLE 2: STATISTICS NEW ZEALAND INDICES

Quarter in which Tenders Closed	CONSTRUCTION (PPIQ.SNE)	TRANSPORT & STORAGE (PPIQ.SNI)	ROAD TRANSPORT (PPIQ.SNI01)	FUEL & OIL (FPIQ.SI9J)	LABOUR INDEX (LCIQ.SE5Z9)	NON METALLIC MINERAL PROD ⁿ (PPIQ.SNC12)	CPI PRIVATE TRANS (CPIQ.SE9F2)
Jun 91	909	889	955	941	860.17	909	1009
Sep 91	905	889	955	938	860.76	912	1008
Dec 91	910	897	965	963	861.36	912	1029
Mar 92	911	903	976	966	863.72	912	1030
Jun 92	910	906	971	960	865.49	915	1034
Sep 92	912	909	980	965	868.45	925	1050
Dec 92	915	920	983	1000	870.22	925	1067
Mar 93	919	930	981	990	872.59	939	1075
Jun 93	921	966	981	980	875.54	937	1080
Sep 93	931	958	985	963	877.28	947	1071
Dec 93	937	967	974	928	879.03	948	1071
Mar 94	940	951	968	892	881.64	953	1062
Jun 94	943	973	970	898	883.38	951	1063
Sep 94	952	978	971	925	887.73	956	1070
Dec 94	960	979	972	927	889.47	960	1075
Mar 95	967	980	975	923	892.95	966	1089
Jun 95	970	977	965	924	895.56	969	1065
Sep 95	972	975	968	904	900.78	973	1058
Dec 95	980	981	974	901	906.01	972	1061
Mar 96	985	981	976	924	910.36	979	1067
Jun 96	987	977	970	926	912.97	985	1064
Sep 96	987	981	983	926	918.19	989	1063
Dec 96	993	987	993	948	924.28	988	1061
Mar 97	993	994	995	949	930.37	991	1059
Jun 97	996	990	985	933	935.60	992	1041
Sep 97	998	996	994	929	939.95	998	1030
Dec 97	1000	1000	1000	936	944.30	1000	1048
Mar 98	999	1002	1008	905	947.78	1004	1042
Jun 98	1003	995	997	877	953.87	1007	1024
Sep 98	1005	1000	996	884	957.35	1008	1013
Dec 98	1002	1008	997	882	960.84	1008	1001
Mar 99	998	1001	994	878	964.32	1006	1000
Jun 99	1004	1009	998	880	966.93	1008	1000
Sep 99	1019	1034	1010	963	971.28	1012	1033
Dec 99	1030	1075	1042	1033	974.76	1017	1056
Mar 00	1040	1132	1081	1094	978.24	1032	1078
Jun 00	1049	1141	1118	1159	982.59	1038	1087
Sep 00	1085	1184	1144	1297	986.07	1050	1140
Dec 00	1132	1328	1206	1434	990.43	1077	1150
Mar 01	1128	1264	1220	1253	995.65	1092	1123
Jun 01	1130	1237	1209	1272	1000.00	1094	1148
Sep 01	1132	1259	1205	1280	1006.09	1098	1139
Dec 01	1133	1239	1192	1193	1011.31	1103	1112
Mar 02	1134	1212	1182	1173	1016	1105	1120

Please note – the latest values of these Statistics New Zealand indices can be found on the Transfund New Zealand web site (www.transfund.govt.nz)

TABLE 3: BITUMEN PRICE INDEX

Quarter	Bitumen Price Index
Mar '98	906
Jun '98	936
Sep '98	904
Dec '98	994
Mar '99	885
Jun '99	981
Sep '99	1133
Dec '99	1369
Mar '00	1417
Jun '00	1600
Sep '00	1638
Month	
Oct '00	1849
Nov '00	1990
Dec '00	1885
Jan '01	1546
Feb '01	1445
Mar '01	1544
Apr '01	1589
May '01	1653
Jun '01	1684
Jul '01	1608
Aug '01	1564
Sep '01	1596
Oct '01	1681
Nov '01	1517
Dec '01	1350
Jan '02	1383
Feb '02	1362
Mar '02	1427
Apr '02	1522
May '02	1603
Jun '02	1619

Please note - the latest values of this index can be found on the Transfund New Zealand web site (www.transfund.govt.nz).

This index is calculated by Transfund and uses the Singapore High Sulphur Fuel Oil (HSFO) 180CST cost as an input.