

**THE OUTBACK WAY – SOCIAL, CULTURAL & ECONOMIC IMPACT UPDATE REPORT**  
**CUMMINGS ECONOMICS/NORTH AUSTRALIA RESEARCH GROUP**  
**(REF J2494 JANUARY 2012 - REV 30-03-2012)**

**ADDENDUM**

**BENEFIT COST RATIOS**

**SENSITIVITY TO CHANGES IN DISCOUNT RATES USED**

Section 12, Pages 72 and 73 of the report, give analysis of overall results and calculation of Benefit Cost Ratios.

These calculations compare the Net Present Value of a flow of benefits compared with costs to provide a Benefit/Cost ratio.

The stream of benefits and costs are all at 2011 values, ie. they do not include a factor for inflation in future years.

The main report works through the benefits and costs at a 4% (real) discount rate over a 30 year project period.

At an assumed 3% inflation rate, this is the equivalent of a 7% (nominal) rate. It should be noted at time of preparation of this addendum, official interest rates were 3.5% 'nominal', and about 1.5% 'real', ie. excluding inflation.

The following table also calculates Benefit Cost Ratio at 7% (real) and 10% (real) which at a 3% inflation rate would be 10% (nominal) and 13% (nominal).

**Table: Calculation of Benefit Cost Ratio Outback Way Upgrade to Sealed Level at Different Discount Rates**

Real (Nominal) (3% pa. inflation)	Discount Rates		
	4% (7%)	7% (10%)	10% (13%)
<b><u>DIRECT BENEFITS</u></b>			
Estimated benefits	\$1079 m	\$724 m	\$588 m
Less maintenance costs	\$101 m	\$72 m	\$55 m
Net Benefits	\$978 m	\$702 m	\$533 m
Capital Cost	\$465 m	\$465 m	\$465 m
<b>Benefit Cost Ratio Direct Benefits Only</b>	<b>2.10</b>	<b>1.55</b>	<b>1.15</b>
<b><u>WIDER BENEFITS</u></b>			
Estimated potential agglomeration benefits	\$868 m	\$623 m	\$473 m
Remote area employment	\$360 m	\$258 m	\$196 m
Total wider benefits	\$1228 m	\$881 m	\$669 m
Addition to Benefit Cost Ratio	2.64	1.89	1.43
<b>Total Benefit Cost Ratio including Wider Benefits</b>	<b>4.74</b>	<b>3.44</b>	<b>2.58</b>

Comment: With direct benefit and costs alone, the project analysis still produces a positive Benefit Cost Ratio at 10% real (13% nominal) discount rate. Other wider benefits potentially add a substantial additional margin to this.