

## SUPPLEMENTARY ANNEXES TO FINANCIAL ANALYSIS

**Table A1: Financial Internal Rate of Return Calculation**  
(\$ Million)

Year	Costs					Revenue <sup>c</sup>	Subsidy <sup>d</sup>	Free Cash flow
	Capital Investment <sup>a</sup>	O&M Cost	VAT	Corporate Tax <sup>b</sup>	Total			
2008	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2009	(16.0)	0.0	0.0	0.0	(16.0)	0.0	0.0	(16.0)
2010	(21.1)	0.0	0.0	0.0	(21.1)	0.0	0.0	(21.1)
2011	(41.7)	0.0	0.0	0.0	(41.7)	0.0	0.0	(41.7)
2012	(59.6)	0.0	0.0	0.0	(59.6)	0.0	0.0	(59.6)
2013	(11.4)	0.0	0.0	0.0	(11.4)	0.0	0.0	(11.4)
2014	(59.6)	0.0	0.0	0.0	(59.6)	0.0	0.0	(59.6)
2015	(146.2)	0.0	0.0	0.0	(146.2)	0.0	0.0	(146.2)
2016	(227.7)	0.0	0.0	0.0	(227.7)	0.0	0.0	(227.7)
2017	(199.1)	0.0	0.0	0.0	(199.1)	0.0	0.0	(199.1)
2018	(181.0)	0.0	0.0	0.0	(181.0)	0.0	32.2	(181.0)
2019	(278.2)	0.0	0.0	0.0	(278.2)	0.0	37.2	(278.2)
2020	0.0	(29.0)	(0.9)	0.0	(29.9)	9.1	81.6	(20.8)
2021	0.0	(29.0)	(2.0)	0.0	(30.9)	19.8	69.0	(11.1)
2022	0.0	(29.0)	(3.6)	0.0	(32.5)	36.0	47.3	3.4
2023	(74.4)	(29.0)	(3.9)	0.0	(107.2)	39.2	42.2	(68.0)
2024	0.0	(29.0)	(4.3)	0.0	(33.2)	42.7	36.1	9.5
2025	0.0	(29.0)	(4.6)	0.0	(33.6)	46.5	28.9	12.9
2026	0.0	(31.2)	(5.1)	0.0	(36.3)	50.6	28.3	14.4
2027	0.0	(33.6)	(5.5)	0.0	(39.1)	55.2	23.3	16.0
2028	0.0	(36.2)	(6.0)	0.0	(42.2)	60.1	17.5	17.8
2029	0.0	(39.0)	(6.5)	0.0	(45.6)	65.4	61.7	19.9
2030	0.0	(42.1)	(7.1)	0.0	(49.2)	71.3	51.0	22.1
2031	0.0	(43.8)	(7.5)	0.0	(51.3)	74.8	51.0	23.5
2032	(180.7)	(45.7)	(7.8)	0.0	(234.2)	78.5	51.0	(155.7)
2033	(74.4)	(47.6)	(8.2)	(0.8)	(130.9)	82.3	51.0	(48.6)
2034	(31.9)	(49.6)	(8.6)	(1.7)	(91.7)	86.4	0.0	(5.4)
2035	0.0	(51.6)	(9.1)	(3.5)	(64.2)	90.6	0.0	26.4
2036	0.0	(53.0)	(9.5)	(4.4)	(66.9)	95.0	0.0	28.1
2037	0.0	(54.4)	(10.0)	(5.4)	(69.7)	99.7	0.0	30.0
2038	(64.8)	(55.8)	(10.5)	(6.3)	(137.4)	104.6	0.0	(32.8)
2039	0.0	(57.3)	(11.0)	(7.1)	(75.3)	109.7	0.0	34.4
2040	0.0	(58.8)	(11.5)	(8.2)	(78.5)	115.1	0.0	36.6
2041	0.0	(60.3)	(12.1)	(9.2)	(81.7)	120.8	0.0	39.1
2042	0.0	(61.9)	(12.7)	(10.3)	(84.9)	126.7	0.0	41.8
2043	0.0	(63.6)	(13.3)	(11.5)	(88.3)	132.9	0.0	44.6
2044	0.0	(65.2)	(13.9)	(12.7)	(91.8)	883.6	0.0	791.7
Total	(1,667.7)						709.3	(371.9)
	(782.4)	(1,124.4)	(195.2)	(81.1)	(2,286.1)	2,696.5		
								<b>Financial Internal rate of Return (FIRR)</b>
								<b>(1.22%)</b>
								<b>Net Present Value (NPV) of Free Cash flow@ WACC 0.7%</b>
								<b>(503)</b>
								<b>Net Present Value (NPV) of Subsidy</b>
								<b>628</b>

(-) = negative, FIRR = financial internal rate of return, O&M = operation and maintenance, VAT = value added tax, WACC = weighted average cost of capital.

Analysis period: 10 years construction + 25 years of revenue service

<sup>a</sup> Only base cost and physical contingencies, (includes replacement and refurbishment of initial assets and additional rollingstock).

<sup>b</sup> Corporate tax 25%, assuming five years loss carry-forwards relief.

<sup>c</sup> in Y2044 (last year of analysis period) residual value of the project assets (fixed assets less accumulated depreciation) is included.

<sup>d</sup> Assuming that subsidy is not subject to tax (corporate tax).

Source: ADB estimates

**Table A2: Summary of Financial Statements of the Project (2009-2044)**

\$ Million

Item	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030	2035	2040	2044
<b>A. Income Statement</b>																	
Revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.7	85.5	173.1	290.2	486.5	735.7
VAT to revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	8.6	17.3	29.0	48.7	73.6
O&M costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.4	53.3	102.1	165.4	248.4	344.1
Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.1	39.9	39.9	46.5	50.6	50.6
Interest	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	12.3	9.7	6.8	4.3	0.2	0.2
Profit before tax	0.0	0.0	0.0	0.0	0.0	0.0	(0.1)	0.0	0.0	0.0	0.0	(78.3)	(25.9)	6.9	45.1	138.6	267.2
Corporate tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.3	34.7	66.8
Net operating profit / (loss)	0.0	0.0	0.0	0.0	0.0	0.0	(0.1)	0.0	0.0	0.0	0.0	(78.3)	(25.9)	6.9	33.8	104.0	200.4
<b>B. Cashflow Statement</b>																	
Operating income	0.0	0.0	0.0	0.0	0.0	0.0	(0.1)	0.0	0.0	0.0	0.0	(78.3)	(25.9)	6.9	33.8	104.0	200.4
Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.1	39.9	39.9	46.5	50.6	50.6
Net cashflow from operation	0.0	0.0	0.0	0.0	0.0	0.0	(0.1)	0.0	0.0	0.0	0.0	(41.3)	14.0	46.8	80.3	154.6	251.0
Equity	(0.8)	0.5	10.7	45.5	(1.4)	(3.6)	(0.9)	(5.7)	16.3	14.3	13.8	0.0	0.0	0.0	0.0	0.0	0.0
Grants	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loan	16.8	21.0	32.0	19.8	14.1	65.3	154.5	250.7	213.1	182.6	168.7	0.0	0.0	0.0	0.0	0.0	0.0
Investment cost	16.1	21.5	42.7	65.3	12.7	61.7	153.6	244.9	229.4	196.9	182.5	0.0	0.0	0.0	0.0	0.0	0.0
Debt repayment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.5	26.8	31.0	31.5	34.2	33.1	35.6	12.2	13.0
Subsidy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.2	37.2	81.6	28.9	51.0	0.0	0.0	0.0
Net Cashflow	0.0	0.0	0.0	0.0	0.0	0.0	(0.1)	0.0	(11.5)	5.4	6.2	8.8	8.8	64.8	44.7	142.3	238.0
Accumulated cashflow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(11.5)	(6.1)	0.1	8.8	52.7	206.0	526.3	1,017.2	1,811.3
<b>C. Balance Sheet</b>																	
Current assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(11.5)	(6.1)	0.1	8.8	52.7	206.0	526.3	1,017.2	1,811.3
Fixed assets	16.0	37.4	80.2	170.5	158.1	219.8	373.4	618.4	847.8	1,044.8	1,227.4	1,225.2	1,311.0	1,311.0	1,712.1	1,804.7	1,804.7
Accumulated depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.1	228.2	427.8	671.8	912.4	1,114.8
Net fixed assets	16.0	37.4	80.2	170.5	158.1	219.8	373.4	618.4	847.8	1,044.8	1,227.4	1,188.2	1,082.8	883.2	1,040.2	892.3	689.9
<b>Total Assets</b>	<b>16</b>	<b>37</b>	<b>80</b>	<b>171</b>	<b>158</b>	<b>220</b>	<b>373</b>	<b>618</b>	<b>836</b>	<b>1,039</b>	<b>1,227</b>	<b>1,197</b>	<b>1,136</b>	<b>1,089</b>	<b>1,567</b>	<b>1,909</b>	<b>2,501</b>
Loan	16.9	37.8	69.8	89.6	103.7	169.0	323.5	574.2	775.9	931.8	1,069.6	1,038.1	872.7	685.1	512.4	399.5	348.7
Equity	(0.8)	(0.3)	10.4	55.9	54.5	50.9	49.9	44.2	60.6	107.0	158.1	158.9	262.8	404.0	1,054.1	1,509.9	2,152.5
<b>Total Liabilities and Equity</b>	<b>16</b>	<b>38</b>	<b>80</b>	<b>146</b>	<b>158</b>	<b>220</b>	<b>373</b>	<b>618</b>	<b>836</b>	<b>1,039</b>	<b>1,228</b>	<b>1,197</b>	<b>1,135</b>	<b>1,089</b>	<b>1,567</b>	<b>1,909</b>	<b>2,501</b>
DSCR (Debt Service Coverage Ratio) <sup>1</sup>							0.00		0.00	1.20	1.20	1.20	1.20	2.63	2.40	15.20	24.15
CCR (Cash Coverage of Debt Service Ratio) <sup>2</sup>											0.00	0.77	1.00	1.41	2.50	6.84	15.74
DER (Debt to Equity ratio) <sup>3</sup>	(21.4)	(115.7)	6.7	1.6	1.9	3.3	6.5	13.0	12.8	8.7	6.8	6.5	3.3	1.7	0.5	0.3	0.2
Working ratio <sup>4</sup>												3.2	0.6	0.6	0.6	0.5	0.5

<sup>1</sup> DSCR: Debt Service Coverage Ratio = (operating profit + subsidy) / debt service

<sup>2</sup> CCR: Cash Coverage of Debt Service Ratio = (previous year cash balance + current year operating profit + current year subsidy) / debt service

<sup>3</sup> DER: Debt to Equity ratio = Debt /

Equity

<sup>4</sup> Working ratio = O&M cost / Revenue

Source: ADB estimate

**Table A3: MRB (as Line 3 investor) Financial Statements (2009-2044)**  
(\$ million)

Item	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030	2035	2040	2044
<b>A. Income Statement</b>																	
Revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.7	85.5	173.1	290.2	486.5	735.7
VAT to revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	8.6	17.3	29.0	48.7	73.6
O&M costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.4	53.3	102.1	165.4	248.4	344.1
Depreciation <sup>1</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.0	41.9	41.9	48.4	52.5	52.5
Interest (sub-loan) <sup>1</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	11.3	10.1	8.7	7.2	5.9
Profit before tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(80.4)	(29.5)	1.7	38.8	129.7	259.6
Corporate tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	32.4	64.9
<b>Net operating profit / (loss)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>(80.4)</b>	<b>(29.5)</b>	<b>1.7</b>	<b>29.1</b>	<b>97.3</b>	<b>194.7</b>
<b>B. Cashflow Statement</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>2044</b>
Operating income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(80.4)	(29.5)	1.7	29.1	97.3	194.7
Depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.0	41.9	41.9	48.4	52.5	52.5
Net cashflow from operation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(41.5)	12.4	43.6	77.4	149.8	247.2
Equity	(4.2)	(3.1)	3.3	43.6	(0.5)	8.6	(11.2)	(6.0)	20.3	29.7	35.7	0.0	0.0	0.0	0.0	0.0	0.0
Central government grant	(0.7)	2.2	20.2	5.5	(0.9)	34.5	35.4	73.2	100.5	94.5	92.5	0.0	0.0	0.0	0.0	0.0	0.0
Central government sub-loan	21.1	23.0	20.2	17.5	15.7	20.5	132.7	184.1	117.6	83.5	66.6	0.0	0.0	0.0	0.0	0.0	0.0
Investment cost	16.1	21.5	42.7	65.3	12.7	61.7	153.6	245.0	229.5	197.0	182.7	0.0	0.0	0.0	0.0	0.0	0.0
Sub-loan IDC	0.2	0.6	1.0	1.3	1.6	2.0	3.3	6.2	8.9	10.8	12.1	0.0	0.0	0.0	0.0	0.0	0.0
Sub-loan repayment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.1	12.3	13.5	14.8	16.1	17.7	19.0
HPC's financial support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.3	75.5	22.9	16.8	16.8	16.8	16.8
<b>Net Cashflow</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>(0.0)</b>	<b>(0.0)</b>	<b>(0.0)</b>	<b>0.0</b>	<b>(0.0)</b>	<b>0.0</b>	<b>(0.0)</b>	<b>19.2</b>	<b>75.5</b>	<b>21.8</b>	<b>45.6</b>	<b>78.1</b>	<b>149.0</b>	<b>245.0</b>
<b>Accumulated cashflow</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>(0.0)</b>	<b>0.0</b>	<b>(0.0)</b>	<b>0.0</b>	<b>0.0</b>	<b>19.2</b>	<b>94.8</b>	<b>117.7</b>	<b>278.3</b>	<b>212.1</b>	<b>704.3</b>	<b>1,526.0</b>
<b>C. Balance Sheet</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>2044</b>
Current assets	0.0	0.0	0.0	0.0	0.0	(0.0)	0.0	(0.0)	0.0	0.0	19.2	94.8	117.7	278.3	212.1	704.3	1,526.0
Fixed assets	16.2	38.2	81.9	149.0	162.5	226.4	383.4	634.6	872.9	1,080.7	1,275.4	1,225.2	1,311.0	1,311.0	1,712.1	1,804.7	1,804.7
Accumulated depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.0	239.7	448.9	702.6	952.7	1,162.8
Net fixed assets	16.2	38.2	81.9	149.0	162.5	226.4	383.4	634.6	872.9	1,080.7	1,275.4	1,186.2	1,071.3	862.1	1,009.5	852.0	641.9
<b>Total Assets</b>	<b>16</b>	<b>38</b>	<b>82</b>	<b>149</b>	<b>163</b>	<b>226</b>	<b>383</b>	<b>635</b>	<b>873</b>	<b>1,081</b>	<b>1,295</b>	<b>1,281</b>	<b>1,189</b>	<b>1,140</b>	<b>1,222</b>	<b>1,556</b>	<b>2,168</b>
Central government sub-loan	21.1	44.1	64.4	81.9	97.5	118.0	250.8	434.8	552.4	636.0	690.5	678.1	613.0	541.8	463.8	378.6	304.7
Central government grant	(0.7)	1.5	21.7	27.2	26.3	60.8	96.2	169.4	269.9	364.5	456.9	456.9	456.9	456.9	456.9	456.9	456.9
Equity	(4.2)	(7.3)	(4.0)	39.6	39.1	47.7	36.5	30.5	50.8	80.5	147.6	145.7	118.9	141.4	300.5	720.4	1,405.9
<b>Total Liabilities and Equity</b>	<b>16</b>	<b>38</b>	<b>82</b>	<b>149</b>	<b>163</b>	<b>227</b>	<b>384</b>	<b>635</b>	<b>873</b>	<b>1,081</b>	<b>1,295</b>	<b>1,281</b>	<b>1,189</b>	<b>1,140</b>	<b>1,221</b>	<b>1,556</b>	<b>2,168</b>
DSCR (Debt Service Coverage Ratio)											2.58	1.88	1.88	2.84	4.53	8.30	13.48
DER (Debt to Equity ratio)	(5.0)	(6.0)	(16.0)	2.1	2.5	2.5	6.9	14.3	10.9	7.9	4.7	4.7	5.2	3.8	1.5	0.5	0.2
Working ratio											3.2	0.6	0.6	0.6	0.6	0.5	0.5

<sup>1</sup> DSCR: Debt Service Coverage Ratio = (operating profit + subsidy) / debt service

<sup>3</sup> DER: Debt to Equity ratio = Debt / Equity

<sup>3</sup> Working ratio = O&M cost / Revenue

Source: ADB estimates

<sup>1</sup> Differences between this table and "Forecast Financial Statements of the Project" are due to the sub-loan interest and IDC (interest during construction). IDC has a flow-through effect on depreciation and assets.