

HDM-4

Nombre del estudio:

ANÁLISIS DE RENTABILIDAD

Prefectura del Guayas

Fecha ejecución:

31/3/2023

HIGHWAY DEVELOPMENT & MANAGEMENT

Año	COSTOS				INGRESOS					Beneficio Neto
	Incremento Costes Administración				Disminución Costes Usuario			Beneficios exógenos netos	Total	
	Capital	Recurrente	Especial	Total	TM VOC	Tiempo TM	TNM			
2023	5,330,000	0	0	5,330,000	0	0	0	0	0	-5,330,000
2024	-10,000	0	0	-10,000	350,000	40,000	0	6,075,000	6,470,000	6,470,000
2025	-10,000	10,000	0	0	100,000	10,000	0	0	110,000	110,000
2026	-10,000	10,000	0	0	100,000	10,000	0	0	110,000	120,000
2027	-10,000	10,000	0	0	110,000	10,000	0	0	120,000	120,000
2028	-10,000	10,000	0	0	110,000	10,000	0	0	120,000	130,000
2029	-10,000	10,000	0	0	120,000	10,000	0	0	130,000	130,000
2030	-10,000	10,000	0	0	120,000	10,000	0	0	130,000	140,000
2031	-10,000	10,000	0	0	120,000	10,000	0	0	130,000	140,000
2032	-10,000	10,000	0	0	130,000	10,000	0	0	140,000	140,000
2033	-10,000	10,000	0	0	130,000	10,000	0	0	140,000	150,000
2034	-10,000	10,000	0	0	140,000	10,000	0	0	150,000	150,000
2035	-10,000	10,000	0	0	140,000	20,000	0	0	160,000	160,000
2036	-10,000	10,000	0	0	140,000	20,000	0	0	160,000	160,000
2037	-10,000	10,000	0	0	150,000	20,000	0	0	170,000	170,000
2038	-10,000	10,000	0	0	150,000	20,000	0	0	170,000	170,000
2039	-10,000	10,000	0	0	160,000	20,000	0	0	180,000	180,000
2040	-10,000	10,000	0	0	160,000	20,000	0	0	180,000	180,000
2041	-10,000	10,000	0	0	170,000	20,000	0	0	190,000	190,000
2042	-580,000	10,000	0	-570,000	170,000	20,000	0	0	190,000	770,000
VA	5,190,161	64,729	0	5,254,891	1,105,611	114,724	0	5,428,571	6,648,907	1,410,823

Valor Actual Neto	410.823,00
Tasa Interna de Retorno	29.45%
Beneficio Costo	1.27

FLUJO DE CAJA DEL PROYECTO: Vía San Antonio - San Miguel POLI 01mar23 (miles USD)

AÑOS	INVERSION	MANT RUTINARIO	TM VOC	Tiempo TM	Beneficios exógenos netos	FLUJO DE CAJA NETO
2,023	5,455.59	-	-	-	-	-5,455.59
2,024		-	350.00	40.00	6,075.00	6,465.00
2,025		-	100.00	10.00		110.00
2,026		9.11	100.00	10.00		100.89
2,027		-	110.00	10.00		120.00
2,028		9.11	110.00	10.00		110.89
2,029		-	120.00	10.00		130.00
2,030		9.11	120.00	10.00		120.89
2,031		-	120.00	10.00		130.00
2,032		9.11	130.00	10.00		130.89
2,033		-	130.00	10.00		140.00
2,034		9.11	140.00	10.00		140.89
2,035		-	140.00	20.00		160.00
2,036		9.11	140.00	20.00		150.89
2,037		-	150.00	20.00		170.00
2,038		9.11	150.00	20.00		160.89
2,039		-	160.00	20.00		180.00
2,040		9.11	160.00	20.00		170.89
2,041		-	170.00	20.00		190.00
2,042		9.11	170.00	20.00		180.89
VP 12%	5,467.59	93.99	2,782.00	312.00	6,087.00	3,619.42

FACTOR AJUSTE BENEF 100%
 FACTOR AJUSTE COSTO 100%

TIRE	26.7%
VANE	3,619.4
B/C	1.65

ANALISIS DE SENSIBILIDAD DE LA TASA INTERNA DE RETORNO ECONOMICA

	70%	75%	90%	100%	110%	120%	130%
26.7%	70%	75%	90%	100%	110%	120%	130%
70%	69.1%	69.8%	71.9%	73.3%	74.6%	76.0%	77.3%
80%	49.1%	49.8%	51.7%	53.0%	54.3%	55.5%	56.8%
90%	34.1%	34.8%	36.7%	37.9%	39.1%	40.3%	41.5%
100%	22.9%	23.6%	25.5%	26.7%	27.8%	29.0%	30.1%
110%	14.9%	15.5%	17.3%	18.5%	19.6%	20.7%	21.7%
120%	9.1%	9.8%	11.5%	12.6%	13.7%	14.7%	15.6%
125%	7.0%	7.6%	9.3%	10.3%	11.4%	12.3%	13.3%

ANALISIS DE SENSIBILIDAD DEL VALOR PRESENTE NETO (miles USD)

	70%	75%	90%	100%	110%	120%	130%
3,619.4	70%	75%	90%	100%	110%	120%	130%
70%	4,335.1	4,488.6	4,949.1	5,256.1	5,563.1	5,870.1	6,177.1
80%	3,789.5	3,943.0	4,403.5	4,710.5	5,017.5	5,324.5	5,631.5
90%	3,244.0	3,397.5	3,858.0	4,165.0	4,472.0	4,779.0	5,086.0
100%	2,698.4	2,851.9	3,312.4	3,619.4	3,926.4	4,233.4	4,540.4
110%	2,152.9	2,306.4	2,766.9	3,073.9	3,380.9	3,687.9	3,994.9
120%	1,607.3	1,760.8	2,221.3	2,528.3	2,835.3	3,142.3	3,449.3
125%	1,334.5	1,488.0	1,948.5	2,255.5	2,562.5	2,869.5	3,176.5

ANALISIS DE SENSIBILIDAD DE LA RELACION BENEFICIO COSTO

	70%	75%	90%	100%	110%	120%	130%
1.65	70%	75%	90%	100%	110%	120%	130%
70%	2.10	2.14	2.25	2.33	2.41	2.49	2.57
80%	1.84	1.88	1.98	2.05	2.12	2.19	2.25
90%	1.64	1.67	1.76	1.83	1.89	1.95	2.01
100%	1.48	1.51	1.59	1.65	1.70	1.76	1.81
110%	1.35	1.37	1.45	1.50	1.55	1.60	1.65
120%	1.24	1.26	1.33	1.38	1.42	1.47	1.52
125%	1.19	1.21	1.28	1.32	1.37	1.41	1.46

RESUMEN SENSIBILIDAD

VARIACIONES	TIRE	VANE	B/C
INCREMENTO COSTOS 25%	10.28%	2,235.0	1.32
REDUCCION BENEFICIOS 25%	7.17%	1,333.2	1.24
INCREMENTO DE LA TASA DE DESCUENTO 25%	26.66%	3,619.4	1.15

FLUJO DE CAJA DEL PROYECTO: Vía San Antonio - San Miguel POLI 01mar23 (miles USD)

AÑOS	INVERSION	MANT RUTINARIO	TM VOC	Tiempo TM	Beneficios exógenos netos	FLUJO DE CAJA NETO
2,023	6,819.49	-	-	-	-	-6,819.49
2,024		-	350.00	40.00	6,075.00	6,465.00
2,025		-	100.00	10.00		110.00
2,026		11.39	100.00	10.00		98.61
2,027		-	110.00	10.00		120.00
2,028		11.39	110.00	10.00		108.61
2,029		-	120.00	10.00		130.00
2,030		11.39	120.00	10.00		118.61
2,031		-	120.00	10.00		130.00
2,032		11.39	130.00	10.00		128.61
2,033		-	130.00	10.00		140.00
2,034		11.39	140.00	10.00		138.61
2,035		-	140.00	20.00		160.00
2,036		11.39	140.00	20.00		148.61
2,037		-	150.00	20.00		170.00
2,038		11.39	150.00	20.00		158.61
2,039		-	160.00	20.00		180.00
2,040		11.39	160.00	20.00		168.61
2,041		-	170.00	20.00		190.00
2,042		11.39	170.00	20.00		178.61
VP 12%	6,831.49	114.49	2,782.00	312.00	6,087.00	2,235.02

TIRE	10.3%
VANE	2,235.0
B/C	1.32

FLUJO DE CAJA DEL PROYECTO: Vía San Antonio - San Miguel POLI 01mar23 (miles USD)

AÑOS	INVERSION	MANT RUTINARIO	TM VOC	Tiempo TM	Beneficios exógenos netos	FLUJO DE CAJA NETO
2,023	5,455.59	-	-	-	-	-5,455.59
2,024		-	262.50	30.00	4,556.25	4,848.75
2,025		-	75.00	7.50		82.50
2,026		9.11	75.00	7.50		73.39
2,027		-	82.50	7.50		90.00
2,028		9.11	82.50	7.50		80.89
2,029		-	90.00	7.50		97.50
2,030		9.11	90.00	7.50		88.39
2,031		-	90.00	7.50		97.50
2,032		9.11	97.50	7.50		95.89
2,033		-	97.50	7.50		105.00
2,034		9.11	105.00	7.50		103.39
2,035		-	105.00	15.00		120.00
2,036		9.11	105.00	15.00		110.89
2,037		-	112.50	15.00		127.50
2,038		9.11	112.50	15.00		118.39
2,039		-	120.00	15.00		135.00
2,040		9.11	120.00	15.00		125.89
2,041		-	127.50	15.00		142.50
2,042		9.11	127.50	15.00		133.39
VP 12%	5,467.59	93.99	2,089.50	237.00	4,568.25	1,333.17

FACTOR AJUSTE BENEFIC 100%
 FACTOR AJUSTE COSTOS 100%

TIRE	7.2%
VANE	1,333.2
B/C	1.24

FLUJO DE CAJA DEL PROYECTO: Vía San Antonio - San Miguel POLI 01mar23 (miles USD)

AÑOS	INVERSION	MANT RUTINARIO	TM VOC	Tiempo TM	Beneficios exógenos netos	FLUJO DE CAJA NETO
2,023	5,455.59	-	-	-	-	-5,455.59
2,024		-	350.00	40.00	6,075.00	6,465.00
2,025		-	100.00	10.00		110.00
2,026		9.11	100.00	10.00		100.89
2,027		-	110.00	10.00		120.00
2,028		9.11	110.00	10.00		110.89
2,029		-	120.00	10.00		130.00
2,030		9.11	120.00	10.00		120.89
2,031		-	120.00	10.00		130.00
2,032		9.11	130.00	10.00		130.89
2,033		-	130.00	10.00		140.00
2,034		9.11	140.00	10.00		140.89
2,035		-	140.00	20.00		160.00
2,036		9.11	140.00	20.00		150.89
2,037		-	150.00	20.00		170.00
2,038		9.11	150.00	20.00		160.89
2,039		-	160.00	20.00		180.00
2,040		9.11	160.00	20.00		170.89
2,041		-	170.00	20.00		190.00
2,042		9.11	170.00	20.00		180.89
VP 12%	5,455.59	22.58	944.90	97.71	5,282.61	847.05

TASA DE DESCUENTO 15%

TIRE	26.7%
VANE	3,619.4
B/C	1.15