

**SP11 WALKING AND CYCLING FACILITIES:
Evaluation Summary**

Worksheet 1

1 Evaluators: [REDACTED]
Reviewers: [REDACTED]

2 **Proposal Details:**
Approved Organisation Name: NZTA (Hamilton)
Proposal/Package Name: SH1 Cobham Drive Pedestrian Facility
Your Reference: _____
Proposal Description: Sillary Street Underpass
Problem Description: Lack of pedestrian access to Hamilton Gardens across 4-lane arterial route with 80km/h speed limit.

3 **Location:**
Brief description of location: Underpass beneath Cobham Drive with Sillary Street entrance located approximately 100m from Grey Street.

4 **Alternatives & Options:**
Describe the Do Minimum: Continue with existing median refuges.

Summarise the options assessed: Underpasses (2 locations), overbridge from Dillicar Park, and signalised crossing near Dixon Street.

5 **Timing:**
Time zero (construction start date): 1-Jul-09
Duration of construction (months): 2
Period of analysis (years): 30

6 **Economic Efficiency:**
Date economic evaluation complete: May-09
Base Date for costs & benefits: 1-Jul-08
Discount Rate (%): 8%
Land Designation Req: No *(comment only)*

7 **Cycling/Pedestrian Data**
(Only fill in applicable data)

	Pedestrians	Cyclists	Count Date
Existing Pedestrian/Cycling Volumes	<u>50</u> per day	<u>30</u> per day	<u>Apr-03</u>
Predicted Pedestrians/Cyclists at Time Zero	<u>50</u> per day	<u>30</u> per day	
Estimated New Pedestrian/Cyclist Volumes	<u>150</u> per day	_____ per day	
Estimated Motor Vehicle Volumes	_____ AADT		<i>(comment only)</i>
Estimated Motor Vehicle Speed	<u>80</u> km/h		<i>(comment only)</i>
Pedestrian/Cycling Growth Rate	<u>0.0%</u>	_____ %	
Width available for walking/cycling before	_____ m	_____ m	<i>(comment only)</i>
Width available for walking/cycling after	_____ m	_____ m	<i>(comment only)</i>
Length walked/cycled before Works	_____ km	_____ km	
Length walked/cycled after Works	_____ km	_____ km	
Expected Reduction in Car Trips (if available)	<u>30</u> km/day		<i>(comment only)</i>

8 **PV Cost of Do Minimum** = \$ NIL **A**
9 **PV Cost of the preferred option** = \$ \$733,210 **B**

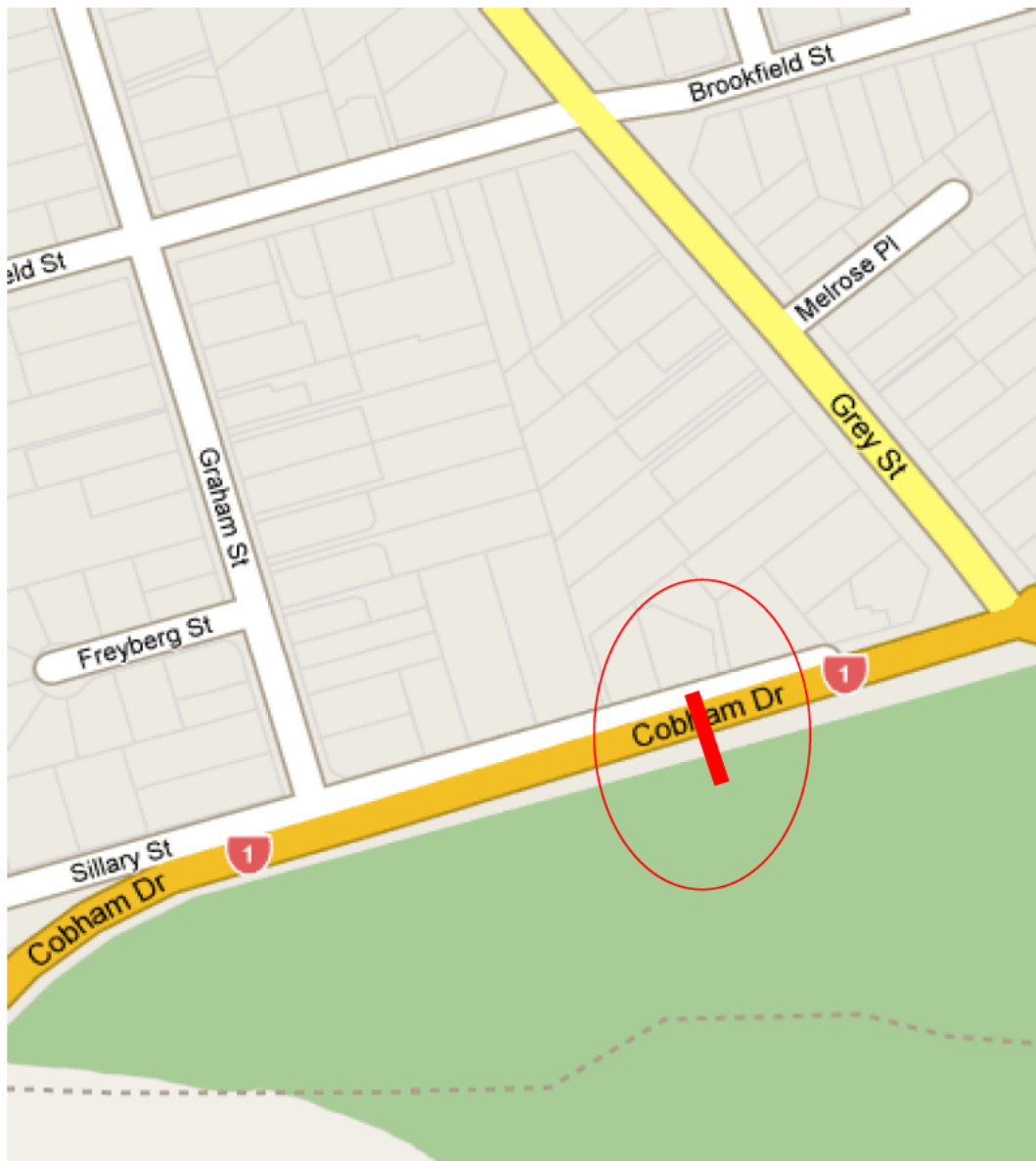
10 **Benefit values from worksheets 4, 5, and 6.**

PV travel time cost savings	\$ <u>\$0</u>	C x Update Factor	<u>1.22</u>	= \$ <u>NIL</u>	X
PV facility benefits	\$ <u>\$1,752,257</u>	D x Update Factor	<u>1.03</u>	= \$ <u>\$1,804,825</u>	Y
PV pedestrian/cyclist safety benefits	\$ <u>\$58,801</u>	E x Update Factor	<u>1.14</u>	= \$ <u>\$67,033</u>	Z

11	B/C Ratio =	$\frac{X + Y + Z}{B - A}$	=	$\frac{\text{BENEFITS}}{\text{COSTS}}$	=	$\frac{\$1,871,858}{\$733,210}$	=	2.6
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SP11 WALKING AND CYCLING FACILITIES: Location of Works

Project Name: SH1 Cobham Drive Pedestrian Facility
Location: Underpass beneath Cobham Drive with Sillary Street entrance located approximately 100m from Grey Street.
Date: May-09



**SP11 WALKING AND CYCLING FACILITIES:
Cost Of Do Minimum**

Worksheet 2

1 Historic maintenance cost data (indicate whether assessed or actual)

Maintenance costs over the site for the last three years:	Year 1	\$0
	Year 2	\$0
	Year 3	\$0
Maintenance costs foer the site this year:		\$0
Assessed future maintenance costs:		\$0

2 PV of annual maintenance and inspection costs for the Do Minimum

Annual cost = \$0 x 11.70 = NIL (a)

3 PV of Periodic Maintenance Costs

Periodic maintenance will be required in the following years:

Year	Type of Maintenance/Update	Amount \$	SPPWF	PV
Sum of PV of periodic maintenance costs =				NIL

Sum of PV of periodic maintenance costs = NIL (b)

4 PV of annual operating costs

Annual cost = \$0 x 11.70 = NIL (c)

5 PV of total Do Minimum costs

PV total costs (a) + (b) + (c) = \$0 **A**

Transfer total do minimum costs **A**, to A in worksheet 1

**SP11 WALKING AND CYCLING FACILITIES:
Cost of the Option(s)**
Worksheet 3

1 PV of estimated cost of proposed work (as per attached estimate sheets)

$$\underline{\$750,400} \times 0.93 = \underline{\$694,815} \quad \text{(a)}$$

2 PV of maintenance cost in year 1

$$= \underline{\text{NIL}} \quad \text{(b)}$$

3 PV of annual maintenance and inspection costs following completion of works
(Years 2 to 30 inclusive) $\underline{\$200} \times 10.74 = \underline{\$2,148} \quad \text{(c)}$

2.3 Estimated PV of periodic maintenance including
reseals

Year	Type of Maintenance/Update	Amount \$	SPPWF	PV
7	Signs & lights maintenance	\$5,500	0.5835	\$3,209
14	Signs & lights maintenance	\$5,500	0.3405	\$1,873
21	Signs & lights maintenance	\$5,500	0.1987	\$1,093
28	Signs & lights maintenance	\$5,500	0.1159	\$638
10	Graffiti Guard repaint	\$5,400	0.4632	\$2,501
20	Graffiti Guard repaint	\$5,400	0.2145	\$1,159
Total				\$10,472

(d)

4 PV cost of additional annual operating costs

$$\text{Annual cost} = \underline{\$2,400} \times 10.74 = \underline{\$25,776} \quad \text{(e)}$$

5 PV of total costs of option

$$\text{PV total costs (a) + (b) + (c) + (d) + (e) = } \underline{\$733,210} \quad \text{B}$$

Transfer PV of total costs **B** for the preferred option, to **B** in worksheet 1

SP11 WALKING AND CYCLING FACILITIES:
Worksheet 5
Proposal Benefits for Walking Facility

1 Health and environment benefits for footpaths and other pedestrian facilities

Benefit = number of new pedestrians/day x length of new facility in km x 365 x \$2.70

Length (km)	x	NPD	x	365	x	\$2.70	x	DF		
0.000	x	150	x	365	x	\$2.70	x	10.740	=	<u>\$0</u> (a)

2 Health and environment benefits from improvements at hazardous sites

(provision of overbridges, underpasses, bridge widening or intersection improvements for pedestrians)

Benefit = number of new pedestrians/day x 365 x \$2.70

NPD	x	365	x	\$2.70	x	DF		
150	x	365	x	\$2.70	x	10.740	=	<u>\$1,587,616</u> (b)

Proposal Benefits for Cycling Facility

3 Health and environment benefits for cycle lanes, cycleways or increased road shoulder widths

Benefit = number of new and existing cycle trips/day x length of new facility in km x 365 x \$1.40

Length (km)	x	NTD	x	365	x	\$1.40	x	DF		
0.000	x	30	x	365	x	\$1.40	x	10.740	=	<u>\$0</u> (c)

4 Health and environment benefits from improvements at hazardous sites

(provision of overbridges, underpasses, bridge widening or intersection improvements for pedestrians)

Benefit = number of new and existing cycle trips/day x 365 x \$1.40

NTD	x	365	x	\$1.40	x	DF		
30	x	365	x	\$1.40	x	10.740	=	<u>\$164,642</u> (d)

 Transfer total (a) or (b), and (c) or (d) to **D** on Worksheet 1

5 Safety benefit for cycle lanes, cycleways or increased road shoulder widths in the absence of a specific accident analysis

Benefit = number of new and existing cycle trips/day x length of new facility in km x 365 x \$0.50

Length (km)	x	NTD	x	365	x	\$0.50	x	DF		
0.000	x	30	x	365	x	\$0.50	x	10.740	=	<u>\$0</u> (e)

6 Safety benefit from improvements at hazardous sites in the absence of a specific accident analysis

(provision of overbridges, underpasses, bridge widening or intersection improvements for cyclists)

Benefit = number of new and existing cycle trips/day x 365 x \$0.50

NTD	x	365	x	\$0.50	x	DF		
30	x	365	x	\$0.50	x	10.740	=	<u>\$58,801</u> (f)

 Transfer total (e) or (f) to **E** on Worksheet 1

SH1N Cobham Drive Pedestrian Facility
Option C - Sillary Street Underpass

OE

Option Estimate

Item	Description	Base Estimate	Expected Estimate	95%ile Estimate
A	Project Property Cost	0	0	0
B	Investigation and Reporting	0	0	0
C	D&PD & NZTA Managed Costs	55,990	64,390	78,390
	<u>Construction:</u>			
	MSQA, NZTA Managed Costs, & Consent Monitoring Fees	50,830		
	Physical Works (\$543,481)			
D1	Update Factor (From July 2008 To July 2009 = 1.04)	20,903		
D2	Preliminary And General	87,300		
D3	Traffic Management & Temporary Works	9,500		
D4	Dayworks	20,600		
D5	Fencing	725		
D6	Site Clearance & Earthworks	21,480		
D7	Kerb, Channel, Traffic Islands, Footpaths, Crossings	27,500		
D8	Retaining Structures	17,500		
D9	Pavement Layer Construction	13,620		
D10	Pavement Surfacing	2,663		
D11	Pavement Markings And Signs	8,100		
D12	Safety Barriers	1,800		
D13	Lighting	11,800		
D14	Landscaping	80,250		
D15	Underpass Structure	208,740		
D16	Relocation Of Services	11,000		
D17	(blank)			
D18	(blank)			
D19	(blank)			
D20	(blank)			
D21	(blank)			
D22	(blank)			
D	Total Construction & MSQA	594,311	686,010	866,610
Total Base Estimate		650,301		
Note: These estimates are exclusive of escalation and GST.				
E	Assessed / Analysed Contingency	100,099		
Expected Estimate			750,400	
F	Assessed / Analysed Funding Risk		194,600	
95 th Percentile Estimate				945,000

Note: These estimates are exclusive of escalation and GST.

Base Date of Estimate	1 Jul 2009	Cost Index
Estimate prepared by:		Signed
Estimate internal peer review by:		Signed
Estimate external peer review by:		Signed
Estimate approved by NZTA Project Mgr:		Signed