

SECTOR 3 SOUTH OF TE MOANA ROAD

NZS 6806 – Assessment matrix

Impact key	Potential effects of noise mitigation option
3	significant positive effects
2	moderate positive effects
1	minor positive effects
0	insignificant (no effects)
-1	minor adverse effects
-2	moderate adverse effects
-3	significant adverse effects

A brief description of the basis for each rating should be added in the spaces below the ratings.

Assessment Criteria	Responsible	Option 1	Option 2	Option 3	Issues/Risks
Compliance with NZS 6806 noise criteria, and requirement for building-modification measures	Acoustics	-3	+1	+2	
		1 in Cat A, 5 in Cat B, 1 in Cat C	6 in Cat B, 1 in Cat A	6 in Cat A, 1 in Cat B	
Effect of changes to the existing noise environment	Acoustics	-3	-2	-1	main noise source is Te Moana Rd, not expressway
		Average increase of 8 dB, highest 14 dB	Average increase of 6 dB, highest 11 dB	Average increase of 3 dB, highest 8 dB	
Achievement of the NZS 6806 structural mitigation performance standards	Acoustics	-3	-1	+2	Note use of road surface material for Options 2 and 3
		0 dB average structural mitigation	2 dB average structural mitigation (use Asphalt on Te Moana Rd)	5 dB average structural mitigation (Use of OGPA on Te Moana Rd)	
Value for money, including maintenance	Acoustics	-3	0	+2	

Assessment Criteria	Responsible	Option 1	Option 2	Option 3	Issues/Risks
costs and consideration of benefit cost analysis		BCR 0.15	BCR 0.7	BCR 1.5	
Difference in cost compared to Transit's Guidelines (criteria for NZTA internal monitoring purposes)	Acoustics	+3	+1	N/A	
		-47% compared with Transit Guidelines	-20% compared with Transit Guidelines		
Compliance with relevant safety standards and guidelines	Roading	0	0	0	
		OK for safety.	OK for safety.	OK for safety.	
	Structures	0	0	0	
Constructability/technical feasibility	Roading	0	0	0	
		Buildable	Buildable	Buildable	
	Structures	0	0	0	
	Construction	0	0	0	
Availability of sufficient land for construction and maintenance and the extent to which NZTA would need to acquire land, or interests in land	NZTA	0	0	0	
Potential effects on known heritage or cultural values	Cultural	0	0	0	
The extent to which the mitigation option promotes integration and establishes	Visual / landscape	0	0	0	

Assessment Criteria	Responsible	Option 1	Option 2	Option 3	Issues/Risks
visual coherence and continuity in form, scale and appearance of structures and landscape proposals along the route					
Road users' views to the surrounding landscape and key features/ locations in particular	Visual / landscape	0	0	0	
Maintenance or enhancement of visual amenity for surrounding residents	Visual / landscape	0	0	0	
Utilisation of materials that reflect the character of the location	Visual / landscape	0	0	0	
Maintenance or enhancement of the convenience and attractiveness of pedestrian and cycle networks	Urban design	0	0	0	
Maintenance or enhancement of safe routes to school	Urban design	0	0	0	
Impacts (land take, amenity and usability) on community facilities (reserve, school, playground, playing field, etc)	Urban design	0	0	0	
Public access to the coastal marine area, rivers, or lakes	Urban design	0	0	0	
Public safety and security	Urban design	0	0	0	
Potential effects on areas of significant indigenous vegetation and significant habitats of indigenous fauna	Ecology	0	0	0	

Assessment Criteria	Responsible	Option 1	Option 2	Option 3	Issues/Risks
Natural character of the coastal environment, wetlands, lakes, rivers, and their margins	Ecology	0	0	0	
	Visual / landscape	0	0	0	
Potential effects on coastal processes	Hydrology	0	0	0	
Potential flooding effects	Hydrology	0	0	0	
Resource efficiency (including avoidance of waste)	Sustainability	0	0	0	
Potential effects on greenhouse gas emissions	Sustainability	0	0	0	
Other:		0	0	0	

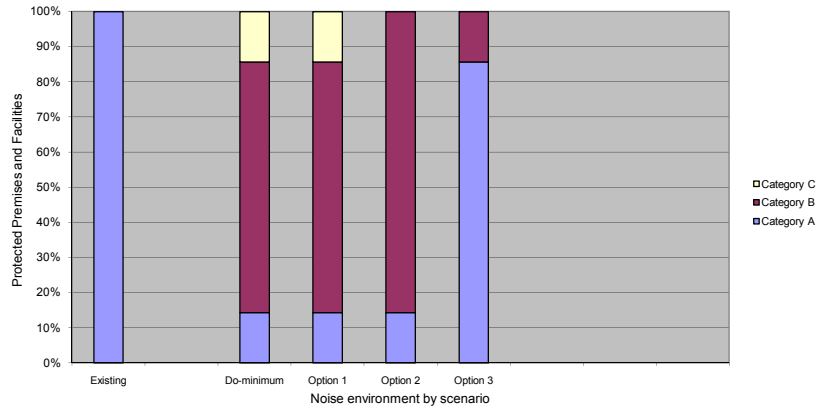
Final Comments: Explore extending asphalt from the interchange (or other surface options to reduce noise) back down Te Moana Road in the vicinity of the residential properties (note: Te Moana Rd is the noise source).

Preferred: Option 3. Good noise level reduction, no visual impact.

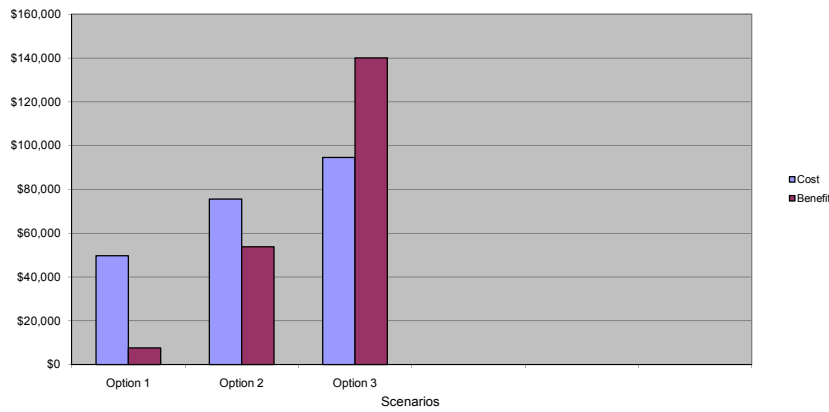
Project					
M2PP					
Sector 3 South of Te Moana Rd					
Protected Premises and Facilities					
	Existing	Do-minimum	Option 1	Option 2	Option 3
Category A	7	1	1	1	6
Category B	0	5	5	6	1
Category C	0	1	1	0	0
Total	7	7	7	7	7
Benefit-Cost Ratio					
		Option 1	Option 2	Option 3	
Cost		\$49,700	\$75,600	\$94,500	
Benefit		\$7,645	\$53,839	\$139,981	
BCR		0.15	0.71	1.48	
Transit		-47%	-20%	0%	
Structural			1.8 dB	4.7 dB	

Graphs

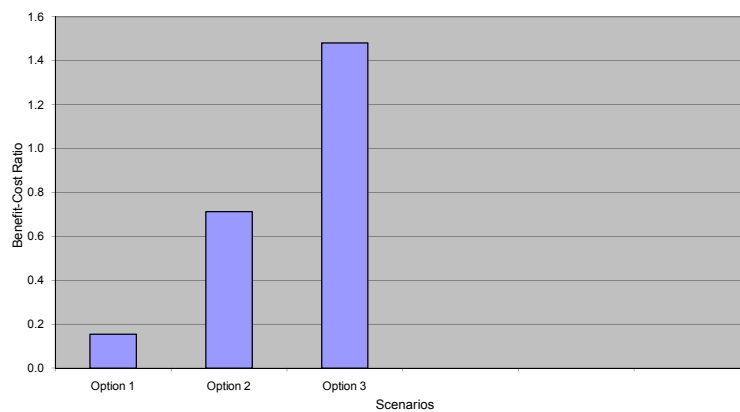
Sector 3 South of Te Moana Rd



Sector 3 South of Te Moana Rd



Sector 3 South of Te Moana Rd



Project: M2PP
Area: Sector 3 South of Te Moana Rd
AADT: 2,000 to 75,000 vehicles per day
 More than 75,000 vehicles per day
Transit: (option to comply with Transit's Guidelines)

Preferred Mitigation Option

Protected Premises and Facilities		New or Altered	Existing L _{Aeq(24h)} dB	Do-minimum L _{Aeq(24h)} dB	Option 1 L _{Aeq(24h)} dB	Option 2 L _{Aeq(24h)} dB	Option 3 L _{Aeq(24h)} dB
Street address	Floor						
Te Moana Rd 160	1. Floor	New	53	62	62	59	56
Te Moana Rd 162	1. Floor	New	53	61	61	59	55
Te Moana Rd 164A	2. Floor	New	53	67	67	64	61
Te Moana Rd 164B	2. Floor	New	51	61	61	59	55
Te Moana Rd 168	1. Floor	New	53	56	56	56	55
Te Moana Rd 172	1. Floor	New	53	60	60	59	55
Te Moana Rd 174	1. Floor	New	53	60	60	58	55

Noise level
dB LAeq(24h)

- ≤ 57 Category A
- 57 < ≤ 64 Category B
- 64 < Category C

Legend

- Cadastral bdy
- Traffic line
- Road surface
- Bridge
- Bridge barrier
- Bund crown
- Noise barrier



Initials: SW
Date: 18/8/2011
Calculation No: 321

MARSHALL DAY
Acoustics



MACKAYS TO PEKA PEKA EXPRESSWAY
Sector 3
South of Te Moana Road
Do-minimum Scenario

NOISE PREDICTION
SCENARIOS
SHEET 55 OF 75

Document Set:
M2PP-AEE-DWG

Drawing No.:
EN-NV-074

A3 Scale 1:2500
0 12.5 25 50 75 100 m

Noise level
dB LAeq(24h)

- ≤ 57 Category A
- 57 < ≤ 64 Category B
- 64 < Category C

Legend

- Cadastral bdy
- Traffic line
- Road surface
- Bridge
- Bridge barrier
- Bund crown
- Noise barrier



Initials: SW
Date: 18/8/2011
Calculation No: 322

MARSHALL DAY 
Acoustics



MACKAYS TO PEKA PEKA EXPRESSWAY
Sector 3
South of Te Moana Road
Mitigation Option 1

NOISE PREDICTION
SCENARIOS
SHEET 56 OF 75

Document Set:
M2PP-AEE-DWG

Drawing No.:
EN-NV-075

A3 Scale 1:2500
0 12.5 25 50 75 100 m

Noise level
dB LAeq(24h)

- ≤ 57 Category A
- 57 < ≤ 64 Category B
- 64 < Category C

Legend

- Cadastral bdy
- Traffic line
- Road surface
- Bridge
- Bridge barrier
- Bund crown
- Noise barrier



Initials: SW
Date: 18/8/2011
Calculation No: 323



MACKAYS TO PEKA PEKA EXPRESSWAY
Sector 3
South of Te Moana Road
Mitigation Option 2

NOISE PREDICTION
SCENARIOS
SHEET 57 OF 75

Document Set:
M2PP-AEE-DWG

Drawing No.:
EN-NV-076

A3 Scale 1:2500
0 12.5 25 50 75 100 m

Noise level
dB LAeq(24h)

- ≤ 57 Category A
- 57 < ≤ 64 Category B
- 64 < Category C

Legend

- Cadastral bdy
- Traffic line
- Road surface
- Bridge
- Bridge barrier
- Bund crown
- Noise barrier



Initials: SW
Date: 18/8/2011
Calculation No: 324



**MACKAYS TO PEKA PEKA EXPRESSWAY
Sector 3
South of Te Moana Road
Mitigation Option 3 (Noise Guidelines)**

NOISE PREDICTION
SCENARIOS
SHEET 58 OF 75

Document Set:
M2PP-AEE-DWG

Drawing No.:
EN-NV-077

A3 Scale 1:2500
0 12.5 25 50 75 100 m