Summary of – REPORT BY RENZO TONIN FOR RTA - updated 13 May 2011

WARRINGAH FREEWAY – BETWEEN WILLOUGHBY ROAD AND SOUTH OF FALCON ST NOISE ASSESSMENT FOR INCLUSION IN THE NOISE ABATEMENT PROGRAM

1. Renzo Tonin & Associated were engaged by RTA to monitor and model noise levels from traffic at noise sensitive location along the Warringah Freeway (WF) between Willoughby Road and just south of Falcon Street as part of RTA's Noise Abatement Program (NAP)

2. Report contains results from noise monitoring (conduced in December 2010) at 12 locations adjacent to WF - Table A below

3. Area surrounding WF was divided into 12 Noise Catchment Areas (NCA) – detailed in Table A

4. Noise modelling results for the most affected noise sensitive locations are presented and used to quantify noise impact of WF on surrounding properties

5. Noise Abatement Program of RTA records and priorities properties with noise levels greater than 65dB during the day and 60dB at night

6. Report provides noise modelling results for over 600 individual residences located near WF

7. **127+ individual residences exceed the noise threshold required to qualify for NAP listing and prioritising** (Note - some locations are units blocks so number would be greater)

8. Traffic movements were also monitored by Renzo – in summary these indicate –
- daily southbound traffic movements – over 130,000 daily movements
- daily northbound movements – over 150,000 daily movements
- **Total daily vehicle movements along Warringah Freeway – over 280,000 daily movements**

9. NAP Noise mitigation options were listed and then assessed –
   a - Quieter Pavements (road surfaces) – will only reduce noise by 2-4dB – not considered feasible or cost effective
   b – Noise Barriers (walls) – most feasible when there are minimum 3 properties exceeding NAP levels - a cost effective height barrier analysis is presented in a table detailing noise reduction benefits for various wall heights for each of ground floor and first floor residences
   c – Architectural Treatments – these include mechanical ventilation, sealing of wall vents, upgrading of seals around windows and doors, upgrading of window and doors. These achieve limited internal noise reduction – do not affect external levels of noise

10. Maps of options for possible future noise barrier locations are detailed with potential noise reductions using modelling
    (Note - details of several possible errors in marked locations of some existing and proposed noise barriers and other queries have already been sent to RTA)

NOTE – for Privacy reasons, individual locations (street numbers) of residences are not detailed in this summary.
If individual residents wish to establish details of noise levels of their properties from Renzo modelling then they will need to contact RTA – Mr Joseph Fanous - tel (02) 8849 2516

TABLE A - EXISTING ACOUSTIC ENVIRONMENT

Results from 12 Monitored Locations (residences) noted as "M1" etc
12 Noise Catchment Areas (NCA) were nominated along the Freeway
Noise Abatement Program recording and prioritising requires > 65dB day or > 60dB night

Monitoring Location # (12)	Street Location	Day Noise 0700 - 2200	Night Noise 2200-0700	Meet or exceed NAP	NCA – Noise Catchmt Area	Noise Catchment Area (NCA) - Residences located in area near Warringah Freeway
M1	Merlin	67	62	yes	NCA1	Neutral Bay – East side – Wyagdon St to south of Falcon St
M2	Merlin	60	55		NCA2	Neutral Bay – East side – Military Rd to Ernest St
M3	Bellevue	69	66	yes	NCA3	Cammeray – North side – Golf Course to Miller St
M4	Tarella	63	58		NCA4	Cammeray – North side – Miller St to West St
M5	Sexton	72	68	yes	NCA5	Cammeray – North side – West St to Massey St
M6	Palmer	57	51		NCA6	Cammeray – East side – Massey St to Palmer St
M7	Donnelly	66	61	yes	NCA7	Cammeray – East Side – Palmer St to Slade St
M8	Moodie	55	50		NCA8	North Sydney – West Side – Falcon St to Ernest St
M9	Cammeray	64	59		NCA9	Cammeray – South side - Ernest St to Miller St
M10	Metcalfe	65	61	yes	NCA10	Cammeray – South side – Miller St – East and West
M11	Chandos	64	60	yes	NCA11	Crows Nest – East side – St Thomas Rest Park to Brook St
M12	Donnelly	57	52		NCA12	Naremburn – West Side – Brook St to Willoughby Rd

TABLE B - MODELLED TRAFFIC NOISE LEVELS

Projected noise levels from modelling with each Noise Catchment Area (NCA)
Noise Abatement Program recording and prioritising requires > 65dB day or > 60dB night

N C A #	Total Properties Modelled for noise	Properties that meet or exceed NAP criteria	Max noise in day dB - any residence	Max noise night dB – any residence	Streets in Noise Catchment Area
1	46	7	69 dB	65dB	Merlin
2	34	6	70	65	Ernest, Merlin , Military Rd
3	58	8	72	68	Amherst, Bellevue, Morden
4	39	6	77	73	Amherst, Tarella, West
5	33	17	77	72	Armstrong, Jenkins, Sexton
6	31	11	75	69	Armstrong. Massey, Palmer
7	36	9	71	64	Donnelly, Merrenburn, Palmer
8	29	3	71	65	Ernest Falcon
9	40	9	69	63	Anzac, Cammeray, Rosalind
10	74	13	76	72	Edwin, Metcalfe, Rosalind
11	113	21	73	70	Brook Chandos, Jenkins Lane Matthews Ln
12	117	17	71	66	Brook Donnelly, Merrenburn, Willoughby
TOTAL	650	127			

TABLE 3 – PROPOSED & EXISTING NOISE WALL LOCATIONS (proposal only)

2 Plans by Renzo Tonin Ref TF097-01 PO1 & 2 (rev3)