Appendix H

Noise Data and Reports

Harbor-UCLA Medical Center
Draft EIR
Appendix H-1, Noise Worksheets

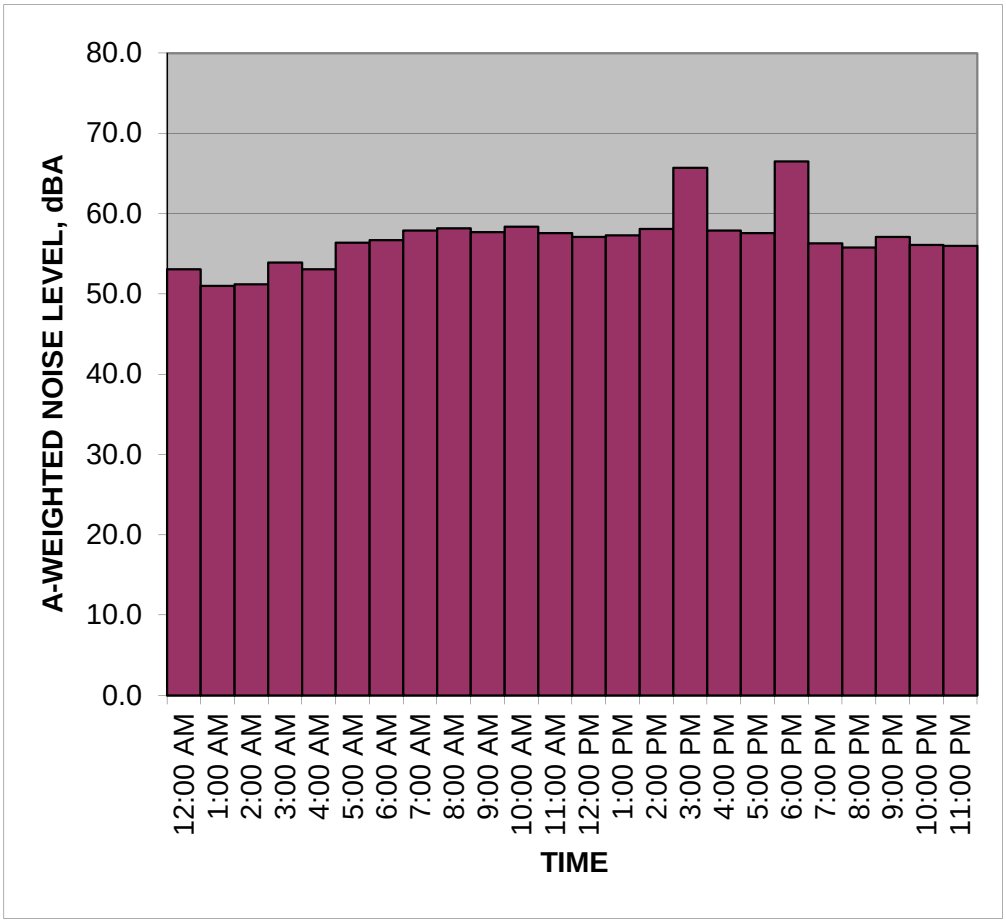
Appendix 1
Ambient Noise Data

Measured Ambient Noise Levels

Project: Harbor UCLA
Location: R1 -
Sources: Ambient

Date: September 30, 2013

TIME	HNL, dB(A)
12:00 AM	53.1
1:00 AM	51.0
2:00 AM	51.2
3:00 AM	53.9
4:00 AM	53.1
5:00 AM	56.4
6:00 AM	56.7
7:00 AM	57.9
8:00 AM	58.2
9:00 AM	57.7
10:00 AM	58.4
11:00 AM	57.6
12:00 PM	57.1
1:00 PM	57.3
2:00 PM	58.1
3:00 PM	65.7
4:00 PM	57.9
5:00 PM	57.6
6:00 PM	66.5
7:00 PM	56.3
8:00 PM	55.8
9:00 PM	57.1
10:00 PM	56.1
11:00 PM	56.0
CNEL, dB(A):	**62.7**



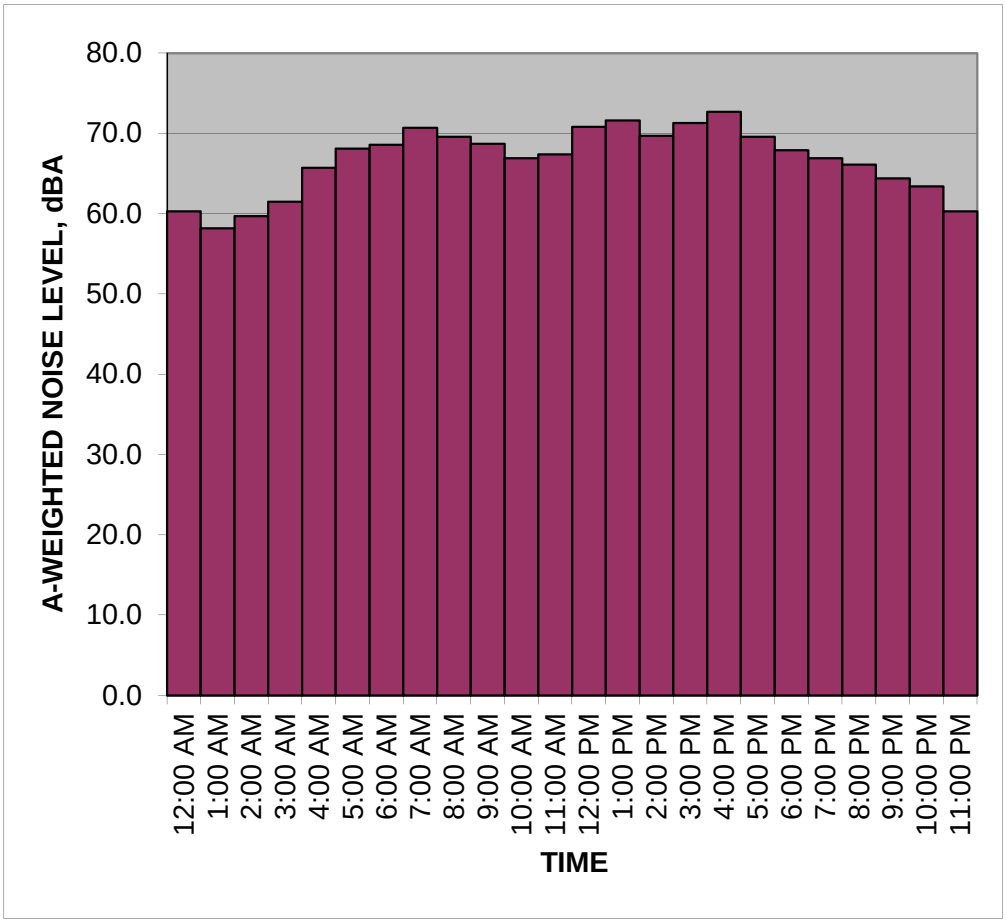
NOTES:

Measured Ambient Noise Levels

Project: Harbor UCLA
Location: R5 - Along Vermont Avenue
Sources: Ambient

Date: September 30, 2013

TIME	HNL, dB(A)
12:00 AM	60.3
1:00 AM	58.2
2:00 AM	59.7
3:00 AM	61.5
4:00 AM	65.7
5:00 AM	68.1
6:00 AM	68.6
7:00 AM	70.7
8:00 AM	69.6
9:00 AM	68.7
10:00 AM	66.9
11:00 AM	67.4
12:00 PM	70.8
1:00 PM	71.6
2:00 PM	69.7
3:00 PM	71.3
4:00 PM	72.7
5:00 PM	69.6
6:00 PM	67.9
7:00 PM	66.9
8:00 PM	66.1
9:00 PM	64.4
10:00 PM	63.4
11:00 PM	60.3
CNEL, dB(A):	**72.3**



NOTES:

Appendix 2
Construction Noise Calculations

Project: Harbor UCLA Medical Center Campus Master Plan

Construction Noise Impact on Sensitive Receptors

Phase C: Central Plant ,Central IT building, and Surface Parking

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R3					R4				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Utility Tunnel					**89**	***85***				**50**	***46***		
Concrete/Industrial Saws	2	90	20%	80	89	82	85	0	1300	50	43	46	15
Excavators	1	81	40%	80	77	73	76	0	1300	38	34	37	15
Rubber Tired Loader	1	79	50%	80	75	72	75	0	1300	36	33	36	15
Water Trucks	1	80	10%	80	76	66	69	0	1300	37	27	30	15
Tractors/Loaders/Backhoes	1	80	25%	80	76	70	73	0	1300	37	31	34	15
Graders	1	85	40%	80	81	77	80	0	1300	42	38	41	15
Forklifts	1	75	10%	80	71	61	64	0	1300	32	22	25	15
Air Compressor	1	78	50%	80	74	71	74	0	1300	35	32	35	15
Welders	1	74	40%	80	70	66	69	0	1300	31	27	30	15
Cranes	1	81	40%	80	77	73	76	0	1300	38	34	37	15
Rubber Tired Dozer	1	82	40%	80	78	74	77	0	1300	39	35	38	15
Demolish Buildings F-10, M01, T-1					**89**	***84***				**50**	***45***		
Excavators	1	81	40%	80	77	73	76	0	1300	38	34	37	15
Concrete/Industrial Saws	2	90	20%	80	89	82	85	0	1300	50	43	46	15
Rubber Tired Loader	1	79	50%	80	75	72	75	0	1300	36	33	36	15
Graders	1	85	40%	80	81	77	80	0	1300	42	38	41	15
Water Trucks	1	80	10%	80	76	66	69	0	1300	37	27	30	15
Tractors/Loaders/Backhoes	1	80	25%	80	76	70	73	0	1300	37	31	34	15
Building Construction					**81**	***80***				**42**	***41***		
Forklifts	1	75	10%	80	71	61	64	0	1300	32	22	25	15
Cranes	1	81	40%	80	77	73	76	0	1300	38	34	37	15
Tractors/Loaders/Backhoes	1	80	25%	80	76	70	73	0	1300	37	31	34	15
Welders	1	74	40%	80	70	66	69	0	1300	31	27	30	15
Graders	1	85	40%	80	81	77	80	0	1300	42	38	41	15
Air Compressor	1	78	50%	80	74	71	74	0	1300	35	32	35	15
Building Construction: SCE Service Yard					**89**	***84***				**50**	***45***		
Concrete/Industrial Saws	2	90	20%	80	89	82	85	0	1300	50	43	46	15
Water Trucks	1	80	10%	80	76	66	69	0	1300	37	27	30	15
Tractors/Loaders/Backhoes	1	80	25%	80	76	70	73	0	1300	37	31	34	15
Welders	1	74	40%	80	70	66	69	0	1300	31	27	30	15
Graders	1	85	40%	80	81	77	80	0	1300	42	38	41	15
Concrete Mixer Trucks	1	79	40%	80	75	71	74	0	1300	36	32	35	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master

Construction Noise Impact on Sensitive Receptors

Phase C: Central Plant ,Central IT building, and Surface Parking

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R5					R6				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Utility Tunnel					**51**	***47***				**48**	***45***		
Concrete/Industrial Saws	2	90	20%	1100	51	44	47	15	1500	48	41	44	15
Excavators	1	81	40%	1100	39	35	38	15	1500	36	32	35	15
Rubber Tired Loader	1	79	50%	1100	37	34	37	15	1500	34	31	34	15
Water Trucks	1	80	10%	1100	38	28	31	15	1500	35	25	28	15
Tractors/Loaders/Backhoes	1	80	25%	1100	38	32	35	15	1500	35	29	32	15
Graders	1	85	40%	1100	43	39	42	15	1500	40	36	39	15
Forklifts	1	75	10%	1100	33	23	26	15	1500	30	20	23	15
Air Compressor	1	78	50%	1100	36	33	36	15	1500	33	30	33	15
Welders	1	74	40%	1100	32	28	31	15	1500	29	25	28	15
Cranes	1	81	40%	1100	39	35	38	15	1500	36	32	35	15
Rubber Tired Dozer	1	82	40%	1100	40	36	39	15	1500	37	33	36	15
Demolish Buildings F-10, M01, T-1					**51**	***46***				**48**	***44***		
Excavators	1	81	40%	1100	39	35	38	15	1500	36	32	35	15
Concrete/Industrial Saws	2	90	20%	1100	51	44	47	15	1500	48	41	44	15
Rubber Tired Loader	1	79	50%	1100	37	34	37	15	1500	34	31	34	15
Graders	1	85	40%	1100	43	39	42	15	1500	40	36	39	15
Water Trucks	1	80	10%	1100	38	28	31	15	1500	35	25	28	15
Tractors/Loaders/Backhoes	1	80	25%	1100	38	32	35	15	1500	35	29	32	15
Building Construction					**43**	***42***				**40**	***39***		
Forklifts	1	75	10%	1100	33	23	26	15	1500	30	20	23	15
Cranes	1	81	40%	1100	39	35	38	15	1500	36	32	35	15
Tractors/Loaders/Backhoes	1	80	25%	1100	38	32	35	15	1500	35	29	32	15
Welders	1	74	40%	1100	32	28	31	15	1500	29	25	28	15
Graders	1	85	40%	1100	43	39	42	15	1500	40	36	39	15
Air Compressor	1	78	50%	1100	36	33	36	15	1500	33	30	33	15
Building Construction: SCE Service Yard					**51**	***46***				**48**	***43***		
Concrete/Industrial Saws	2	90	20%	1100	51	44	47	15	1500	48	41	44	15
Water Trucks	1	80	10%	1100	38	28	31	15	1500	35	25	28	15
Tractors/Loaders/Backhoes	1	80	25%	1100	38	32	35	15	1500	35	29	32	15
Welders	1	74	40%	1100	32	28	31	15	1500	29	25	28	15
Graders	1	85	40%	1100	43	39	42	15	1500	40	36	39	15
Concrete Mixer Trucks	1	79	40%	1100	37	33	36	15	1500	34	30	33	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master Plan

Construction Noise Impact on Sensitive Receptors

Phase 1: Public Parking Structure

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R3					R4				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Demolition Buildings					**49**	***44***				**71**	***66***		
Concrete/Industrial Saws	2	90	20%	750	49	42	45	20	350	71	64	67	5
Excavators	1	81	40%	750	37	33	36	20	350	59	55	58	5
Rubber Tired Loader	1	79	50%	750	35	32	35	20	350	57	54	57	5
Water Trucks	1	80	10%	750	36	26	29	20	350	58	48	51	5
Tractors/Loaders/Backhoes	1	80	25%	750	36	30	33	20	350	58	52	55	5
Rubber Tired Dozer	1	82	40%	750	38	34	37	20	350	60	56	59	5
Grading: Building Pad and Underground Utilities					**41**	***40***				**63**	***62***		
Tractors/Loaders/Backhoes	1	80	25%	750	36	30	33	20	350	58	52	55	5
Rubber Tired Dozer	1	82	40%	750	38	34	37	20	350	60	56	59	5
Water Trucks	1	80	10%	750	36	26	29	20	350	58	48	51	5
Graders	1	85	40%	750	41	37	40	20	350	63	59	62	5
Parking Structure					**37**	***35***				**59**	***56***		
Forklifts	1	75	10%	750	31	21	24	20	350	53	43	46	5
Cranes	1	81	40%	750	37	33	36	20	350	59	55	58	5
Welders	1	74	40%	750	30	26	29	20	350	52	48	51	5
Paving					**41**	***41***				**63**	***62***		
Tractors/Loaders/Backhoes	1	80	25%	750	36	30	33	20	350	58	52	55	5
Concrete Mixer Trucks	1	79	40%	750	35	31	34	20	350	57	53	56	5
Roller	1	80	20%	750	36	29	32	20	350	58	51	54	5
Paver	1	77	50%	750	33	30	33	20	350	55	52	55	5
Other Equipment (Trencher)	1	85	50%	750	41	38	41	20	350	63	60	63	5

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master

Construction Noise Impact on Sensitive Receptors

Phase 1: Public Parking Structure

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R5					R6				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Demolition Buildings					**50**	***45***				**52**	***47***		
Concrete/Industrial Saws	2	90	20%	1200	50	43	46	15	1000	52	45	48	15
Excavators	1	81	40%	1200	38	34	37	15	1000	40	36	39	15
Rubber Tired Loader	1	79	50%	1200	36	33	36	15	1000	38	35	38	15
Water Trucks	1	80	10%	1200	37	27	30	15	1000	39	29	32	15
Tractors/Loaders/Backhoes	1	80	25%	1200	37	31	34	15	1000	39	33	36	15
Rubber Tired Dozer	1	82	40%	1200	39	35	38	15	1000	41	37	40	15
Grading: Building Pad and Underground Utilities					**42**	***41***				**44**	***42***		
Tractors/Loaders/Backhoes	1	80	25%	1200	37	31	34	15	1000	39	33	36	15
Rubber Tired Dozer	1	82	40%	1200	39	35	38	15	1000	41	37	40	15
Water Trucks	1	80	10%	1200	37	27	30	15	1000	39	29	32	15
Graders	1	85	40%	1200	42	38	41	15	1000	44	40	43	15
Parking Structure					**38**	***35***				**40**	***37***		
Forklifts	1	75	10%	1200	32	22	25	15	1000	34	24	27	15
Cranes	1	81	40%	1200	38	34	37	15	1000	40	36	39	15
Welders	1	74	40%	1200	31	27	30	15	1000	33	29	32	15
Paving					**42**	***42***				**44**	***43***		
Tractors/Loaders/Backhoes	1	80	25%	1200	37	31	34	15	1000	39	33	36	15
Concrete Mixer Trucks	1	79	40%	1200	36	32	35	15	1000	38	34	37	15
Roller	1	80	20%	1200	37	30	33	15	1000	39	32	35	15
Paver	1	77	50%	1200	34	31	34	15	1000	36	33	36	15
Other Equipment (Trencher)	1	85	50%	1200	42	39	42	15	1000	44	41	44	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master Plan

Construction Noise Impact on Sensitive Receptors

Phase 2: Outpatient Building A, Mental Health Building, Bridge between Out Patient A & Mental Health

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R3					R4				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Grading					**63**	***62***				**41**	***40***		
Rubber Tired Loader	1	79	50%	350	62	59	62	0	750	40	37	40	15
Tractors/Loaders/Backhoes	1	80	25%	350	63	57	60	0	750	41	35	38	15
Water Trucks	1	80	10%	350	63	53	56	0	750	41	31	34	15
Building Construction (3)					**59**	***59***				**42**	***43***		
Forklifts	1	75	10%	350	53	43	46	5	750	36	26	29	15
Welders	1	74	40%	350	52	48	51	5	750	35	31	34	15
Tractors/Loaders/Backhoes	1	80	25%	350	58	52	55	5	750	41	35	38	15
Air Compressor	1	78	50%	350	56	53	56	5	750	39	36	39	15
Water Trucks	1	80	10%	350	58	48	51	5	750	41	31	34	15
Cranes	1	81	40%	350	59	55	58	5	750	42	38	41	15
Building Construction (4)					**59**	***59***				**42**	***43***		
Forklifts	1	75	10%	350	53	43	46	5	750	36	26	29	15
Welders	1	74	40%	350	52	48	51	5	750	35	31	34	15
Tractors/Loaders/Backhoes	1	80	25%	350	58	52	55	5	750	41	35	38	15
Air Compressor	1	78	50%	350	56	53	56	5	750	39	36	39	15
Water Trucks	1	80	10%	350	58	48	51	5	750	41	31	34	15
Cranes	1	81	40%	350	59	55	58	5	750	42	38	41	15
Paving					**60**	***59***				**46**	***46***		
Tractors/Loaders/Backhoes	1	80	25%	500	55	49	52	5	750	41	35	38	15
Concrete Mixer Trucks	1	79	40%	500	54	50	53	5	750	40	36	39	15
Roller	1	80	20%	500	55	48	51	5	750	41	34	37	15
Paver	1	77	50%	500	52	49	52	5	750	38	35	38	15
Other Equipment (Trencher)	1	85	50%	500	60	57	60	5	750	46	43	46	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master

Construction Noise Impact on Sensitive Receptors

Phase 2: Outpatient Building A, Mental Health Building, Bridge

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R5					R6				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Grading					**58**	***57***				**27**	***26***		
Rubber Tired Loader	1	79	50%	345	57	54	57	5	2200	26	23	26	20
Tractors/Loaders/Backhoes	1	80	25%	345	58	52	55	5	2200	27	21	24	20
Water Trucks	1	80	10%	345	58	48	51	5	2200	27	17	20	20
Building Construction (3)					**59**	***59***				**28**	***28***		
Forklifts	1	75	10%	345	53	43	46	5	2200	22	12	15	20
Welders	1	74	40%	345	52	48	51	5	2200	21	17	20	20
Tractors/Loaders/Backhoes	1	80	25%	345	58	52	55	5	2200	27	21	24	20
Air Compressor	1	78	50%	345	56	53	56	5	2200	25	22	25	20
Water Trucks	1	80	10%	345	58	48	51	5	2200	27	17	20	20
Cranes	1	81	40%	345	59	55	58	5	2200	28	24	27	20
Building Construction (4)					**59**	***59***				**28**	***28***		
Forklifts	1	75	10%	345	53	43	46	5	2200	22	12	15	20
Welders	1	74	40%	345	52	48	51	5	2200	21	17	20	20
Tractors/Loaders/Backhoes	1	80	25%	345	58	52	55	5	2200	27	21	24	20
Air Compressor	1	78	50%	345	56	53	56	5	2200	25	22	25	20
Water Trucks	1	80	10%	345	58	48	51	5	2200	27	17	20	20
Cranes	1	81	40%	345	59	55	58	5	2200	28	24	27	20
Paving					**63**	***62***				**32**	***31***		
Tractors/Loaders/Backhoes	1	80	25%	345	58	52	55	5	2200	27	21	24	20
Concrete Mixer Trucks	1	79	40%	345	57	53	56	5	2200	26	22	25	20
Roller	1	80	20%	345	58	51	54	5	2200	27	20	23	20
Paver	1	77	50%	345	55	52	55	5	2200	24	21	24	20
Other Equipment (Trencher)	1	85	50%	345	63	60	63	5	2200	32	29	32	20

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master Plan

Construction Noise Impact on Sensitive Receptors

Phase 3: Staff Parking Structure and Temporary Helipad

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R3					R4				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Demolition Buildings					**65**	***60***				**64**	***59***		
Concrete/Industrial Saws	2	90	20%	700	65	58	61	5	750	64	57	60	5
Excavators	1	81	40%	700	53	49	52	5	750	52	48	51	5
Rubber Tired Loader	1	79	50%	700	51	48	51	5	750	50	47	50	5
Water Trucks	1	80	10%	700	52	42	45	5	750	51	41	44	5
Tractors/Loaders/Backhoes	1	80	25%	700	52	46	49	5	750	51	45	48	5
Rubber Tired Dozer	1	82	40%	700	54	50	53	5	750	53	49	52	5
Grading: Building Pad and Underground Utilities					**67**	***66***				**56**	***55***		
Tractors/Loaders/Backhoes	1	80	25%	215	62	56	59	5	750	51	45	48	5
Rubber Tired Dozer	1	82	40%	215	64	60	63	5	750	53	49	52	5
Water Trucks	1	80	10%	215	62	52	55	5	750	51	41	44	5
Graders	1	85	40%	215	67	63	66	5	750	56	52	55	5
Building Construction					**63**	***60***				**52**	***50***		
Forklifts	1	75	10%	215	57	47	50	5	750	46	36	39	5
Cranes	1	81	40%	215	63	59	62	5	750	52	48	51	5
Welders	1	74	40%	215	56	52	55	5	750	45	41	44	5
Paving					**67**	***66***				**56**	***56***		
Tractors/Loaders/Backhoes	1	80	25%	215	62	56	59	5	750	51	45	48	5
Concrete Mixer Trucks	1	79	40%	215	61	57	60	5	750	50	46	49	5
Roller	1	80	20%	215	62	55	58	5	750	51	44	47	5
Paver	1	77	50%	215	59	56	59	5	750	48	45	48	5
Other Equipment (Trencher)	1	85	50%	215	67	64	67	5	750	56	53	56	5

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master

Construction Noise Impact on Sensitive Receptors

Phase 3: Staff Parking Structure and Temporary Helipad

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R5					R6				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Demolition Buildings					**58**	***53***				**49**	***43***		
Concrete/Industrial Saws	2	90	20%	850	58	51	54	10	1450	49	42	45	15
Excavators	1	81	40%	850	46	42	45	10	1450	37	33	36	15
Rubber Tired Loader	1	79	50%	850	44	41	44	10	1450	35	32	35	15
Water Trucks	1	80	10%	850	45	35	38	10	1450	36	26	29	15
Tractors/Loaders/Backhoes	1	80	25%	850	45	39	42	10	1450	36	30	33	15
Rubber Tired Dozer	1	82	40%	850	47	43	46	10	1450	38	34	37	15
Grading: Building Pad and Underground Utilities					**50**	***49***				**41**	***39***		
Tractors/Loaders/Backhoes	1	80	25%	850	45	39	42	10	1450	36	30	33	15
Rubber Tired Dozer	1	82	40%	850	47	43	46	10	1450	38	34	37	15
Water Trucks	1	80	10%	850	45	35	38	10	1450	36	26	29	15
Graders	1	85	40%	850	50	46	49	10	1450	41	37	40	15
Building Construction					**46**	***43***				**37**	***34***		
Forklifts	1	75	10%	850	40	30	33	10	1450	31	21	24	15
Cranes	1	81	40%	850	46	42	45	10	1450	37	33	36	15
Welders	1	74	40%	850	39	35	38	10	1450	30	26	29	15
Paving					**50**	***50***				**41**	***40***		
Tractors/Loaders/Backhoes	1	80	25%	850	45	39	42	10	1450	36	30	33	15
Concrete Mixer Trucks	1	79	40%	850	44	40	43	10	1450	35	31	34	15
Roller	1	80	20%	850	45	38	41	10	1450	36	29	32	15
Paver	1	77	50%	850	42	39	42	10	1450	33	30	33	15
Other Equipment (Trencher)	1	85	50%	850	50	47	50	10	1450	41	38	41	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master Plan

Construction Noise Impact on Sensitive Receptors

Phase 4: Patient Bed Tower and Diagnostic and Treatment Center

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R3					R4				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Grading					**59**	***58***				**73**	***71***		
Rubber Tired Dozer	1	82	40%	560	56	52	55	5	200	70	66	69	0
Tractors/Loaders/Backhoes	1	80	25%	560	54	48	51	5	200	68	62	65	0
Graders	1	85	40%	560	59	55	58	5	200	73	69	72	0
Water Trucks	1	80	10%	560	54	44	47	5	200	68	58	61	0
Building Construction (2)					**55**	***56***				**69**	***70***		
Rubber Tired Loader	1	79	50%	560	53	50	53	5	200	67	64	67	0
Tractors/Loaders/Backhoes	1	80	25%	560	54	48	51	5	200	68	62	65	0
Forklifts	1	75	10%	560	49	39	42	5	200	63	53	56	0
Welders	1	74	40%	560	48	44	47	5	200	62	58	61	0
Air Compressor	1	78	50%	560	52	49	52	5	200	66	63	66	0
Cranes	1	81	40%	560	55	51	54	5	200	69	65	68	0
Building Construction (3)					**55**	***55***				**69**	***69***		
Tractors/Loaders/Backhoes	1	80	25%	560	54	48	51	5	200	68	62	65	0
Welders	1	74	40%	560	48	44	47	5	200	62	58	61	0
Air Compressor	1	78	50%	560	52	49	52	5	200	66	63	66	0
Cranes	1	81	40%	560	55	51	54	5	200	69	65	68	0
Paving					**59**	***58***				**73**	***72***		
Tractors/Loaders/Backhoes	1	80	25%	560	54	48	51	5	200	68	62	65	0
Concrete Mixer Trucks	1	79	40%	560	53	49	52	5	200	67	63	66	0
Roller	1	80	20%	560	54	47	50	5	200	68	61	64	0
Paver	1	77	50%	560	51	48	51	5	200	65	62	65	0
Other Equipment (Trencher)	1	85	50%	560	59	56	59	5	200	73	70	73	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master

Construction Noise Impact on Sensitive Receptors

Phase 4: Patient Bed Tower and Diagnostic and Treatment Cent

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R5					R6				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Grading					**75**	***73***				**38**	***36***		
Rubber Tired Dozer	1	82	40%	160	72	68	71	0	2000	35	31	34	15
Tractors/Loaders/Backhoes	1	80	25%	160	70	64	67	0	2000	33	27	30	15
Graders	1	85	40%	160	75	71	74	0	2000	38	34	37	15
Water Trucks	1	80	10%	160	70	60	63	0	2000	33	23	26	15
Building Construction (2)					**71**	***72***				**34**	***35***		
Rubber Tired Loader	1	79	50%	160	69	66	69	0	2000	32	29	32	15
Tractors/Loaders/Backhoes	1	80	25%	160	70	64	67	0	2000	33	27	30	15
Forklifts	1	75	10%	160	65	55	58	0	2000	28	18	21	15
Welders	1	74	40%	160	64	60	63	0	2000	27	23	26	15
Air Compressor	1	78	50%	160	68	65	68	0	2000	31	28	31	15
Cranes	1	81	40%	160	71	67	70	0	2000	34	30	33	15
Building Construction (3)					**71**	***71***				**34**	***34***		
Tractors/Loaders/Backhoes	1	80	25%	160	70	64	67	0	2000	33	27	30	15
Welders	1	74	40%	160	64	60	63	0	2000	27	23	26	15
Air Compressor	1	78	50%	160	68	65	68	0	2000	31	28	31	15
Cranes	1	81	40%	160	71	67	70	0	2000	34	30	33	15
Paving					**75**	***74***				**38**	***37***		
Tractors/Loaders/Backhoes	1	80	25%	160	70	64	67	0	2000	33	27	30	15
Concrete Mixer Trucks	1	79	40%	160	69	65	68	0	2000	32	28	31	15
Roller	1	80	20%	160	70	63	66	0	2000	33	26	29	15
Paver	1	77	50%	160	67	64	67	0	2000	30	27	30	15
Other Equipment (Trencher)	1	85	50%	160	75	72	75	0	2000	38	35	38	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master

Construction Noise Impact on Sensitive Receptors

Phase 4: Patient Bed Tower and Diagnostic and Treatment Cent

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R2				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Grading					**53**	***51***		
Rubber Tired Dozer	1	82	40%	1180	50	46	49	5
Tractors/Loaders/Backhoes	1	80	25%	1180	48	42	45	5
Graders	1	85	40%	1180	53	49	52	5
Water Trucks	1	80	10%	1180	48	38	41	5
Building Construction (2)					**49**	***50***		
Rubber Tired Loader	1	79	50%	1180	47	44	47	5
Tractors/Loaders/Backhoes	1	80	25%	1180	48	42	45	5
Forklifts	1	75	10%	1180	43	33	36	5
Welders	1	74	40%	1180	42	38	41	5
Air Compressor	1	78	50%	1180	46	43	46	5
Cranes	1	81	40%	1180	49	45	48	5
Building Construction (3)					**49**	***48***		
Tractors/Loaders/Backhoes	1	80	25%	1180	48	42	45	5
Welders	1	74	40%	1180	42	38	41	5
Air Compressor	1	78	50%	1180	46	43	46	5
Cranes	1	81	40%	1180	49	45	48	5
Paving					**53**	***42***		
Tractors/Loaders/Backhoes	1	80	25%	1180	48	42	45	5
Concrete Mixer Trucks	1	79	40%	1180	47	43	46	5
Roller	1	80	20%	1180	48	41	44	5
Paver	1	77	50%	1180	45	42	45	5
Other Equipment (Trencher)	1	85	50%	1180	53	50	53	5

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master Plan

Construction Noise Impact on Sensitive Receptors

Phase 5: Renovate Existing Hospital Tower, Public Parking Structure, Two Surface parking Lots, Retail Building

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R3					R4				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Grading/Excavation					**80**	***81***				**49**	***50***		
Rubber Tired Loader	1	79	50%	55	78	75	78	0	600	47	44	47	10
Tractors/Loaders/Backhoes	1	80	25%	55	79	73	76	0	600	48	42	45	10
Excavators	1	81	40%	55	80	76	79	0	600	49	45	48	10
Air Compressor	1	78	50%	55	77	74	77	0	600	46	43	46	10
Water Trucks	1	80	10%	55	79	69	72	0	600	48	38	41	10
Building Construction					**80**	***79***				**49**	***48***		
Forklifts	1	75	10%	55	74	64	67	0	600	43	33	36	10
Welders	1	74	40%	55	73	69	72	0	600	42	38	41	10
Tractors/Loaders/Backhoes	1	80	25%	55	79	73	76	0	600	48	42	45	10
Cranes	1	81	40%	55	80	76	79	0	600	49	45	48	10
Building Construction (4)					**80**	***80***				**49**	***49***		
Rubber Tired Loader	1	79	50%	55	78	75	78	0	600	47	44	47	10
Tractors/Loaders/Backhoes	1	80	25%	55	79	73	76	0	600	48	42	45	10
Welders	1	74	40%	55	73	69	72	0	600	42	38	41	10
Cranes	1	81	40%	55	80	76	79	0	600	49	45	48	10
Forklifts	1	75	10%	55	74	64	67	0	600	43	33	36	10
Paving					**84**	***83***				**53**	***53***		
Tractors/Loaders/Backhoes	1	80	25%	55	79	73	76	0	600	48	42	45	10
Concrete Mixer Trucks	1	79	40%	55	78	74	77	0	600	47	43	46	10
Roller	1	80	20%	55	79	72	75	0	600	48	41	44	10
Paver	1	77	50%	55	76	73	76	0	600	45	42	45	10
Other Equipment (Trencher)	1	85	50%	55	84	81	84	0	600	53	50	53	10

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master

Construction Noise Impact on Sensitive Receptors

Phase 5: Renovate Existing Hospital Tower, Public Parking Stru

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R5					R6				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Grading/Excavation					**74**	***75***				**32**	***33***		
Rubber Tired Loader	1	79	50%	110	72	69	72	0	2500	30	27	30	15
Tractors/Loaders/Backhoes	1	80	25%	110	73	67	70	0	2500	31	25	28	15
Excavators	1	81	40%	110	74	70	73	0	2500	32	28	31	15
Air Compressor	1	78	50%	110	71	68	71	0	2500	29	26	29	15
Water Trucks	1	80	10%	110	73	63	66	0	2500	31	21	24	15
Building Construction					**74**	***73***				**32**	***30***		
Forklifts	1	75	10%	110	68	58	61	0	2500	26	16	19	15
Welders	1	74	40%	110	67	63	66	0	2500	25	21	24	15
Tractors/Loaders/Backhoes	1	80	25%	110	73	67	70	0	2500	31	25	28	15
Cranes	1	81	40%	110	74	70	73	0	2500	32	28	31	15
Building Construction (4)					**74**	***74***				**32**	***32***		
Rubber Tired Loader	1	79	50%	110	72	69	72	0	2500	30	27	30	15
Tractors/Loaders/Backhoes	1	80	25%	110	73	67	70	0	2500	31	25	28	15
Welders	1	74	40%	110	67	63	66	0	2500	25	21	24	15
Cranes	1	81	40%	110	74	70	73	0	2500	32	28	31	15
Forklifts	1	75	10%	110	68	58	61	0	2500	26	16	19	15
Paving					**78**	***77***				**36**	***35***		
Tractors/Loaders/Backhoes	1	80	25%	110	73	67	70	0	2500	31	25	28	15
Concrete Mixer Trucks	1	79	40%	110	72	68	71	0	2500	30	26	29	15
Roller	1	80	20%	110	73	66	69	0	2500	31	24	27	15
Paver	1	77	50%	110	70	67	70	0	2500	28	25	28	15
Other Equipment (Trencher)	1	85	50%	110	78	75	78	0	2500	36	33	36	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master

Construction Noise Impact on Sensitive Receptors

Phase 5: Renovate Existing Hospital Tower, Public Parking Stru

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R2				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Grading/Excavation					**72**	***73***		
Rubber Tired Loader	1	79	50%	80	70	67	70	5
Tractors/Loaders/Backhoes	1	80	25%	80	71	65	68	5
Excavators	1	81	40%	80	72	68	71	5
Air Compressor	1	78	50%	80	69	66	69	5
Water Trucks	1	80	10%	80	71	61	64	5
Building Construction					**72**	***70***		
Forklifts	1	75	10%	80	66	56	59	5
Welders	1	74	40%	80	65	61	64	5
Tractors/Loaders/Backhoes	1	80	25%	80	71	65	68	5
Cranes	1	81	40%	80	72	68	71	5
Building Construction (4)					**72**	***72***		
Rubber Tired Loader	1	79	50%	80	70	67	70	5
Tractors/Loaders/Backhoes	1	80	25%	80	71	65	68	5
Welders	1	74	40%	80	65	61	64	5
Cranes	1	81	40%	80	72	68	71	5
Forklifts	1	75	10%	80	66	56	59	5
Paving					**76**	***65***		
Tractors/Loaders/Backhoes	1	80	25%	80	71	65	68	5
Concrete Mixer Trucks	1	79	40%	80	70	66	69	5
Roller	1	80	20%	80	71	64	67	5
Paver	1	77	50%	80	68	65	68	5
Other Equipment (Trencher)	1	85	50%	80	76	73	76	5

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master Plan

Construction Noise Impact on Sensitive Receptors

Phase 6: Bioscience Building, Parking Structure, Outpatient Building B, Landscape and Hardscape, Street Improvements

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R3					R4				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Demolition Buildings					**87**	***83***				**67**	***63***		
Concrete/Industrial Saws	1	90	20%	70	87	80	83	0	400	67	60	63	5
Excavators	1	81	40%	70	78	74	77	0	400	58	54	57	5
Rubber Tired Loader	1	79	50%	70	76	73	76	0	400	56	53	56	5
Water Trucks	1	80	10%	70	77	67	70	0	400	57	47	50	5
Tractors/Loaders/Backhoes	1	80	25%	70	77	71	74	0	400	57	51	54	5
Rubber Tired Dozer	1	82	40%	70	79	75	78	0	400	59	55	58	5
Grading: Building Pad and Underground Utilities					**82**	***81***				**62**	***61***		
Rubber Tired Loader	1	79	50%	70	76	73	76	0	400	56	53	56	5
Graders	1	85	40%	70	82	78	81	0	400	62	58	61	5
Tractors/Loaders/Backhoes	1	80	25%	70	77	71	74	0	400	57	51	54	5
Air Compressor	1	78	50%	70	75	72	75	0	400	55	52	55	5
Water Trucks	1	80	10%	70	77	67	70	0	400	57	47	50	5
Building Construction					**78**	***78***				**58**	***58***		
Forklifts	1	75	10%	70	72	62	65	0	400	52	42	45	5
Tractors/Loaders/Backhoes	1	80	25%	70	77	71	74	0	400	57	51	54	5
Air Compressor	1	78	50%	70	75	72	75	0	400	55	52	55	5
Cranes	1	81	40%	70	78	74	77	0	400	58	54	57	5
Welders	1	74	40%	70	71	67	70	0	400	51	47	50	5
Paving					**82**	***81***				**62**	***61***		
Tractors/Loaders/Backhoes	1	80	25%	70	77	71	74	0	400	57	51	54	5
Roller	1	80	20%	70	77	70	73	0	400	57	50	53	5
Paver	1	77	50%	70	74	71	74	0	400	54	51	54	5
Other Equipment (Trencher)	1	85	50%	70	82	79	82	0	400	62	59	62	5

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master

Construction Noise Impact on Sensitive Receptors

Phase 6: Bioscience Building, Parking Structure, Outpatient Bu

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R5					R6				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Demolition Buildings					**44**	***40***				**79**	***75***		
Concrete/Industrial Saws	1	90	20%	1700	44	37	40	15	170	79	72	75	0
Excavators	1	81	40%	1700	35	31	34	15	170	70	66	69	0
Rubber Tired Loader	1	79	50%	1700	33	30	33	15	170	68	65	68	0
Water Trucks	1	80	10%	1700	34	24	27	15	170	69	59	62	0
Tractors/Loaders/Backhoes	1	80	25%	1700	34	28	31	15	170	69	63	66	0
Rubber Tired Dozer	1	82	40%	1700	36	32	35	15	170	71	67	70	0
Grading: Building Pad and Underground Utilities					**39**	***38***				**74**	***73***		
Rubber Tired Loader	1	79	50%	1700	33	30	33	15	170	68	65	68	0
Graders	1	85	40%	1700	39	35	38	15	170	74	70	73	0
Tractors/Loaders/Backhoes	1	80	25%	1700	34	28	31	15	170	69	63	66	0
Air Compressor	1	78	50%	1700	32	29	32	15	170	67	64	67	0
Water Trucks	1	80	10%	1700	34	24	27	15	170	69	59	62	0
Building Construction					**35**	***35***				**70**	***70***		
Forklifts	1	75	10%	1700	29	19	22	15	170	64	54	57	0
Tractors/Loaders/Backhoes	1	80	25%	1700	34	28	31	15	170	69	63	66	0
Air Compressor	1	78	50%	1700	32	29	32	15	170	67	64	67	0
Cranes	1	81	40%	1700	35	31	34	15	170	70	66	69	0
Welders	1	74	40%	1700	28	24	27	15	170	63	59	62	0
Paving					**39**	***38***				**74**	***73***		
Tractors/Loaders/Backhoes	1	80	25%	1700	34	28	31	15	170	69	63	66	0
Roller	1	80	20%	1700	34	27	30	15	170	69	62	65	0
Paver	1	77	50%	1700	31	28	31	15	170	66	63	66	0
Other Equipment (Trencher)	1	85	50%	1700	39	36	39	15	170	74	71	74	0

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master

Construction Noise Impact on Sensitive Receptors

Phase 6: Bioscience Building, Parking Structure, Outpatient Bu

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R2				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Demolition Buildings					**58**	***53***		
Concrete/Industrial Saws	1	90	20%	1180	58	51	54	5
Excavators	1	81	40%	1180	49	45	48	5
Rubber Tired Loader	1	79	50%	1180	47	44	47	5
Water Trucks	1	80	10%	1180	48	38	41	5
Tractors/Loaders/Backhoes	1	80	25%	1180	48	42	45	5
Rubber Tired Dozer	1	82	40%	1180	50	46	49	5
Grading: Building Pad and Underground Utilities					**53**	***51***		
Rubber Tired Loader	1	79	50%	1180	47	44	47	5
Graders	1	85	40%	1180	53	49	52	5
Tractors/Loaders/Backhoes	1	80	25%	1180	48	42	45	5
Air Compressor	1	78	50%	1180	46	43	46	5
Water Trucks	1	80	10%	1180	48	38	41	5
Building Construction					**49**	***48***		
Forklifts	1	75	10%	1180	43	33	36	5
Tractors/Loaders/Backhoes	1	80	25%	1180	48	42	45	5
Air Compressor	1	78	50%	1180	46	43	46	5
Cranes	1	81	40%	1180	49	45	48	5
Welders	1	74	40%	1180	42	38	41	5
Paving					**53**	***42***		
Tractors/Loaders/Backhoes	1	80	25%	1180	48	42	45	5
Roller	1	80	20%	1180	48	41	44	5
Paver	1	77	50%	1180	45	42	45	5
Other Equipment (Trencher)	1	85	50%	1180	53	50	53	5

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master Plan

Construction Noise Impact on Sensitive Receptors

Phase: LA Biomed

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R3					R4				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Grading					**78**	***76***				**37**	***36***		
Rubber Tired Loader	1	79	50%	65	77	74	77	0	1200	36	33	36	15
Tractors/Loaders/Backhoes	1	80	25%	65	78	72	75	0	1200	37	31	34	15
Water Trucks	1	80	10%	65	78	68	71	0	1200	37	27	30	15
Building Construction (4)					**79**	***79***				**38**	***39***		
Forklifts	1	75	10%	65	73	63	66	0	1200	32	22	25	15
Welders	1	74	40%	65	72	68	71	0	1200	31	27	30	15
Tractors/Loaders/Backhoes	1	80	25%	65	78	72	75	0	1200	37	31	34	15
Air Compressor	1	78	50%	65	76	73	76	0	1200	35	32	35	15
Water Trucks	1	80	10%	65	78	68	71	0	1200	37	27	30	15
Cranes	1	81	40%	65	79	75	78	0	1200	38	34	37	15
Paving					**83**	***82***				**42**	***42***		
Tractors/Loaders/Backhoes	1	80	25%	65	78	72	75	0	1200	37	31	34	15
Concrete Mixer Trucks	1	79	40%	65	77	73	76	0	1200	36	32	35	15
Roller	1	80	20%	65	78	71	74	0	1200	37	30	33	15
Paver	1	77	50%	65	75	72	75	0	1200	34	31	34	15
Other Equipment (Trencher)	1	85	50%	65	83	80	83	0	1200	42	39	42	15

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master

Construction Noise Impact on Sensitive Receptors

Phase: LA Biomed

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R5					R6				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Grading					**36**	***35***				**48**	***47***		
Rubber Tired Loader	1	79	50%	1400	35	32	35	15	1100	47	44	47	5
Tractors/Loaders/Backhoes	1	80	25%	1400	36	30	33	15	1100	48	42	45	5
Water Trucks	1	80	10%	1400	36	26	29	15	1100	48	38	41	5
Building Construction (4)					**37**	***37***				**49**	***49***		
Forklifts	1	75	10%	1400	31	21	24	15	1100	43	33	36	5
Welders	1	74	40%	1400	30	26	29	15	1100	42	38	41	5
Tractors/Loaders/Backhoes	1	80	25%	1400	36	30	33	15	1100	48	42	45	5
Air Compressor	1	78	50%	1400	34	31	34	15	1100	46	43	46	5
Water Trucks	1	80	10%	1400	36	26	29	15	1100	48	38	41	5
Cranes	1	81	40%	1400	37	33	36	15	1100	49	45	48	5
Paving					**41**	***40***				**53**	***52***		
Tractors/Loaders/Backhoes	1	80	25%	1400	36	30	33	15	1100	48	42	45	5
Concrete Mixer Trucks	1	79	40%	1400	35	31	34	15	1100	47	43	46	5
Roller	1	80	20%	1400	36	29	32	15	1100	48	41	44	5
Paver	1	77	50%	1400	33	30	33	15	1100	45	42	45	5
Other Equipment (Trencher)	1	85	50%	1400	41	38	41	15	1100	53	50	53	5

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Project: Harbor UCLA Medical Center Campus Master

Construction Noise Impact on Sensitive Receptors

Phase: LA Biomed

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

Calculation

				R2				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Grading					**48**	***46***		
Rubber Tired Loader	1	79	50%	1180	47	44	47	5
Tractors/Loaders/Backhoes	1	80	25%	1180	48	42	45	5
Water Trucks	1	80	10%	1180	48	38	41	5
Building Construction (4)					**49**	***49***		
Forklifts	1	75	10%	1180	43	33	36	5
Welders	1	74	40%	1180	42	38	41	5
Tractors/Loaders/Backhoes	1	80	25%	1180	48	42	45	5
Air Compressor	1	78	50%	1180	46	43	46	5
Water Trucks	1	80	10%	1180	48	38	41	5
Cranes	1	81	40%	1180	49	45	48	5
Paving					**53**	***42***		
Tractors/Loaders/Backhoes	1	80	25%	1180	48	42	45	5
Concrete Mixer Trucks	1	79	40%	1180	47	43	46	5
Roller	1	80	20%	1180	48	41	44	5
Paver	1	77	50%	1180	45	42	45	5
Other Equipment (Trencher)	1	85	50%	1180	53	50	53	5

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005

Appendix 3
Off-Site Construction Traffic Noise Calculations

Project: Harbor UCLA Medical Center Campus Master Plan

Off-site Construction Traffic Noise

Roadway/Segment	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
Carson Street			268	64.2	61.9	60.4	61.2	58.9	57.4
W 220th Street			268	65.8	62.8	61.0	62.7	59.8	58.0
Vermont Street			268	63.6	61.5	60.2	60.6	58.5	57.2
Figueroa Street			268	64.2	61.9	60.4	61.2	58.9	57.4
0			0	-	-	-	-	-	-

Roadway/Segment	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
Vine Street			200	62.9	60.7	59.2	59.9	57.6	56.2
			0	-	-	-	-	-	-
			0	-	-	-	-	-	-
			0	-	-	-	-	-	-
			0	-	-	-	-	-	-

Roadway/Segment	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
			0	-	-	-	-	-	-
			0	-	-	-	-	-	-
			0	-	-	-	-	-	-
			0	-	-	-	-	-	-
			0	-	-	-	-	-	-

CNEL

Summary Roadway/Segment	25 ft. from ROW Project Increment	25 ft. from ROW Cumulative Increment	At ROW Project Increment	At ROW Cumulative Increment
Carson Street	-	-	-	-
W 220th Street	-	-	-	-
Vermont Street	-	-	-	-
Figueroa Street	-	-	-	-
0	-	-	-	-

Appendix 4
Traffic Noise Model Calibration Results

Harbor-UCLA Medical Center Campus Master Plan

Traffic Noise Model Calibration

Existing

Roadway/Segment	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 10 Feet	Leq 25 Feet	CNEL ROW	CNEL 10 Feet	CNEL 25 Feet
Carson Street			23856	71.6	70.5	69.3	68.6	67.5	66.3
Normandie Avenue			10128	69.2	67.8	66.2	66.3	64.8	63.3
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-

Future No Project

Roadway/Segment	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 10 Feet	Leq 25 Feet	CNEL ROW	CNEL 10 Feet	CNEL 25 Feet
Carson Street			0	-	-	-	-	-	-
Normandie Avenue			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-

Future With Project

Roadway/Segment	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 10 Feet	Leq 25 Feet	CNEL ROW	CNEL 10 Feet	CNEL 25 Feet
Carson Street			0	-	-	-	-	-	-
Normandie Avenue			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-
0			0	-	-	-	-	-	-

CNEL

Summary Roadway/Segment	10 ft. from ROW Project Increment	10 ft. from ROW Cumulative Increment	At ROW Project Increment	At ROW Cumulative Increment
Carson Street	-	-	-	-
Normandie Avenue	-	-	-	-
0	-	-	-	-
0	-	-	-	-
0	-	-	-	-

Appendix 5
Off-Site Traffic Noise Calculations

Project: Harbor-UCLA Medical Center Campus Master Plan

Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Carson Street between Western Ave and Normandie Ave	40	2536	2617	0	71.7	69.4	67.9	72.9	70.6	69.1
Carson Street between Normandie Ave and Budlong Ave	40	2388	2589	0	71.6	69.4	67.9	72.8	70.6	69.1
Carson Street between Sudlong Ave and Berendo Ave	40	2348	2549	0	71.6	69.3	67.8	72.8	70.5	69.0
Carson Street between Berendo Ave and Medical Center Dr	40	2443	2623	0	71.7	69.4	67.9	72.9	70.6	69.1
Carson Street between Medical Center Dr and Vermont Ave	40	2708	2779	0	71.9	69.7	68.2	73.1	70.9	69.4
Future No Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Carson Street between Western Ave and Normandie Ave	40	3066	3390	0	72.8	70.5	69.0	74.0	71.7	70.3
Carson Street between Normandie Ave and Budlong Ave	40	3032	3425	0	72.8	70.6	69.1	74.1	71.8	70.3
Carson Street between Sudlong Ave and Berendo Ave	40	3129	3464	0	72.9	70.6	69.1	74.1	71.8	70.4
Carson Street between Berendo Ave and Medical Center Dr	40	3071	3442	0	72.9	70.6	69.1	74.1	71.8	70.3
Carson Street between Medical Center Dr and Vermont Ave	40	3085	3446	0	72.9	70.6	69.1	74.1	71.8	70.3
Future With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Carson Street between Western Ave and Normandie Ave	40	3097	3438	0	72.9	70.6	69.1	74.1	71.8	70.3
Carson Street between Normandie Ave and Budlong Ave	40	3106	3526	0	73.0	70.7	69.2	74.2	71.9	70.4
Carson Street between Sudlong Ave and Berendo Ave	40	3210	3574	0	73.0	70.8	69.3	74.2	72.0	70.5
Carson Street between Berendo Ave and Medical Center Dr	40	3278	3695	0	73.2	70.9	69.4	74.4	72.1	70.6
Carson Street between Medical Center Dr and Vermont Ave	40	3291	3699	0	73.2	70.9	69.4	74.4	72.1	70.6

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Carson Street between Western Ave and Normandie Ave	0.1	1.2	0.1	1.2
Carson Street between Normandie Ave and Budlong Ave	0.1	1.3	0.1	1.4
Carson Street between Sudlong Ave and Berendo Ave	0.2	1.5	0.1	1.4
Carson Street between Berendo Ave and Medical Center Dr	0.3	1.5	0.3	1.5
Carson Street between Medical Center Dr and Vermont Ave	0.3	1.2	0.3	1.3

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Harbor-UCLA Medical Center Campus Master Plan

Existing										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
220th Street between Western Ave and Normandie Ave	35	290	240	0	62.3	59.3	57.6	63.5	60.6	58.8
220th Street between Normandie Ave and Myler St	35	471	369	0	64.4	61.5	59.7	65.6	62.7	60.9
220th Street between Myler St and Vermont Ave	35	592	488	0	65.4	62.4	60.7	66.6	63.7	61.9
220th St e/o Figueroa St	35	1376	1425	0	69.2	66.3	64.5	70.4	67.5	65.7
Figueroa Street s/o 220th St	40	1810	1676	0	70.5	68.0	66.5	71.7	69.3	67.7
Future No Project										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
220th Street between Western Ave and Normandie Ave	35	329	274	0	62.9	59.9	58.1	64.1	61.1	59.4
220th Street between Normandie Ave and Myler St	35	529	414	0	64.9	62.0	60.2	66.1	63.2	61.4
220th Street between Myler St and Vermont Ave	35	665	548	0	65.9	62.9	61.2	67.1	64.2	62.4
220th St e/o Figueroa St	35	1567	1642	0	69.8	66.9	65.1	71.1	68.1	66.3
Figueroa Street s/o 220th St	40	2096	2025	0	71.1	68.7	67.1	72.3	69.9	68.3
Future With Project										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
220th Street between Western Ave and Normandie Ave	35	354	301	0	63.2	60.2	58.5	64.4	61.4	59.7
220th Street between Normandie Ave and Myler St	35	587	481	0	65.4	62.4	60.7	66.6	63.6	61.9
220th Street between Myler St and Vermont Ave	35	768	667	0	66.5	63.6	61.8	67.8	64.8	63.0
220th St e/o Figueroa St	35	1656	1840	0	70.3	67.4	65.6	71.6	68.6	66.8
Figueroa Street s/o 220th St	40	2154	2177	0	71.3	68.8	67.3	72.5	70.1	68.5

CNEL

Summary	**25 ft. from ROW**		**At ROW**	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
220th Street between Western Ave and Normandie Ave	0.3	0.8	0.3	0.9
220th Street between Normandie Ave and Myler St	0.4	0.9	0.5	1.0
220th Street between Myler St and Vermont Ave	0.6	1.1	0.7	1.2
220th St e/o Figueroa St	0.5	1.1	0.5	1.2
Figueroa Street s/o 220th St	0.2	0.8	0.2	0.8

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Harbor-UCLA Medical Center Campus Master Plan

Existing										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
223rd Street between Western Ave and Normandie Ave	40	1926	2092	0	70.7	68.4	66.9	71.9	69.6	68.2
223rd Street between Normandie Ave and Myler St	40	1972	2185	0	70.9	68.6	67.1	72.1	69.8	68.3
223rd Street between Myler St and Vermont Ave	40	1998	2128	0	70.8	68.5	67.0	72.0	69.7	68.2
223rd St between Vermont Ave and I-110 SB Ramps	40	2415	2626	0	71.7	69.4	67.9	72.9	70.6	69.1
223rd Street between I-110 SB Ramps and Figueroa St	40	2288	2553	0	71.6	69.3	67.8	72.8	70.5	69.0
Future No Project										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
223rd Street between Western Ave and Normandie Ave	40	2175	2374	0	71.3	69.0	67.5	72.5	70.2	68.7
223rd Street between Normandie Ave and Myler St	40	2238	2484	0	71.4	69.2	67.7	72.7	70.4	68.9
223rd Street between Myler St and Vermont Ave	40	2273	2425	0	71.3	69.1	67.6	72.6	70.3	68.8
223rd St between Vermont Ave and I-110 SB Ramps	40	2757	3028	0	72.3	70.0	68.6	73.5	71.2	69.8
223rd Street between I-110 SB Ramps and Figueroa St	40	2619	2955	0	72.2	69.9	68.4	73.4	71.1	69.7
Future With Project										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
223rd Street between Western Ave and Normandie Ave	40	1813	2389	0	71.3	69.0	67.5	72.5	70.2	68.7
223rd Street between Normandie Ave and Myler St	40	2398	2522	0	71.5	69.2	67.8	72.7	70.5	69.0
223rd Street between Myler St and Vermont Ave	40	2333	2478	0	71.4	69.2	67.7	72.7	70.4	68.9
223rd St between Vermont Ave and I-110 SB Ramps	40	2916	3196	0	72.5	70.3	68.8	73.8	71.5	70.0
223rd Street between I-110 SB Ramps and Figueroa St	40	2717	3078	0	72.4	70.1	68.6	73.6	71.3	69.8

CNEL

Summary	**25 ft. from ROW**		**At ROW**	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
223rd Street between Western Ave and Normandie Ave	0.0	0.6	0.0	0.6
223rd Street between Normandie Ave and Myler St	0.1	0.7	0.0	0.6
223rd Street between Myler St and Vermont Ave	0.1	0.7	0.1	0.7
223rd St between Vermont Ave and I-110 SB Ramps	0.3	0.9	0.3	0.9
223rd Street between I-110 SB Ramps and Figueroa St	0.2	0.8	0.2	0.8

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Harbor-UCLA Medical Center Campus Master Plan

Existing										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Western Avenue between Carson St and 220th St	40	2296	2549	0	71.6	69.3	67.8	72.8	70.5	69.0
Western Avenue between 220th St and 223rd St	40	2524	2632	0	71.7	69.4	67.9	72.9	70.6	69.2
Western Avenue between 223rd St and Sepulveda Blvd	40	2693	2579	0	71.8	69.5	68.0	73.0	70.7	69.3
Myler Street between 220th St and 223rd St	35	294	161	0	62.4	59.4	57.6	63.6	60.6	58.9
0	40			0	-	-	-	-	-	-
Future No Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Western Avenue between Carson St and 220th St	40	2586	2883	0	72.1	69.8	68.3	73.3	71.0	69.6
Western Avenue between 220th St and 223rd St	40	2844	2977	0	72.2	70.0	68.5	73.4	71.2	69.7
Western Avenue between 223rd St and Sepulveda Blvd	40	3043	2927	0	72.3	70.1	68.6	73.5	71.3	69.8
Myler Street between 220th St and 223rd St	35	330	180	0	62.9	59.9	58.1	64.1	61.1	59.4
0	40			0	-	-	-	-	-	-
Future With Project										
	Speed	Traffic Volumes			Leq			CNEL		
Roadway/Segment	MPH	AM	PM	ADT	ROW	25 Feet	50 Feet	ROW	25 Feet	50 Feet
Western Avenue between Carson St and 220th St	40	2610	2909	0	72.1	69.9	68.4	73.3	71.1	69.6
Western Avenue between 220th St and 223rd St	40	2845	2978	0	72.2	70.0	68.5	73.4	71.2	69.7
Western Avenue between 223rd St and Sepulveda Blvd	40	3049	2935	0	72.3	70.1	68.6	73.6	71.3	69.8
Myler Street between 220th St and 223rd St	35	371	229	0	63.4	60.4	58.7	64.6	61.6	59.9
0	40			0	-	-	-	-	-	-

CNEL

Summary	25 ft. from ROW		At ROW	
Roadway/Segment	Project Increment	Cumulative Increment	Project Increment	Cumulative Increment
Western Avenue between Carson St and 220th St	0.1	0.6	0.0	0.5
Western Avenue between 220th St and 223rd St	0.0	0.6	0.0	0.5
Western Avenue between 223rd St and Sepulveda Blvd	0.0	0.6	0.1	0.6
Myler Street between 220th St and 223rd St	0.5	1.0	0.5	1.0
0	-	-	-	-

	% of ADT			
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Harbor-UCLA Medical Center Campus Master Plan

Existing										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Normandie Avenue between Torrance Blvd and Carson St	40	1533	1605	0	70.4	67.8	66.1	71.6	69.0	67.3
Normandie Avenue between Carson St and 220th St	40	1544	1533	0	70.2	67.6	66.0	71.5	68.8	67.2
Normandie Avenue between 220th St and 223rd St	40	1438	1414	0	69.9	67.3	65.7	71.1	68.5	66.9
Budlong Avenue n/o Carson St	35	82	107	0	58.0	55.0	53.3	59.2	56.2	54.5
Berendo Avenue n/o Carson St	35	102	136	0	59.0	56.1	54.3	60.2	57.3	55.5
Future No Project										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Normandie Avenue between Torrance Blvd and Carson St	40	1742	1828	0	71.0	68.3	66.7	72.2	69.5	67.9
Normandie Avenue between Carson St and 220th St	40	1750	1736	0	70.8	68.1	66.5	72.0	69.4	67.7
Normandie Avenue between 220th St and 223rd St	40	1636	1609	0	70.5	67.8	66.2	71.7	69.1	67.4
Budlong Avenue n/o Carson St	35	92	119	0	58.5	55.5	53.7	59.7	56.7	54.9
Berendo Avenue n/o Carson St	35	114	152	0	59.5	56.5	54.8	60.7	57.8	56.0
Future With Project										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Normandie Avenue between Torrance Blvd and Carson St	40	1825	1912	0	71.2	68.5	66.9	72.4	69.7	68.1
Normandie Avenue between Carson St and 220th St	40	1853	1857	0	71.0	68.4	66.8	72.3	69.6	68.0
Normandie Avenue between 220th St and 223rd St	40	1691	1653	0	70.6	68.0	66.4	71.8	69.2	67.6
Budlong Avenue n/o Carson St	35	92	119	0	58.5	55.5	53.7	59.7	56.7	54.9
Berendo Avenue n/o Carson St	35	114	152	0	59.5	56.5	54.8	60.7	57.8	56.0

CNEL

Summary	**25 ft. from ROW**		**At ROW**	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Normandie Avenue between Torrance Blvd and Carson St	0.2	0.7	0.2	0.8
Normandie Avenue between Carson St and 220th St	0.2	0.8	0.3	0.8
Normandie Avenue between 220th St and 223rd St	0.1	0.7	0.1	0.7
Budlong Avenue n/o Carson St	0.0	0.5	0.0	0.5
Berendo Avenue n/o Carson St	0.0	0.5	0.0	0.5

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Harbor-UCLA Medical Center Campus Master Plan

Existing										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Vermont Avenue between Torrance Blvd and Carson St	40	1910	1792	0	71.9	68.9	67.1	73.1	70.1	68.4
Vermont Avenue between Carson St and 220th St	40	2018	1854	0	72.1	69.1	67.4	73.3	70.4	68.6
Vermont Avenue between 220th St and 223rd St	40	1857	1695	0	71.8	68.8	67.0	73.0	70.0	68.2
Medical Center Drive n/o Carson St	35	104	78	0	57.9	54.9	53.1	59.1	56.1	54.4
0	35			0	-	-	-	-	-	-
Future No Project										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Vermont Avenue between Torrance Blvd and Carson St	40	2186	2077	0	72.5	69.5	67.7	73.7	70.7	68.9
Vermont Avenue between Carson St and 220th St	40	2302	2138	0	72.7	69.7	68.0	73.9	70.9	69.2
Vermont Avenue between 220th St and 223rd St	40	2122	1959	0	72.3	69.4	67.6	73.6	70.6	68.8
Medical Center Drive n/o Carson St	35	116	87	0	58.3	55.4	53.6	59.6	56.6	54.8
0	35			0	-	-	-	-	-	-
Future With Project										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Vermont Avenue between Torrance Blvd and Carson St	40	2240	2139	0	72.6	69.6	67.8	73.8	70.8	69.1
Vermont Avenue between Carson St and 220th St	40	2419	2270	0	72.9	69.9	68.2	74.1	71.1	69.4
Vermont Avenue between 220th St and 223rd St	40	2241	2101	0	72.6	69.6	67.8	73.8	70.8	69.1
Medical Center Drive n/o Carson St	35	116	87	0	58.3	55.4	53.6	59.6	56.6	54.8
0	35			0	-	-	-	-	-	-

CNEL

Summary	**25 ft. from ROW**		**At ROW**	
	Project	**Cumulative**	**Project**	**Cumulative**
Roadway/Segment	**Increment**	**Increment**	**Increment**	**Increment**
Vermont Avenue between Torrance Blvd and Carson St	0.1	0.7	0.1	0.7
Vermont Avenue between Carson St and 220th St	0.2	0.7	0.2	0.8
Vermont Avenue between 220th St and 223rd St	0.2	0.8	0.2	0.8
Medical Center Drive n/o Carson St	0.0	0.5	0.0	0.5
0	-	-	-	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Harbor-UCLA Medical Center Campus Master Plan

Existing										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Carson Street between Western Ave and Normandie Ave	40	2536	2617	0	71.7	69.4	67.9	72.9	70.6	69.1
Carson Street between Normandie Ave and Budlong Ave	40	2388	2589	0	71.6	69.4	67.9	72.8	70.6	69.1
Carson Street between Budlong Ave and Berendo Ave	40	2348	2549	0	71.6	69.3	67.8	72.8	70.5	69.0
Carson Street between Berendo Ave and Medical Center Dr	40	2443	2623	0	71.7	69.4	67.9	72.9	70.6	69.1
Carson Street between Medical Center Dr and Vermont Ave	40	2708	2779	0	71.9	69.7	68.2	73.1	70.9	69.4
Existing Plus Project (Full Buildout 2030)										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Carson Street between Western Ave and Normandie Ave	40	2567	2665	0	71.8	69.5	68.0	73.0	70.7	69.2
Carson Street between Normandie Ave and Budlong Ave	40	2461	2690	0	71.8	69.5	68.0	73.0	70.7	69.3
Carson Street between Budlong Ave and Berendo Ave	40	2429	2658	0	71.7	69.5	68.0	73.0	70.7	69.2
Carson Street between Berendo Ave and Medical Center Dr	40	2650	2876	0	72.1	69.8	68.3	73.3	71.0	69.5
Carson Street between Medical Center Dr and Vermont Ave	40	2915	3032	0	72.3	70.0	68.6	73.5	71.3	69.8
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Carson Street between Western Ave and Normandie Ave	40			0	-	-	-	-	-	-
Carson Street between Normandie Ave and Budlong Ave	40			0	-	-	-	-	-	-
Carson Street between Budlong Ave and Berendo Ave	40			0	-	-	-	-	-	-
Carson Street between Berendo Ave and Medical Center Dr	40			0	-	-	-	-	-	-
Carson Street between Medical Center Dr and Vermont Ave	40			0	-	-	-	-	-	-

CNEL

Summary	**25 ft. from ROW**		**At ROW**	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Carson Street between Western Ave and Normandie Ave	0.1	-	0.1	-
Carson Street between Normandie Ave and Budlong Ave	0.1	-	0.2	-
Carson Street between Budlong Ave and Berendo Ave	0.2	-	0.2	-
Carson Street between Berendo Ave and Medical Center Dr	0.4	-	0.4	-
Carson Street between Medical Center Dr and Vermont Ave	0.4	-	0.4	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Harbor-UCLA Medical Center Campus Master Plan

Existing										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
220th Street between Western Ave and Normandie Ave	35	290	240	0	62.3	59.3	57.6	63.5	60.6	58.8
220th Street between Normandie Ave and Myler St	35	471	369	0	64.4	61.5	59.7	65.6	62.7	60.9
220th Street between Myler St and Vermont Ave	35	592	488	0	65.4	62.4	60.7	66.6	63.7	61.9
220th St e/o Figueroa St	35	1376	1425	0	69.2	66.3	64.5	70.4	67.5	65.7
Figueroa Street s/o 220th St	40	1810	1676	0	70.5	68.0	66.5	71.7	69.3	67.7
Existing Plus Project (Full Buildout 2030)										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
220th Street between Western Ave and Normandie Ave	35	315	267	0	62.7	59.7	57.9	63.9	60.9	59.2
220th Street between Normandie Ave and Myler St	35	530	436	0	64.9	62.0	60.2	66.1	63.2	61.4
220th Street between Myler St and Vermont Ave	35	695	607	0	66.1	63.1	61.4	67.3	64.4	62.6
220th St e/o Figueroa St	35	1465	1623	0	69.8	66.8	65.1	71.0	68.0	66.3
Figueroa Street s/o 220th St	40	1868	1828	0	70.6	68.2	66.6	71.8	69.4	67.8
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
220th Street between Western Ave and Normandie Ave	35			0	-	-	-	-	-	-
220th Street between Normandie Ave and Myler St	35			0	-	-	-	-	-	-
220th Street between Myler St and Vermont Ave	35			0	-	-	-	-	-	-
220th St e/o Figueroa St	35			0	-	-	-	-	-	-
Figueroa Street s/o 220th St	40			0	-	-	-	-	-	-

CNEL

Summary	**25 ft. from ROW**		**At ROW**	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
220th Street between Western Ave and Normandie Ave	0.3	-	0.4	-
220th Street between Normandie Ave and Myler St	0.5	-	0.5	-
220th Street between Myler St and Vermont Ave	0.7	-	0.7	-
220th St e/o Figueroa St	0.5	-	0.6	-
Figueroa Street s/o 220th St	0.1	-	0.1	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Harbor-UCLA Medical Center Campus Master Plan

Existing										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
223rd Street between Western Ave and Normandie Ave	40	1926	2092	0	70.7	68.4	66.9	71.9	69.6	68.2
223rd Street between Normandie Ave and Myler St	40	1972	2185	0	70.9	68.6	67.1	72.1	69.8	68.3
223rd Street between Myler St and Vermont Ave	40	1998	2128	0	70.8	68.5	67.0	72.0	69.7	68.2
223rd St between Vermont Ave and I-110 SB Ramps	40	2415	2626	0	71.7	69.4	67.9	72.9	70.6	69.1
223rd Street between I-110 SB Ramps and Figueroa St	40	2288	2553	0	71.6	69.3	67.8	72.8	70.5	69.0
Existing Plus Project (Full Buildout 2030)										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
223rd Street between Western Ave and Normandie Ave	40	1938	2107	0	70.7	68.5	67.0	71.9	69.7	68.2
223rd Street between Normandie Ave and Myler St	40	2017	2223	0	71.0	68.7	67.2	72.2	69.9	68.4
223rd Street between Myler St and Vermont Ave	40	2057	2181	0	70.9	68.6	67.1	72.1	69.8	68.3
223rd St between Vermont Ave and I-110 SB Ramps	40	2574	2795	0	72.0	69.7	68.2	73.2	70.9	69.4
223rd Street between I-110 SB Ramps and Figueroa St	40	2386	2676	0	71.8	69.5	68.0	73.0	70.7	69.2
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
223rd Street between Western Ave and Normandie Ave	40			0	-	-	-	-	-	-
223rd Street between Normandie Ave and Myler St	40			0	-	-	-	-	-	-
223rd Street between Myler St and Vermont Ave	40			0	-	-	-	-	-	-
223rd St between Vermont Ave and I-110 SB Ramps	40			0	-	-	-	-	-	-
223rd Street between I-110 SB Ramps and Figueroa St	40			0	-	-	-	-	-	-

CNEL

Summary	**25 ft. from ROW**		**At ROW**	
	Project	**Cumulative**	**Project**	**Cumulative**
Roadway/Segment	**Increment**	**Increment**	**Increment**	**Increment**
223rd Street between Western Ave and Normandie Ave	0.1	-	0.0	-
223rd Street between Normandie Ave and Myler St	0.1	-	0.1	-
223rd Street between Myler St and Vermont Ave	0.1	-	0.1	-
223rd St between Vermont Ave and I-110 SB Ramps	0.3	-	0.3	-
223rd Street between I-110 SB Ramps and Figueroa St	0.2	-	0.2	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Harbor-UCLA Medical Center Campus Master Plan

Existing

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
Western Avenue between Carson St and 220th St	40	2296	2549	0	71.6	69.3	67.8	72.8	70.5	69.0
Western Avenue between 220th St and 223rd St	40	2524	2632	0	71.7	69.4	67.9	72.9	70.6	69.2
Western Avenue between 223rd St and Sepulveda Blvd	40	2693	2579	0	71.8	69.5	68.0	73.0	70.7	69.3
Myler Street between 220th St and 223rd St	35	294	161	0	62.4	59.4	57.6	63.6	60.6	58.9
0	40			0	-	-	-	-	-	-

Existing Plus Project (Full Buildout 2030)

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
Western Avenue between Carson St and 220th St	40	2320	2575	0	71.6	69.3	67.8	72.8	70.5	69.1
Western Avenue between 220th St and 223rd St	40	2525	2633	0	71.7	69.4	67.9	72.9	70.6	69.2
Western Avenue between 223rd St and Sepulveda Blvd	40	2699	2587	0	71.8	69.5	68.1	73.0	70.7	69.3
Myler Street between 220th St and 223rd St	35	335	210	0	62.9	60.0	58.2	64.2	61.2	59.4
0	40			0	-	-	-	-	-	-

Roadway/Segment	Speed MPH	Traffic Volumes AM	PM	ADT	Leq ROW	Leq 25 Feet	Leq 50 Feet	CNEL ROW	CNEL 25 Feet	CNEL 50 Feet
Western Avenue between Carson St and 220th St	40			0	-	-	-	-	-	-
Western Avenue between 220th St and 223rd St	40			0	-	-	-	-	-	-
Western Avenue between 223rd St and Sepulveda Blvd	40			0	-	-	-	-	-	-
Myler Street between 220th St and 223rd St	35			0	-	-	-	-	-	-
0	40			0	-	-	-	-	-	-

CNEL

Summary / Roadway/Segment	25 ft. from ROW Project Increment	25 ft. from ROW Cumulative Increment	At ROW Project Increment	At ROW Cumulative Increment
Western Avenue between Carson St and 220th St	0.0	-	0.0	-
Western Avenue between 220th St and 223rd St	0.0	-	0.0	-
Western Avenue between 223rd St and Sepulveda Blvd	0.0	-	0.0	-
Myler Street between 220th St and 223rd St	0.6	-	0.6	-
0	-	-	-	-

% of ADT				
Vehicle Type	Day	Eve	Night	Sub total
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Harbor-UCLA Medical Center Campus Master Plan

Existing										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Normandie Avenue between Torrance Blvd and Carson St	40	1533	1605	0	70.4	67.8	66.1	71.6	69.0	67.3
Normandie Avenue between Carson St and 220th St	40	1544	1533	0	70.2	67.6	66.0	71.5	68.8	67.2
Normandie Avenue between 220th St and 223rd St	40	1438	1414	0	69.9	67.3	65.7	71.1	68.5	66.9
Budlong Avenue n/o Carson St	35	82	107	0	58.0	55.0	53.3	59.2	56.2	54.5
Berendo Avenue n/o Carson St	35	102	136	0	59.0	56.1	54.3	60.2	57.3	55.5
Existing Plus Project (Full Buildout 2030)										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Normandie Avenue between Torrance Blvd and Carson St	40	1616	1689	0	70.6	68.0	66.4	71.8	69.2	67.6
Normandie Avenue between Carson St and 220th St	40	1648	1654	0	70.5	67.9	66.3	71.8	69.1	67.5
Normandie Avenue between 220th St and 223rd St	40	1493	1458	0	70.1	67.5	65.8	71.3	68.7	67.0
Budlong Avenue n/o Carson St	35	82	107	0	58.0	55.0	53.3	59.2	56.2	54.5
Berendo Avenue n/o Carson St	35	102	136	0	59.0	56.1	54.3	60.2	57.3	55.5
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Normandie Avenue between Torrance Blvd and Carson St	40			0	-	-	-	-	-	-
Normandie Avenue between Carson St and 220th St	40			0	-	-	-	-	-	-
Normandie Avenue between 220th St and 223rd St	40			0	-	-	-	-	-	-
Budlong Avenue n/o Carson St	35			0	-	-	-	-	-	-
Berendo Avenue n/o Carson St	35			0	-	-	-	-	-	-

CNEL

Summary	**25 ft. from ROW**		**At ROW**	
	Project	**Cumulative**	**Project**	**Cumulative**
Roadway/Segment	**Increment**	**Increment**	**Increment**	**Increment**
Normandie Avenue between Torrance Blvd and Carson St	0.2	-	0.2	-
Normandie Avenue between Carson St and 220th St	0.3	-	0.3	-
Normandie Avenue between 220th St and 223rd St	0.2	-	0.2	-
Budlong Avenue n/o Carson St	0.0	-	0.0	-
Berendo Avenue n/o Carson St	0.0	-	0.0	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Project: Harbor-UCLA Medical Center Campus Master Plan

Existing										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Vermont Avenue between Torrance Blvd and Carson St	40	1910	1792	0	71.9	68.9	67.1	73.1	70.1	68.4
Vermont Avenue between Carson St and 220th St	40	2018	1854	0	72.1	69.1	67.4	73.3	70.4	68.6
Vermont Avenue between 220th St and 223rd St	40	1857	1695	0	71.8	68.8	67.0	73.0	70.0	68.2
Medical Center Drive n/o Carson St	35	104	78	0	57.9	54.9	53.1	59.1	56.1	54.4
0	35			0	-	-	-	-	-	-
Existing Plus Project (Full Buildout 2030)										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Vermont Avenue between Torrance Blvd and Carson St	40	1964	1853	0	72.0	69.0	67.3	73.2	70.2	68.5
Vermont Avenue between Carson St and 220th St	40	2135	1987	0	72.4	69.4	67.6	73.6	70.6	68.8
Vermont Avenue between 220th St and 223rd St	40	1976	1837	0	72.0	69.0	67.3	73.3	70.3	68.5
Medical Center Drive n/o Carson St	35	104	78	0	57.9	54.9	53.1	59.1	56.1	54.4
0	35			0	-	-	-	-	-	-
Future With Project										
	Speed	**Traffic Volumes**			**Leq**			**CNEL**		
Roadway/Segment	**MPH**	**AM**	**PM**	**ADT**	**ROW**	**25 Feet**	**50 Feet**	**ROW**	**25 Feet**	**50 Feet**
Vermont Avenue between Torrance Blvd and Carson St	40			0	-	-	-	-	-	-
Vermont Avenue between Carson St and 220th St	40			0	-	-	-	-	-	-
Vermont Avenue between 220th St and 223rd St	40			0	-	-	-	-	-	-
Medical Center Drive n/o Carson St	35			0	-	-	-	-	-	-
0	35			0	-	-	-	-	-	-

CNEL

Summary	**25 ft. from ROW**		**At ROW**	
Roadway/Segment	**Project Increment**	**Cumulative Increment**	**Project Increment**	**Cumulative Increment**
Vermont Avenue between Torrance Blvd and Carson St	0.1	-	0.1	-
Vermont Avenue between Carson St and 220th St	0.2	-	0.3	-
Vermont Avenue between 220th St and 223rd St	0.3	-	0.3	-
Medical Center Drive n/o Carson St	0.0	-	0.0	-
0	-	-	-	-

	% of ADT			
Vehicle Type	**Day**	**Eve**	**Night**	**Sub total**
Auto	77.6%	9.7%	9.7%	97.0%
Medium Truck	1.6%	0.2%	0.2%	2.0%
Heavy Truck	0.8%	0.1%	0.1%	1.0%
	80.0%	10.0%	10.0%	100.0%

Helistop Relocation
Noise Impact Study

HARBOR-UCLA MEDICAL CENTER CAMPUS MASTER PLAN -
ENVIRONMENTAL IMPACT REPORT

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June 2016

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1 INTRODUCTION

This Noise Impact Study (Study) analyzes potential noise impacts associated with the proposed Helistop relocation at the Harbor-UCLA Medical Center (HUCLAMC), located in the County of Los Angeles, California (Project). The Project includes relocation of the existing Helistop, mounted on the roof of a single-story structure located on the eastern side of the HUCLAMC campus to an interim (temporary) location at the southwestern portion (near the Bio-Med building) of the campus; and to the final location, on the roof top of the future 9-story hospital building (near the existing Helistop, see Figure 2 on page 11). This noise assessment study addresses the potential noise impacts associated with the future helicopter operations on the nearby noise sensitive (i.e., residential and school) uses.

2 ENVIRONMENTAL SETTING

2.1 Noise Descriptors

Noise is usually defined as sound that is undesirable because it interferes with speech communication and hearing, or is otherwise annoying (unwanted sound). The decibel (dB) is a conventional unit for measuring the amplitude of sound because it accounts for the large variations in sound pressure amplitude and reflects the way people perceive changes in sound amplitude.[1] The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate this human frequency-dependent response, the A-weighted filtering system is used to adjust measured sound levels (dBA). The term "A-weighted" refers to filtering the noise signal in a manner that corresponds to the way the human ear perceives sound. Examples of various sound levels in different environments are shown in Figure 1 on page 4.

People judge the relative magnitude of sound sensation by subjective terms such as "loudness" or "noisiness." To the normal hearing, a change (i.e., increase or decrease) in sound level of 3 dBA is considered "just perceptible," a change in sound level of 5 dBA is considered "clearly noticeable," and an increase of 10 dBA is recognized as "twice as loud."[2]

Several rating scales have been developed to analyze the adverse effect of community noise on people. Since environmental noise fluctuates over time, these scales consider the total acoustical energy content, as well as the time and duration of occurrence. The most frequently used noise descriptors, including those used by the County of Los Angeles (where the Project is located), are summarized below:

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[1] *All sound levels measured in decibel (dB) in this study are relative to $2x10^{-5}$ N/m^2.*

[2] *Engineering Noise Control, Bies & Hansen, 1988.*

Noise Level (dBA)	Common Indoor Noise Levels	Common Outdoor Noise Levels
110	Rock Band	
100	Inside Subway Train	Jet Flyover @ 1,000 feet Gas Lawn Mower @ 3 feet
90	Food Blender @ 3 feet	Diesel Truck @ 50 feet Noisy Urban Daytime
80	Garbage Disposal @ 3 feet Shouting @ 3 feet	
70	Vacuum Cleaner @ 10 feet	Gas Lawn Mower @ 100 feet Commercial Area
60	Normal Speech @ 3 feet Large Business Office	Heavy Traffic @ 300 feet
50	Dishwasher next room	Quiet Urban Daytime
40	Small Theater/Conference Room (background)	Quiet Urban Nighttime Quiet Suburban Daytime
30	Library Bedroom at Night	
20	Concert Hall (background) Broadcast & Recording Studio	Quiet Rural Nighttime
10		
0	Threshold of Hearing	

Source: Noise Element of the Los Angeles City General Plan, adopted February 3, 1999

Figure 1. Common Noise Levels

Maximum Sound Level (L_{max}). L_{max} represents the maximum A-weighted sound level measured during a defined measurement period. It is a measure of the highest sound level at a particular point in time.

Equivalent Sound Level (L_{eq}). L_{eq} is a measurement of the acoustic energy averaged or integrated over a specified time period. The L_{eq} of a time-varying sound and that of a steady sound are the same if they deliver the same amount of energy to the receptor's ear during exposure. L_{eq} can be measured for any time period, but is typically measured for an increment of no less than 15 minutes for environmental studies.

Sound Exposure Level (SEL). SEL is typically used to evaluate noise effects from the aircraft operation (including helicopter flight noise) on noise sensitive land uses such as residential. SEL is an energy-based sum of the noise experienced during a single noise event, normalized to one second duration. For example, a single noise event with a sound level of 70 dBA that lasted 10 seconds would have an SEL of 80 dBA.[3]

Statistical Sound Level (L_n). L_n is a statistical description of the sound level that is exceeded over some fraction of a given period of time. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time. In other words, half of the time the noise level exceeds this level, and half of the time the noise level is less than this level. L_{50} is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the L_8 and L_{25} represent the noise levels that are exceeded 8 and 25 percent of the time, respectively, or for 5 and 15 minutes during a 1-hour period, respectively. The County of Los Angeles noise limits are provided in terms of statistical sound levels.

Community Noise Equivalent Level (CNEL). CNEL is the time average of all A-weighted sound levels for a 24-hour day period with a 10 dBA adjustment (increase) added to the sound levels which occur in the nighttime hours (10:00 p.m. to 7:00 a.m.), and a 5 dBA adjustment (increase) added to the sound levels which occur in the evening hours (7:00 p.m. to 10:00 p.m.). These penalties attempt to account for increased human sensitivity to noise during the quieter nighttime periods, when the ambient background noise is less and where sleep is the most probable activity. In general, and as relates to constant noise sources such as mechanical equipment, the 24-hour CNEL is approximately equal to L_{eq} plus 7 dBA. CNEL has been adopted by the State of California to define the community noise environment for development of the community Noise Element of a General Plan, and is also used by the City of Los Angeles for land use planning and to describe noise impacts in its *L.A. CEQA Thresholds Guide (2006).*[4]

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[3] *Sample of SEL calculation for a noise level of 70 dBA which lasted 10 seconds. SEL = 70 dBA + 10*log(10) = 80 dBA SEL*

[4] *State of California, General Plan Guidelines, 2006.*

Day-Night Average Level (L_{dn} or DNL). L_{dn}, like CNEL, is the weighted 24-hour average noise level in an environment which accounts for peoples increased annoyance to noise occurring in the nighttime hours. L_{dn} is the average equivalent A-weighted sound level during a 24-hour day, calculated after adding 10 dBA to sound levels which occur in the night after 10:00 p.m. and before 7:00 a.m. Typically, L_{dn} levels are within 1 dBA of CNEL levels.

2.2 Federal and State Noise Standards for Aircraft Operations

The Federal Aviation Administration (FAA) established the aircraft noise analysis methodology and significance threshold that are applicable to federally funded projects that have an aviation noise component.

Title 14 of the Code of Federal Regulations (CFR), and specifically Part 150, *Airport Noise Compatibility Planning*, provides guidelines for land use compatibility around airports. Part 150 states that in general, residential uses are not compatible within the 65 dBA L_{dn} contour or above, and that all types of land uses are compatible in areas below 65 dBA L_{dn} (65 dBA CNEL for projects in California). In addition, the FAA's Order 1050.1E, *Environmental Impacts: Policies and Procedures*, establishes a screening threshold of a 1.5 dBA L_{dn} (or 1.5 dBA CNEL for projects in California) increase in noise in any sensitive area located within the 65 dBA L_{dn} (or 65 dBA CNEL for projects in California) contour. In practice, it has been found that unless a proposed airport or heliport project will cause at least by a 1.5 dB increase within the 65 dBA CNEL or greater area, a 3 dB or greater (i.e., audible) increase in the 60-65 dBA CNEL area, impacts will not occur.[5]

The airport noise regulations found in CCR Title 21, Section 5000 et seq. are administered by the Division of Aeronautics within the California Department of Transportation (Caltrans). Under these regulations, civilian airports are required to ensure compatible land uses within the 65 dBA CNEL contour produced by their aircraft operations. Caltrans also has adopted the 65 dBA CNEL threshold as the maximum acceptable exterior noise exposure for residential land uses affected by noise generated at helistops.

Neither the FAA nor the State of California has established a standard compatibility criterion for the A-weighted single event noise metrics such as SEL or L_{max}. However, previous research performed by Federal Aviation Administration (FAA) and others, examines the correlation between single event noise levels and prediction of "annoyance" due to speech or sleep interference. The Federal Interagency Committee on Aircraft Noise (FICAN) *Effects of Aviation Noise on Awakenings from Sleep, June, 1997* analyzed several sleep studies regarding the relationship between the single event noise metric, Sound Exposure Level (SEL) and sleep disturbance as measured by the number of awakenings. According to the

[5] *Federal Agency Review of Selected Airport Noise Analysis Issues, Federal Interagency Committee on Noise, August 1992.*

FICAN reports, up to 10 percent of the people could experience sleep disturbance from aircraft noise when the indoor noise environment reaches a level of 81 dBA SEL.[6]

2.3 County of Los Angeles Standards and Guidelines

The Noise Control Ordinance of the County of Los Angeles (County Noise Ordinance) identifies exterior noise standards for any source of sound at any location within the unincorporated areas of the County, and specific noise restrictions, exemptions, and variances for exterior noise sources. Specifically, Section 12.08.010, et seq., of the County Code provides maximum exterior noise level standards for four general noise zones. These noise zones are:

1. Noise-Sensitive Areas: Noise-sensitive zones are designated by the County Health Officer.
2. Residential Properties: This category includes all types of residential developments and properties subject to residential zoning.
3. Commercial Properties: This category includes all types of commercial developments and properties subject to commercial zoning classifications.
4. Industrial Properties: This category includes all properties developed with manufacturing uses and properties subject to industrial zoning.

For each of these zones, the County Noise Ordinance states that exterior operational noise levels caused by project-related on-site fixed sources (i.e., point noise sources) shall not exceed the levels identified in Table 1 on page 8, or the ambient noise level, whichever is greater, when the ambient noise level is determined without the noise source operating.[7] These standards are based on the duration of the noise. Thus, the louder the noise, the shorter the duration that such noise can last. To define these specific durations of noise, the noise metrics used include L_{50}, L_{25}, $L_{8.3}$, $L_{1.7}$, and L_{max}. These metrics are based upon a one-hour timeframe and indicate exceedances of 50, 25, 8.3, and 1.7 percent of the time, which are equivalent to 30 minutes, 15 minutes, 5 minutes, and 1 minute in an hour, respectively. In addition, L_{max} represents the maximum sound level during a time period.

The current County of Los Angeles General Plan, adopted in 1980, includes a Noise Element as a planning tool to develop strategies and action programs that address a multitude of noise sources and issues. The noise guidelines used by the County are based on the land use community compatibility guidelines established by the State of California, as provided in Table 2 on page 9. Specific regulations that implement these guidelines are set forth in the County Code, discussed below. Relevant policies in the Noise Element focus on minimizing transportation-related noise and promoting public awareness of noise effects.

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[6] *FICAN, "Effects of Aviation Noise on Awakening from Sleep", June 1997.*

[7] *Ambient noise level is the existing background noise level at the time of measurement or prediction.*

Table 1. County of Los Angeles Exterior Noise Standards

Noise Zone	Designated Noise Zone Land Use (Receptor Property)	Time Interval	Exterior Noise Level[a] dBA
I	Noise-Sensitive Area[b]	Anytime	45
II	Residential Properties	10:00 P.M. to 7:00 A.M. 7:00 A.M. to 10:00 P.M.	45 50
III	Commercial Properties	10:00 P.M. to 7:00 A.M. 7:00 A.M. to 10:00 P.M.	55 60
IV	Industrial Properties	Anytime	70

[a] *This Table is used by the County to develop noise standards based on the duration of the noise source. These standards are described below.*

Standard No. 1 *shall be the exterior noise level which may not be exceeded for a cumulative period of more than 30 minutes in any hour. Standard No. 1 shall be the applicable noise level; or, if the ambient L_{50} exceeds the forgoing level, then the ambient L_{50} becomes the exterior noise level for Standard No. 1.*

Standard No. 2 *shall be the exterior noise level which may not be exceeded for a cumulative period of more than 15 minutes in any hour. Standard No. 2 shall be the applicable noise level from Standard 1 plus 5 dBA; or, if the ambient L_{25} exceeds the forgoing level, then the ambient L_{25} becomes the exterior noise level for Standard No. 2*

Standard No. 3 *shall be the exterior noise level which may not be exceeded for a cumulative period of more than five minutes in any hour. Standard No. 3 shall be the applicable noise level from Standard 1 plus 10 dBA; or, if the ambient $L_{8.3}$ exceeds the forgoing level, then the ambient $L_{8.3}$ becomes the exterior noise level for Standard No. 3.*

Standard No. 4 *shall be the exterior noise level which may not be exceeded for a cumulative period of more than one minute in any hour. Standard No. 4 shall be the applicable noise level from Standard 1 plus 15 dBA, or, if the ambient $L_{1.7}$ exceeds the forgoing level, then the ambient $L_{1.7}$ becomes the exterior noise level for Standard No. 4.*

Standard No. 5 *shall be the exterior noise level which may not be exceeded for any period of time. Standard No. 4 shall be the applicable noise level from Standard 1 plus 20 dBA; or, if the ambient L_0 exceeds the forgoing level, then the ambient L_0 becomes the exterior noise level for Standard No. 4.*

[b] *Not defined in the County Noise ordinance. To be designated by the County Health Officer.*

Source: Los Angeles County Code, Section 12.08.390.

Table 2. Land Use Compatibility for Community Noise Exposure

Land Uses	Community Noise Exposure CNEL, dBA			
	Normally Acceptable	**Conditionally Acceptable**	**Normally Unacceptable**	**Clearly Unacceptable**
Residential: Low-Density Single-Family, Duplex, Mobile Homes	50–60	55–70	70–75	Above 75
Residential: Multi-Family	50–65	60–70	70–75	Above 75
Transient Lodging: Motels, Hotels	50–65	60–70	70–80	Above 80
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–70	60–70	70–80	Above 80
Auditoriums, Concert Halls, Amphitheaters	—	50–70	—	Above 65
Sports Arena, Outdoor Spectator Sports	—	50–75	—	Above 70
Playgrounds, Neighborhood Parks	50–70	—	67.5–75	Above 72
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50–75	—	70–80	Above 80
Office Buildings, Business Commercial and Professional	50–70	67.5–77.5	Above 75	—
Industrial, Manufacturing, Utilities, Agriculture	50–75	70–80	Above 75	—

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and necessary noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: Office of Planning and Research, State of California General Plan Guidelines, Appendix C: Noise Element Guidelines, October 2003

2.4 Existing Noise Environment

The existing noise environment surrounding the Project site is comprised primarily of vehicle traffic on nearby streets. Ambient noise measurements were conducted at seven (7) off-site noise sensitive (residential and school uses) receptors in the vicinity of the Project site and the proposed helicopter flight paths, to quantify the existing noise environment. Figure 2 on page 11 shows the noise measurement locations in relation to the existing Helistop. At each of the measurement locations, two short-term (15-minute) noise readings were made, one during daytime period and one during nighttime period. The ambient noise measurements were

conducted on March 10 and May 25, 2016, between the hours of 11 a.m. and 2 p.m. (daytime period) and 10 p.m. and 12 a.m. (nighttime period).

Noise measurements were conducted using the Quest 2900 Integrated Sound Level Meter (SLM). The Quest 2900 SLM is a Type 2 standard instrument as defined in the American National Standard Institute (ANSI) S1.4 (all instruments were calibrated and operated according to the manufacturer's written specifications). The microphone was placed at a height of five feet above the local grade. Table 3 below presents the measured ambient noise levels in the vicinity and within the Project site. Detailed noise measurement data, including time of measurements, field notes, and approximate locations are provided in Appendix A. Based on field observation and measured sound data, the current ambient noise environment in the vicinity of the Project Site is controlled primarily by vehicular traffic on nearby local roadways, and to a lesser extent by occasional aircraft flyovers, and other typical urban noise.

Table 3. Measured Ambient Noise Levels

Location	Nearby Noise Sensitive Land Uses	Measured Noise Levels,[a] L_{eq} (dBA)		CNEL,[b] (dBA)
		Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)	
R1: Multi-family residential use at the northeast corner of Vermont Avenue and 219th Street	Residential	68.3	64.9	70.5
R2: Multi-family residential use on 220th Street, approximately 200 feet west of Vermont Avenue	Residential	66.2	57.2	65.6
R3: Single-family residential use on 220th Street, approximately 230 feet east of Mariposa Avenue	Residential	63.3	58.0	64.3
R4: Single-family residential use on east side of Normandie Avenue, approximately 150 feet south of 220th Street	Residential	70.5	63.5	70.7
R5: Single-family residential use on north side of 220th Street, approximately 230 feet west of Normandie Avenue.	Residential	51.4	47.3	53.1
R6: Single-family residential use on south side of 218th Street, approximately 90 feet west of Normandie Avenue	Residential	57.0	48.1	56.4
R7: Single-family residential use on east side of Normandie Avenue, just north of Ritner Street. This measurement location also represents the Halldale Elementary School located on the west side of Normandie Avenue	Residential/ School	64.8	56.9	64.6

[a] *Detailed measured noise data, including hourly L_{eq} levels, are included in Appendix A*
[b] *Estimated based on the short-term measurements following the FTA guidelines*

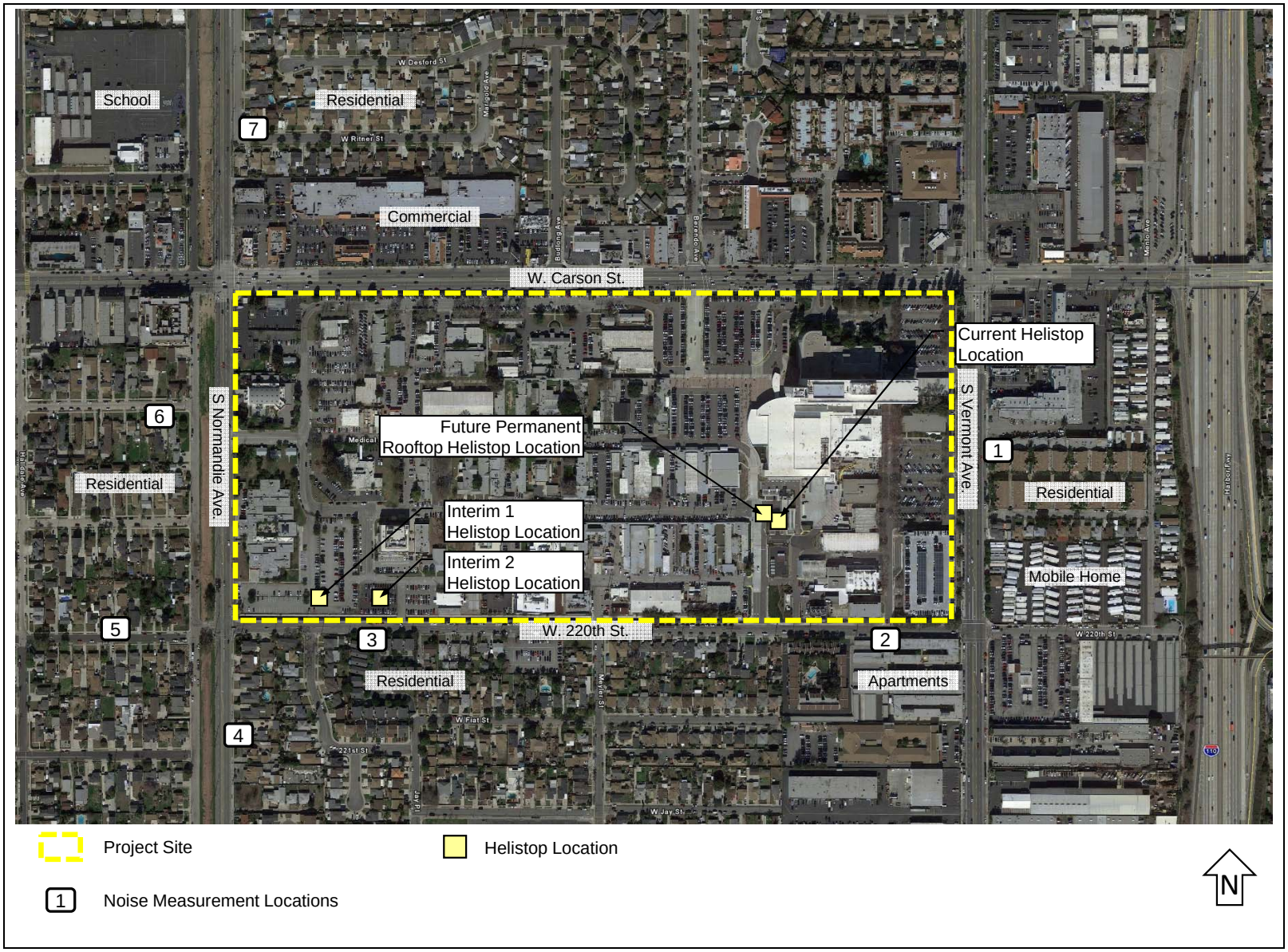


Figure 2. Project Site Showing Noise Measurement Locations

2.4.1 Existing Helicopter Noise

In addition to the ambient noise measurements, noise levels associated with the existing Helistop operations were calculated using information provided by the hospital's helicopter landing logs. Existing helicopter operation related noise contours were calculated using the FAA Integrated Noise Model (INM) Version 7.0d. The INM input information include: three dimensional flight tracks for departure and approach, helicopter flight procedures, number and type of helicopters, and daily operations (number of flights by hours). The INM noise model calculates helicopter operations related CNEL, L_{max} and SEL noise levels at a particular receptor location. Detail information for the helistop operations including: helicopter operations (i.e., numbers and types of helicopters), helicopter flight tracks, and helicopter flight procedures (i.e., speed, elevation, and distance) were provided by the Project Heliport Consultants (included in Appendix B).

The existing Helistop is located on the roof level of a single-story structure, approximately 15 feet above the local grade elevation (43 feet above mean sea level, MSL), within the HUCLAMC campus. There are four flight tracks/paths (under the current condition) that the helicopter would utilized for approach (to the hospital) and depart (from the hospital), as shown on Figure 3 on page 13. As indicated, two flight paths generally follow west (from the Helistop) and turn north and south follow Normandie Avenue and two flight paths to the northeast and southeast. The noise analysis assumed even distribution for helicopter operations for the four flight paths (i.e., one-fourth for each flight path), because the need for an air ambulance can arise from any direction.

Table 4 on page 14 presents the existing helicopter operations at the existing Helistop. Existing helicopter flights were from various public agencies and private providers including: Los Angeles City Fire Department (LAFD), Los Angeles County Fire Department (LACFD), Los Angeles County Sheriff Department (LACSD), U.S. Coast Guard (USCG), Air Methods/Mercy Air, Reach, Helinet, and Calstar/LifeFlight. There are seven main types of helicopter that utilized the Helistop as indicated in Table 4. The existing helicopter operations data are based on information collected from the previous eight years, from 2008 to 2015, compiled from data provided by the various helicopter operators landing logs. For aircraft noise analysis, the CNEL level is calculated based on the average annualized day. Therefore, the total number of flights for the eight years (96-month period count) was divided by 35,040 days (96 months multiply by 365 days) to determine the average number of flights per day.

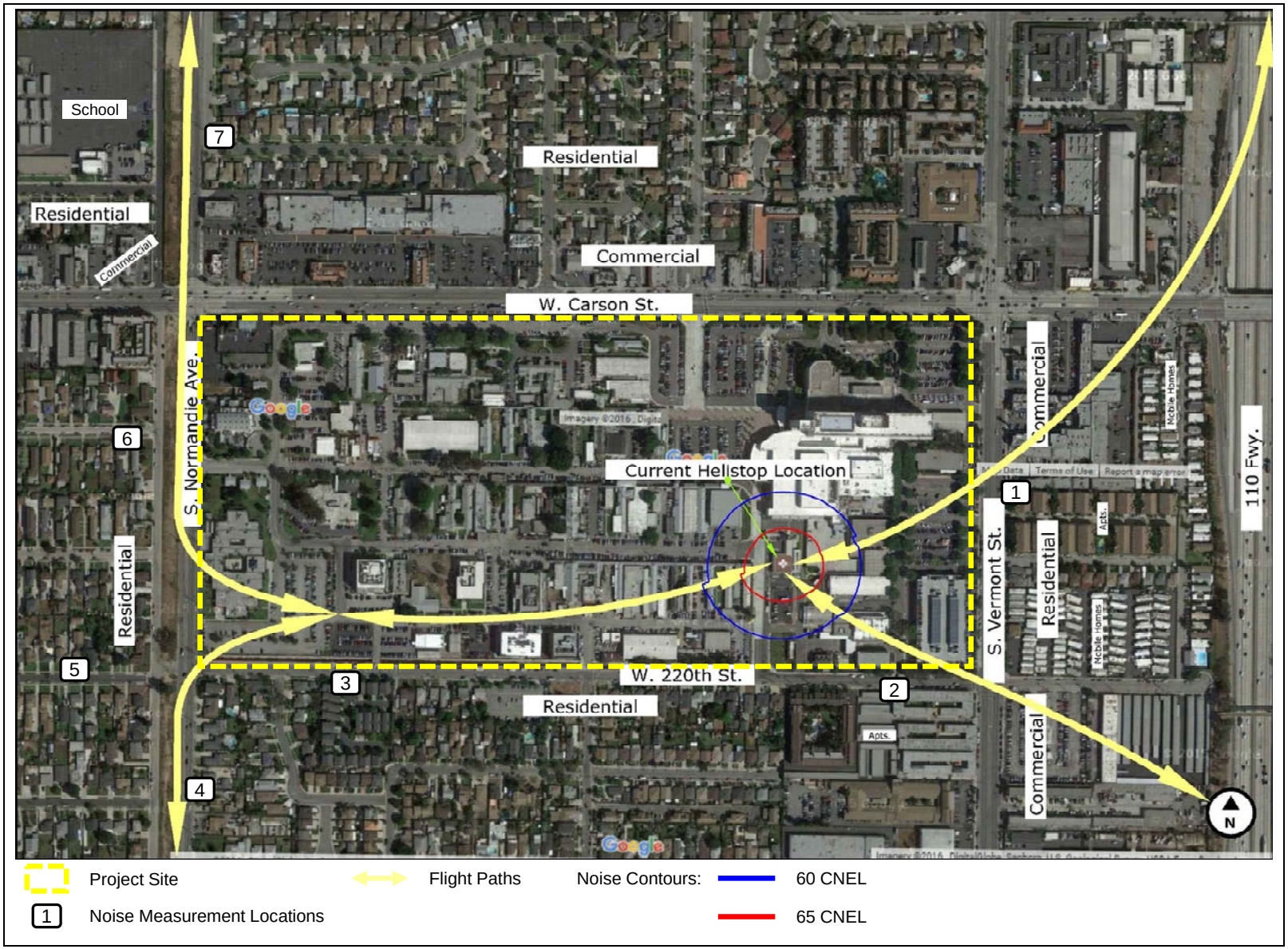


Figure 3. Helicopter Operations CNEL Noise Contour – Existing Helistop Location

Table 4. Existing Helicopter Operations Profiles Used to Compute CNEL

Helicopter Type	Flights[1]/ 96 Months	Flights[2]/ Year	Flights[3]/ Day	Flights/Day per Time Period[4]		
				Daytime (7 a.m. to 7 p.m.)	Evening (7 p.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Sikorsky S-70, Eurocopter AS332L1, Sikorsky H3	192	24.0	0.06575	0.02740	0.00753	0.03082
Sikorsky S-76, Bell 412, Eurocopter AS365	94	11.75	0.03219	0.01199	0.00582	0.01438
AgustaWestland AW139	46	5.75	0.01574	0.01027	0.00205	0.00342
Eurocopter AS350B2, Eurocopter AS355F2, Bell 407	38	4.75	0.01301	0.00719	0.00308	0.00274
Bell 222	108	13.50	0.03698	0.02705	0.00651	0.00342
Eurocopter EC145, MBB/Kawasaki BK117	36	4.50	0.01233	0.00890	0.00240	0.00103
Eurocopter EC135	28	3.50	0.00959	0.00479	0.00240	0.00240
Total Flights	542	67.75	0.18559	0.09759	0.02979	0.05821

[1] *A helicopter flight includes one departure and one arrival, two operations.*
[2] *Flights/Year = Flights/96 Months divided by 8 years*
[3] *Flights/Day = Flights/Year divided by 365 days*
[4] *Percentage of flights for the daytime, evening, and nighttime periods are based on the helicopter providers' operations logs*
Source: Heliport Consultants, 2016 using helicopter operators' landing logs for period of 2008 to 2015.

Figure 3 on page 13 shows the CNEL noise contours generated by the helicopter operations at the existing Helistop. As shown on Figure 3, the highest CNEL noise contour is CNEL 65 dBA which lies within the hospital campus. Table 5 on page 15 presents the predicted helicopter noise levels at the Project receptor locations in CNEL based on the existing helicopter operations. As indicated therein, the predicted helicopter noise levels in term of CNEL are significantly lower than that of the existing measured ambient noise levels (non-helicopter noise). Also, included in Table 5 (last column) are the existing ambient noise levels plus the estimated noise levels from the helicopter operations. The results show that the existing helicopter noise has no impacts (as measured in CNEL) on the current ambient sound environment at the off-site noise sensitive uses.

In addition to the CNEL noise analysis, the INM model calculates the single event (single helicopter) noise level in terms of sound exposure level (SEL) and maximum noise level (L_{max}). The single event noise analysis provides the maximum noise level that would be generated by a single helicopter arriving or departing on the identified flight paths, regardless of the number of flights per day. The twin engine Sikorsky S-70 helicopter represents the majority of the current helicopter landings, approximately 39 percent of the total operations, and also generates the highest sound level. Therefore, the Sikorsky S-70 helicopter noise signature was used for the single event noise analysis.

Table 6 on page 16 presents the predicted SEL and L_{max} levels from the Sikorsky S-70 at the Project's offsite noise receptor locations. These are the maximum noise levels at the exterior environment at the noted receptor locations. As indicated in Table 6, the predicted noise levels ranged from 79.5 dBA L_{max} (88.1 dBA SEL) at receptor R7 to 86.5 dBA L_{max} (102.9 dBA SEL) at receptor R2. As previously described, the SEL level represents the total sound energy during a single noise event normalized to a 1 second period. Therefore, SEL levels are generally higher than the L_{max} noise levels.

Table 5. Summary of Helistop Noise Analysis – Existing Helistop Conditions

Location	Land Use Descriptions	Diagonal Distance from Helistop,[1] Feet	Predicted Existing Helicopter Noise Levels,[2] CNEL (dBA) "A"	Measured Ambient Noise Levels without Helicopter (from Table 3) Operations,[3] CNEL (dBA) "B"	Ambient Noise Levels + Helicopter Noise Levels,[4] CNEL (dBA) "C=A+B"
R1	Residential	800	47.6	70.5	70.5
R2	Residential	570	50.0	65.6	65.7
R3	Residential	1480	41.3	64.3	64.3
R4	Residential	2100	38.0	70.7	70.7
R5	Residential	2380	35.8	53.1	53.2
R6	Residential	2230	35.4	56.4	56.4
R7	Residential/ School[5]	2380	33.5	64.6	64.6

Notes:

1 *Estimated diagonal distances using Google Earth Map. Distances are estimated from the center of the existing Helistop to the sidewalk adjoining the receptor locations.*

2 *Due to helicopter operations only.*

3 *Measured ambient noise levels without helicopter operations.*

4 *Calculation Methodologies are provided in Appendix C.*

5 *Halldale Elementary School located on the west side of Normandie Avenue and north of 216th Street.*

Source: Acoustical Engineering Services, 2016

Table 6. Helicopter Single-Event Noise Levels – Existing Helistop Conditions

Location	Land Use Descriptions	Diagonal Distance from Helistop,[1] Feet	Predicted Helicopter (S-70) Single-Event Levels, SEL/L_{max} (dBA)
R1	Residential	800	100.8/85.4
R2	Residential	570	102.9/86.5
R3	Residential	1480	96.9/84.1
R4	Residential	2100	94.2/82.7
R5	Residential	2380	91.9/81.8
R6	Residential	2230	90.7/81.8
R7	Residential/School[2]	2380	88.1/79.5

Notes:

[1] *Diagonal distances using Google Earth Map. Distances are from the center of the existing Helistop to the sidewalk adjoining the receptor locations.*

[2] *Halldale Elementary School located on the west side of Normandie Avenue and north of 216th Street.*

Source: Acoustical Engineering Services, 2016

3 IMPACT ANALYSIS

3.1 Significance Thresholds

The significance threshold for the helicopter operations related noise impact is based on projected changes in noise levels (increases) from existing to the future conditions, with consideration of existing ambient noise environments and the regulatory framework described above. The applicable significance threshold with respect to helicopter operation per FAA and Caltrans is provided in terms of CNEL levels. In addition to the CNEL threshold, a single event noise level significance threshold is recommended in terms of maximum noise level, L_{max}. As discussed above with respect to the community noise assessment, changes in noise levels less than 3 dBA are generally not discernable to most people, while changes greater than 5 dBA L_{max} are readily noticeable and would be considered a significant increase.[8] Therefore, the significance threshold for the single-event noise level (L_{max}) is utilized by evaluating the incremental change from the existing with that of the future helicopter operations.

Therefore, the Project would result in a significant noise impacts if:

- Helicopter operations will generate noise levels which exceed 65 dBA CNEL at a sensitive land use and the Project increases ambient noise levels by 1.5 dBA CNEL or greater; or,

[8] *Engineering Noise Control, Bies & Hansen, 1988*

- The maximum noise levels from a single helicopter operation will cause an incremental noise increase of 5 dBA L_{max} or greater as compared to the existing helicopter operations at a sensitive land use.

3.2 Helicopter Noise – Interim Conditions

As part of the hospital's Master Plan, the existing Helistop would be relocated to the roof level of the future hospital building. However, during the construction of the future hospital and future Helistop, the existing Helistop would temporarily be relocated. There are two proposed locations to be used as an interim location for the Helistop, Interim 1 or Interim 2. The Interim 1 Helistop would be located at the Professional building parking lot (near the southwest corner of the HUCLAMC campus) and Interim 2 Helistop would be located at the BioMed parking (approximately 230 feet east of the Interim 1 location). Both helipads would be raised approximately 10 feet above the local grade. The helicopter flight paths for the Interim 1 and Interim 2 Helistop locations are illustrated on Figure 4 (on page 19) and Figure 5 (on page 20), respectively. The noise analysis assumed that the future helicopter operation specifics, as provided by Heliport Consultant, would be similar to the existing conditions.

Figure 4 shows the calculated CNEL noise contours generated by the helicopter operations at the Interim 1 Helistop location. As shown on Figure 4, the 65 CNEL noise contour would extend just outside of the medical center campus, south property line. Table 7 on page 21 presents the predicted helicopter noise levels in CNEL with the helicopter operations at the Interim 1 Helistop location. The predicted CNEL levels due to the helicopter operations at the Interim 1 Helistop location ranged from 37.0 dBA CNEL at receptors R1 and R2 to 58.6 dBA CNEL at receptor R3. Compared with the current Helistop, the predicted Interim 1 Helistop helicopter noise levels in term of CNEL would result in a higher noise level at receptors (R3 through R7). Also included in Table 7 are the ambient noise levels with helicopter operations under both existing and future conditions (with the helicopter operation at the Interim 1 Helistop location). As indicated therein, the future helicopter operations would result in a maximum increase of 0.1 dBA CNEL at receptor R4 to 1.0 dBA CNEL at receptor R3 (no increase in helicopter noise levels at receptors R1, R2 and R7). The estimated increase would be below the Project's significance threshold of 1.5 dBA CNEL.

The calculated CNEL noise contours generated by the helicopter operations at the proposed Interim 2 Helistop location are provided on Figure 5 on page 20. As shown on Figure 5, the 65 CNEL noise contour would extend just outside of the medical center campus (south property line). Table 8 on page 21 presents the predicted helicopter noise levels in CNEL with the helicopter operations at the Interim 2 Helistop location. The predicted CNEL levels due to the helicopter operations at the Interim 2 Helistop location ranged from 35.6 dBA CNEL at receptor R7 to 63.7 dBA CNEL at receptor R3. Similar to the Interim 1 Helistop location, the predicted helicopter operation noise levels (from the Interim 2 Helistop location) would result in a higher noise level at receptors (R3 through R7). When considering the existing ambient noise levels, the helicopter operations under both existing and future

conditions (with the future helicopter operation at the Interim 2 Helistop location), the future helicopter operations would result in a maximum increase of 0.2 dBA CNEL at receptor R6 to 2.7 dBA CNEL at receptor R3 (no increase in helicopter noise levels at receptors R1, R2, R4 and R7). The estimated increase of 2.7 dBA CNEL would exceed the Project's significance threshold of 1.5 dBA CNEL at receptor R3.

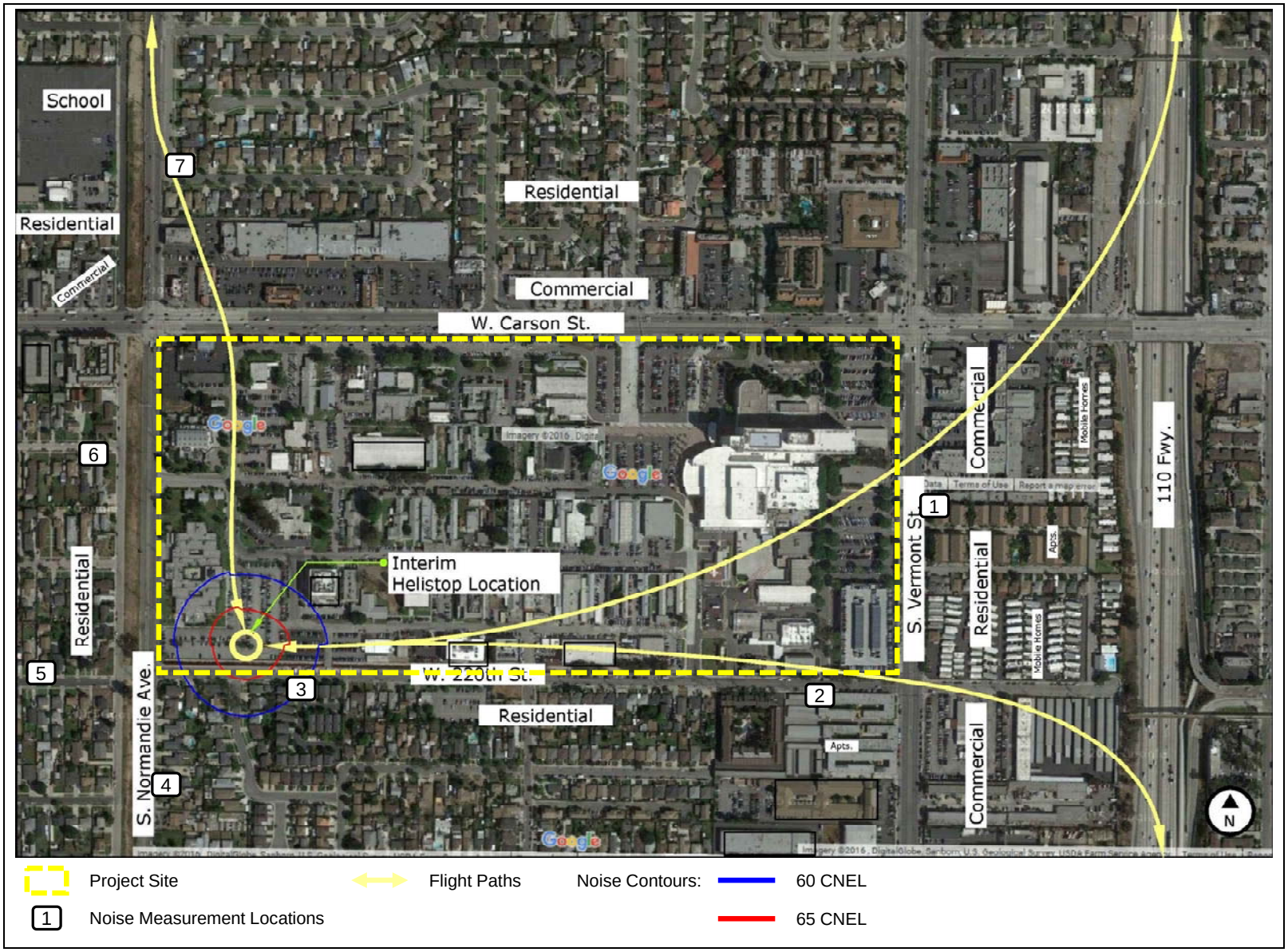


Figure 4. Helistop Operation CNEL Noise Contour – Interim 1 Helistop Location

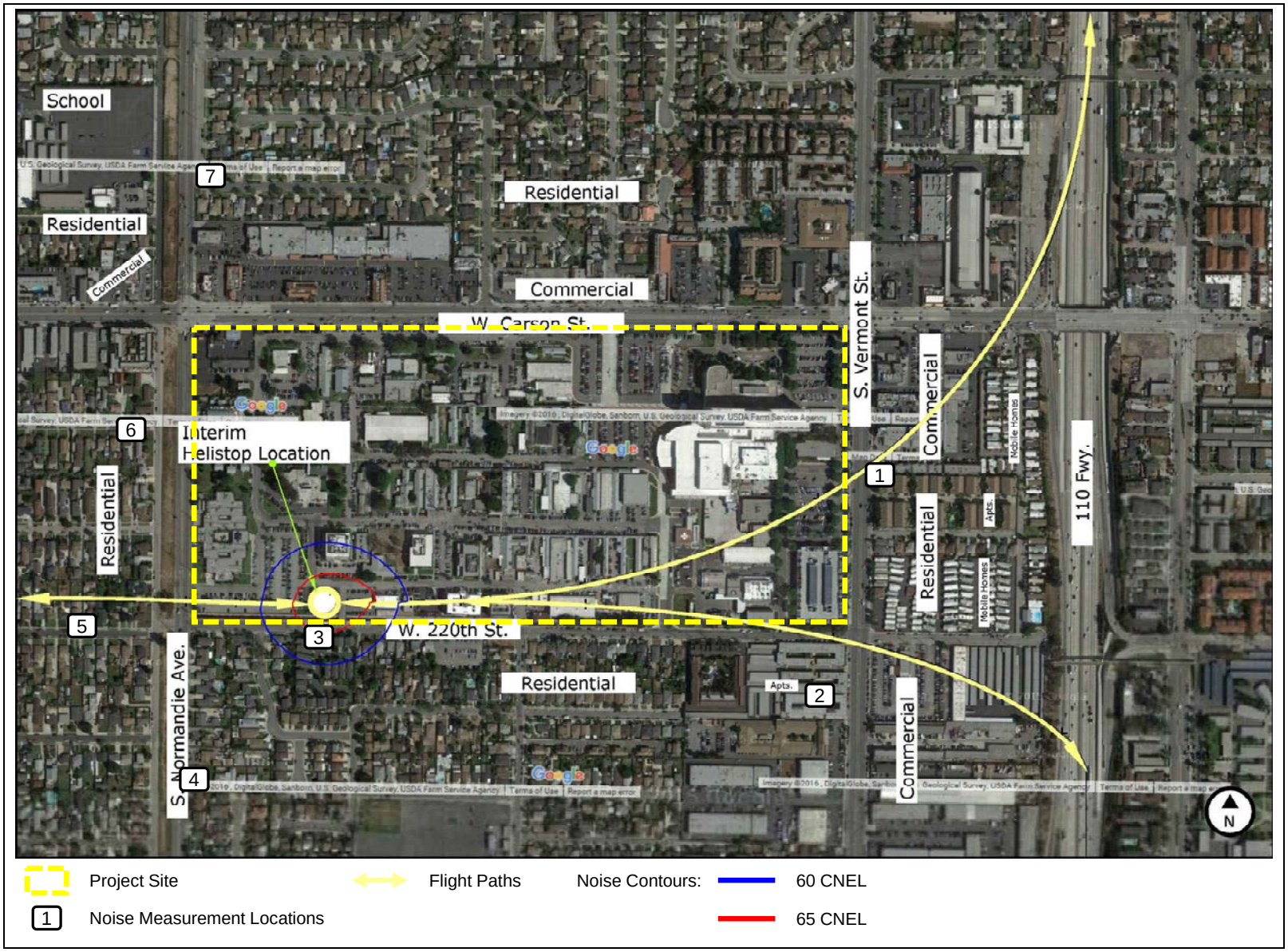


Figure 5. Helistop Operation CNEL Noise Contour – Interim 2 Helistop Location

Table 7. Helicopter Noise Analysis – Interim 1 Helistop Location

Location	Longitudinal Distance from Interim 1 Helistop,[1] Feet	Existing Conditions			Future Conditions		Increase in Ambient Noise Levels due to Future Helicopter Operations (dBA) "F=E–C"
		Existing Measured Ambient Noise Levels, CNEL (dBA) "A"	Existing Helicopter Operation, CNEL (dBA) "B"	Existing Ambient With Existing Helicopter Operation, CNEL (dBA) "C=A+B"	Future Helicopter Operations Noise Levels, CNEL (dBA) "D"	Ambient With Future Helicopter Operations, CNEL (dBA) "E=A+D"	
R1	2470	70.5	47.6	70.5	37.0	70.5	0.0
R2	2040	65.6	50.0	65.7	37.0	65.6	-0.1
R3	260	64.3	41.3	64.3	58.6	65.3	1.0
R4	580	70.7	38.0	70.7	53.6	70.8	0.1
R5	700	53.1	35.8	53.2	47.1	54.1	0.9
R6	870	56.4	35.4	56.4	46.6	56.8	0.4
R7	1710	64.6	33.5	64.6	38.8	64.6	0.0

Notes:
[1] *Estimated diagonal distances using Google Earth Map. Distances are from the center of the Interim 1 Helistop to the sidewalk adjoining the receptor locations.*
Source: Acoustical Engineering Services, 2016

Table 8. Helicopter Noise Analysis – Interim 2 Helistop Location

Location	Longitudinal Distance from Interim 2 Helistop,[1] Feet	Existing Conditions			Future Conditions		Increase in Ambient Noise Levels due to Future Helicopter Operations (dBA) "F=E–C"
		Existing Measured Ambient Noise Levels, CNEL (dBA) "A"	Existing Helicopter Operation, CNEL (dBA) "B"	Existing Ambient With Existing Helicopter Operation, CNEL (dBA) "C=A+B"	Future Helicopter Operations Noise Levels, CNEL (dBA) "D"	Ambient With Future Helicopter Operations, CNEL (dBA) "E=A+D"	
R1	2250	70.5	47.6	70.5	38.0	70.5	0.0
R2	1820	65.6	50.0	65.7	38.3	65.6	-0.1
R3	130	64.3	41.3	64.3	63.7	67.0	2.7
R4	720	70.7	38.0	70.7	50.2	70.7	0.0
R5	930	53.1	35.8	53.2	45.3	53.8	0.6
R6	1030	56.4	35.4	56.4	43.3	56.6	0.2
R7	1765	64.6	33.5	64.6	35.6	64.6	0.0

Notes:
[1] *Estimated diagonal distances using Google Earth Map. Distances are from the center of the Interim 2 Helistop to the sidewalk adjoining the receptor locations.*
Source: Acoustical Engineering Services, 2016

As described above, the Sikorsky S-70 helicopter has higher noise signature than that of the other helicopter types. Therefore, the Sikorsky S-70 helicopter is used for the single-event

noise assessment. Table 9 below presents the predicted helicopter single-event noise levels at R1 through R7 under the existing and the Interim 1 Helistop location in SEL and L_{max} levels. L_{max} levels represent the maximum sound level from the helicopter operation and the SEL levels represent the total sound energy normalized (squeezed) into a one second period. SEL levels are provided for informational purpose only, as the County does not have criteria as relates to SEL levels. The individual helicopter operation would generate noise levels at receptors in the vicinity of the Helistop, which could results in awakening based on the 1997 FICAN study. However, helicopter nighttime operations would be minimal, approximately 1.8 events per month (see Table 4).[9] As indicated in Table 9, the predicted L_{max} due to the helicopter (Sikorsky S-70) operation at the Interim 1 Helistop location would result in an increase of 2.7 dBA L_{max} (at receptor R4) to 5.6 dBA L_{max} (at receptor R3), as compared with the existing conditions. The estimated increase in terms of maximum noise level (L_{max}) would exceed the Project's significance threshold of 5.0 dBA L_{max} at receptor R3. Therefore, noise impacts associated with the relocation of the existing Helistop to the Interim 1 Helistop location would result in a significant impact. The significant noise impact, however, would be temporary while the permanent Helistop is constructed at the roof level of the future hospital building.

Table 9. Helicopter Single-Event Noise Impacts – Interim 1 Helistop

Location	Longitudinal Distance from Interim 1 Helistop,[1] Feet	Land Use Descriptions	Predicted Helicopter (S-70) Single-Event Levels, SEL/L_{max} (dBA)		Increase in Noise Levels from Existing to Future Conditions, SEL/L_{max} (dBA)
			Existing Helistop	Interim 1 Helistop	
R1	2470	Residential	100.8/85.4	92.1/81.4	-8.7/-4.0
R2	2040	Residential	102.9/86.5	90.6/81.2	-12.3/-5.3
R3	260	Residential	96.9/84.1	112.4/89.7	15.5/5.6
R4	580	Residential	94.2/82.7	107.0/85.4	12.8/2.7
R5	700	Residential	91.9/81.8	100.3/81.6	8.4/-0.2
R6	870	Residential	90.7/81.8	101.4/85.5	10.7/3.7
R7	1710	Residential/ School	88.1/79.5	93.9/83.7	5.8/4.2

Notes:
[1] *Estimated diagonal distances using Google Earth Map. Distances are from the center of the Interim 1 Helistop to the sidewalk adjoining the receptor locations.*
Source: Acoustical Engineering Services, 2016.

Table 10 on page 23 presents the predicted helicopter single-event noise levels under the existing and the Interim 2 Helistop location. As described above, SEL levels are provided for informational purpose only, as the County does not have criteria as relates to SEL levels. As indicated in Table 10, the predicted L_{max} due to the helicopter (Sikorsky S-70) operation at

[9] *Estimated monthly nighttime operations, 1.75 = 0.05821 nighttime operations/day multiply by 30 days.*

the Interim 2 Helistop location would result in an increase of 0.3 dBA L_{max} (at receptors R4 and R5) to 15.4 dBA L_{max} (at receptor R3, which is located directly south of the Interim 2 Helistop), as compared to the existing conditions. The estimated increase in terms of maximum noise level (L_{max}) would exceed the Project's significance threshold of 5.0 dBA L_{max} at receptor R3. Therefore, noise impacts associated with the relocation to the existing Helistop to the Interim 2 Helistop location would result in a significant impact. The significant noise impact, however, would be temporary while the permanent Helistop is constructed at the roof level of the future hospital building.

Table 10. Helicopter Single-Event Noise Impacts – Interim 2 Helistop

Location	Longitudinal Distance from Interim 2 Helistop,[1] Feet	Land Use Descriptions	Predicted Helicopter (S-70) Single-Event Levels, SEL/L_{max} (dBA)		Increase in Noise Levels from Existing to Future Conditions, SEL/L_{max} (dBA)
			Existing Helistop	Interim 2 Helistop	
R1	2250	Residential	100.8/85.4	93.0/83.4	-7.8/-2.0
R2	1820	Residential	102.9/86.5	91.7/83.9	-11.2/-2.6
R3	130	Residential	96.9/84.1	117.7/99.5	20.8/15.4
R4	720	Residential	94.2/82.7	105.0/83.0	10.8/0.3
R5	930	Residential	91.9/81.8	101.2/82.1	9.3/0.3
R6	1030	Residential	90.7/81.8	96.0/79.2	5.3/-2.6
R7	1765	Residential/ School	88.1/79.5	88.2/79.3	0.1/-0.2

Notes:
[1] *Estimated diagonal distances using Google Earth Map. Distances are from the center of the Interim 2 Helistop to the sidewalk adjoining the receptor locations.*
Source: Acoustical Engineering Services, 2016.

3.3 Helicopter Noise – Future (Permanent) Helistop Location

The permanent Helistop would be located at the roof level of the future hospital building, approximately 133 feet above local grade. Figure 6 on page 25 shows the helicopter flight paths with the future permanent helistop. The future helicopter operations (i.e., number of flights per day) are assumed to be similar to the existing conditions. The calculated CNEL noise contours generated by the future helicopter operations are illustrated on Figure 6. As shown on Figure 6, the 60 and 65 dBA CNEL noise contour falls within the medical campus. Table 11 on page 26 presents the predicted helicopter noise levels in CNEL with the helicopter operations at the future permanent helistop location. The predicted CNEL levels due to the helicopter operations ranged from 35.1 dBA CNEL at receptor R7 to 49.8 dBA CNEL at receptor R2. Similar to the existing conditions, the future predicted helicopter noise levels in term of CNEL would be lower than that of the existing measured ambient noise levels (non-helicopter noise). Included in Table 11 are the ambient noise levels plus helicopter operations under both existing and future conditions. As indicated therein, the

future helicopter operations would not result in an increase (in terms of CNEL), as compared to the existing conditions.

Table 12 on page 26 presents the predicted helicopter single-event noise levels under the existing and the future permanent location. As described above, SEL levels are provided for informational purpose, as the County does not have criteria as relates to SEL levels. As indicated in Table 12, the predicted L_{max} due to the helicopter (Sikorsky S-70) under the future conditions would result in a lower noise level, as compared with the existing conditions. As such, noise impacts associated with the proposed helicopter relocation to the future location (roof top of the future hospital building) would be less than significant.

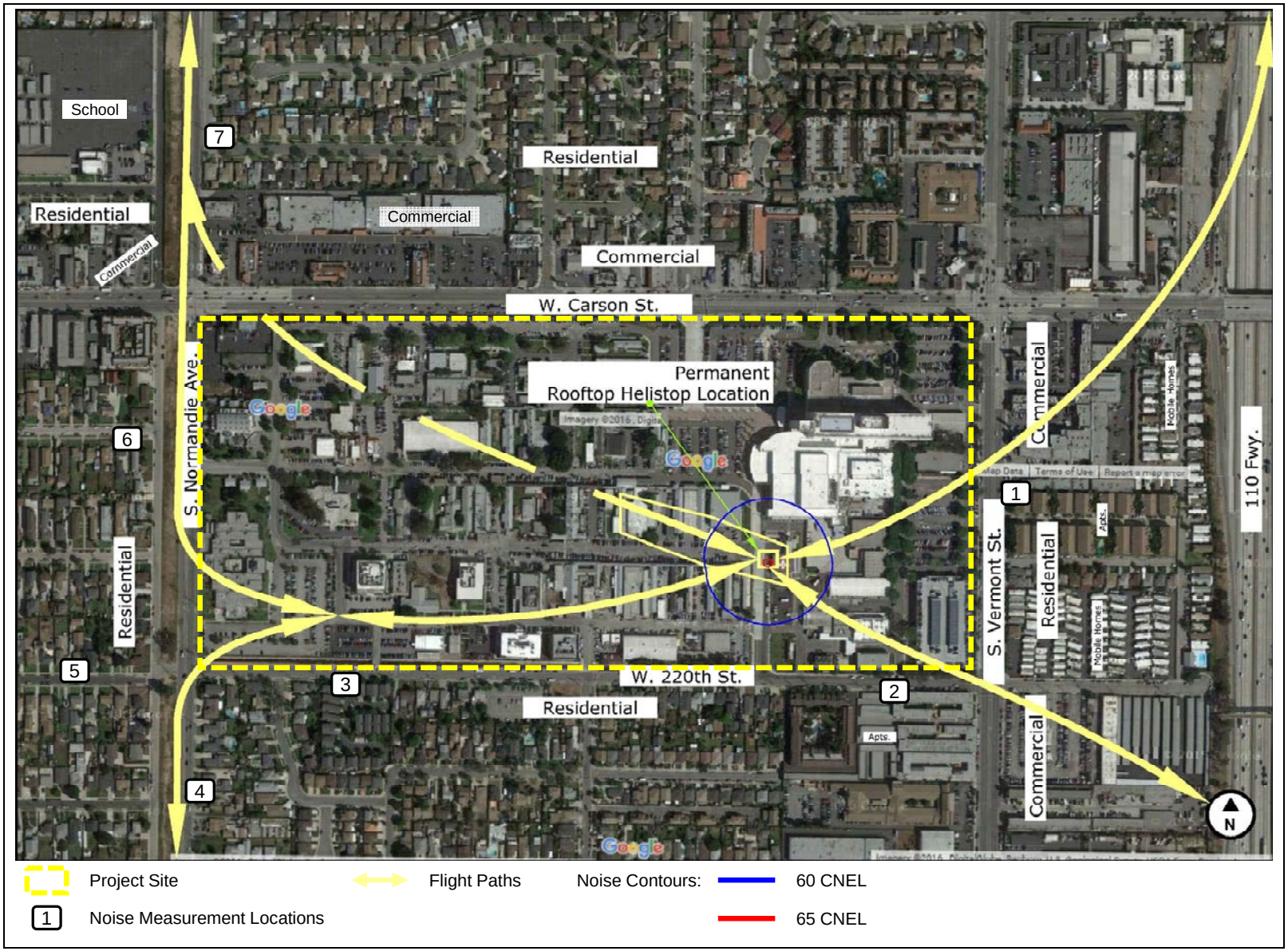


Figure 6. Helistop Operation Noise Contour – Permanent Rooftop Helistop

Table 11. Helicopter Noise Analysis – Permanent Rooftop Helistop

Location	Longitudinal Distance from Permanent Roof Top Helistop,[1] Feet	Existing Conditions			Future Conditions		Increase in Ambient Noise Levels due to Future Helicopter Operations (dBA) "F=E–C"
		Existing Measured Ambient Noise Levels, CNEL (dBA) "A"	Existing Ambient Without Helicopter Operation, CNEL (dBA) "B"	Existing Ambient With Existing Helicopter Operation, CNEL (dBA) "C=A+B"	Future Helicopter Operations Noise Levels, CNEL (dBA) "D"	Ambient With Future Helicopter Operations, CNEL (dBA) "E=A+D"	
R1	850	70.5	47.6	70.5	47.4	70.5	0.0
R2	620	65.6	50.0	65.7	49.8	65.7	0.0
R3	1440	64.3	41.3	64.3	41.9	64.3	0.0
R4	2060	70.7	38.0	70.7	38.3	70.7	0.0
R5	2340	53.1	35.8	53.2	36.1	53.2	0.0
R6	2185	56.4	35.4	56.4	36.8	56.4	0.0
R7	2330	64.6	33.5	64.6	35.1	64.6	0.0

Notes:
[1] *Estimated diagonal distances using Google Earth Map. Distances are from the nearest edge of the permanent Helistop to the sidewalk adjoining the receptor locations.*
Source: Acoustical Engineering Services, 2016

Table 12. Helicopter Single-Event Noise Impacts – Permanent Rooftop Helistop

Location	Longitudinal Distance from Permanent Rooftop Helistop,[1] Feet	Land Use Descriptions	Predicted Helicopter (S-70) Single-Event Levels, L_{max} (dBA)		Increase in Noise Levels from Existing to Future Permanent Conditions, L_{max} (dBA)
			Existing Helistop	Permanent Rooftop Helistop	
R1	850	Residential	100.8/85.4	101.0/83.8	0.2/-1.6
R2	620	Residential	102.9/86.5	103.0/84.2	0.1/-2.3
R3	1440	Residential	96.9/84.1	97.4/82.9	0.5/-1.2
R4	2060	Residential	94.2/82.7	94.3/81.5	0.1/-1.2
R5	2340	Residential	91.9/81.8	90.5/80.8	-1.4/-1.0
R6	2185	Residential	90.7/81.8	93.3/80.8	2.6/-1.0
R7	2330	Residential/ School	88.1/79.5	89.0/79.0	0.9/-0.5

Notes:
[1] *Estimated diagonal distances using Google Earth Map. Distances are from the center of the permanent Helistop to the sidewalk adjoining the receptor locations.*
Source: Acoustical Engineering Services, 2016.

4 CONCLUSIONS

Based on the noise analysis presented above, the following conclusions can be made:

Interim 1 Helistop Location:

The future helicopter operations on the Interim 1 Helistop, located in the parking lot southeast of the Professional building, when compared with the helicopter operations at the existing Helistop, would result in an increase of 0.1 dBA CNEL at receptor R4 to 1.0 dBA CNEL at receptor R3 and no increase in helicopter noise levels at receptors R1 and R7 (see Table 7). The estimated increase would be below the Project's significance threshold of 1.5 dBA CNEL.

The helicopter single event operations (Sikorsky S-70) at the Interim 1 Helistop would result in a maximum increase of 2.7 dBA L_{max} at receptor R4 to 5.6 dBA L_{max} at receptor R3, over the existing single event noise level generated at the existing Helistop (see Table 9). There would be no increase in helicopter noise levels at receptors R1, R2, and R5. The estimated increase in terms of maximum noise level (L_{max}) would exceed the Project's significance threshold of 5.0 dBA L_{max} at receptor R3. Therefore, noise impacts associated with the relocation of the existing Helistop to the Interim 1 Helistop location would result in a significant impact. The significant impact, however, would be temporary while the permanent Helistop is constructed at the roof level of the future hospital building.

Interim 2 Helistop Location:

The future helicopter operations on the Interim 2 Helistop, located south of the BioMed building in the parking lot, when compared with the existing helicopter operations, would result in an increase of 0.2 dBA CNEL at receptor R6 to 2.7 dBA CNEL at receptor R3 with no increase in helicopter noise levels at receptors R1, R2, R4 and R7 (see Table 8). The estimated increase would exceed the Project's significance threshold of 1.5 dBA CNEL at receptor R3.

In addition, the helicopter single event operation at the Interim 2 Helistop would result in a maximum increase of 0.3 dBA L_{max} at receptors R4 and R5 to 15.4 dBA L_{max} at receptor R3, over the existing single event noise level generated at the existing Helistop at the off-site noise receptors (see Table 10). There is no increase in helicopter noise levels at receptors R1, R2, R6 and R7. The estimated increase in terms of maximum noise level (L_{max}) would exceed the Project's significance threshold of 5.0 dBA L_{max} at receptor R3. Therefore, noise impacts associated with the relocation of the existing Helistop to the Interim 2 Helistop location would result in a significant impact. The significant impact, however, would be temporary while the permanent Helistop is constructed at the roof level of the future hospital building.

Future Permanent Rooftop Helistop Location:

The helicopter operations at the new permanent Helistop located at the roof level of future hospital building, when compared with the existing helicopter operations, would result in a lower noise level and would not increase the existing ambient noise levels (in terms of both CNEL and L_{max}) at the off-site noise sensitive receptors. As such, noise impacts associated with the proposed helicopter relocation to the future location would be less than significant.

Appendix A

Ambient Noise Data

AES
ACOUSTICAL ENGINEERING SERVICES

Location: R1
Date: 3/10/2016

Time	Overload	Leq	Lmax	L10	L90
11:12:22 AM	No	65.4	72.6	68.3	58.1
11:13:22 AM	No	69.1	79.1	72.3	61.2
11:14:22 AM	No	66.5	72.4	70.2	61.3
11:15:22 AM	No	67.1	76.5	70.7	59.5
11:16:22 AM	No	66.4	73	70.8	57.1
11:17:22 AM	No	69.6	84.9	71.7	60.8
11:18:22 AM	No	70.4	85	72.2	55.3
11:19:22 AM	No	67.8	75.2	73.1	57.3
11:20:22 AM	No	67.7	74.8	71.8	61.4
11:21:22 AM	No	68	74.6	71.6	62.1
11:22:22 AM	No	67	73.5	69.6	63
11:23:22 AM	No	68	74.2	72.4	59.8
11:24:22 AM	No	67.6	75.5	70.2	61.7
11:25:22 AM	No	71.1	79.6	75.5	63.1
11:26:22 AM	No	68	76.9	70.9	60.8
		68.3			

Time	Overload	Leq	Lmax	L10	L90
10:00:35 PM	No	65.8	73.3	70.1	55.2
10:01:35 PM	No	65.1	73.6	69.8	54.3
10:02:35 PM	No	66.2	74.7	71.7	52.3
10:03:35 PM	No	61.6	71.5	64.8	54.3
10:04:35 PM	No	60.4	69.4	63.5	53.1
10:05:35 PM	No	62.4	73.3	66.8	52.8
10:06:35 PM	No	64.9	73.8	69.7	52
10:07:35 PM	No	66	75.1	69.9	58.9
10:08:35 PM	No	65.6	75.8	69	54.9
10:09:35 PM	No	61	72.6	63.7	51.6
10:10:35 PM	No	65.7	72.6	70	56.5
10:11:35 PM	No	65.8	73.1	70.1	59.8
10:12:35 PM	No	64.6	73.1	70.2	54
10:13:35 PM	No	66.2	80.9	68.2	53.9
10:14:35 PM	No	66.7	78.8	71.4	52.2
		64.9			

AES
ACOUSTICAL ENGINEERING SERVICES

Location: R2
Date: 3/10/2016

Time	Overload	Leq	Lmax	L10	L90
11:35:32 AM	No	62.7	69.4	66.9	55.9
11:36:32 AM	No	61.7	70.9	64.6	55.9
11:37:32 AM	No	62.2	68.6	66.1	56.2
11:38:32 AM	No	60.5	68.9	65.9	55.7
11:39:32 AM	No	61.2	68.6	63.7	57.6
11:40:32 AM	No	61.9	74	64.8	55.9
11:41:32 AM	No	71.1	81.8	74.8	60.3
11:42:32 AM	No	72.4	84.6	77.8	54.5
11:43:32 AM	No	70.7	82.1	75	52.8
11:44:32 AM	No	65.4	75.7	69.4	55.9
11:45:32 AM	No	63.1	73.6	65.7	57.4
11:46:32 AM	No	60.3	66.4	64.3	53.3
11:47:32 AM	No	64.6	76.9	67.5	54.6
11:48:32 AM	No	62	71.4	64.8	57.1
11:49:32 AM	No	60.2	69.2	63.7	51.5
		66.2			

Time	Overload	Leq	Lmax	L10	L90
10:20:50 PM	No	53.9	62.1	58.4	47.9
10:21:50 PM	No	60	70.9	64.8	48
10:22:50 PM	No	58	67.6	61.9	49.8
10:23:50 PM	No	55.5	64.2	60.2	49.4
10:24:50 PM	No	58.9	70.1	63.7	49
10:25:50 PM	No	54.9	65.4	58.8	48.5
10:26:50 PM	No	53.1	59.2	56.7	47.9
10:27:50 PM	No	55.5	68.4	56.9	49.1
10:28:50 PM	No	58.4	68.4	62.3	50.3
10:29:50 PM	No	58.8	68	63.1	48.9
10:30:50 PM	No	53.4	62.2	55.8	50
10:31:50 PM	No	59.9	70.5	63.9	50.7
10:32:50 PM	No	57.1	67.4	62.1	48.5
10:33:50 PM	No	54.2	63.8	58.4	47.7
10:34:50 PM	No	57.3	66.8	61.9	47.7
		57.2			

AES
ACOUSTICAL ENGINEERING SERVICES

Location: R3
Date: 3/10/2016

Time	Overload	Leq	Lmax	L10	L90
11:55:46 AM	No	62.2	74.7	67.4	46.4
11:56:46 AM	No	58.7	66.4	63.9	46.3
11:57:46 AM	No	60.6	69.9	65.8	47.6
11:58:46 AM	No	65.5	76	69.2	46.5
11:59:46 AM	No	65.4	75.7	70.9	47
12:00:46 PM	No	64.4	74.9	69.1	47.4
12:01:46 PM	No	61.6	71.2	67.1	47
12:02:46 PM	No	65.2	75.1	69.7	48.4
12:03:46 PM	No	59.2	72.2	62.1	46.2
12:04:46 PM	No	58.2	71.1	60.9	47.2
12:05:46 PM	No	59.6	70.2	64.5	49.5
12:06:46 PM	No	64.6	74.9	69	48.9
12:07:46 PM	No	62.8	72	68.3	46
12:08:46 PM	No	68.2	78.6	72.5	49.5
12:09:46 PM	No	56.7	69.2	59.4	47.9
		63.3			

Time	Overload	Leq	Lmax	L10	L90
10:40:52 PM	No	48.8	52.6	49.6	48
10:41:52 PM	No	54.6	66.1	56.7	48.9
10:42:52 PM	No	49.1	51	49.4	48.6
10:43:52 PM	No	56.5	68	59.4	48.5
10:44:52 PM	No	62.2	72.8	68.5	49
10:45:52 PM	No	50.5	54.9	52.3	48.9
10:46:52 PM	No	58.4	68.6	63.5	48.5
10:47:52 PM	No	62.6	72.6	67.8	48.4
10:48:52 PM	No	48.6	51.2	49.1	48.1
10:49:52 PM	No	48.8	50	49.2	48.4
10:50:52 PM	No	50.9	59.1	52.3	49.1
10:51:52 PM	No	60.2	68.6	65.7	50
10:52:52 PM	No	54.7	64.9	58	48.6
10:53:52 PM	No	61	73.7	62	48.6
10:54:52 PM	No	61.6	75	63.3	49.5
		58.0			

AES
ACOUSTICAL ENGINEERING SERVICES

Location: R4
Date: 3/10/2016

Time	Overload	Leq	Lmax	L10	L90
12:19:01 PM	No	73.4	82	76.3	60.2
12:20:01 PM	No	70.8	77.5	74.5	60.7
12:21:01 PM	No	71.1	79	74.5	62.3
12:22:01 PM	No	69	77.3	73.1	53.3
12:23:01 PM	No	70.9	77.9	74.6	61.2
12:24:01 PM	No	68.3	73.9	72	56.2
12:25:01 PM	No	72	78.6	76.7	63.3
12:26:01 PM	No	67.5	74.3	71.5	53.2
12:27:01 PM	No	70.1	78.8	72.9	54
12:28:01 PM	No	69.3	76.6	72.5	60.6
12:29:01 PM	No	72.7	82.6	75.5	63.3
12:30:01 PM	No	70.5	75.6	73.9	59
12:31:01 PM	No	68.4	76.5	72.9	49.7
12:32:01 PM	No	66.7	74.3	70.3	55.7
12:33:01 PM	No	71.3	78.2	74.8	64.7
		70.5			

Time	Overload	Leq	Lmax	L10	L90
11:00:14 PM	No	61.6	69.8	66.7	46.5
11:01:14 PM	No	61.6	70.6	66.2	52.5
11:02:14 PM	No	66.9	75.3	71.6	53.4
11:03:14 PM	No	65.6	75.8	69.8	54.2
11:04:14 PM	No	63.1	72.4	68.4	48.6
11:05:14 PM	No	61.8	72.7	67	49
11:06:14 PM	No	65.9	75	70.9	51.7
11:07:14 PM	No	63.5	74.4	67.7	49.3
11:08:14 PM	No	64	74.4	68.8	54.5
11:09:14 PM	No	67.9	76	71.9	56.2
11:10:14 PM	No	52.8	64.2	55.8	44.7
11:11:14 PM	No	64.9	74.2	71.2	49.5
11:12:14 PM	No	55.4	70.3	56.4	44.8
11:13:14 PM	No	46.9	50.7	49.6	44.4
11:14:14 PM	No	56.9	67.2	61.5	42.7
		63.5			

AES
ACOUSTICAL ENGINEERING SERVICES

Location: R5
Date: 5/25/2016

Time	Overload	Leq	Lmax	L10	L90
11:28:10 AM	No	50.6	57.1	54.9	47.2
11:29:10 AM	No	49.7	54	51.5	46.9
11:30:10 AM	No	53.8	62.2	58.7	44.7
11:31:10 AM	No	48.3	54	50.4	45.3
11:32:10 AM	No	51.5	60.8	55	46.4
11:33:10 AM	No	50.1	60	53.2	42
11:34:10 AM	No	50.9	62.3	55.1	42
11:35:10 AM	No	55.8	64.5	60.7	47.6
11:36:10 AM	No	52.7	64.6	55.5	45.5
11:37:10 AM	No	46.6	50.4	48.4	43.5
11:38:10 AM	No	50.2	59.6	52.5	46.3
11:39:10 AM	No	48.9	56.4	52	44.6
11:40:10 AM	No	49.3	56.7	52.1	45.7
11:41:10 AM	No	54	61.3	58.4	46.6
11:42:10 AM	No	48.7	53.3	50.5	46.2
		51.4			

Time	Overload	Leq	Lmax	L10	L90
10:02:55 PM	No	43.6	52.2	47.2	38
10:03:55 PM	No	44.4	51.1	47.2	39.4
10:04:55 PM	No	43.8	56.2	45.9	39.3
10:05:55 PM	No	50.5	60.6	54.9	40.4
10:06:55 PM	No	44.1	49.2	47.4	40.9
10:07:55 PM	No	44.3	51.6	47.5	39.7
10:08:55 PM	No	44	52.3	46.3	39.3
10:09:55 PM	No	46.2	52.9	51.1	38
10:10:55 PM	No	46.1	49.5	48.4	42.6
10:11:55 PM	No	48.1	56.3	51.8	42.2
10:12:55 PM	No	42.6	49.9	45.2	38
10:13:55 PM	No	50.7	63.2	53.3	40.5
10:14:55 PM	No	51	61.8	53.8	43.9
10:15:55 PM	No	44.4	50.4	46.8	40.5
10:16:55 PM	No	50.1	61.3	54.9	39.3
		47.3			

AES
ACOUSTICAL ENGINEERING SERVICES

Location: R6
Date: 3/10/2016

Time	Overload	Leq	Lmax	L10	L90
12:39:03 PM	No	54.1	62.7	56.5	49.5
12:40:03 PM	No	57.7	68.1	62.4	50.7
12:41:03 PM	No	53.5	60.4	54.9	50.9
12:42:03 PM	No	56.2	68.9	57.7	48
12:43:03 PM	No	58.3	69.7	61.9	48.7
12:44:03 PM	No	58.6	65.5	63.2	48.3
12:45:03 PM	No	60.8	68.8	65.5	52.1
12:46:03 PM	No	58	65.6	64.7	50.2
12:47:03 PM	No	62.5	73.9	67.4	48.5
12:48:03 PM	No	54.2	65.7	56.5	47.4
12:49:03 PM	No	49.6	52.3	51.5	47.7
12:50:03 PM	No	50.4	58.8	52.6	47
12:51:03 PM	No	52.3	59.4	53.9	48.5
12:52:03 PM	No	50.3	58.5	52.2	47
12:53:03 PM	No	53.3	59.4	57.1	47.9
		57.0			

Time	Overload	Leq	Lmax	L10	L90
11:19:26 PM	No	50.1	58.8	53.4	45
11:20:26 PM	No	48.2	54.7	51.4	44.3
11:21:26 PM	No	46.7	53.4	49.4	43.7
11:22:26 PM	No	44.9	47.8	46.7	43.8
11:23:26 PM	No	54.1	66.2	57.9	42.2
11:24:26 PM	No	46.3	50.5	48.4	43.8
11:25:26 PM	No	46.7	49.6	48.7	44.7
11:26:26 PM	No	45.3	48.9	47.7	42.5
11:27:26 PM	No	46.3	51.1	49.2	42.4
11:28:26 PM	No	50.7	61.3	55.2	43.3
11:29:26 PM	No	46.5	50.8	49.3	42.2
11:30:26 PM	No	47.4	52.1	50.7	42.5
11:31:26 PM	No	44.5	46.9	46.1	42.4
11:32:26 PM	No	45.3	50	47.7	42.3
11:33:26 PM	No	45	50.5	47.3	43
		48.1			

AES
ACOUSTICAL ENGINEERING SERVICES

Location: R7
Date: 3/10/2016

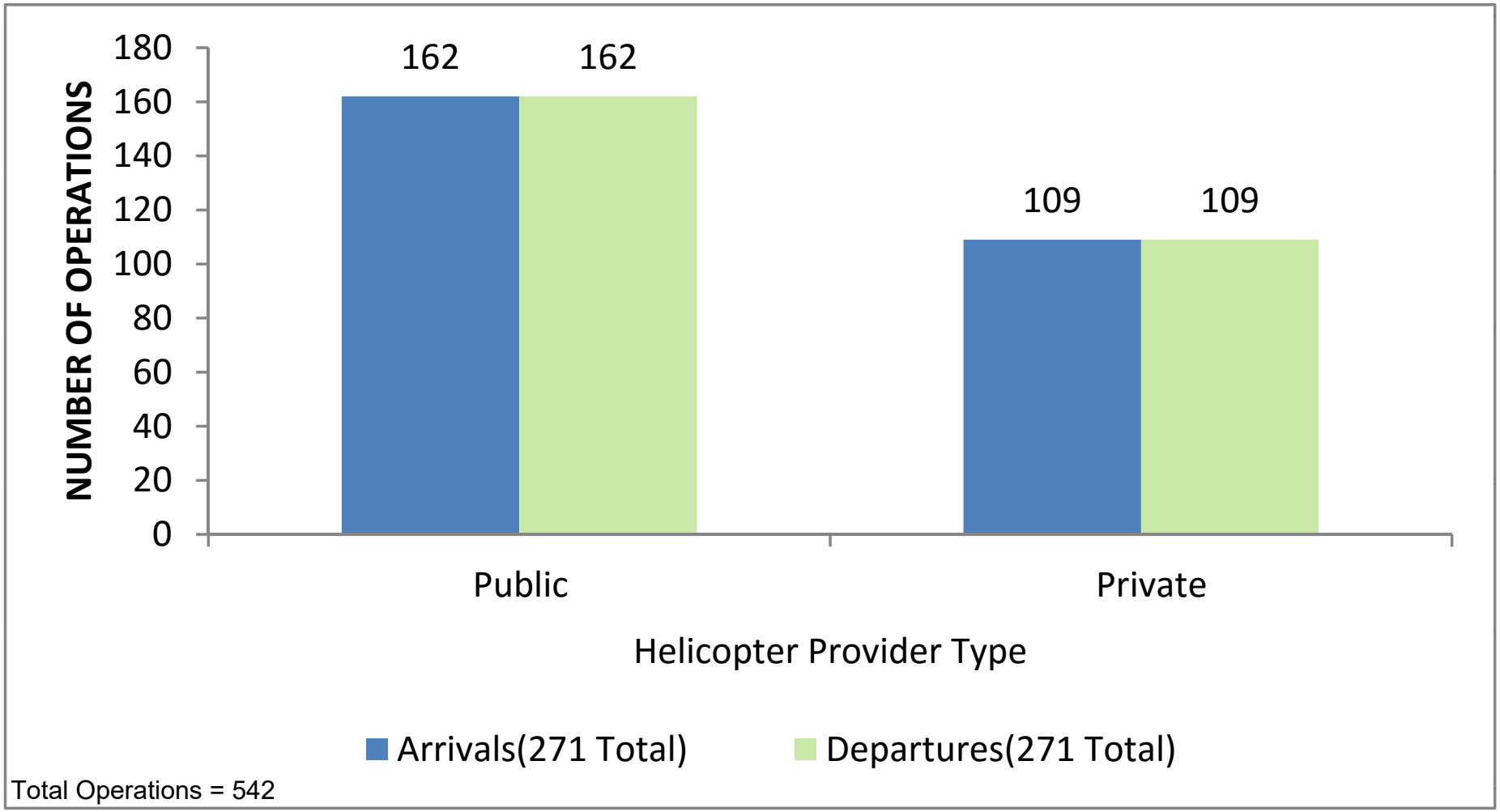
Time	Overload	Leq	Lmax	L10	L90
12:59:41 PM	No	63.4	68.1	67.1	54.6
1:00:41 PM	No	60.2	68	63.5	48.6
1:01:41 PM	No	63	66.6	64.8	59
1:02:41 PM	No	60.6	66.7	65.3	51.9
1:03:41 PM	No	66.6	75.1	69.5	57.5
1:04:41 PM	No	62.6	68.3	67.1	55.1
1:05:41 PM	No	64.7	74.1	67.1	55.5
1:06:41 PM	No	63.2	68.1	66.9	57
1:07:41 PM	No	67.2	75.9	71.6	59.2
1:08:41 PM	No	63.8	68	66.8	57.7
1:09:41 PM	No	60.3	66.2	64.4	53.4
1:10:41 PM	No	69.9	80.4	74.3	58.6
1:11:41 PM	No	60	64.5	62.9	55
1:12:41 PM	No	66.6	74.2	69.6	59.6
1:13:41 PM	No	64.7	74.1	69	56
		64.8			

Time	Overload	Leq	Lmax	L10	L90
11:41:21 PM	No	52.6	62.6	57.3	43.9
11:42:21 PM	No	52.7	61.4	59.3	43.1
11:43:21 PM	No	56	63.2	61.4	43.7
11:44:21 PM	No	52.8	62.1	57.2	44.6
11:45:21 PM	No	50.6	58	54.5	44.8
11:46:21 PM	No	50.7	60	54.8	44.2
11:47:21 PM	No	56.1	62.2	60.3	44.9
11:48:21 PM	No	44.7	46.8	45.9	43.8
11:49:21 PM	No	56	65.7	61.9	45.5
11:50:21 PM	No	54.3	65.5	59.1	43.8
11:51:21 PM	No	52.9	62.6	58.7	43.6
11:52:21 PM	No	54.2	61.1	59.7	45.7
11:53:21 PM	No	63.1	78.6	59.6	44
11:54:21 PM	No	63.8	76.7	65.7	50.3
11:55:21 PM	No	52.2	60.1	56	44.3
		56.9			

Appendix B

Helicopter Operations Information Provided by Heliport Consultants

FIGURE: NUMBER OF HELICOPTER OPERATIONS BY PROVIDER TYPE

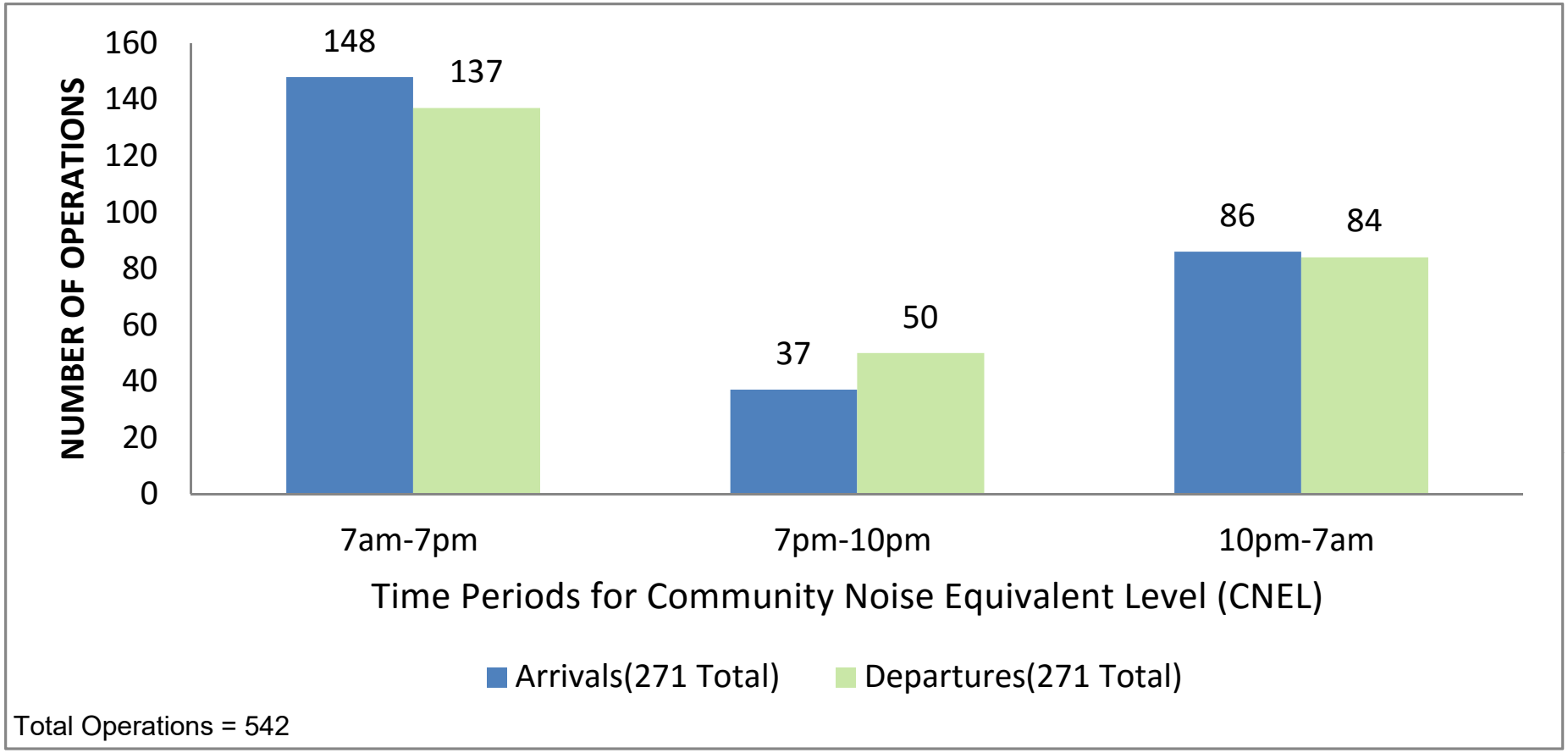


Total Operations = 542

Date Range: January 9, 2008 - December 8, 2015

*416 Weeks of Data = 96 Months

FIGURE: NUMBER OF HELICOPTER OPERATIONS WITHIN CNEL TIME PERIODS

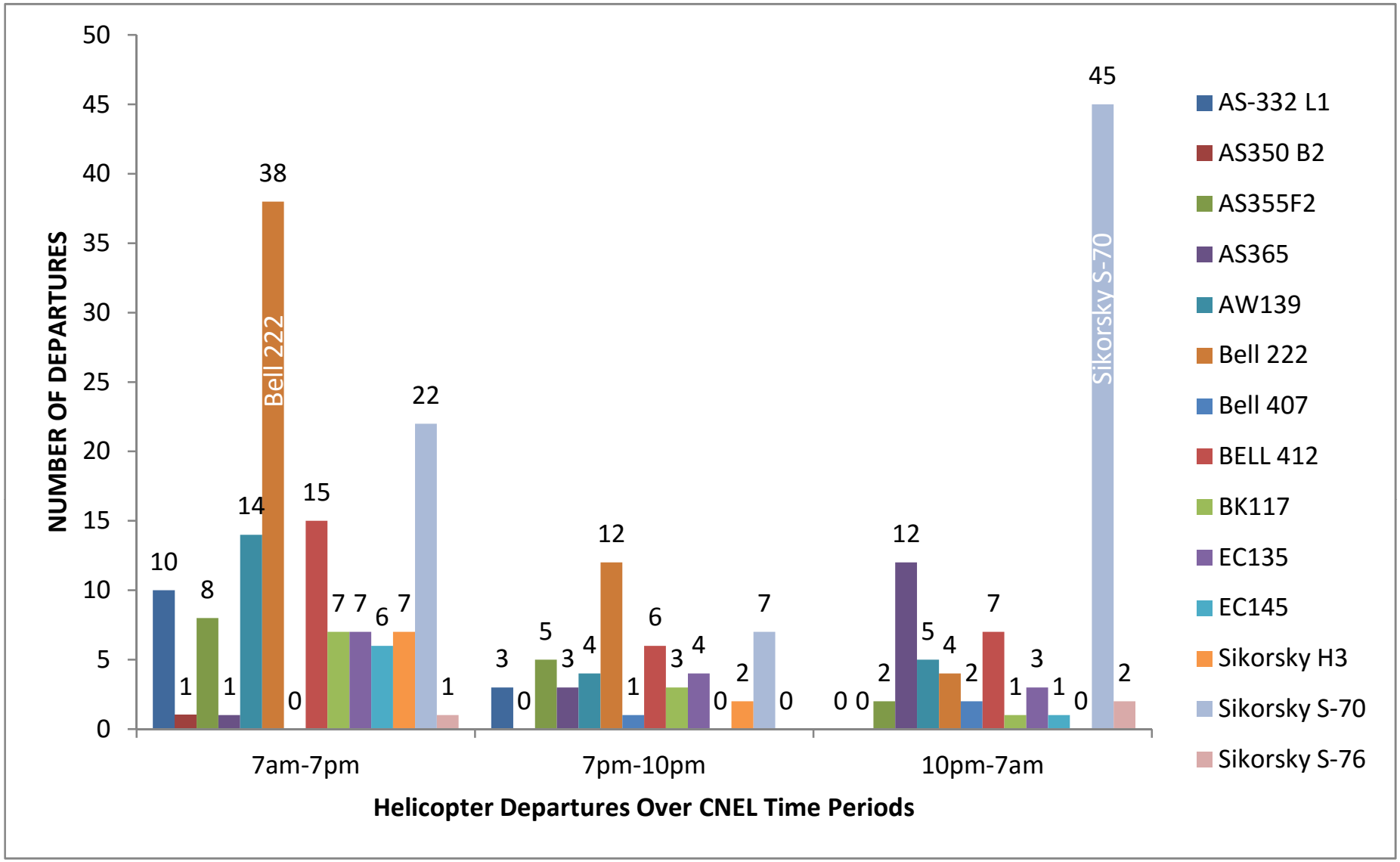


Total Operations = 542

Date Range: January 9, 2008 - December 8, 2015

*416 Weeks of Data = 96 Months

FIGURE: NUMBER OF HELICOPTER DEPARTURES BY MODEL WITHIN CNEL TIME PERIODS



Date Range: January 9, 2008 - December 8, 2015

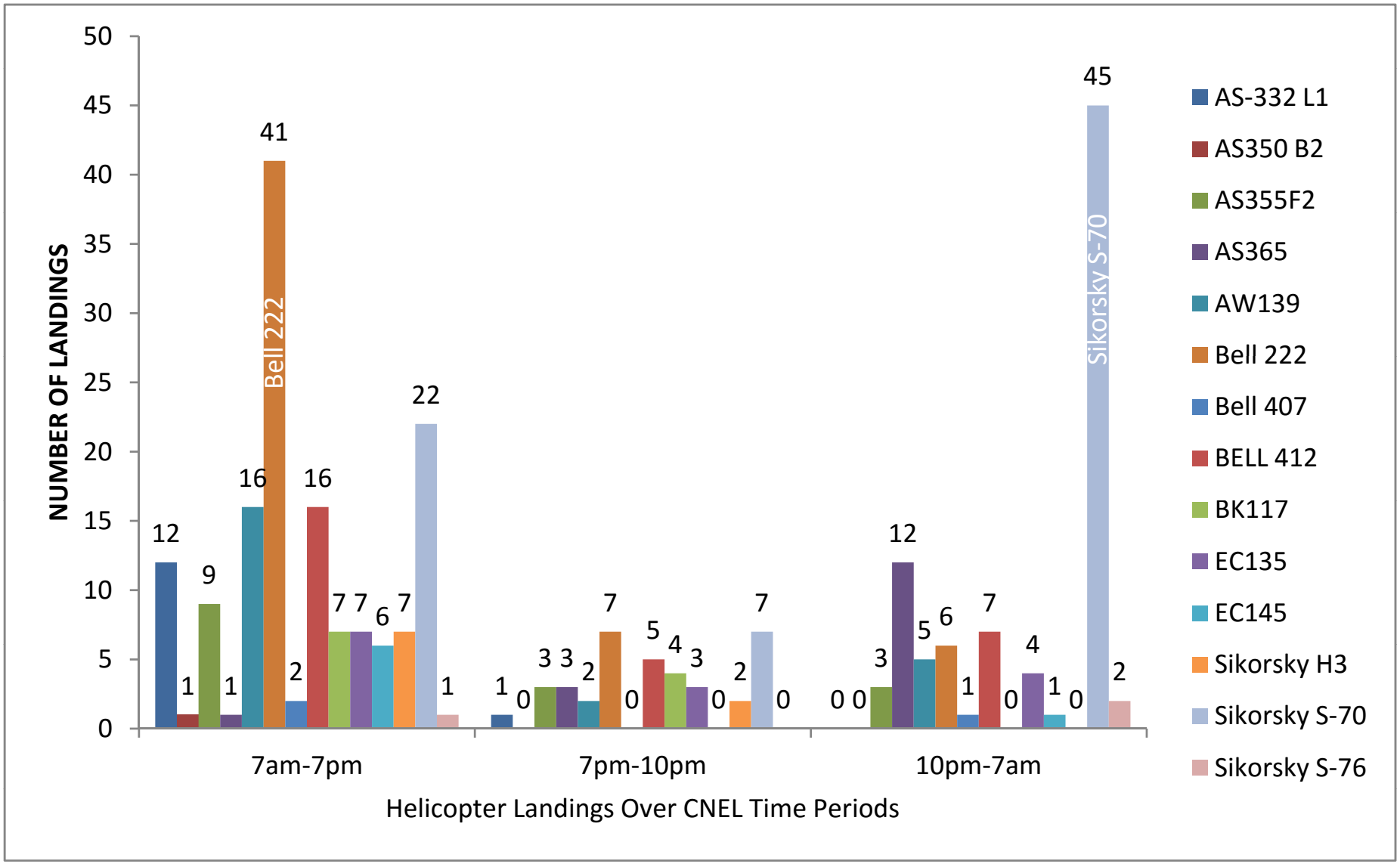
*416 Weeks of Data = 96 Months

Total Departures (271)

Heliport Consultants

06/27/16

FIGURE: NUMBER OF HELICOPTER LANDINGS BY MODEL WITHIN CNEL TIME PERIODS



Date Range: January 9, 2008 - December 8, 2015

*416 Weeks of Data = 96 Months

Total Landings (271)

Heliport Consultants

06/24/16

Appendix C

INM Computer Noise Model – Input Data

INM 7.0d SCENARIO RUN INPUT REPORT 29-Jun-16 13:19

STUDY: C:\USERS\SEAN\DROPBOX\AES\HELICOPTER\
   Created   : 21-Apr-16 15:03
   Units   : English
   Airport   : UCLA
   Description :
      HUCLA

SCENARIO: CNEL-Existing
   Created   : 02-May-16 12:07
   Description : Existing Pad
   Last Run   : 28-Jun-16 14:30
   Run Duration : 000:00:15

STUDY AIRPORT
   Latitude   : 0.000000 deg
   Longitude   : 0.000000 deg
   Elevation   : 0.0 ft

CASES RUN:

CASENAME: Existing
   Temperature : 59.0 F
   Pressure   : 29.92 in-Hg
   AverageWind : 8.0 kt
   ChangeNPD   : No

STUDY RUNWAYS

CASENAME: Existing
      RwyWind   : 8.0 kt

CASENAME: Existing
      RwyWind   : 8.0 kt

CASENAME: Existing
      RwyWind   : 8.0 kt

CASENAME: Existing
      RwyWind   : 8.0 kt

CASENAME: Existing
      RwyWind   : 8.0 kt

STUDY HELIPADS
   EXISTING
      Latitude : 0.000000 deg
      Longitude : 0.000000 deg
      Xcoord   : 0.0000 nmi
      Ycoord   : 0.0000 nmi
   FUTURE
      Latitude : 0.000047 deg
      Longitude : -0.000136 deg
      Xcoord   : -0.0082 nmi
      Ycoord   : 0.0028 nmi
   INT-1
      Latitude : -0.000700 deg
      Longitude : -0.004499 deg
      Xcoord   : -0.2704 nmi
      Ycoord   : -0.0418 nmi
   INT-2
      Latitude : -0.000717 deg
      Longitude : -0.003898 deg
      Xcoord   : -0.2343 nmi
      Ycoord   : -0.0428 nmi
   INTERIM
      Latitude : -0.000714 deg
      Longitude : -0.004380 deg
      Xcoord   : -0.2633 nmi
      Ycoord   : -0.0426 nmi

STUDY TRACKS

RwyId-OpType-TrkId	Sub	PctSub	TrkType	Delta(ft)
EXISTING-APP-1	0	100.00	Vectors	257.6
EXISTING-APP-2	0	100.00	Vectors	70.8
EXISTING-APP-3	0	100.00	Vectors	70.8
EXISTING-APP-4	0	100.00	Vectors	317.0
EXISTING-DEP-1	0	100.00	Vectors	77.7
EXISTING-DEP-2	0	100.00	Vectors	250.8
EXISTING-DEP-3	0	100.00	Vectors	250.8
EXISTING-DEP-4	0	100.00	Vectors	137.0
FUTURE-APP-1	0	100.00	Vectors	260.6
FUTURE-APP-2	0	100.00	Vectors	67.8
FUTURE-APP-3	0	100.00	Vectors	67.8
FUTURE-APP-4	0	100.00	Vectors	312.5
FUTURE-APP-5	0	100.00	Vectors	111.7
FUTURE-DEP-1	0	100.00	Vectors	80.6
FUTURE-DEP-2	0	100.00	Vectors	247.8
FUTURE-DEP-3	0	100.00	Vectors	247.8
FUTURE-DEP-4	0	100.00	Vectors	132.5
FUTURE-DEP-5	0	100.00	Vectors	291.7
INT-1-APP-1	0	100.00	Vectors	270.0
INT-1-APP-2	0	100.00	Vectors	270.0
INT-1-APP-3	0	100.00	Vectors	165.0
INT-1-DEP-1	0	100.00	Vectors	90.0
INT-1-DEP-2	0	100.00	Vectors	90.0
INT-1-DEP-3	0	100.00	Vectors	345.0
INT-2-APP-1	0	100.00	Vectors	270.0
INT-2-APP-2	0	100.00	Vectors	270.0
INT-2-APP-3	0	100.00	Vectors	90.0
INT-2-DEP-1	0	100.00	Vectors	90.0
INT-2-DEP-2	0	100.00	Vectors	90.0
INT-2-DEP-3	0	100.00	Vectors	270.0
INTERIM-APP-1	0	100.00	Vectors	274.0
INTERIM-APP-2	0	100.00	Vectors	86.5
INTERIM-APP-3	0	100.00	Vectors	171.3
INTERIM-DEP-1				

```
      0   100.00   Vectors        94.0
   INTERIM-DEP-2
      0   100.00   Vectors       266.5
   INTERIM-DEP-3
      0   100.00   Vectors       351.3

STUDY TRACK DETAIL
   RwyId-OpType-TrkId-SubTrk
       #  SegType       Dist/Angle      Radius(nmi)
   EXISTING-APP-1-0
       1  Straight         2.0000 nmi
       2  Right-Turn      77.7000 deg       0.3285
   EXISTING-APP-2-0
       1  Straight         4.0000 nmi
       2  Left-Turn       63.5000 deg       0.0411
       3  Left-Turn       21.7000 deg       0.1800
       4  Left-Turn       24.0000 deg       0.5904
   EXISTING-APP-3-0
       1  Straight         4.0000 nmi
       2  Right-Turn      63.5000 deg       0.0411
       3  Right-Turn      21.3000 deg       0.1800
       4  Right-Turn      10.0000 deg       0.0100
       5  Left-Turn       24.0000 deg       0.5904
   EXISTING-APP-4-0
       1  Straight         4.0000 nmi
       2  Right-Turn       3.5000 deg       0.1000
       3  Left-Turn       13.0000 deg       0.8300
       4  Right-Turn      26.6000 deg       0.2128
   EXISTING-DEP-1-0
       1  Left-Turn       77.7000 deg       0.3285
       2  Straight         4.0000 nmi
   EXISTING-DEP-2-0
       1  Right-Turn      24.0000 deg       0.5904
       2  Right-Turn      21.7000 deg       0.1800
       3  Right-Turn      63.5000 deg       0.0411
       4  Straight         4.0000 nmi
   EXISTING-DEP-3-0
       1  Right-Turn      24.0000 deg       0.5904
       2  Left-Turn       10.0000 deg       0.0100
       3  Left-Turn       21.3000 deg       0.1800
       4  Left-Turn       63.5000 deg       0.0411
       5  Straight         4.0000 nmi
   EXISTING-DEP-4-0
       1  Left-Turn       26.6000 deg       0.2128
       2  Right-Turn      13.0000 deg       0.8300
       3  Left-Turn        3.5000 deg       0.1000
       4  Straight         4.0000 nmi
   FUTURE-APP-1-0
       1  Straight         5.0000 nmi
       2  Right-Turn      80.6000 deg       0.3185
   FUTURE-APP-2-0
       1  Straight         4.0000 nmi
       2  Left-Turn       62.3000 deg       0.0412
       3  Left-Turn        3.5000 deg       0.0010
       4  Left-Turn       17.9000 deg       0.2198
       5  Left-Turn       28.5000 deg       0.4823
   FUTURE-APP-3-0
       1  Straight         4.0000 nmi
       2  Right-Turn      62.3000 deg       0.0412
       3  Right-Turn       3.1000 deg       0.0010
       4  Right-Turn      17.9000 deg       0.2198
       5  Right-Turn      13.0000 deg       0.0010
       6  Left-Turn       28.5000 deg       0.4823
   FUTURE-APP-4-0
       1  Straight         4.0000 nmi
       2  Left-Turn       12.3000 deg       0.9136
       3  Right-Turn       1.5000 deg       0.0010
       4  Right-Turn      20.2000 deg       0.3026
   FUTURE-APP-5-0
       1  Straight         5.0000 nmi
       2  Left-Turn       11.2000 deg       0.0010
       3  Left-Turn       60.6000 deg       0.2064
       4  Right-Turn       3.5000 deg       0.0010
```

```
    5  Straight          0.1991 nmi
FUTURE-DEP-1-0
    1  Left-Turn        80.6000 deg       0.3185
    2  Straight          5.0000 nmi
FUTURE-DEP-2-0
    1  Right-Turn       28.5000 deg       0.4823
    2  Right-Turn       17.9000 deg       0.2198
    3  Right-Turn        3.5000 deg       0.0010
    4  Right-Turn       62.3000 deg       0.0412
    5  Straight          5.0000 nmi
FUTURE-DEP-3-0
    1  Right-Turn       28.5000 deg       0.4823
    2  Left-Turn        13.0000 deg       0.0010
    3  Left-Turn        17.9000 deg       0.2198
    4  Left-Turn         3.1000 deg       0.0010
    5  Left-Turn        62.3000 deg       0.0412
    6  Straight          5.0000 nmi
FUTURE-DEP-4-0
    1  Left-Turn        20.2000 deg       0.3026
    2  Left-Turn         1.5000 deg       0.0010
    3  Right-Turn       12.3000 deg       0.9136
    4  Straight          4.0000 nmi
FUTURE-DEP-5-0
    1  Straight          0.1991 nmi
    2  Left-Turn         3.5000 deg       0.0010
    3  Right-Turn       60.6000 deg       0.2064
    4  Right-Turn       11.2000 deg       0.0010
    5  Straight          5.0000 nmi
INT-1-APP-1-0
    1  Straight          3.0000 nmi
    2  Right-Turn        4.9000 deg       0.0100
    3  Right-Turn       46.9000 deg       0.3347
    4  Left-Turn         1.0000 deg       0.0100
    5  Right-Turn       36.0000 deg       0.5886
    6  Right-Turn        3.2000 deg       0.0100
    7  Straight          0.0727 nmi
INT-1-APP-2-0
    1  Straight          3.0000 nmi
    2  Left-Turn         2.6000 deg       0.0100
    3  Left-Turn        47.8000 deg       0.0795
    4  Left-Turn         0.8000 deg       0.0100
    5  Left-Turn        23.2000 deg       0.1594
    6  Right-Turn        0.6000 deg       0.0100
    7  Left-Turn         9.1000 deg       0.5155
    8  Right-Turn        1.5000 deg       0.0100
    9  Left-Turn         7.8000 deg       1.6562
   10  Left-Turn         0.8000 deg       0.0100
   11  Straight          0.1392 nmi
INT-1-APP-3-0
    1  Straight          3.0000 nmi
    2  Right-Turn        0.8000 deg       0.0100
    3  Left-Turn         6.7000 deg       0.3228
    4  Right-Turn        2.2000 deg       0.0100
    5  Left-Turn        14.8000 deg       0.0554
    6  Left-Turn         1.0000 deg       0.0100
    7  Straight          0.0982 nmi
    8  Left-Turn         1.0000 deg       0.0100
    9  Right-Turn       20.5000 deg       0.1612
   10  Right-Turn        1.2000 deg       0.0100
   11  Straight          0.0863 nmi
   12  Left-Turn         2.7000 deg       0.0100
   13  Left-Turn        13.5000 deg       0.2536
INT-1-DEP-1-0
    1  Straight          0.0728 nmi
    2  Left-Turn         3.2000 deg       0.0100
    3  Left-Turn        36.0000 deg       0.5886
    4  Right-Turn        1.0000 deg       0.0100
    5  Left-Turn        46.9000 deg       0.3347
    6  Left-Turn         4.9000 deg       0.0100
    7  Straight          3.0000 nmi
INT-1-DEP-2-0
    1  Straight          0.1392 nmi
    2  Right-Turn        0.8000 deg       0.0100
```

	3	Right-Turn	7.8000 deg	1.6562
	4	Left-Turn	1.5000 deg	0.0100
	5	Right-Turn	9.1000 deg	0.5155
	6	Left-Turn	0.6000 deg	0.0100
	7	Right-Turn	23.2000 deg	0.1594
	8	Right-Turn	1.6000 deg	0.0100
	9	Right-Turn	47.8000 deg	0.0795
	10	Right-Turn	1.8000 deg	0.0100
	11	Straight	3.0000 nmi	
INT-1-DEP-3-0				
	1	Right-Turn	13.5000 deg	0.2536
	2	Right-Turn	2.7000 deg	0.0100
	3	Straight	0.0863 nmi	
	4	Left-Turn	1.2000 deg	0.0100
	5	Left-Turn	20.5000 deg	0.1612
	6	Right-Turn	1.0000 deg	0.0100
	7	Straight	0.0982 nmi	
	8	Right-Turn	1.0000 deg	0.0100
	9	Right-Turn	14.8000 deg	0.0554
	10	Left-Turn	2.2000 deg	0.0100
	11	Right-Turn	6.7000 deg	0.3228
	12	Left-Turn	0.8000 deg	0.0100
	13	Straight	3.0000 nmi	
INT-2-APP-1-0				
	1	Straight	3.0000 nmi	
	2	Left-Turn	2.7000 deg	0.0100
	3	Right-Turn	60.1000 deg	0.3440
	4	Right-Turn	0.1000 deg	0.0100
	5	Right-Turn	30.0000 deg	0.5046
	6	Right-Turn	2.5000 deg	0.0100
	7	Straight	0.0888 nmi	
INT-2-APP-2-0				
	1	Straight	3.0000 nmi	
	2	Left-Turn	5.0000 deg	0.0100
	3	Left-Turn	51.5000 deg	0.0523
	4	Right-Turn	0.6000 deg	0.0100
	5	Left-Turn	21.4000 deg	0.3618
	6	Right-Turn	0.6000 deg	0.0100
	7	Left-Turn	14.2000 deg	1.0551
	8	Right-Turn	0.9000 deg	0.0100
	9	Straight	0.0888 nmi	
INT-2-APP-3-0				
	1	Straight	5.0000 nmi	
INT-2-DEP-1-0				
	1	Straight	0.0888 nmi	
	2	Left-Turn	2.5000 deg	0.0100
	3	Left-Turn	30.0000 deg	0.5046
	4	Left-Turn	0.1000 deg	0.0100
	5	Left-Turn	60.1000 deg	0.3440
	6	Right-Turn	2.7000 deg	0.0100
	7	Straight	3.0000 nmi	
INT-2-DEP-2-0				
	1	Straight	0.0888 nmi	
	2	Left-Turn	0.9000 deg	0.0100
	3	Right-Turn	14.2000 deg	1.0551
	4	Left-Turn	0.6000 deg	0.0100
	5	Right-Turn	21.4000 deg	0.3618
	6	Left-Turn	0.6000 deg	0.0100
	7	Right-Turn	51.5000 deg	0.0523
	8	Right-Turn	5.0000 deg	0.0100
	9	Straight	3.0000 nmi	
INT-2-DEP-3-0				
	1	Straight	5.0000 nmi	
INTERIM-APP-1-0				
	1	Straight	4.0000 nmi	
	2	Right-Turn	60.0000 deg	0.3350
	3	Right-Turn	34.2000 deg	0.6226
INTERIM-APP-2-0				
	1	Straight	5.0000 nmi	
	2	Left-Turn	93.5000 deg	0.0642
INTERIM-APP-3-0				
	1	Straight	5.0000 nmi	
	2	Left-Turn	20.5000 deg	0.0100

```
      3  Right-Turn       11.8000 deg       1.2938
   INTERIM-DEP-1-0
      1  Left-Turn        34.2000 deg       0.6226
      2  Left-Turn        60.0000 deg       0.3350
      3  Straight          4.0000 nmi
   INTERIM-DEP-2-0
      1  Right-Turn       93.5000 deg       0.0642
      2  Straight          5.0000 nmi
   INTERIM-DEP-3-0
      1  Left-Turn        11.8000 deg       1.2938
      2  Right-Turn       20.5000 deg       0.0100
      3  Straight          5.0000 nmi

AIRCRAFT GROUP ASSIGNMENTS

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STUDY AIRPLANES

STUDY SUBSTITUTION AIRPLANES

USER-DEFINED NOISE CURVES

USER-DEFINED METRICS

USER-DEFINED PROFILE IDENTIFIERS

USER-DEFINED PROCEDURAL PROFILES

USER-DEFINED FIXED-POINT PROFILES

USER-DEFINED FLAP COEFFICIENTS

USER-DEFINED JET THRUST COEFFICIENTS

USER-DEFINED PROP THRUST COEFFICIENTS

USER-DEFINED GENERAL THRUST COEFFICIENTS

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STUDY MILITARY AIRPLANES

USER-DEFINED MILITARY NOISE CURVES

USER-DEFINED MILITARY PROFILE IDENTIFIERS

USER-DEFINED MILITARY FIXED-POINT PROFILES

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STUDY HELICOPTERS
   B222          Standard data
   B429          Standard data
   EC130         Standard data
   S70           Standard data
   S76           Standard data
   SA330J        Standard data
   SA355F        Standard data

USER-DEFINED HELICOPTER PROFILE IDENTIFIERS
      Op   Profile Stg  Weight(lb)
   B222
      APP  USER      1        7800
      DEP  USER      1        7800
   B429
      APP  USER      1        7000
      DEP  USER      1        7000
   EC130
      APP  USER      1        5290
      DEP  USER      1        5290
   S70
      APP  USER      1       18000
```

DEP	USER	1	18000
S76			
APP	USER	1	10000
DEP	USER	1	10000
SA330J			
APP	USER	1	15432
DEP	USER	1	15432
SA355F			
APP	USER	1	5070
DEP	USER	1	5070

USER-DEFINED HELICOPTER PROCEDURAL PROFILES

#	StepType	Duration(sec)	Distance(ft)	Altitude(ft)	Speed(kt)
B222-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
B222-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
B429-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
B429-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
EC130-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
EC130-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
S70-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	26400.0	0.0	0.0

3	App Horiz Decel	0.0	2000.0	0.0	80.0
4	App Desc Decel	0.0	1000.0	700.0	60.0
5	App Desc Decel	0.0	1000.0	500.0	40.0
6	App Desc Decel	0.0	500.0	300.0	35.0
7	App Desc Decel	0.0	200.0	150.0	25.0
8	App Desc Decel	0.0	150.0	75.0	0.0
9	App Desc Decel	0.0	150.0	0.0	0.0
10	Flight Idle	60.0	0.0	0.0	0.0
11	Ground Idle	30.0	0.0	0.0	0.0
S70-APP-USER-1					
1	Ground Idle	60.0	0.0	0.0	0.0
2	Flight Idle	120.0	0.0	0.0	0.0
3	Dep Vertical	3.0	0.0	50.0	0.0
4	Dep Climb Accel	0.0	100.0	75.0	45.0
5	Dep Climb Accel	0.0	200.0	100.0	55.0
6	Dep Climb Accel	0.0	300.0	200.0	65.0
7	Dep Climb Accel	0.0	900.0	400.0	80.0
8	Dep Const Speed	0.0	1500.0	1000.0	0.0
9	Dep Horiz Accel	0.0	2000.0	0.0	120.0
10	Level Fly	0.0	26400.0	0.0	0.0
S76-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	110.0
2	Level Fly	0.0	26400.0	0.0	0.0
3	App Horiz Decel	0.0	2000.0	0.0	80.0
4	App Desc Decel	0.0	1000.0	700.0	60.0
5	App Desc Decel	0.0	1000.0	500.0	40.0
6	App Desc Decel	0.0	500.0	300.0	35.0
7	App Desc Decel	0.0	200.0	150.0	25.0
8	App Desc Decel	0.0	150.0	75.0	0.0
9	App Desc Decel	0.0	150.0	0.0	0.0
10	Flight Idle	60.0	0.0	0.0	0.0
11	Ground Idle	30.0	0.0	0.0	0.0
S76-APP-USER-1					
1	Ground Idle	180.0	0.0	0.0	0.0
2	Flight Idle	270.0	0.0	0.0	0.0
3	Dep Vertical	3.0	0.0	50.0	0.0
4	Dep Climb Accel	0.0	100.0	75.0	40.0
5	Dep Climb Accel	0.0	150.0	100.0	50.0
6	Dep Climb Accel	0.0	300.0	300.0	70.0
7	Dep Climb Accel	0.0	350.0	500.0	80.0
8	Dep Const Speed	0.0	1000.0	1000.0	0.0
9	Dep Horiz Accel	0.0	2000.0	0.0	110.0
10	Level Fly	0.0	27500.0	0.0	0.0
SA330J-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
SA330J-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
SA355F-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
SA355F-APP-USER-1					

				report		
1	Ground Idle	30.0	0.0	0.0	0.0	
2	Flight Idle	30.0	0.0	0.0	0.0	
3	Dep Vertical	10.0	0.0	200.0	0.0	
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0	
5	Dep Climb Accel	0.0	1000.0	367.0	65.0	
6	Dep Const Speed	0.0	5000.0	1200.0	0.0	
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0	
8	Level Fly	0.0	21400.0	0.0	0.0	

USER-DEFINED HELICOPTER NOISE CURVES

USER-DEFINED HELICOPTER DIRECTIVITY

CASE FLIGHT OPERATIONS - [Existing]

Acft	Op	Profile	Stg	Rwy	Track	Sub	Group	Day	Evening	Night
B222	APP	USER	1	EXISTING1		0	---	0.0035	0.0006	0.0005
B222	APP	USER	1	EXISTING2		0	---	0.0035	0.0006	0.0005
B222	APP	USER	1	EXISTING3		0	---	0.0035	0.0006	0.0005
B222	APP	USER	1	EXISTING4		0	---	0.0035	0.0006	0.0005
B222	DEP	USER	1	EXISTING1		0	---	0.0033	0.0010	0.0003
B222	DEP	USER	1	EXISTING2		0	---	0.0033	0.0010	0.0003
B222	DEP	USER	1	EXISTING3		0	---	0.0033	0.0010	0.0003
B222	DEP	USER	1	EXISTING4		0	---	0.0033	0.0010	0.0003
B429	APP	USER	1	EXISTING1		0	---	0.0011	0.0003	0.0001
B429	APP	USER	1	EXISTING2		0	---	0.0011	0.0003	0.0001
B429	APP	USER	1	EXISTING3		0	---	0.0011	0.0003	0.0001
B429	APP	USER	1	EXISTING4		0	---	0.0011	0.0003	0.0001
B429	DEP	USER	1	EXISTING1		0	---	0.0011	0.0003	0.0002
B429	DEP	USER	1	EXISTING2		0	---	0.0011	0.0003	0.0002
B429	DEP	USER	1	EXISTING3		0	---	0.0011	0.0003	0.0002
B429	DEP	USER	1	EXISTING4		0	---	0.0011	0.0003	0.0002
EC130	APP	USER	1	EXISTING1		0	---	0.0006	0.0003	0.0003
EC130	APP	USER	1	EXISTING2		0	---	0.0006	0.0003	0.0003
EC130	APP	USER	1	EXISTING3		0	---	0.0006	0.0003	0.0003
EC130	APP	USER	1	EXISTING4		0	---	0.0006	0.0003	0.0003
EC130	DEP	USER	1	EXISTING1		0	---	0.0006	0.0003	0.0003
EC130	DEP	USER	1	EXISTING2		0	---	0.0006	0.0003	0.0003
EC130	DEP	USER	1	EXISTING3		0	---	0.0006	0.0003	0.0003
EC130	DEP	USER	1	EXISTING4		0	---	0.0006	0.0003	0.0003
S70	APP	USER	1	EXISTING1		0	---	0.0035	0.0009	0.0038
S70	APP	USER	1	EXISTING2		0	---	0.0035	0.0009	0.0038
S70	APP	USER	1	EXISTING3		0	---	0.0035	0.0009	0.0038
S70	APP	USER	1	EXISTING4		0	---	0.0035	0.0009	0.0038
S70	DEP	USER	1	EXISTING1		0	---	0.0033	0.0010	0.0038
S70	DEP	USER	1	EXISTING2		0	---	0.0033	0.0010	0.0038
S70	DEP	USER	1	EXISTING3		0	---	0.0033	0.0010	0.0038
S70	DEP	USER	1	EXISTING4		0	---	0.0033	0.0010	0.0038
S76	APP	USER	1	EXISTING1		0	---	0.0015	0.0007	0.0018
S76	APP	USER	1	EXISTING2		0	---	0.0015	0.0007	0.0018
S76	APP	USER	1	EXISTING3		0	---	0.0015	0.0007	0.0018
S76	APP	USER	1	EXISTING4		0	---	0.0015	0.0007	0.0018
S76	DEP	USER	1	EXISTING1		0	---	0.0015	0.0008	0.0018
S76	DEP	USER	1	EXISTING2		0	---	0.0015	0.0008	0.0018
S76	DEP	USER	1	EXISTING3		0	---	0.0015	0.0008	0.0018
S76	DEP	USER	1	EXISTING4		0	---	0.0015	0.0008	0.0018
SA330J	APP	USER	1	EXISTING1		0	---	0.0014	0.0002	0.0004
SA330J	APP	USER	1	EXISTING2		0	---	0.0014	0.0002	0.0004
SA330J	APP	USER	1	EXISTING3		0	---	0.0014	0.0002	0.0004
SA330J	APP	USER	1	EXISTING4		0	---	0.0014	0.0002	0.0004
SA330J	DEP	USER	1	EXISTING1		0	---	0.0012	0.0003	0.0004
SA330J	DEP	USER	1	EXISTING2		0	---	0.0012	0.0003	0.0004
SA330J	DEP	USER	1	EXISTING3		0	---	0.0012	0.0003	0.0004
SA330J	DEP	USER	1	EXISTING4		0	---	0.0012	0.0003	0.0004
SA355F	APP	USER	1	EXISTING1		0	---	0.0010	0.0003	0.0003
SA355F	APP	USER	1	EXISTING2		0	---	0.0010	0.0003	0.0003
SA355F	APP	USER	1	EXISTING3		0	---	0.0010	0.0003	0.0003
SA355F	APP	USER	1	EXISTING4		0	---	0.0010	0.0003	0.0003
SA355F	DEP	USER	1	EXISTING1		0	---	0.0008	0.0005	0.0003
SA355F	DEP	USER	1	EXISTING2		0	---	0.0008	0.0005	0.0003
SA355F	DEP	USER	1	EXISTING3		0	---	0.0008	0.0005	0.0003
SA355F	DEP	USER	1	EXISTING4		0	---	0.0008	0.0005	0.0003

CASE RUNUP OPERATIONS - [Existing]

SCENARIO RUN OPTIONS
   Run Type   : Single-Metric
   NoiseMetric   : CNEL
   Do Terrain   : No Terrain
   Do Contour   : Recursive Grid
   Refinement   : 14
   Tolerance   : 0.25
   Low Cutoff   : 45.0
   High Cutoff   : 85.0
   Ground Type   : All-Soft-Ground
   Do Population : No
   Do Locations : Yes
   Do Standard   : No
   Do Detailed   : No
   Compute System Metrics:
      DNL   : No
      CNEL   : No
      LAEQ   : Yes
      LAEQD : No
      LAEQN : No
      SEL   : Yes
      LAMAX : Yes
      TALA   : No
      NEF   : No
      WECPNL : No
      EPNL   : No
      PNLTM : No
      TAPNL : No
      CEXP   : No
      LCMAX : No
      TALC   : No

SCENARIO GRID DEFINITIONS

Name	Type	X(nmi)	Y(nmi)	Ang(deg)	DisI(nmi)	DisJ(nmi)	NI	NJ	Thrsh	dAmb	(hr)
CONTOUR	Contour	-1.0000	-1.0000	0.0	2.0000	2.0001	2	2	85.0	0.0	0.00
LOCATION	Location	0.0000	0.0000	0.0	0.0000	0.0001	1	1	85.0	0.0	0.00

POINT	METRIC
R1	47.6
R2	50.0
R3	41.3
R4	38.0
R5	35.8
R6	35.4
R7	33.5
R8	33.1

INM 7.0d SCENARIO RUN INPUT REPORT 29-Jun-16 13:19

STUDY: C:\USERS\SEAN\DROPBOX\AES\HELICOPTER\
   Created   : 21-Apr-16 15:03
   Units   : English
   Airport   : UCLA
   Description :
      HUCLA

SCENARIO: CNEL-Interim_1
   Created   : 25-May-16 13:56
   Description : Interim_1-CNEL
   Last Run   : 28-Jun-16 14:30
   Run Duration : 000:00:09

STUDY AIRPORT
   Latitude   : 0.000000 deg
   Longitude   : 0.000000 deg
   Elevation   : 0.0 ft

CASES RUN:

CASENAME: Interim_1
   Temperature : 59.0 F
   Pressure   : 29.92 in-Hg
   AverageWind : 8.0 kt
   ChangeNPD   : No

STUDY RUNWAYS

CASENAME: Interim_1
      RwyWind   : 8.0 kt

CASENAME: Interim_1
      RwyWind   : 8.0 kt

CASENAME: Interim_1
      RwyWind   : 8.0 kt

CASENAME: Interim_1
      RwyWind   : 8.0 kt

CASENAME: Interim_1
      RwyWind   : 8.0 kt

STUDY HELIPADS
   EXISTING
      Latitude : 0.000000 deg
      Longitude : 0.000000 deg
      Xcoord   : 0.0000 nmi
      Ycoord   : 0.0000 nmi
   FUTURE
      Latitude : 0.000047 deg
      Longitude : -0.000136 deg
      Xcoord   : -0.0082 nmi
      Ycoord   : 0.0028 nmi
   INT-1
      Latitude : -0.000700 deg
      Longitude : -0.004499 deg
      Xcoord   : -0.2704 nmi
      Ycoord   : -0.0418 nmi
   INT-2
      Latitude : -0.000717 deg
      Longitude : -0.003898 deg
      Xcoord   : -0.2343 nmi
      Ycoord   : -0.0428 nmi
   INTERIM
      Latitude : -0.000714 deg
      Longitude : -0.004380 deg
      Xcoord   : -0.2633 nmi
      Ycoord   : -0.0426 nmi

STUDY TRACKS

RwyId-OpType-TrkId	Sub	PctSub	TrkType	Delta(ft)
EXISTING-APP-1	0	100.00	Vectors	257.6
EXISTING-APP-2	0	100.00	Vectors	70.8
EXISTING-APP-3	0	100.00	Vectors	70.8
EXISTING-APP-4	0	100.00	Vectors	317.0
EXISTING-DEP-1	0	100.00	Vectors	77.7
EXISTING-DEP-2	0	100.00	Vectors	250.8
EXISTING-DEP-3	0	100.00	Vectors	250.8
EXISTING-DEP-4	0	100.00	Vectors	137.0
FUTURE-APP-1	0	100.00	Vectors	260.6
FUTURE-APP-2	0	100.00	Vectors	67.8
FUTURE-APP-3	0	100.00	Vectors	67.8
FUTURE-APP-4	0	100.00	Vectors	312.5
FUTURE-APP-5	0	100.00	Vectors	111.7
FUTURE-DEP-1	0	100.00	Vectors	80.6
FUTURE-DEP-2	0	100.00	Vectors	247.8
FUTURE-DEP-3	0	100.00	Vectors	247.8
FUTURE-DEP-4	0	100.00	Vectors	132.5
FUTURE-DEP-5	0	100.00	Vectors	291.7
INT-1-APP-1	0	100.00	Vectors	270.0
INT-1-APP-2	0	100.00	Vectors	270.0
INT-1-APP-3	0	100.00	Vectors	165.0
INT-1-DEP-1	0	100.00	Vectors	90.0
INT-1-DEP-2	0	100.00	Vectors	90.0
INT-1-DEP-3	0	100.00	Vectors	345.0
INT-2-APP-1	0	100.00	Vectors	270.0
INT-2-APP-2	0	100.00	Vectors	270.0
INT-2-APP-3	0	100.00	Vectors	90.0
INT-2-DEP-1	0	100.00	Vectors	90.0
INT-2-DEP-2	0	100.00	Vectors	90.0
INT-2-DEP-3	0	100.00	Vectors	270.0
INTERIM-APP-1	0	100.00	Vectors	274.0
INTERIM-APP-2	0	100.00	Vectors	86.5
INTERIM-APP-3	0	100.00	Vectors	171.3
INTERIM-DEP-1				

```
      0   100.00   Vectors        94.0
   INTERIM-DEP-2
      0   100.00   Vectors       266.5
   INTERIM-DEP-3
      0   100.00   Vectors       351.3

STUDY TRACK DETAIL
   RwyId-OpType-TrkId-SubTrk
       #  SegType       Dist/Angle      Radius(nmi)
   EXISTING-APP-1-0
       1  Straight         2.0000 nmi
       2  Right-Turn      77.7000 deg       0.3285
   EXISTING-APP-2-0
       1  Straight         4.0000 nmi
       2  Left-Turn       63.5000 deg       0.0411
       3  Left-Turn       21.7000 deg       0.1800
       4  Left-Turn       24.0000 deg       0.5904
   EXISTING-APP-3-0
       1  Straight         4.0000 nmi
       2  Right-Turn      63.5000 deg       0.0411
       3  Right-Turn      21.3000 deg       0.1800
       4  Right-Turn      10.0000 deg       0.0100
       5  Left-Turn       24.0000 deg       0.5904
   EXISTING-APP-4-0
       1  Straight         4.0000 nmi
       2  Right-Turn       3.5000 deg       0.1000
       3  Left-Turn       13.0000 deg       0.8300
       4  Right-Turn      26.6000 deg       0.2128
   EXISTING-DEP-1-0
       1  Left-Turn       77.7000 deg       0.3285
       2  Straight         4.0000 nmi
   EXISTING-DEP-2-0
       1  Right-Turn      24.0000 deg       0.5904
       2  Right-Turn      21.7000 deg       0.1800
       3  Right-Turn      63.5000 deg       0.0411
       4  Straight         4.0000 nmi
   EXISTING-DEP-3-0
       1  Right-Turn      24.0000 deg       0.5904
       2  Left-Turn       10.0000 deg       0.0100
       3  Left-Turn       21.3000 deg       0.1800
       4  Left-Turn       63.5000 deg       0.0411
       5  Straight         4.0000 nmi
   EXISTING-DEP-4-0
       1  Left-Turn       26.6000 deg       0.2128
       2  Right-Turn      13.0000 deg       0.8300
       3  Left-Turn        3.5000 deg       0.1000
       4  Straight         4.0000 nmi
   FUTURE-APP-1-0
       1  Straight         5.0000 nmi
       2  Right-Turn      80.6000 deg       0.3185
   FUTURE-APP-2-0
       1  Straight         4.0000 nmi
       2  Left-Turn       62.3000 deg       0.0412
       3  Left-Turn        3.5000 deg       0.0010
       4  Left-Turn       17.9000 deg       0.2198
       5  Left-Turn       28.5000 deg       0.4823
   FUTURE-APP-3-0
       1  Straight         4.0000 nmi
       2  Right-Turn      62.3000 deg       0.0412
       3  Right-Turn       3.1000 deg       0.0010
       4  Right-Turn      17.9000 deg       0.2198
       5  Right-Turn      13.0000 deg       0.0010
       6  Left-Turn       28.5000 deg       0.4823
   FUTURE-APP-4-0
       1  Straight         4.0000 nmi
       2  Left-Turn       12.3000 deg       0.9136
       3  Right-Turn       1.5000 deg       0.0010
       4  Right-Turn      20.2000 deg       0.3026
   FUTURE-APP-5-0
       1  Straight         5.0000 nmi
       2  Left-Turn       11.2000 deg       0.0010
       3  Left-Turn       60.6000 deg       0.2064
       4  Right-Turn       3.5000 deg       0.0010
```

```
    5  Straight          0.1991 nmi
FUTURE-DEP-1-0
    1  Left-Turn        80.6000 deg       0.3185
    2  Straight          5.0000 nmi
FUTURE-DEP-2-0
    1  Right-Turn       28.5000 deg       0.4823
    2  Right-Turn       17.9000 deg       0.2198
    3  Right-Turn        3.5000 deg       0.0010
    4  Right-Turn       62.3000 deg       0.0412
    5  Straight          5.0000 nmi
FUTURE-DEP-3-0
    1  Right-Turn       28.5000 deg       0.4823
    2  Left-Turn        13.0000 deg       0.0010
    3  Left-Turn        17.9000 deg       0.2198
    4  Left-Turn         3.1000 deg       0.0010
    5  Left-Turn        62.3000 deg       0.0412
    6  Straight          5.0000 nmi
FUTURE-DEP-4-0
    1  Left-Turn        20.2000 deg       0.3026
    2  Left-Turn         1.5000 deg       0.0010
    3  Right-Turn       12.3000 deg       0.9136
    4  Straight          4.0000 nmi
FUTURE-DEP-5-0
    1  Straight          0.1991 nmi
    2  Left-Turn         3.5000 deg       0.0010
    3  Right-Turn       60.6000 deg       0.2064
    4  Right-Turn       11.2000 deg       0.0010
    5  Straight          5.0000 nmi
INT-1-APP-1-0
    1  Straight          3.0000 nmi
    2  Right-Turn        4.9000 deg       0.0100
    3  Right-Turn       46.9000 deg       0.3347
    4  Left-Turn         1.0000 deg       0.0100
    5  Right-Turn       36.0000 deg       0.5886
    6  Right-Turn        3.2000 deg       0.0100
    7  Straight          0.0727 nmi
INT-1-APP-2-0
    1  Straight          3.0000 nmi
    2  Left-Turn         2.6000 deg       0.0100
    3  Left-Turn        47.8000 deg       0.0795
    4  Left-Turn         0.8000 deg       0.0100
    5  Left-Turn        23.2000 deg       0.1594
    6  Right-Turn        0.6000 deg       0.0100
    7  Left-Turn         9.1000 deg       0.5155
    8  Right-Turn        1.5000 deg       0.0100
    9  Left-Turn         7.8000 deg       1.6562
   10  Left-Turn         0.8000 deg       0.0100
   11  Straight          0.1392 nmi
INT-1-APP-3-0
    1  Straight          3.0000 nmi
    2  Right-Turn        0.8000 deg       0.0100
    3  Left-Turn         6.7000 deg       0.3228
    4  Right-Turn        2.2000 deg       0.0100
    5  Left-Turn        14.8000 deg       0.0554
    6  Left-Turn         1.0000 deg       0.0100
    7  Straight          0.0982 nmi
    8  Left-Turn         1.0000 deg       0.0100
    9  Right-Turn       20.5000 deg       0.1612
   10  Right-Turn        1.2000 deg       0.0100
   11  Straight          0.0863 nmi
   12  Left-Turn         2.7000 deg       0.0100
   13  Left-Turn        13.5000 deg       0.2536
INT-1-DEP-1-0
    1  Straight          0.0728 nmi
    2  Left-Turn         3.2000 deg       0.0100
    3  Left-Turn        36.0000 deg       0.5886
    4  Right-Turn        1.0000 deg       0.0100
    5  Left-Turn        46.9000 deg       0.3347
    6  Left-Turn         4.9000 deg       0.0100
    7  Straight          3.0000 nmi
INT-1-DEP-2-0
    1  Straight          0.1392 nmi
    2  Right-Turn        0.8000 deg       0.0100
```

	3	Right-Turn	7.8000 deg	1.6562
	4	Left-Turn	1.5000 deg	0.0100
	5	Right-Turn	9.1000 deg	0.5155
	6	Left-Turn	0.6000 deg	0.0100
	7	Right-Turn	23.2000 deg	0.1594
	8	Right-Turn	1.6000 deg	0.0100
	9	Right-Turn	47.8000 deg	0.0795
	10	Right-Turn	1.8000 deg	0.0100
	11	Straight	3.0000 nmi	
INT-1-DEP-3-0				
	1	Right-Turn	13.5000 deg	0.2536
	2	Right-Turn	2.7000 deg	0.0100
	3	Straight	0.0863 nmi	
	4	Left-Turn	1.2000 deg	0.0100
	5	Left-Turn	20.5000 deg	0.1612
	6	Right-Turn	1.0000 deg	0.0100
	7	Straight	0.0982 nmi	
	8	Right-Turn	1.0000 deg	0.0100
	9	Right-Turn	14.8000 deg	0.0554
	10	Left-Turn	2.2000 deg	0.0100
	11	Right-Turn	6.7000 deg	0.3228
	12	Left-Turn	0.8000 deg	0.0100
	13	Straight	3.0000 nmi	
INT-2-APP-1-0				
	1	Straight	3.0000 nmi	
	2	Left-Turn	2.7000 deg	0.0100
	3	Right-Turn	60.1000 deg	0.3440
	4	Right-Turn	0.1000 deg	0.0100
	5	Right-Turn	30.0000 deg	0.5046
	6	Right-Turn	2.5000 deg	0.0100
	7	Straight	0.0888 nmi	
INT-2-APP-2-0				
	1	Straight	3.0000 nmi	
	2	Left-Turn	5.0000 deg	0.0100
	3	Left-Turn	51.5000 deg	0.0523
	4	Right-Turn	0.6000 deg	0.0100
	5	Left-Turn	21.4000 deg	0.3618
	6	Right-Turn	0.6000 deg	0.0100
	7	Left-Turn	14.2000 deg	1.0551
	8	Right-Turn	0.9000 deg	0.0100
	9	Straight	0.0888 nmi	
INT-2-APP-3-0				
	1	Straight	5.0000 nmi	
INT-2-DEP-1-0				
	1	Straight	0.0888 nmi	
	2	Left-Turn	2.5000 deg	0.0100
	3	Left-Turn	30.0000 deg	0.5046
	4	Left-Turn	0.1000 deg	0.0100
	5	Left-Turn	60.1000 deg	0.3440
	6	Right-Turn	2.7000 deg	0.0100
	7	Straight	3.0000 nmi	
INT-2-DEP-2-0				
	1	Straight	0.0888 nmi	
	2	Left-Turn	0.9000 deg	0.0100
	3	Right-Turn	14.2000 deg	1.0551
	4	Left-Turn	0.6000 deg	0.0100
	5	Right-Turn	21.4000 deg	0.3618
	6	Left-Turn	0.6000 deg	0.0100
	7	Right-Turn	51.5000 deg	0.0523
	8	Right-Turn	5.0000 deg	0.0100
	9	Straight	3.0000 nmi	
INT-2-DEP-3-0				
	1	Straight	5.0000 nmi	
INTERIM-APP-1-0				
	1	Straight	4.0000 nmi	
	2	Right-Turn	60.0000 deg	0.3350
	3	Right-Turn	34.2000 deg	0.6226
INTERIM-APP-2-0				
	1	Straight	5.0000 nmi	
	2	Left-Turn	93.5000 deg	0.0642
INTERIM-APP-3-0				
	1	Straight	5.0000 nmi	
	2	Left-Turn	20.5000 deg	0.0100

```
      3  Right-Turn       11.8000 deg       1.2938
   INTERIM-DEP-1-0
      1  Left-Turn        34.2000 deg       0.6226
      2  Left-Turn        60.0000 deg       0.3350
      3  Straight          4.0000 nmi
   INTERIM-DEP-2-0
      1  Right-Turn       93.5000 deg       0.0642
      2  Straight          5.0000 nmi
   INTERIM-DEP-3-0
      1  Left-Turn        11.8000 deg       1.2938
      2  Right-Turn       20.5000 deg       0.0100
      3  Straight          5.0000 nmi

AIRCRAFT GROUP ASSIGNMENTS

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STUDY AIRPLANES

STUDY SUBSTITUTION AIRPLANES

USER-DEFINED NOISE CURVES

USER-DEFINED METRICS

USER-DEFINED PROFILE IDENTIFIERS

USER-DEFINED PROCEDURAL PROFILES

USER-DEFINED FIXED-POINT PROFILES

USER-DEFINED FLAP COEFFICIENTS

USER-DEFINED JET THRUST COEFFICIENTS

USER-DEFINED PROP THRUST COEFFICIENTS

USER-DEFINED GENERAL THRUST COEFFICIENTS

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STUDY MILITARY AIRPLANES

USER-DEFINED MILITARY NOISE CURVES

USER-DEFINED MILITARY PROFILE IDENTIFIERS

USER-DEFINED MILITARY FIXED-POINT PROFILES

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STUDY HELICOPTERS
   B222          Standard data
   B429          Standard data
   EC130         Standard data
   S70           Standard data
   S76           Standard data
   SA330J        Standard data
   SA355F        Standard data

USER-DEFINED HELICOPTER PROFILE IDENTIFIERS
      Op   Profile Stg  Weight(lb)
   B222
      APP  USER      1        7800
      DEP  USER      1        7800
   B429
      APP  USER      1        7000
      DEP  USER      1        7000
   EC130
      APP  USER      1        5290
      DEP  USER      1        5290
   S70
      APP  USER      1       18000
```

DEP	USER	1	18000
S76			
APP	USER	1	10000
DEP	USER	1	10000
SA330J			
APP	USER	1	15432
DEP	USER	1	15432
SA355F			
APP	USER	1	5070
DEP	USER	1	5070

USER-DEFINED HELICOPTER PROCEDURAL PROFILES

#	StepType	Duration(sec)	Distance(ft)	Altitude(ft)	Speed(kt)
B222-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
B222-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
B429-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
B429-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
EC130-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
EC130-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
S70-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	26400.0	0.0	0.0

3	App Horiz Decel	0.0	2000.0	0.0	80.0
4	App Desc Decel	0.0	1000.0	700.0	60.0
5	App Desc Decel	0.0	1000.0	500.0	40.0
6	App Desc Decel	0.0	500.0	300.0	35.0
7	App Desc Decel	0.0	200.0	150.0	25.0
8	App Desc Decel	0.0	150.0	75.0	0.0
9	App Desc Decel	0.0	150.0	0.0	0.0
10	Flight Idle	60.0	0.0	0.0	0.0
11	Ground Idle	30.0	0.0	0.0	0.0
S70-APP-USER-1					
1	Ground Idle	60.0	0.0	0.0	0.0
2	Flight Idle	120.0	0.0	0.0	0.0
3	Dep Vertical	3.0	0.0	50.0	0.0
4	Dep Climb Accel	0.0	100.0	75.0	45.0
5	Dep Climb Accel	0.0	200.0	100.0	55.0
6	Dep Climb Accel	0.0	300.0	200.0	65.0
7	Dep Climb Accel	0.0	900.0	400.0	80.0
8	Dep Const Speed	0.0	1500.0	1000.0	0.0
9	Dep Horiz Accel	0.0	2000.0	0.0	120.0
10	Level Fly	0.0	26400.0	0.0	0.0
S76-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	110.0
2	Level Fly	0.0	26400.0	0.0	0.0
3	App Horiz Decel	0.0	2000.0	0.0	80.0
4	App Desc Decel	0.0	1000.0	700.0	60.0
5	App Desc Decel	0.0	1000.0	500.0	40.0
6	App Desc Decel	0.0	500.0	300.0	35.0
7	App Desc Decel	0.0	200.0	150.0	25.0
8	App Desc Decel	0.0	150.0	75.0	0.0
9	App Desc Decel	0.0	150.0	0.0	0.0
10	Flight Idle	60.0	0.0	0.0	0.0
11	Ground Idle	30.0	0.0	0.0	0.0
S76-APP-USER-1					
1	Ground Idle	180.0	0.0	0.0	0.0
2	Flight Idle	270.0	0.0	0.0	0.0
3	Dep Vertical	3.0	0.0	50.0	0.0
4	Dep Climb Accel	0.0	100.0	75.0	40.0
5	Dep Climb Accel	0.0	150.0	100.0	50.0
6	Dep Climb Accel	0.0	300.0	300.0	70.0
7	Dep Climb Accel	0.0	350.0	500.0	80.0
8	Dep Const Speed	0.0	1000.0	1000.0	0.0
9	Dep Horiz Accel	0.0	2000.0	0.0	110.0
10	Level Fly	0.0	27500.0	0.0	0.0
SA330J-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
SA330J-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
SA355F-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
SA355F-APP-USER-1					

			report		
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0

USER-DEFINED HELICOPTER NOISE CURVES

USER-DEFINED HELICOPTER DIRECTIVITY

CASE FLIGHT OPERATIONS - [Interim_1]

Acft	Op	Profile	Stg	Rwy	Track	Sub	Group	Day	Evening	Night
B222	APP	USER	1	INT-1	1	0	---	0.0047	0.0008	0.0007
B222	APP	USER	1	INT-1	2	0	---	0.0047	0.0008	0.0007
B222	APP	USER	1	INT-1	3	0	---	0.0047	0.0008	0.0007
B222	DEP	USER	1	INT-1	1	0	---	0.0043	0.0014	0.0005
B222	DEP	USER	1	INT-1	2	0	---	0.0043	0.0014	0.0005
B222	DEP	USER	1	INT-1	3	0	---	0.0043	0.0014	0.0005
B429	APP	USER	1	INT-1	1	0	---	0.0015	0.0005	0.0001
B429	APP	USER	1	INT-1	2	0	---	0.0015	0.0005	0.0001
B429	APP	USER	1	INT-1	3	0	---	0.0015	0.0005	0.0001
B429	DEP	USER	1	INT-1	1	0	---	0.0015	0.0003	0.0002
B429	DEP	USER	1	INT-1	2	0	---	0.0015	0.0003	0.0002
B429	DEP	USER	1	INT-1	3	0	---	0.0015	0.0003	0.0002
EC130	APP	USER	1	INT-1	1	0	---	0.0008	0.0003	0.0005
EC130	APP	USER	1	INT-1	2	0	---	0.0008	0.0003	0.0005
EC130	APP	USER	1	INT-1	3	0	---	0.0008	0.0003	0.0005
EC130	DEP	USER	1	INT-1	1	0	---	0.0008	0.0005	0.0003
EC130	DEP	USER	1	INT-1	2	0	---	0.0008	0.0005	0.0003
EC130	DEP	USER	1	INT-1	3	0	---	0.0008	0.0005	0.0003
S70	APP	USER	1	INT-1	1	0	---	0.0047	0.0011	0.0051
S70	APP	USER	1	INT-1	2	0	---	0.0047	0.0011	0.0051
S70	APP	USER	1	INT-1	3	0	---	0.0047	0.0011	0.0051
S70	DEP	USER	1	INT-1	1	0	---	0.0044	0.0014	0.0051
S70	DEP	USER	1	INT-1	2	0	---	0.0044	0.0014	0.0051
S70	DEP	USER	1	INT-1	3	0	---	0.0044	0.0014	0.0051
S76	APP	USER	1	INT-1	1	0	---	0.0021	0.0009	0.0024
S76	APP	USER	1	INT-1	2	0	---	0.0021	0.0009	0.0024
S76	APP	USER	1	INT-1	3	0	---	0.0021	0.0009	0.0024
S76	DEP	USER	1	INT-1	1	0	---	0.0019	0.0010	0.0024
S76	DEP	USER	1	INT-1	2	0	---	0.0019	0.0010	0.0024
S76	DEP	USER	1	INT-1	3	0	---	0.0019	0.0010	0.0024
SA330J	APP	USER	1	INT-1	1	0	---	0.0018	0.0002	0.0006
SA330J	APP	USER	1	INT-1	2	0	---	0.0018	0.0002	0.0006
SA330J	APP	USER	1	INT-1	3	0	---	0.0018	0.0002	0.0006
SA330J	DEP	USER	1	INT-1	1	0	---	0.0016	0.0005	0.0006
SA330J	DEP	USER	1	INT-1	2	0	---	0.0016	0.0005	0.0006
SA330J	DEP	USER	1	INT-1	3	0	---	0.0016	0.0005	0.0006
SA355F	APP	USER	1	INT-1	1	0	---	0.0014	0.0003	0.0005
SA355F	APP	USER	1	INT-1	2	0	---	0.0014	0.0003	0.0005
SA355F	APP	USER	1	INT-1	3	0	---	0.0014	0.0003	0.0005
SA355F	DEP	USER	1	INT-1	1	0	---	0.0010	0.0007	0.0005
SA355F	DEP	USER	1	INT-1	2	0	---	0.0010	0.0007	0.0005
SA355F	DEP	USER	1	INT-1	3	0	---	0.0010	0.0007	0.0005

CASE RUNUP OPERATIONS - [Interim_1]

SCENARIO RUN OPTIONS
- Run Type : Single-Metric
- NoiseMetric : CNEL
- Do Terrain : No Terrain
- Do Contour : Recursive Grid
- Refinement : 14
- Tolerance : 0.25
- Low Cutoff : 45.0
- High Cutoff : 85.0

```
   Ground Type   : All-Soft-Ground
   Do Population : No
   Do Locations  : Yes
   Do Standard   : No
   Do Detailed   : No
   Compute System Metrics:
      DNL    : No
      CNEL   : No
      LAEQ   : No
      LAEQD  : No
      LAEQN  : No
      SEL    : No
      LAMAX  : No
      TALA   : No
      NEF    : No
      WECPNL : No
      EPNL   : No
      PNLTM  : No
      TAPNL  : No
      CEXP   : No
      LCMAX  : No
      TALC   : No

SCENARIO GRID DEFINITIONS
   Name      Type         X(nmi)     Y(nmi) Ang(deg) DisI(nmi) DisJ(nmi) NI NJ Thrsh dAmb   (hr)
   CONTOUR   Contour     -1.0000    -1.0000      0.0    2.0000    2.0000  2  2  85.0  0.0   0.00
   LOCATION  Location     0.0000     0.0000      0.0    0.0000    0.0001  1  1  85.0  0.0   0.00

------------------------------------------------------------------------
```

POINT	METRIC
R1	37.0
R2	37.0
R3	58.6
R4	53.6
R5	47.1
R6	46.6
R7	38.8
R8	38.9

POINT	METRIC
R1	38.0
R2	38.3
R3	63.7
R4	50.2
R5	45.3
R6	43.3
R7	35.6
R8	35.4

POINT	METRIC
R1	38.0
R2	38.3
R3	63.7
R4	50.2
R5	45.3
R6	43.3
R7	35.6
R8	35.4

INM 7.0d SCENARIO RUN INPUT REPORT 29-Jun-16 13:19

STUDY: C:\USERS\SEAN\DROPBOX\AES\HELICOPTER\
   Created   : 21-Apr-16 15:03
   Units   : English
   Airport   : UCLA
   Description :
      HUCLA

SCENARIO: CNEL-Future
   Created   : 02-May-16 16:00
   Description : Future Pad
   Last Run   : 28-Jun-16 14:30
   Run Duration : 000:00:08

STUDY AIRPORT
   Latitude   : 0.000000 deg
   Longitude   : 0.000000 deg
   Elevation   : 0.0 ft

CASES RUN:

CASENAME: Future
   Temperature : 59.0 F
   Pressure   : 29.92 in-Hg
   AverageWind : 8.0 kt
   ChangeNPD   : No

STUDY RUNWAYS

CASENAME: Future
      RwyWind   : 8.0 kt

CASENAME: Future
      RwyWind   : 8.0 kt

CASENAME: Future
      RwyWind   : 8.0 kt

CASENAME: Future
      RwyWind   : 8.0 kt

CASENAME: Future
      RwyWind   : 8.0 kt

STUDY HELIPADS
   EXISTING
      Latitude : 0.000000 deg
      Longitude : 0.000000 deg
      Xcoord   : 0.0000 nmi
      Ycoord   : 0.0000 nmi
   FUTURE
      Latitude : 0.000047 deg
      Longitude : -0.000136 deg
      Xcoord   : -0.0082 nmi
      Ycoord   : 0.0028 nmi
   INT-1
      Latitude : -0.000700 deg
      Longitude : -0.004499 deg
      Xcoord   : -0.2704 nmi
      Ycoord   : -0.0418 nmi
   INT-2
      Latitude : -0.000717 deg
      Longitude : -0.003898 deg
      Xcoord   : -0.2343 nmi
      Ycoord   : -0.0428 nmi
   INTERIM
      Latitude : -0.000714 deg
      Longitude : -0.004380 deg
      Xcoord   : -0.2633 nmi
      Ycoord   : -0.0426 nmi

STUDY TRACKS

RwyId-OpType-TrkId	Sub	PctSub	TrkType	Delta(ft)
EXISTING-APP-1	0	100.00	Vectors	257.6
EXISTING-APP-2	0	100.00	Vectors	70.8
EXISTING-APP-3	0	100.00	Vectors	70.8
EXISTING-APP-4	0	100.00	Vectors	317.0
EXISTING-DEP-1	0	100.00	Vectors	77.7
EXISTING-DEP-2	0	100.00	Vectors	250.8
EXISTING-DEP-3	0	100.00	Vectors	250.8
EXISTING-DEP-4	0	100.00	Vectors	137.0
FUTURE-APP-1	0	100.00	Vectors	260.6
FUTURE-APP-2	0	100.00	Vectors	67.8
FUTURE-APP-3	0	100.00	Vectors	67.8
FUTURE-APP-4	0	100.00	Vectors	312.5
FUTURE-APP-5	0	100.00	Vectors	111.7
FUTURE-DEP-1	0	100.00	Vectors	80.6
FUTURE-DEP-2	0	100.00	Vectors	247.8
FUTURE-DEP-3	0	100.00	Vectors	247.8
FUTURE-DEP-4	0	100.00	Vectors	132.5
FUTURE-DEP-5	0	100.00	Vectors	291.7
INT-1-APP-1	0	100.00	Vectors	270.0
INT-1-APP-2	0	100.00	Vectors	270.0
INT-1-APP-3	0	100.00	Vectors	165.0
INT-1-DEP-1	0	100.00	Vectors	90.0
INT-1-DEP-2	0	100.00	Vectors	90.0
INT-1-DEP-3	0	100.00	Vectors	345.0
INT-2-APP-1	0	100.00	Vectors	270.0
INT-2-APP-2	0	100.00	Vectors	270.0
INT-2-APP-3	0	100.00	Vectors	90.0
INT-2-DEP-1	0	100.00	Vectors	90.0
INT-2-DEP-2	0	100.00	Vectors	90.0
INT-2-DEP-3	0	100.00	Vectors	270.0
INTERIM-APP-1	0	100.00	Vectors	274.0
INTERIM-APP-2	0	100.00	Vectors	86.5
INTERIM-APP-3	0	100.00	Vectors	171.3
INTERIM-DEP-1				

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      0   100.00   Vectors        94.0
   INTERIM-DEP-2
      0   100.00   Vectors       266.5
   INTERIM-DEP-3
      0   100.00   Vectors       351.3

STUDY TRACK DETAIL
   RwyId-OpType-TrkId-SubTrk
       #  SegType       Dist/Angle      Radius(nmi)
   EXISTING-APP-1-0
       1  Straight         2.0000 nmi
       2  Right-Turn      77.7000 deg       0.3285
   EXISTING-APP-2-0
       1  Straight         4.0000 nmi
       2  Left-Turn       63.5000 deg       0.0411
       3  Left-Turn       21.7000 deg       0.1800
       4  Left-Turn       24.0000 deg       0.5904
   EXISTING-APP-3-0
       1  Straight         4.0000 nmi
       2  Right-Turn      63.5000 deg       0.0411
       3  Right-Turn      21.3000 deg       0.1800
       4  Right-Turn      10.0000 deg       0.0100
       5  Left-Turn       24.0000 deg       0.5904
   EXISTING-APP-4-0
       1  Straight         4.0000 nmi
       2  Right-Turn       3.5000 deg       0.1000
       3  Left-Turn       13.0000 deg       0.8300
       4  Right-Turn      26.6000 deg       0.2128
   EXISTING-DEP-1-0
       1  Left-Turn       77.7000 deg       0.3285
       2  Straight         4.0000 nmi
   EXISTING-DEP-2-0
       1  Right-Turn      24.0000 deg       0.5904
       2  Right-Turn      21.7000 deg       0.1800
       3  Right-Turn      63.5000 deg       0.0411
       4  Straight         4.0000 nmi
   EXISTING-DEP-3-0
       1  Right-Turn      24.0000 deg       0.5904
       2  Left-Turn       10.0000 deg       0.0100
       3  Left-Turn       21.3000 deg       0.1800
       4  Left-Turn       63.5000 deg       0.0411
       5  Straight         4.0000 nmi
   EXISTING-DEP-4-0
       1  Left-Turn       26.6000 deg       0.2128
       2  Right-Turn      13.0000 deg       0.8300
       3  Left-Turn        3.5000 deg       0.1000
       4  Straight         4.0000 nmi
   FUTURE-APP-1-0
       1  Straight         5.0000 nmi
       2  Right-Turn      80.6000 deg       0.3185
   FUTURE-APP-2-0
       1  Straight         4.0000 nmi
       2  Left-Turn       62.3000 deg       0.0412
       3  Left-Turn        3.5000 deg       0.0010
       4  Left-Turn       17.9000 deg       0.2198
       5  Left-Turn       28.5000 deg       0.4823
   FUTURE-APP-3-0
       1  Straight         4.0000 nmi
       2  Right-Turn      62.3000 deg       0.0412
       3  Right-Turn       3.1000 deg       0.0010
       4  Right-Turn      17.9000 deg       0.2198
       5  Right-Turn      13.0000 deg       0.0010
       6  Left-Turn       28.5000 deg       0.4823
   FUTURE-APP-4-0
       1  Straight         4.0000 nmi
       2  Left-Turn       12.3000 deg       0.9136
       3  Right-Turn       1.5000 deg       0.0010
       4  Right-Turn      20.2000 deg       0.3026
   FUTURE-APP-5-0
       1  Straight         5.0000 nmi
       2  Left-Turn       11.2000 deg       0.0010
       3  Left-Turn       60.6000 deg       0.2064
       4  Right-Turn       3.5000 deg       0.0010
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    5  Straight          0.1991 nmi
FUTURE-DEP-1-0
    1  Left-Turn        80.6000 deg       0.3185
    2  Straight          5.0000 nmi
FUTURE-DEP-2-0
    1  Right-Turn       28.5000 deg       0.4823
    2  Right-Turn       17.9000 deg       0.2198
    3  Right-Turn        3.5000 deg       0.0010
    4  Right-Turn       62.3000 deg       0.0412
    5  Straight          5.0000 nmi
FUTURE-DEP-3-0
    1  Right-Turn       28.5000 deg       0.4823
    2  Left-Turn        13.0000 deg       0.0010
    3  Left-Turn        17.9000 deg       0.2198
    4  Left-Turn         3.1000 deg       0.0010
    5  Left-Turn        62.3000 deg       0.0412
    6  Straight          5.0000 nmi
FUTURE-DEP-4-0
    1  Left-Turn        20.2000 deg       0.3026
    2  Left-Turn         1.5000 deg       0.0010
    3  Right-Turn       12.3000 deg       0.9136
    4  Straight          4.0000 nmi
FUTURE-DEP-5-0
    1  Straight          0.1991 nmi
    2  Left-Turn         3.5000 deg       0.0010
    3  Right-Turn       60.6000 deg       0.2064
    4  Right-Turn       11.2000 deg       0.0010
    5  Straight          5.0000 nmi
INT-1-APP-1-0
    1  Straight          3.0000 nmi
    2  Right-Turn        4.9000 deg       0.0100
    3  Right-Turn       46.9000 deg       0.3347
    4  Left-Turn         1.0000 deg       0.0100
    5  Right-Turn       36.0000 deg       0.5886
    6  Right-Turn        3.2000 deg       0.0100
    7  Straight          0.0727 nmi
INT-1-APP-2-0
    1  Straight          3.0000 nmi
    2  Left-Turn         2.6000 deg       0.0100
    3  Left-Turn        47.8000 deg       0.0795
    4  Left-Turn         0.8000 deg       0.0100
    5  Left-Turn        23.2000 deg       0.1594
    6  Right-Turn        0.6000 deg       0.0100
    7  Left-Turn         9.1000 deg       0.5155
    8  Right-Turn        1.5000 deg       0.0100
    9  Left-Turn         7.8000 deg       1.6562
   10  Left-Turn         0.8000 deg       0.0100
   11  Straight          0.1392 nmi
INT-1-APP-3-0
    1  Straight          3.0000 nmi
    2  Right-Turn        0.8000 deg       0.0100
    3  Left-Turn         6.7000 deg       0.3228
    4  Right-Turn        2.2000 deg       0.0100
    5  Left-Turn        14.8000 deg       0.0554
    6  Left-Turn         1.0000 deg       0.0100
    7  Straight          0.0982 nmi
    8  Left-Turn         1.0000 deg       0.0100
    9  Right-Turn       20.5000 deg       0.1612
   10  Right-Turn        1.2000 deg       0.0100
   11  Straight          0.0863 nmi
   12  Left-Turn         2.7000 deg       0.0100
   13  Left-Turn        13.5000 deg       0.2536
INT-1-DEP-1-0
    1  Straight          0.0728 nmi
    2  Left-Turn         3.2000 deg       0.0100
    3  Left-Turn        36.0000 deg       0.5886
    4  Right-Turn        1.0000 deg       0.0100
    5  Left-Turn        46.9000 deg       0.3347
    6  Left-Turn         4.9000 deg       0.0100
    7  Straight          3.0000 nmi
INT-1-DEP-2-0
    1  Straight          0.1392 nmi
    2  Right-Turn        0.8000 deg       0.0100
```

	3	Right-Turn	7.8000 deg	1.6562
	4	Left-Turn	1.5000 deg	0.0100
	5	Right-Turn	9.1000 deg	0.5155
	6	Left-Turn	0.6000 deg	0.0100
	7	Right-Turn	23.2000 deg	0.1594
	8	Right-Turn	1.6000 deg	0.0100
	9	Right-Turn	47.8000 deg	0.0795
	10	Right-Turn	1.8000 deg	0.0100
	11	Straight	3.0000 nmi	
INT-1-DEP-3-0				
	1	Right-Turn	13.5000 deg	0.2536
	2	Right-Turn	2.7000 deg	0.0100
	3	Straight	0.0863 nmi	
	4	Left-Turn	1.2000 deg	0.0100
	5	Left-Turn	20.5000 deg	0.1612
	6	Right-Turn	1.0000 deg	0.0100
	7	Straight	0.0982 nmi	
	8	Right-Turn	1.0000 deg	0.0100
	9	Right-Turn	14.8000 deg	0.0554
	10	Left-Turn	2.2000 deg	0.0100
	11	Right-Turn	6.7000 deg	0.3228
	12	Left-Turn	0.8000 deg	0.0100
	13	Straight	3.0000 nmi	
INT-2-APP-1-0				
	1	Straight	3.0000 nmi	
	2	Left-Turn	2.7000 deg	0.0100
	3	Right-Turn	60.1000 deg	0.3440
	4	Right-Turn	0.1000 deg	0.0100
	5	Right-Turn	30.0000 deg	0.5046
	6	Right-Turn	2.5000 deg	0.0100
	7	Straight	0.0888 nmi	
INT-2-APP-2-0				
	1	Straight	3.0000 nmi	
	2	Left-Turn	5.0000 deg	0.0100
	3	Left-Turn	51.5000 deg	0.0523
	4	Right-Turn	0.6000 deg	0.0100
	5	Left-Turn	21.4000 deg	0.3618
	6	Right-Turn	0.6000 deg	0.0100
	7	Left-Turn	14.2000 deg	1.0551
	8	Right-Turn	0.9000 deg	0.0100
	9	Straight	0.0888 nmi	
INT-2-APP-3-0				
	1	Straight	5.0000 nmi	
INT-2-DEP-1-0				
	1	Straight	0.0888 nmi	
	2	Left-Turn	2.5000 deg	0.0100
	3	Left-Turn	30.0000 deg	0.5046
	4	Left-Turn	0.1000 deg	0.0100
	5	Left-Turn	60.1000 deg	0.3440
	6	Right-Turn	2.7000 deg	0.0100
	7	Straight	3.0000 nmi	
INT-2-DEP-2-0				
	1	Straight	0.0888 nmi	
	2	Left-Turn	0.9000 deg	0.0100
	3	Right-Turn	14.2000 deg	1.0551
	4	Left-Turn	0.6000 deg	0.0100
	5	Right-Turn	21.4000 deg	0.3618
	6	Left-Turn	0.6000 deg	0.0100
	7	Right-Turn	51.5000 deg	0.0523
	8	Right-Turn	5.0000 deg	0.0100
	9	Straight	3.0000 nmi	
INT-2-DEP-3-0				
	1	Straight	5.0000 nmi	
INTERIM-APP-1-0				
	1	Straight	4.0000 nmi	
	2	Right-Turn	60.0000 deg	0.3350
	3	Right-Turn	34.2000 deg	0.6226
INTERIM-APP-2-0				
	1	Straight	5.0000 nmi	
	2	Left-Turn	93.5000 deg	0.0642
INTERIM-APP-3-0				
	1	Straight	5.0000 nmi	
	2	Left-Turn	20.5000 deg	0.0100

```
      3  Right-Turn       11.8000 deg       1.2938
   INTERIM-DEP-1-0
      1  Left-Turn        34.2000 deg       0.6226
      2  Left-Turn        60.0000 deg       0.3350
      3  Straight          4.0000 nmi
   INTERIM-DEP-2-0
      1  Right-Turn       93.5000 deg       0.0642
      2  Straight          5.0000 nmi
   INTERIM-DEP-3-0
      1  Left-Turn        11.8000 deg       1.2938
      2  Right-Turn       20.5000 deg       0.0100
      3  Straight          5.0000 nmi

AIRCRAFT GROUP ASSIGNMENTS

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STUDY AIRPLANES

STUDY SUBSTITUTION AIRPLANES

USER-DEFINED NOISE CURVES

USER-DEFINED METRICS

USER-DEFINED PROFILE IDENTIFIERS

USER-DEFINED PROCEDURAL PROFILES

USER-DEFINED FIXED-POINT PROFILES

USER-DEFINED FLAP COEFFICIENTS

USER-DEFINED JET THRUST COEFFICIENTS

USER-DEFINED PROP THRUST COEFFICIENTS

USER-DEFINED GENERAL THRUST COEFFICIENTS

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STUDY MILITARY AIRPLANES

USER-DEFINED MILITARY NOISE CURVES

USER-DEFINED MILITARY PROFILE IDENTIFIERS

USER-DEFINED MILITARY FIXED-POINT PROFILES

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STUDY HELICOPTERS
   B222          Standard data
   B429          Standard data
   EC130         Standard data
   S70           Standard data
   S76           Standard data
   SA330J        Standard data
   SA355F        Standard data

USER-DEFINED HELICOPTER PROFILE IDENTIFIERS
      Op   Profile Stg  Weight(lb)
   B222
      APP  USER      1        7800
      DEP  USER      1        7800
   B429
      APP  USER      1        7000
      DEP  USER      1        7000
   EC130
      APP  USER      1        5290
      DEP  USER      1        5290
   S70
      APP  USER      1       18000
```

DEP	USER	1	18000
S76			
APP	USER	1	10000
DEP	USER	1	10000
SA330J			
APP	USER	1	15432
DEP	USER	1	15432
SA355F			
APP	USER	1	5070
DEP	USER	1	5070

USER-DEFINED HELICOPTER PROCEDURAL PROFILES

#	StepType	Duration(sec)	Distance(ft)	Altitude(ft)	Speed(kt)
B222-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
B222-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
B429-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
B429-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
EC130-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
EC130-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
S70-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	26400.0	0.0	0.0

3	App Horiz Decel	0.0	2000.0	0.0	80.0
4	App Desc Decel	0.0	1000.0	700.0	60.0
5	App Desc Decel	0.0	1000.0	500.0	40.0
6	App Desc Decel	0.0	500.0	300.0	35.0
7	App Desc Decel	0.0	200.0	150.0	25.0
8	App Desc Decel	0.0	150.0	75.0	0.0
9	App Desc Decel	0.0	150.0	0.0	0.0
10	Flight Idle	60.0	0.0	0.0	0.0
11	Ground Idle	30.0	0.0	0.0	0.0
S70-APP-USER-1					
1	Ground Idle	60.0	0.0	0.0	0.0
2	Flight Idle	120.0	0.0	0.0	0.0
3	Dep Vertical	3.0	0.0	50.0	0.0
4	Dep Climb Accel	0.0	100.0	75.0	45.0
5	Dep Climb Accel	0.0	200.0	100.0	55.0
6	Dep Climb Accel	0.0	300.0	200.0	65.0
7	Dep Climb Accel	0.0	900.0	400.0	80.0
8	Dep Const Speed	0.0	1500.0	1000.0	0.0
9	Dep Horiz Accel	0.0	2000.0	0.0	120.0
10	Level Fly	0.0	26400.0	0.0	0.0
S76-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	110.0
2	Level Fly	0.0	26400.0	0.0	0.0
3	App Horiz Decel	0.0	2000.0	0.0	80.0
4	App Desc Decel	0.0	1000.0	700.0	60.0
5	App Desc Decel	0.0	1000.0	500.0	40.0
6	App Desc Decel	0.0	500.0	300.0	35.0
7	App Desc Decel	0.0	200.0	150.0	25.0
8	App Desc Decel	0.0	150.0	75.0	0.0
9	App Desc Decel	0.0	150.0	0.0	0.0
10	Flight Idle	60.0	0.0	0.0	0.0
11	Ground Idle	30.0	0.0	0.0	0.0
S76-APP-USER-1					
1	Ground Idle	180.0	0.0	0.0	0.0
2	Flight Idle	270.0	0.0	0.0	0.0
3	Dep Vertical	3.0	0.0	50.0	0.0
4	Dep Climb Accel	0.0	100.0	75.0	40.0
5	Dep Climb Accel	0.0	150.0	100.0	50.0
6	Dep Climb Accel	0.0	300.0	300.0	70.0
7	Dep Climb Accel	0.0	350.0	500.0	80.0
8	Dep Const Speed	0.0	1000.0	1000.0	0.0
9	Dep Horiz Accel	0.0	2000.0	0.0	110.0
10	Level Fly	0.0	27500.0	0.0	0.0
SA330J-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
SA330J-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
SA355F-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
SA355F-APP-USER-1					

			report		
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0

USER-DEFINED HELICOPTER NOISE CURVES

USER-DEFINED HELICOPTER DIRECTIVITY

CASE FLIGHT OPERATIONS - [Future]

Acft	Op	Profile	Stg	Rwy	Track	Sub	Group	Day	Evening	Night
B222	APP	USER	1	FUTURE	1	0	---	0.0028	0.0005	0.0004
B222	APP	USER	1	FUTURE	2	0	---	0.0028	0.0005	0.0004
B222	APP	USER	1	FUTURE	3	0	---	0.0028	0.0005	0.0004
B222	APP	USER	1	FUTURE	4	0	---	0.0028	0.0005	0.0004
B222	APP	USER	1	FUTURE	5	0	---	0.0028	0.0005	0.0004
B222	DEP	USER	1	FUTURE	1	0	---	0.0026	0.0008	0.0003
B222	DEP	USER	1	FUTURE	2	0	---	0.0026	0.0008	0.0003
B222	DEP	USER	1	FUTURE	3	0	---	0.0026	0.0008	0.0003
B222	DEP	USER	1	FUTURE	4	0	---	0.0026	0.0008	0.0003
B222	DEP	USER	1	FUTURE	5	0	---	0.0026	0.0008	0.0003
B429	APP	USER	1	FUTURE	1	0	---	0.0009	0.0003	0.0001
B429	APP	USER	1	FUTURE	2	0	---	0.0009	0.0003	0.0001
B429	APP	USER	1	FUTURE	3	0	---	0.0009	0.0003	0.0001
B429	APP	USER	1	FUTURE	4	0	---	0.0009	0.0003	0.0001
B429	APP	USER	1	FUTURE	5	0	---	0.0009	0.0003	0.0001
B429	DEP	USER	1	FUTURE	1	0	---	0.0009	0.0002	0.0001
B429	DEP	USER	1	FUTURE	2	0	---	0.0009	0.0002	0.0001
B429	DEP	USER	1	FUTURE	3	0	---	0.0009	0.0002	0.0001
B429	DEP	USER	1	FUTURE	4	0	---	0.0009	0.0002	0.0001
B429	DEP	USER	1	FUTURE	5	0	---	0.0009	0.0002	0.0001
EC130	APP	USER	1	FUTURE	1	0	---	0.0005	0.0002	0.0003
EC130	APP	USER	1	FUTURE	2	0	---	0.0005	0.0002	0.0003
EC130	APP	USER	1	FUTURE	3	0	---	0.0005	0.0002	0.0003
EC130	APP	USER	1	FUTURE	4	0	---	0.0005	0.0002	0.0003
EC130	APP	USER	1	FUTURE	5	0	---	0.0005	0.0002	0.0003
EC130	DEP	USER	1	FUTURE	1	0	---	0.0005	0.0003	0.0002
EC130	DEP	USER	1	FUTURE	2	0	---	0.0005	0.0003	0.0002
EC130	DEP	USER	1	FUTURE	3	0	---	0.0005	0.0003	0.0002
EC130	DEP	USER	1	FUTURE	4	0	---	0.0005	0.0003	0.0002
EC130	DEP	USER	1	FUTURE	5	0	---	0.0005	0.0003	0.0002
S70	APP	USER	1	FUTURE	1	0	---	0.0028	0.0007	0.0031
S70	APP	USER	1	FUTURE	2	0	---	0.0028	0.0007	0.0031
S70	APP	USER	1	FUTURE	3	0	---	0.0028	0.0007	0.0031
S70	APP	USER	1	FUTURE	4	0	---	0.0028	0.0007	0.0031
S70	APP	USER	1	FUTURE	5	0	---	0.0028	0.0007	0.0031
S70	DEP	USER	1	FUTURE	1	0	---	0.0027	0.0008	0.0031
S70	DEP	USER	1	FUTURE	2	0	---	0.0027	0.0008	0.0031
S70	DEP	USER	1	FUTURE	3	0	---	0.0027	0.0008	0.0031
S70	DEP	USER	1	FUTURE	4	0	---	0.0027	0.0008	0.0031
S70	DEP	USER	1	FUTURE	5	0	---	0.0027	0.0008	0.0031
S76	APP	USER	1	FUTURE	1	0	---	0.0012	0.0005	0.0014
S76	APP	USER	1	FUTURE	2	0	---	0.0012	0.0005	0.0014
S76	APP	USER	1	FUTURE	3	0	---	0.0012	0.0005	0.0014
S76	APP	USER	1	FUTURE	4	0	---	0.0012	0.0005	0.0014
S76	APP	USER	1	FUTURE	5	0	---	0.0012	0.0005	0.0014
S76	DEP	USER	1	FUTURE	1	0	---	0.0012	0.0006	0.0014
S76	DEP	USER	1	FUTURE	2	0	---	0.0012	0.0006	0.0014
S76	DEP	USER	1	FUTURE	3	0	---	0.0012	0.0006	0.0014
S76	DEP	USER	1	FUTURE	4	0	---	0.0012	0.0006	0.0014
S76	DEP	USER	1	FUTURE	5	0	---	0.0012	0.0006	0.0014
SA330J	APP	USER	1	FUTURE	1	0	---	0.0011	0.0001	0.0003
SA330J	APP	USER	1	FUTURE	2	0	---	0.0011	0.0001	0.0003
SA330J	APP	USER	1	FUTURE	3	0	---	0.0011	0.0001	0.0003
SA330J	APP	USER	1	FUTURE	4	0	---	0.0011	0.0001	0.0003
SA330J	APP	USER	1	FUTURE	5	0	---	0.0011	0.0001	0.0003
SA330J	DEP	USER	1	FUTURE	1	0	---	0.0010	0.0003	0.0003

						report				
SA330J	DEP	USER	1	FUTURE	2	0	---	0.0010	0.0003	0.0003
SA330J	DEP	USER	1	FUTURE	3	0	---	0.0010	0.0003	0.0003
SA330J	DEP	USER	1	FUTURE	4	0	---	0.0010	0.0003	0.0003
SA330J	DEP	USER	1	FUTURE	5	0	---	0.0010	0.0003	0.0003
SA355F	APP	USER	1	FUTURE	1	0	---	0.0008	0.0002	0.0003
SA355F	APP	USER	1	FUTURE	2	0	---	0.0008	0.0002	0.0003
SA355F	APP	USER	1	FUTURE	3	0	---	0.0008	0.0002	0.0003
SA355F	APP	USER	1	FUTURE	4	0	---	0.0008	0.0002	0.0003
SA355F	APP	USER	1	FUTURE	5	0	---	0.0008	0.0002	0.0003
SA355F	DEP	USER	1	FUTURE	1	0	---	0.0006	0.0004	0.0003
SA355F	DEP	USER	1	FUTURE	2	0	---	0.0006	0.0004	0.0003
SA355F	DEP	USER	1	FUTURE	3	0	---	0.0006	0.0004	0.0003
SA355F	DEP	USER	1	FUTURE	4	0	---	0.0006	0.0004	0.0003
SA355F	DEP	USER	1	FUTURE	5	0	---	0.0006	0.0004	0.0003

CASE RUNUP OPERATIONS - [Future]

SCENARIO RUN OPTIONS
- Run Type : Single-Metric
- NoiseMetric : CNEL
- Do Terrain : No Terrain
- Do Contour : Recursive Grid
- Refinement : 14
- Tolerance : 0.25
- Low Cutoff : 45.0
- High Cutoff : 85.0
- Ground Type : All-Soft-Ground
- Do Population : No
- Do Locations : Yes
- Do Standard : No
- Do Detailed : No
- Compute System Metrics:
  - DNL : No
  - CNEL : No
  - LAEQ : No
  - LAEQD : No
  - LAEQN : No
  - SEL : Yes
  - LAMAX : Yes
  - TALA : No
  - NEF : No
  - WECPNL : No
  - EPNL : No
  - PNLTM : No
  - TAPNL : No
  - CEXP : No
  - LCMAX : No
  - TALC : No

SCENARIO GRID DEFINITIONS

Name	Type	X(nmi)	Y(nmi)	Ang(deg)	DisI(nmi)	DisJ(nmi)	NI	NJ	Thrsh	dAmb	(hr)
CONTOUR	Contour	-1.0000	-1.0000	0.0	2.0000	2.0000	2	2	85.0	0.0	0.00
LOCATION	Location	0.0000	0.0000	0.0	0.0000	0.0001	1	1	85.0	0.0	0.00

POINT	METRIC
R1	47.4
R2	49.8
R3	41.9
R4	38.3
R5	36.1
R6	36.8
R7	35.1
R8	34.7

INM 7.0d SCENARIO RUN INPUT REPORT 15-Jun-16 15:27

STUDY: C:\USERS\SEAN\DROPBOX\AES\HELICOPTER\
   Created   : 21-Apr-16 15:03
   Units   : English
   Airport   : UCLA
   Description :
      HUCLA

SCENARIO: Lmax-Existing
   Created   : 16-May-16 14:58
   Description : Existing-Lmax
   Last Run   : 27-May-16 09:41
   Run Duration : 000:00:00

STUDY AIRPORT
   Latitude   : 0.000000 deg
   Longitude   : 0.000000 deg
   Elevation   : 0.0 ft

CASES RUN:

CASENAME: Existing-Lmax-S70
   Temperature : 59.0 F
   Pressure   : 29.92 in-Hg
   AverageWind : 8.0 kt
   ChangeNPD   : No

STUDY RUNWAYS

CASENAME: Existing-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Existing-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Existing-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Existing-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Existing-Lmax-S70
      RwyWind   : 8.0 kt

STUDY HELIPADS
   EXISTING
      Latitude : 0.000000 deg
      Longitude : 0.000000 deg
      Xcoord   : 0.0000 nmi
      Ycoord   : 0.0000 nmi
   FUTURE
      Latitude : 0.000047 deg
      Longitude : -0.000136 deg
      Xcoord   : -0.0082 nmi
      Ycoord   : 0.0028 nmi
   INT-1
      Latitude : -0.000700 deg
      Longitude : -0.004499 deg
      Xcoord   : -0.2704 nmi
      Ycoord   : -0.0418 nmi
   INT-2
      Latitude : -0.000717 deg
      Longitude : -0.003898 deg
      Xcoord   : -0.2343 nmi
      Ycoord   : -0.0428 nmi
   INTERIM
      Latitude : -0.000714 deg
      Longitude : -0.004380 deg
      Xcoord   : -0.2633 nmi
      Ycoord   : -0.0426 nmi

STUDY TRACKS

RwyId-OpType-TrkId	Sub	PctSub	TrkType	Delta(ft)
EXISTING-APP-1	0	100.00	Vectors	257.6
EXISTING-APP-2	0	100.00	Vectors	70.8
EXISTING-APP-3	0	100.00	Vectors	70.8
EXISTING-APP-4	0	100.00	Vectors	317.0
EXISTING-DEP-1	0	100.00	Vectors	77.7
EXISTING-DEP-2	0	100.00	Vectors	250.8
EXISTING-DEP-3	0	100.00	Vectors	250.8
EXISTING-DEP-4	0	100.00	Vectors	137.0
FUTURE-APP-1	0	100.00	Vectors	260.6
FUTURE-APP-2	0	100.00	Vectors	67.8
FUTURE-APP-3	0	100.00	Vectors	67.8
FUTURE-APP-4	0	100.00	Vectors	312.5
FUTURE-APP-5	0	100.00	Vectors	111.7
FUTURE-DEP-1	0	100.00	Vectors	80.6
FUTURE-DEP-2	0	100.00	Vectors	247.8
FUTURE-DEP-3	0	100.00	Vectors	247.8
FUTURE-DEP-4	0	100.00	Vectors	132.5
FUTURE-DEP-5	0	100.00	Vectors	291.7
INT-1-APP-1	0	100.00	Vectors	270.0
INT-1-APP-2	0	100.00	Vectors	270.0
INT-1-APP-3	0	100.00	Vectors	165.0
INT-1-DEP-1	0	100.00	Vectors	90.0
INT-1-DEP-2	0	100.00	Vectors	90.0
INT-1-DEP-3	0	100.00	Vectors	345.0
INT-2-APP-1	0	100.00	Vectors	270.0
INT-2-APP-2	0	100.00	Vectors	270.0
INT-2-APP-3	0	100.00	Vectors	90.0
INT-2-DEP-1	0	100.00	Vectors	90.0
INT-2-DEP-2	0	100.00	Vectors	90.0
INT-2-DEP-3	0	100.00	Vectors	270.0
INTERIM-APP-1	0	100.00	Vectors	274.0
INTERIM-APP-2	0	100.00	Vectors	86.5
INTERIM-APP-3	0	100.00	Vectors	171.3
INTERIM-DEP-1				

```
      0   100.00   Vectors        94.0
   INTERIM-DEP-2
      0   100.00   Vectors       266.5
   INTERIM-DEP-3
      0   100.00   Vectors       351.3

STUDY TRACK DETAIL
   RwyId-OpType-TrkId-SubTrk
       #  SegType       Dist/Angle      Radius(nmi)
   EXISTING-APP-1-0
       1  Straight         2.0000 nmi
       2  Right-Turn      77.7000 deg       0.3285
   EXISTING-APP-2-0
       1  Straight         4.0000 nmi
       2  Left-Turn       63.5000 deg       0.0411
       3  Left-Turn       21.7000 deg       0.1800
       4  Left-Turn       24.0000 deg       0.5904
   EXISTING-APP-3-0
       1  Straight         4.0000 nmi
       2  Right-Turn      63.5000 deg       0.0411
       3  Right-Turn      21.3000 deg       0.1800
       4  Right-Turn      10.0000 deg       0.0100
       5  Left-Turn       24.0000 deg       0.5904
   EXISTING-APP-4-0
       1  Straight         4.0000 nmi
       2  Right-Turn       3.5000 deg       0.1000
       3  Left-Turn       13.0000 deg       0.8300
       4  Right-Turn      26.6000 deg       0.2128
   EXISTING-DEP-1-0
       1  Left-Turn       77.7000 deg       0.3285
       2  Straight         4.0000 nmi
   EXISTING-DEP-2-0
       1  Right-Turn      24.0000 deg       0.5904
       2  Right-Turn      21.7000 deg       0.1800
       3  Right-Turn      63.5000 deg       0.0411
       4  Straight         4.0000 nmi
   EXISTING-DEP-3-0
       1  Right-Turn      24.0000 deg       0.5904
       2  Left-Turn       10.0000 deg       0.0100
       3  Left-Turn       21.3000 deg       0.1800
       4  Left-Turn       63.5000 deg       0.0411
       5  Straight         4.0000 nmi
   EXISTING-DEP-4-0
       1  Left-Turn       26.6000 deg       0.2128
       2  Right-Turn      13.0000 deg       0.8300
       3  Left-Turn        3.5000 deg       0.1000
       4  Straight         4.0000 nmi
   FUTURE-APP-1-0
       1  Straight         5.0000 nmi
       2  Right-Turn      80.6000 deg       0.3185
   FUTURE-APP-2-0
       1  Straight         4.0000 nmi
       2  Left-Turn       62.3000 deg       0.0412
       3  Left-Turn        3.5000 deg       0.0010
       4  Left-Turn       17.9000 deg       0.2198
       5  Left-Turn       28.5000 deg       0.4823
   FUTURE-APP-3-0
       1  Straight         4.0000 nmi
       2  Right-Turn      62.3000 deg       0.0412
       3  Right-Turn       3.1000 deg       0.0010
       4  Right-Turn      17.9000 deg       0.2198
       5  Right-Turn      13.0000 deg       0.0010
       6  Left-Turn       28.5000 deg       0.4823
   FUTURE-APP-4-0
       1  Straight         4.0000 nmi
       2  Left-Turn       12.3000 deg       0.9136
       3  Right-Turn       1.5000 deg       0.0010
       4  Right-Turn      20.2000 deg       0.3026
   FUTURE-APP-5-0
       1  Straight         5.0000 nmi
       2  Left-Turn       11.2000 deg       0.0010
       3  Left-Turn       60.6000 deg       0.2064
       4  Right-Turn       3.5000 deg       0.0010
```

```
    5  Straight          0.1991 nmi
FUTURE-DEP-1-0
    1  Left-Turn        80.6000 deg       0.3185
    2  Straight          5.0000 nmi
FUTURE-DEP-2-0
    1  Right-Turn       28.5000 deg       0.4823
    2  Right-Turn       17.9000 deg       0.2198
    3  Right-Turn        3.5000 deg       0.0010
    4  Right-Turn       62.3000 deg       0.0412
    5  Straight          5.0000 nmi
FUTURE-DEP-3-0
    1  Right-Turn       28.5000 deg       0.4823
    2  Left-Turn        13.0000 deg       0.0010
    3  Left-Turn        17.9000 deg       0.2198
    4  Left-Turn         3.1000 deg       0.0010
    5  Left-Turn        62.3000 deg       0.0412
    6  Straight          5.0000 nmi
FUTURE-DEP-4-0
    1  Left-Turn        20.2000 deg       0.3026
    2  Left-Turn         1.5000 deg       0.0010
    3  Right-Turn       12.3000 deg       0.9136
    4  Straight          4.0000 nmi
FUTURE-DEP-5-0
    1  Straight          0.1991 nmi
    2  Left-Turn         3.5000 deg       0.0010
    3  Right-Turn       60.6000 deg       0.2064
    4  Right-Turn       11.2000 deg       0.0010
    5  Straight          5.0000 nmi
INT-1-APP-1-0
    1  Straight          3.0000 nmi
    2  Right-Turn        4.9000 deg       0.0100
    3  Right-Turn       46.9000 deg       0.3347
    4  Left-Turn         1.0000 deg       0.0100
    5  Right-Turn       36.0000 deg       0.5886
    6  Right-Turn        3.2000 deg       0.0100
    7  Straight          0.0727 nmi
INT-1-APP-2-0
    1  Straight          3.0000 nmi
    2  Left-Turn         2.6000 deg       0.0100
    3  Left-Turn        47.8000 deg       0.0795
    4  Left-Turn         0.8000 deg       0.0100
    5  Left-Turn        23.2000 deg       0.1594
    6  Right-Turn        0.6000 deg       0.0100
    7  Left-Turn         9.1000 deg       0.5155
    8  Right-Turn        1.5000 deg       0.0100
    9  Left-Turn         7.8000 deg       1.6562
   10  Left-Turn         0.8000 deg       0.0100
   11  Straight          0.1392 nmi
INT-1-APP-3-0
    1  Straight          3.0000 nmi
    2  Right-Turn        0.8000 deg       0.0100
    3  Left-Turn         6.7000 deg       0.3228
    4  Right-Turn        2.2000 deg       0.0100
    5  Left-Turn        14.8000 deg       0.0554
    6  Left-Turn         1.0000 deg       0.0100
    7  Straight          0.0982 nmi
    8  Left-Turn         1.0000 deg       0.0100
    9  Right-Turn       20.5000 deg       0.1612
   10  Right-Turn        1.2000 deg       0.0100
   11  Straight          0.0863 nmi
   12  Left-Turn         2.7000 deg       0.0100
   13  Left-Turn        13.5000 deg       0.2536
INT-1-DEP-1-0
    1  Straight          0.0728 nmi
    2  Left-Turn         3.2000 deg       0.0100
    3  Left-Turn        36.0000 deg       0.5886
    4  Right-Turn        1.0000 deg       0.0100
    5  Left-Turn        46.9000 deg       0.3347
    6  Left-Turn         4.9000 deg       0.0100
    7  Straight          3.0000 nmi
INT-1-DEP-2-0
    1  Straight          0.1392 nmi
    2  Right-Turn        0.8000 deg       0.0100
```

	3	Right-Turn	7.8000 deg	1.6562
	4	Left-Turn	1.5000 deg	0.0100
	5	Right-Turn	9.1000 deg	0.5155
	6	Left-Turn	0.6000 deg	0.0100
	7	Right-Turn	23.2000 deg	0.1594
	8	Right-Turn	1.6000 deg	0.0100
	9	Right-Turn	47.8000 deg	0.0795
	10	Right-Turn	1.8000 deg	0.0100
	11	Straight	3.0000 nmi	
INT-1-DEP-3-0				
	1	Right-Turn	13.5000 deg	0.2536
	2	Right-Turn	2.7000 deg	0.0100
	3	Straight	0.0863 nmi	
	4	Left-Turn	1.2000 deg	0.0100
	5	Left-Turn	20.5000 deg	0.1612
	6	Right-Turn	1.0000 deg	0.0100
	7	Straight	0.0982 nmi	
	8	Right-Turn	1.0000 deg	0.0100
	9	Right-Turn	14.8000 deg	0.0554
	10	Left-Turn	2.2000 deg	0.0100
	11	Right-Turn	6.7000 deg	0.3228
	12	Left-Turn	0.8000 deg	0.0100
	13	Straight	3.0000 nmi	
INT-2-APP-1-0				
	1	Straight	3.0000 nmi	
	2	Left-Turn	2.7000 deg	0.0100
	3	Right-Turn	60.1000 deg	0.3440
	4	Right-Turn	0.1000 deg	0.0100
	5	Right-Turn	30.0000 deg	0.5046
	6	Right-Turn	2.5000 deg	0.0100
	7	Straight	0.0888 nmi	
INT-2-APP-2-0				
	1	Straight	3.0000 nmi	
	2	Left-Turn	5.0000 deg	0.0100
	3	Left-Turn	51.5000 deg	0.0523
	4	Right-Turn	0.6000 deg	0.0100
	5	Left-Turn	21.4000 deg	0.3618
	6	Right-Turn	0.6000 deg	0.0100
	7	Left-Turn	14.2000 deg	1.0551
	8	Right-Turn	0.9000 deg	0.0100
	9	Straight	0.0888 nmi	
INT-2-APP-3-0				
	1	Straight	5.0000 nmi	
INT-2-DEP-1-0				
	1	Straight	0.0888 nmi	
	2	Left-Turn	2.5000 deg	0.0100
	3	Left-Turn	30.0000 deg	0.5046
	4	Left-Turn	0.1000 deg	0.0100
	5	Left-Turn	60.1000 deg	0.3440
	6	Right-Turn	2.7000 deg	0.0100
	7	Straight	3.0000 nmi	
INT-2-DEP-2-0				
	1	Straight	0.0888 nmi	
	2	Left-Turn	0.9000 deg	0.0100
	3	Right-Turn	14.2000 deg	1.0551
	4	Left-Turn	0.6000 deg	0.0100
	5	Right-Turn	21.4000 deg	0.3618
	6	Left-Turn	0.6000 deg	0.0100
	7	Right-Turn	51.5000 deg	0.0523
	8	Right-Turn	5.0000 deg	0.0100
	9	Straight	3.0000 nmi	
INT-2-DEP-3-0				
	1	Straight	5.0000 nmi	
INTERIM-APP-1-0				
	1	Straight	4.0000 nmi	
	2	Right-Turn	60.0000 deg	0.3350
	3	Right-Turn	34.2000 deg	0.6226
INTERIM-APP-2-0				
	1	Straight	5.0000 nmi	
	2	Left-Turn	93.5000 deg	0.0642
INTERIM-APP-3-0				
	1	Straight	5.0000 nmi	
	2	Left-Turn	20.5000 deg	0.0100

```
      3  Right-Turn       11.8000 deg       1.2938
   INTERIM-DEP-1-0
      1  Left-Turn        34.2000 deg       0.6226
      2  Left-Turn        60.0000 deg       0.3350
      3  Straight          4.0000 nmi
   INTERIM-DEP-2-0
      1  Right-Turn       93.5000 deg       0.0642
      2  Straight          5.0000 nmi
   INTERIM-DEP-3-0
      1  Left-Turn        11.8000 deg       1.2938
      2  Right-Turn       20.5000 deg       0.0100
      3  Straight          5.0000 nmi

AIRCRAFT GROUP ASSIGNMENTS

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STUDY AIRPLANES

STUDY SUBSTITUTION AIRPLANES

USER-DEFINED NOISE CURVES

USER-DEFINED METRICS

USER-DEFINED PROFILE IDENTIFIERS

USER-DEFINED PROCEDURAL PROFILES

USER-DEFINED FIXED-POINT PROFILES

USER-DEFINED FLAP COEFFICIENTS

USER-DEFINED JET THRUST COEFFICIENTS

USER-DEFINED PROP THRUST COEFFICIENTS

USER-DEFINED GENERAL THRUST COEFFICIENTS

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STUDY MILITARY AIRPLANES

USER-DEFINED MILITARY NOISE CURVES

USER-DEFINED MILITARY PROFILE IDENTIFIERS

USER-DEFINED MILITARY FIXED-POINT PROFILES

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STUDY HELICOPTERS
   B222          Standard data
   B429          Standard data
   EC130         Standard data
   S70           Standard data
   S76           Standard data
   SA330J        Standard data
   SA355F        Standard data

USER-DEFINED HELICOPTER PROFILE IDENTIFIERS
      Op   Profile Stg  Weight(lb)
   B222
      APP  USER      1        7800
      DEP  USER      1        7800
   B429
      APP  USER      1        7000
      DEP  USER      1        7000
   EC130
      APP  USER      1        5290
      DEP  USER      1        5290
   S70
      APP  USER      1       18000
```

DEP	USER	1	18000
S76			
APP	USER	1	10000
DEP	USER	1	10000
SA330J			
APP	USER	1	15432
DEP	USER	1	15432
SA355F			
APP	USER	1	5070
DEP	USER	1	5070

USER-DEFINED HELICOPTER PROCEDURAL PROFILES

#	StepType	Duration(sec)	Distance(ft)	Altitude(ft)	Speed(kt)
B222-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
B222-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
B429-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
B429-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
EC130-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
EC130-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
S70-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	26400.0	0.0	0.0

3	App Horiz Decel	0.0	2000.0	0.0	80.0
4	App Desc Decel	0.0	1000.0	700.0	60.0
5	App Desc Decel	0.0	1000.0	500.0	40.0
6	App Desc Decel	0.0	500.0	300.0	35.0
7	App Desc Decel	0.0	200.0	150.0	25.0
8	App Desc Decel	0.0	150.0	75.0	0.0
9	App Desc Decel	0.0	150.0	0.0	0.0
10	Flight Idle	60.0	0.0	0.0	0.0
11	Ground Idle	30.0	0.0	0.0	0.0
S70-APP-USER-1					
1	Ground Idle	60.0	0.0	0.0	0.0
2	Flight Idle	120.0	0.0	0.0	0.0
3	Dep Vertical	3.0	0.0	50.0	0.0
4	Dep Climb Accel	0.0	100.0	75.0	45.0
5	Dep Climb Accel	0.0	200.0	100.0	55.0
6	Dep Climb Accel	0.0	300.0	200.0	65.0
7	Dep Climb Accel	0.0	900.0	400.0	80.0
8	Dep Const Speed	0.0	1500.0	1000.0	0.0
9	Dep Horiz Accel	0.0	2000.0	0.0	120.0
10	Level Fly	0.0	26400.0	0.0	0.0
S76-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	110.0
2	Level Fly	0.0	26400.0	0.0	0.0
3	App Horiz Decel	0.0	2000.0	0.0	80.0
4	App Desc Decel	0.0	1000.0	700.0	60.0
5	App Desc Decel	0.0	1000.0	500.0	40.0
6	App Desc Decel	0.0	500.0	300.0	35.0
7	App Desc Decel	0.0	200.0	150.0	25.0
8	App Desc Decel	0.0	150.0	75.0	0.0
9	App Desc Decel	0.0	150.0	0.0	0.0
10	Flight Idle	60.0	0.0	0.0	0.0
11	Ground Idle	30.0	0.0	0.0	0.0
S76-APP-USER-1					
1	Ground Idle	180.0	0.0	0.0	0.0
2	Flight Idle	270.0	0.0	0.0	0.0
3	Dep Vertical	3.0	0.0	50.0	0.0
4	Dep Climb Accel	0.0	100.0	75.0	40.0
5	Dep Climb Accel	0.0	150.0	100.0	50.0
6	Dep Climb Accel	0.0	300.0	300.0	70.0
7	Dep Climb Accel	0.0	350.0	500.0	80.0
8	Dep Const Speed	0.0	1000.0	1000.0	0.0
9	Dep Horiz Accel	0.0	2000.0	0.0	110.0
10	Level Fly	0.0	27500.0	0.0	0.0
SA330J-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
SA330J-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
SA355F-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
SA355F-APP-USER-1					

				report		
1	Ground Idle	30.0	0.0	0.0	0.0	
2	Flight Idle	30.0	0.0	0.0	0.0	
3	Dep Vertical	10.0	0.0	200.0	0.0	
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0	
5	Dep Climb Accel	0.0	1000.0	367.0	65.0	
6	Dep Const Speed	0.0	5000.0	1200.0	0.0	
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0	
8	Level Fly	0.0	21400.0	0.0	0.0	

USER-DEFINED HELICOPTER NOISE CURVES

USER-DEFINED HELICOPTER DIRECTIVITY

CASE FLIGHT OPERATIONS - [Existing-Lmax-S70]

Acft	Op	Profile	Stg	Rwy	Track	Sub	Group	Day	Evening	Night
S70	APP	USER	1	EXISTING1		0	---	1.0000	0.0000	0.0000
S70	APP	USER	1	EXISTING2		0	---	1.0000	0.0000	0.0000
S70	APP	USER	1	EXISTING3		0	---	1.0000	0.0000	0.0000
S70	APP	USER	1	EXISTING4		0	---	1.0000	0.0000	0.0000
S70	DEP	USER	1	EXISTING1		0	---	1.0000	0.0000	0.0000
S70	DEP	USER	1	EXISTING2		0	---	1.0000	0.0000	0.0000
S70	DEP	USER	1	EXISTING3		0	---	1.0000	0.0000	0.0000
S70	DEP	USER	1	EXISTING4		0	---	1.0000	0.0000	0.0000

CASE RUNUP OPERATIONS - [Existing-Lmax-S70]

SCENARIO RUN OPTIONS
- Run Type : Single-Metric
- NoiseMetric : LAMAX
- Do Terrain : No Terrain
- Do Contour : Recursive Grid
- Refinement : 8
- Tolerance : 0.25
- Low Cutoff : 75.0
- High Cutoff : 105.0
- Ground Type : All-Soft-Ground
- Do Population : No
- Do Locations : Yes
- Do Standard : No
- Do Detailed : No
- Compute System Metrics:
  - DNL : No
  - CNEL : No
  - LAEQ : No
  - LAEQD : No
  - LAEQN : No
  - SEL : No
  - LAMAX : No
  - TALA : No
  - NEF : No
  - WECPNL : No
  - EPNL : No
  - PNLTM : No
  - TAPNL : No
  - CEXP : No
  - LCMAX : No
  - TALC : No

SCENARIO GRID DEFINITIONS

Name	Type	X(nmi)	Y(nmi)	Ang(deg)	DisI(nmi)	DisJ(nmi)	NI	NJ	Thrsh	dAmb	(hr)
CONTOUR	Contour	-1.0000	-1.0000	0.0	2.0000	2.0000	2	2	85.0	0.0	0.00
LOCATION	Location	0.0000	0.0000	0.0	0.0000	0.0001	1	1	85.0	0.0	0.00

POINT_ID	METRIC
"R1 "	85.4
"R2 "	86.5
"R3 "	84.1
"R4 "	82.7
"R5 "	81.8
"R6 "	81.8
"R7 "	79.5
"R8 "	79.3

INM 7.0d SCENARIO RUN INPUT REPORT 15-Jun-16 15:27

STUDY: C:\USERS\SEAN\DROPBOX\AES\HELICOPTER\
   Created   : 21-Apr-16 15:03
   Units   : English
   Airport   : UCLA
   Description :
      HUCLA

SCENARIO: Lmax-Interim_1
   Created   : 26-May-16 16:00
   Description : Interim_1-Lmax-S70
   Last Run   : 30-May-16 14:38
   Run Duration : 000:00:03

STUDY AIRPORT
   Latitude   : 0.000000 deg
   Longitude   : 0.000000 deg
   Elevation   : 0.0 ft

CASES RUN:

CASENAME: Interim_1-Lmax-S70
   Temperature : 59.0 F
   Pressure   : 29.92 in-Hg
   AverageWind : 8.0 kt
   ChangeNPD   : No

STUDY RUNWAYS

CASENAME: Interim_1-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Interim_1-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Interim_1-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Interim_1-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Interim_1-Lmax-S70
      RwyWind   : 8.0 kt

STUDY HELIPADS
   EXISTING
      Latitude : 0.000000 deg
      Longitude : 0.000000 deg
      Xcoord   : 0.0000 nmi
      Ycoord   : 0.0000 nmi
   FUTURE
      Latitude : 0.000047 deg
      Longitude : -0.000136 deg
      Xcoord   : -0.0082 nmi
      Ycoord   : 0.0028 nmi
   INT-1
      Latitude : -0.000700 deg
      Longitude : -0.004499 deg
      Xcoord   : -0.2704 nmi
      Ycoord   : -0.0418 nmi
   INT-2
      Latitude : -0.000717 deg
      Longitude : -0.003898 deg
      Xcoord   : -0.2343 nmi
      Ycoord   : -0.0428 nmi
   INTERIM
      Latitude : -0.000714 deg
      Longitude : -0.004380 deg
      Xcoord   : -0.2633 nmi
      Ycoord   : -0.0426 nmi

STUDY TRACKS

RwyId-OpType-TrkId	Sub	PctSub	TrkType	Delta(ft)
EXISTING-APP-1	0	100.00	Vectors	257.6
EXISTING-APP-2	0	100.00	Vectors	70.8
EXISTING-APP-3	0	100.00	Vectors	70.8
EXISTING-APP-4	0	100.00	Vectors	317.0
EXISTING-DEP-1	0	100.00	Vectors	77.7
EXISTING-DEP-2	0	100.00	Vectors	250.8
EXISTING-DEP-3	0	100.00	Vectors	250.8
EXISTING-DEP-4	0	100.00	Vectors	137.0
FUTURE-APP-1	0	100.00	Vectors	260.6
FUTURE-APP-2	0	100.00	Vectors	67.8
FUTURE-APP-3	0	100.00	Vectors	67.8
FUTURE-APP-4	0	100.00	Vectors	312.5
FUTURE-APP-5	0	100.00	Vectors	111.7
FUTURE-DEP-1	0	100.00	Vectors	80.6
FUTURE-DEP-2	0	100.00	Vectors	247.8
FUTURE-DEP-3	0	100.00	Vectors	247.8
FUTURE-DEP-4	0	100.00	Vectors	132.5
FUTURE-DEP-5	0	100.00	Vectors	291.7
INT-1-APP-1	0	100.00	Vectors	270.0
INT-1-APP-2	0	100.00	Vectors	270.0
INT-1-APP-3	0	100.00	Vectors	165.0
INT-1-DEP-1	0	100.00	Vectors	90.0
INT-1-DEP-2	0	100.00	Vectors	90.0
INT-1-DEP-3	0	100.00	Vectors	345.0
INT-2-APP-1	0	100.00	Vectors	270.0
INT-2-APP-2	0	100.00	Vectors	270.0
INT-2-APP-3	0	100.00	Vectors	90.0
INT-2-DEP-1	0	100.00	Vectors	90.0
INT-2-DEP-2	0	100.00	Vectors	90.0
INT-2-DEP-3	0	100.00	Vectors	270.0
INTERIM-APP-1	0	100.00	Vectors	274.0
INTERIM-APP-2	0	100.00	Vectors	86.5
INTERIM-APP-3	0	100.00	Vectors	171.3
INTERIM-DEP-1				

```
      0   100.00   Vectors        94.0
   INTERIM-DEP-2
      0   100.00   Vectors       266.5
   INTERIM-DEP-3
      0   100.00   Vectors       351.3

STUDY TRACK DETAIL
   RwyId-OpType-TrkId-SubTrk
       #  SegType       Dist/Angle      Radius(nmi)
   EXISTING-APP-1-0
       1  Straight         2.0000 nmi
       2  Right-Turn      77.7000 deg       0.3285
   EXISTING-APP-2-0
       1  Straight         4.0000 nmi
       2  Left-Turn       63.5000 deg       0.0411
       3  Left-Turn       21.7000 deg       0.1800
       4  Left-Turn       24.0000 deg       0.5904
   EXISTING-APP-3-0
       1  Straight         4.0000 nmi
       2  Right-Turn      63.5000 deg       0.0411
       3  Right-Turn      21.3000 deg       0.1800
       4  Right-Turn      10.0000 deg       0.0100
       5  Left-Turn       24.0000 deg       0.5904
   EXISTING-APP-4-0
       1  Straight         4.0000 nmi
       2  Right-Turn       3.5000 deg       0.1000
       3  Left-Turn       13.0000 deg       0.8300
       4  Right-Turn      26.6000 deg       0.2128
   EXISTING-DEP-1-0
       1  Left-Turn       77.7000 deg       0.3285
       2  Straight         4.0000 nmi
   EXISTING-DEP-2-0
       1  Right-Turn      24.0000 deg       0.5904
       2  Right-Turn      21.7000 deg       0.1800
       3  Right-Turn      63.5000 deg       0.0411
       4  Straight         4.0000 nmi
   EXISTING-DEP-3-0
       1  Right-Turn      24.0000 deg       0.5904
       2  Left-Turn       10.0000 deg       0.0100
       3  Left-Turn       21.3000 deg       0.1800
       4  Left-Turn       63.5000 deg       0.0411
       5  Straight         4.0000 nmi
   EXISTING-DEP-4-0
       1  Left-Turn       26.6000 deg       0.2128
       2  Right-Turn      13.0000 deg       0.8300
       3  Left-Turn        3.5000 deg       0.1000
       4  Straight         4.0000 nmi
   FUTURE-APP-1-0
       1  Straight         5.0000 nmi
       2  Right-Turn      80.6000 deg       0.3185
   FUTURE-APP-2-0
       1  Straight         4.0000 nmi
       2  Left-Turn       62.3000 deg       0.0412
       3  Left-Turn        3.5000 deg       0.0010
       4  Left-Turn       17.9000 deg       0.2198
       5  Left-Turn       28.5000 deg       0.4823
   FUTURE-APP-3-0
       1  Straight         4.0000 nmi
       2  Right-Turn      62.3000 deg       0.0412
       3  Right-Turn       3.1000 deg       0.0010
       4  Right-Turn      17.9000 deg       0.2198
       5  Right-Turn      13.0000 deg       0.0010
       6  Left-Turn       28.5000 deg       0.4823
   FUTURE-APP-4-0
       1  Straight         4.0000 nmi
       2  Left-Turn       12.3000 deg       0.9136
       3  Right-Turn       1.5000 deg       0.0010
       4  Right-Turn      20.2000 deg       0.3026
   FUTURE-APP-5-0
       1  Straight         5.0000 nmi
       2  Left-Turn       11.2000 deg       0.0010
       3  Left-Turn       60.6000 deg       0.2064
       4  Right-Turn       3.5000 deg       0.0010
```

```
    5  Straight          0.1991 nmi
FUTURE-DEP-1-0
    1  Left-Turn        80.6000 deg       0.3185
    2  Straight          5.0000 nmi
FUTURE-DEP-2-0
    1  Right-Turn       28.5000 deg       0.4823
    2  Right-Turn       17.9000 deg       0.2198
    3  Right-Turn        3.5000 deg       0.0010
    4  Right-Turn       62.3000 deg       0.0412
    5  Straight          5.0000 nmi
FUTURE-DEP-3-0
    1  Right-Turn       28.5000 deg       0.4823
    2  Left-Turn        13.0000 deg       0.0010
    3  Left-Turn        17.9000 deg       0.2198
    4  Left-Turn         3.1000 deg       0.0010
    5  Left-Turn        62.3000 deg       0.0412
    6  Straight          5.0000 nmi
FUTURE-DEP-4-0
    1  Left-Turn        20.2000 deg       0.3026
    2  Left-Turn         1.5000 deg       0.0010
    3  Right-Turn       12.3000 deg       0.9136
    4  Straight          4.0000 nmi
FUTURE-DEP-5-0
    1  Straight          0.1991 nmi
    2  Left-Turn         3.5000 deg       0.0010
    3  Right-Turn       60.6000 deg       0.2064
    4  Right-Turn       11.2000 deg       0.0010
    5  Straight          5.0000 nmi
INT-1-APP-1-0
    1  Straight          3.0000 nmi
    2  Right-Turn        4.9000 deg       0.0100
    3  Right-Turn       46.9000 deg       0.3347
    4  Left-Turn         1.0000 deg       0.0100
    5  Right-Turn       36.0000 deg       0.5886
    6  Right-Turn        3.2000 deg       0.0100
    7  Straight          0.0727 nmi
INT-1-APP-2-0
    1  Straight          3.0000 nmi
    2  Left-Turn         2.6000 deg       0.0100
    3  Left-Turn        47.8000 deg       0.0795
    4  Left-Turn         0.8000 deg       0.0100
    5  Left-Turn        23.2000 deg       0.1594
    6  Right-Turn        0.6000 deg       0.0100
    7  Left-Turn         9.1000 deg       0.5155
    8  Right-Turn        1.5000 deg       0.0100
    9  Left-Turn         7.8000 deg       1.6562
   10  Left-Turn         0.8000 deg       0.0100
   11  Straight          0.1392 nmi
INT-1-APP-3-0
    1  Straight          3.0000 nmi
    2  Right-Turn        0.8000 deg       0.0100
    3  Left-Turn         6.7000 deg       0.3228
    4  Right-Turn        2.2000 deg       0.0100
    5  Left-Turn        14.8000 deg       0.0554
    6  Left-Turn         1.0000 deg       0.0100
    7  Straight          0.0982 nmi
    8  Left-Turn         1.0000 deg       0.0100
    9  Right-Turn       20.5000 deg       0.1612
   10  Right-Turn        1.2000 deg       0.0100
   11  Straight          0.0863 nmi
   12  Left-Turn         2.7000 deg       0.0100
   13  Left-Turn        13.5000 deg       0.2536
INT-1-DEP-1-0
    1  Straight          0.0728 nmi
    2  Left-Turn         3.2000 deg       0.0100
    3  Left-Turn        36.0000 deg       0.5886
    4  Right-Turn        1.0000 deg       0.0100
    5  Left-Turn        46.9000 deg       0.3347
    6  Left-Turn         4.9000 deg       0.0100
    7  Straight          3.0000 nmi
INT-1-DEP-2-0
    1  Straight          0.1392 nmi
    2  Right-Turn        0.8000 deg       0.0100
```

	3	Right-Turn	7.8000 deg	1.6562
	4	Left-Turn	1.5000 deg	0.0100
	5	Right-Turn	9.1000 deg	0.5155
	6	Left-Turn	0.6000 deg	0.0100
	7	Right-Turn	23.2000 deg	0.1594
	8	Right-Turn	1.6000 deg	0.0100
	9	Right-Turn	47.8000 deg	0.0795
	10	Right-Turn	1.8000 deg	0.0100
	11	Straight	3.0000 nmi	
INT-1-DEP-3-0				
	1	Right-Turn	13.5000 deg	0.2536
	2	Right-Turn	2.7000 deg	0.0100
	3	Straight	0.0863 nmi	
	4	Left-Turn	1.2000 deg	0.0100
	5	Left-Turn	20.5000 deg	0.1612
	6	Right-Turn	1.0000 deg	0.0100
	7	Straight	0.0982 nmi	
	8	Right-Turn	1.0000 deg	0.0100
	9	Right-Turn	14.8000 deg	0.0554
	10	Left-Turn	2.2000 deg	0.0100
	11	Right-Turn	6.7000 deg	0.3228
	12	Left-Turn	0.8000 deg	0.0100
	13	Straight	3.0000 nmi	
INT-2-APP-1-0				
	1	Straight	3.0000 nmi	
	2	Left-Turn	2.7000 deg	0.0100
	3	Right-Turn	60.1000 deg	0.3440
	4	Right-Turn	0.1000 deg	0.0100
	5	Right-Turn	30.0000 deg	0.5046
	6	Right-Turn	2.5000 deg	0.0100
	7	Straight	0.0888 nmi	
INT-2-APP-2-0				
	1	Straight	3.0000 nmi	
	2	Left-Turn	5.0000 deg	0.0100
	3	Left-Turn	51.5000 deg	0.0523
	4	Right-Turn	0.6000 deg	0.0100
	5	Left-Turn	21.4000 deg	0.3618
	6	Right-Turn	0.6000 deg	0.0100
	7	Left-Turn	14.2000 deg	1.0551
	8	Right-Turn	0.9000 deg	0.0100
	9	Straight	0.0888 nmi	
INT-2-APP-3-0				
	1	Straight	5.0000 nmi	
INT-2-DEP-1-0				
	1	Straight	0.0888 nmi	
	2	Left-Turn	2.5000 deg	0.0100
	3	Left-Turn	30.0000 deg	0.5046
	4	Left-Turn	0.1000 deg	0.0100
	5	Left-Turn	60.1000 deg	0.3440
	6	Right-Turn	2.7000 deg	0.0100
	7	Straight	3.0000 nmi	
INT-2-DEP-2-0				
	1	Straight	0.0888 nmi	
	2	Left-Turn	0.9000 deg	0.0100
	3	Right-Turn	14.2000 deg	1.0551
	4	Left-Turn	0.6000 deg	0.0100
	5	Right-Turn	21.4000 deg	0.3618
	6	Left-Turn	0.6000 deg	0.0100
	7	Right-Turn	51.5000 deg	0.0523
	8	Right-Turn	5.0000 deg	0.0100
	9	Straight	3.0000 nmi	
INT-2-DEP-3-0				
	1	Straight	5.0000 nmi	
INTERIM-APP-1-0				
	1	Straight	4.0000 nmi	
	2	Right-Turn	60.0000 deg	0.3350
	3	Right-Turn	34.2000 deg	0.6226
INTERIM-APP-2-0				
	1	Straight	5.0000 nmi	
	2	Left-Turn	93.5000 deg	0.0642
INTERIM-APP-3-0				
	1	Straight	5.0000 nmi	
	2	Left-Turn	20.5000 deg	0.0100

```
      3  Right-Turn       11.8000 deg       1.2938
   INTERIM-DEP-1-0
      1  Left-Turn        34.2000 deg       0.6226
      2  Left-Turn        60.0000 deg       0.3350
      3  Straight          4.0000 nmi
   INTERIM-DEP-2-0
      1  Right-Turn       93.5000 deg       0.0642
      2  Straight          5.0000 nmi
   INTERIM-DEP-3-0
      1  Left-Turn        11.8000 deg       1.2938
      2  Right-Turn       20.5000 deg       0.0100
      3  Straight          5.0000 nmi

AIRCRAFT GROUP ASSIGNMENTS

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STUDY AIRPLANES

STUDY SUBSTITUTION AIRPLANES

USER-DEFINED NOISE CURVES

USER-DEFINED METRICS

USER-DEFINED PROFILE IDENTIFIERS

USER-DEFINED PROCEDURAL PROFILES

USER-DEFINED FIXED-POINT PROFILES

USER-DEFINED FLAP COEFFICIENTS

USER-DEFINED JET THRUST COEFFICIENTS

USER-DEFINED PROP THRUST COEFFICIENTS

USER-DEFINED GENERAL THRUST COEFFICIENTS

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STUDY MILITARY AIRPLANES

USER-DEFINED MILITARY NOISE CURVES

USER-DEFINED MILITARY PROFILE IDENTIFIERS

USER-DEFINED MILITARY FIXED-POINT PROFILES

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STUDY HELICOPTERS
   B222          Standard data
   B429          Standard data
   EC130         Standard data
   S70           Standard data
   S76           Standard data
   SA330J        Standard data
   SA355F        Standard data

USER-DEFINED HELICOPTER PROFILE IDENTIFIERS
      Op   Profile Stg  Weight(lb)
   B222
      APP  USER      1        7800
      DEP  USER      1        7800
   B429
      APP  USER      1        7000
      DEP  USER      1        7000
   EC130
      APP  USER      1        5290
      DEP  USER      1        5290
   S70
      APP  USER      1       18000
```

DEP	USER	1	18000
S76			
APP	USER	1	10000
DEP	USER	1	10000
SA330J			
APP	USER	1	15432
DEP	USER	1	15432
SA355F			
APP	USER	1	5070
DEP	USER	1	5070

USER-DEFINED HELICOPTER PROCEDURAL PROFILES

#	StepType	Duration(sec)	Distance(ft)	Altitude(ft)	Speed(kt)
B222-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
B222-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
B429-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
B429-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
EC130-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
EC130-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
S70-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	26400.0	0.0	0.0

3	App Horiz Decel	0.0	2000.0	0.0	80.0
4	App Desc Decel	0.0	1000.0	700.0	60.0
5	App Desc Decel	0.0	1000.0	500.0	40.0
6	App Desc Decel	0.0	500.0	300.0	35.0
7	App Desc Decel	0.0	200.0	150.0	25.0
8	App Desc Decel	0.0	150.0	75.0	0.0
9	App Desc Decel	0.0	150.0	0.0	0.0
10	Flight Idle	60.0	0.0	0.0	0.0
11	Ground Idle	30.0	0.0	0.0	0.0
S70-APP-USER-1					
1	Ground Idle	60.0	0.0	0.0	0.0
2	Flight Idle	120.0	0.0	0.0	0.0
3	Dep Vertical	3.0	0.0	50.0	0.0
4	Dep Climb Accel	0.0	100.0	75.0	45.0
5	Dep Climb Accel	0.0	200.0	100.0	55.0
6	Dep Climb Accel	0.0	300.0	200.0	65.0
7	Dep Climb Accel	0.0	900.0	400.0	80.0
8	Dep Const Speed	0.0	1500.0	1000.0	0.0
9	Dep Horiz Accel	0.0	2000.0	0.0	120.0
10	Level Fly	0.0	26400.0	0.0	0.0
S76-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	110.0
2	Level Fly	0.0	26400.0	0.0	0.0
3	App Horiz Decel	0.0	2000.0	0.0	80.0
4	App Desc Decel	0.0	1000.0	700.0	60.0
5	App Desc Decel	0.0	1000.0	500.0	40.0
6	App Desc Decel	0.0	500.0	300.0	35.0
7	App Desc Decel	0.0	200.0	150.0	25.0
8	App Desc Decel	0.0	150.0	75.0	0.0
9	App Desc Decel	0.0	150.0	0.0	0.0
10	Flight Idle	60.0	0.0	0.0	0.0
11	Ground Idle	30.0	0.0	0.0	0.0
S76-APP-USER-1					
1	Ground Idle	180.0	0.0	0.0	0.0
2	Flight Idle	270.0	0.0	0.0	0.0
3	Dep Vertical	3.0	0.0	50.0	0.0
4	Dep Climb Accel	0.0	100.0	75.0	40.0
5	Dep Climb Accel	0.0	150.0	100.0	50.0
6	Dep Climb Accel	0.0	300.0	300.0	70.0
7	Dep Climb Accel	0.0	350.0	500.0	80.0
8	Dep Const Speed	0.0	1000.0	1000.0	0.0
9	Dep Horiz Accel	0.0	2000.0	0.0	110.0
10	Level Fly	0.0	27500.0	0.0	0.0
SA330J-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
SA330J-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
SA355F-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
SA355F-APP-USER-1					

			report		
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0

USER-DEFINED HELICOPTER NOISE CURVES

USER-DEFINED HELICOPTER DIRECTIVITY

CASE FLIGHT OPERATIONS - [Interim_1-Lmax-S70]

Acft	Op	Profile	Stg	Rwy	Track	Sub	Group	Day	Evening	Night
S70	APP	USER	1	INT-1	1	0	---	1.0000	0.0000	0.0000
S70	APP	USER	1	INT-1	2	0	---	1.0000	0.0000	0.0000
S70	APP	USER	1	INT-1	3	0	---	1.0000	0.0000	0.0000
S70	DEP	USER	1	INT-1	1	0	---	1.0000	0.0000	0.0000
S70	DEP	USER	1	INT-1	2	0	---	1.0000	0.0000	0.0000
S70	DEP	USER	1	INT-1	3	0	---	1.0000	0.0000	0.0000

CASE RUNUP OPERATIONS - [Interim_1-Lmax-S70]

SCENARIO RUN OPTIONS
- Run Type : Single-Metric
- NoiseMetric : LAMAX
- Do Terrain : No Terrain
- Do Contour : Recursive Grid
- Refinement : 14
- Tolerance : 0.25
- Low Cutoff : 75.0
- High Cutoff : 105.0
- Ground Type : All-Soft-Ground
- Do Population : No
- Do Locations : Yes
- Do Standard : No
- Do Detailed : No
- Compute System Metrics:
  - DNL : No
  - CNEL : No
  - LAEQ : No
  - LAEQD : No
  - LAEQN : No
  - SEL : No
  - LAMAX : No
  - TALA : No
  - NEF : No
  - WECPNL : No
  - EPNL : No
  - PNLTM : No
  - TAPNL : No
  - CEXP : No
  - LCMAX : No
  - TALC : No

SCENARIO GRID DEFINITIONS

Name	Type	X(nmi)	Y(nmi)	Ang(deg)	DisI(nmi)	DisJ(nmi)	NI	NJ	Thrsh	dAmb	(hr)
CONTOUR	Contour	-1.0000	-1.0000	0.0	2.0000	2.0000	2	2	85.0	0.0	0.00
LOCATION	Location	0.0000	0.0000	0.0	0.0000	0.0001	1	1	85.0	0.0	0.00

POINT_ID	METRIC
"R1 "	83.4
"R2 "	83.9
"R3 "	99.5
"R4 "	83.0
"R5 "	82.1
"R6 "	79.2
"R7 "	79.3
"R8 "	78.0

INM 7.0d SCENARIO RUN INPUT REPORT 15-Jun-16 15:27

STUDY: C:\USERS\SEAN\DROPBOX\AES\HELICOPTER\
   Created   : 21-Apr-16 15:03
   Units   : English
   Airport   : UCLA
   Description :
      HUCLA

SCENARIO: Lmax-Interim_2
   Created   : 26-May-16 16:00
   Description : Interim_2-Lmax-S70
   Last Run   : 30-May-16 14:38
   Run Duration : 000:00:02

STUDY AIRPORT
   Latitude   : 0.000000 deg
   Longitude   : 0.000000 deg
   Elevation   : 0.0 ft

CASES RUN:

CASENAME: Interim_2-Lmax-S70
   Temperature : 59.0 F
   Pressure   : 29.92 in-Hg
   AverageWind : 8.0 kt
   ChangeNPD   : No

STUDY RUNWAYS

CASENAME: Interim_2-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Interim_2-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Interim_2-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Interim_2-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Interim_2-Lmax-S70
      RwyWind   : 8.0 kt

STUDY HELIPADS
   EXISTING
      Latitude : 0.000000 deg
      Longitude : 0.000000 deg
      Xcoord   : 0.0000 nmi
      Ycoord   : 0.0000 nmi
   FUTURE
      Latitude : 0.000047 deg
      Longitude : -0.000136 deg
      Xcoord   : -0.0082 nmi
      Ycoord   : 0.0028 nmi
   INT-1
      Latitude : -0.000700 deg
      Longitude : -0.004499 deg
      Xcoord   : -0.2704 nmi
      Ycoord   : -0.0418 nmi
   INT-2
      Latitude : -0.000717 deg
      Longitude : -0.003898 deg
      Xcoord   : -0.2343 nmi
      Ycoord   : -0.0428 nmi
   INTERIM
      Latitude : -0.000714 deg
      Longitude : -0.004380 deg
      Xcoord   : -0.2633 nmi
      Ycoord   : -0.0426 nmi

STUDY TRACKS

RwyId-OpType-TrkId	Sub	PctSub	TrkType	Delta(ft)
EXISTING-APP-1	0	100.00	Vectors	257.6
EXISTING-APP-2	0	100.00	Vectors	70.8
EXISTING-APP-3	0	100.00	Vectors	70.8
EXISTING-APP-4	0	100.00	Vectors	317.0
EXISTING-DEP-1	0	100.00	Vectors	77.7
EXISTING-DEP-2	0	100.00	Vectors	250.8
EXISTING-DEP-3	0	100.00	Vectors	250.8
EXISTING-DEP-4	0	100.00	Vectors	137.0
FUTURE-APP-1	0	100.00	Vectors	260.6
FUTURE-APP-2	0	100.00	Vectors	67.8
FUTURE-APP-3	0	100.00	Vectors	67.8
FUTURE-APP-4	0	100.00	Vectors	312.5
FUTURE-APP-5	0	100.00	Vectors	111.7
FUTURE-DEP-1	0	100.00	Vectors	80.6
FUTURE-DEP-2	0	100.00	Vectors	247.8
FUTURE-DEP-3	0	100.00	Vectors	247.8
FUTURE-DEP-4	0	100.00	Vectors	132.5
FUTURE-DEP-5	0	100.00	Vectors	291.7
INT-1-APP-1	0	100.00	Vectors	270.0
INT-1-APP-2	0	100.00	Vectors	270.0
INT-1-APP-3	0	100.00	Vectors	165.0
INT-1-DEP-1	0	100.00	Vectors	90.0
INT-1-DEP-2	0	100.00	Vectors	90.0
INT-1-DEP-3	0	100.00	Vectors	345.0
INT-2-APP-1	0	100.00	Vectors	270.0
INT-2-APP-2	0	100.00	Vectors	270.0
INT-2-APP-3	0	100.00	Vectors	90.0
INT-2-DEP-1	0	100.00	Vectors	90.0
INT-2-DEP-2	0	100.00	Vectors	90.0
INT-2-DEP-3	0	100.00	Vectors	270.0
INTERIM-APP-1	0	100.00	Vectors	274.0
INTERIM-APP-2	0	100.00	Vectors	86.5
INTERIM-APP-3	0	100.00	Vectors	171.3
INTERIM-DEP-1				

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      0   100.00   Vectors        94.0
   INTERIM-DEP-2
      0   100.00   Vectors       266.5
   INTERIM-DEP-3
      0   100.00   Vectors       351.3

STUDY TRACK DETAIL
   RwyId-OpType-TrkId-SubTrk
       #  SegType       Dist/Angle      Radius(nmi)
   EXISTING-APP-1-0
       1  Straight         2.0000 nmi
       2  Right-Turn      77.7000 deg       0.3285
   EXISTING-APP-2-0
       1  Straight         4.0000 nmi
       2  Left-Turn       63.5000 deg       0.0411
       3  Left-Turn       21.7000 deg       0.1800
       4  Left-Turn       24.0000 deg       0.5904
   EXISTING-APP-3-0
       1  Straight         4.0000 nmi
       2  Right-Turn      63.5000 deg       0.0411
       3  Right-Turn      21.3000 deg       0.1800
       4  Right-Turn      10.0000 deg       0.0100
       5  Left-Turn       24.0000 deg       0.5904
   EXISTING-APP-4-0
       1  Straight         4.0000 nmi
       2  Right-Turn       3.5000 deg       0.1000
       3  Left-Turn       13.0000 deg       0.8300
       4  Right-Turn      26.6000 deg       0.2128
   EXISTING-DEP-1-0
       1  Left-Turn       77.7000 deg       0.3285
       2  Straight         4.0000 nmi
   EXISTING-DEP-2-0
       1  Right-Turn      24.0000 deg       0.5904
       2  Right-Turn      21.7000 deg       0.1800
       3  Right-Turn      63.5000 deg       0.0411
       4  Straight         4.0000 nmi
   EXISTING-DEP-3-0
       1  Right-Turn      24.0000 deg       0.5904
       2  Left-Turn       10.0000 deg       0.0100
       3  Left-Turn       21.3000 deg       0.1800
       4  Left-Turn       63.5000 deg       0.0411
       5  Straight         4.0000 nmi
   EXISTING-DEP-4-0
       1  Left-Turn       26.6000 deg       0.2128
       2  Right-Turn      13.0000 deg       0.8300
       3  Left-Turn        3.5000 deg       0.1000
       4  Straight         4.0000 nmi
   FUTURE-APP-1-0
       1  Straight         5.0000 nmi
       2  Right-Turn      80.6000 deg       0.3185
   FUTURE-APP-2-0
       1  Straight         4.0000 nmi
       2  Left-Turn       62.3000 deg       0.0412
       3  Left-Turn        3.5000 deg       0.0010
       4  Left-Turn       17.9000 deg       0.2198
       5  Left-Turn       28.5000 deg       0.4823
   FUTURE-APP-3-0
       1  Straight         4.0000 nmi
       2  Right-Turn      62.3000 deg       0.0412
       3  Right-Turn       3.1000 deg       0.0010
       4  Right-Turn      17.9000 deg       0.2198
       5  Right-Turn      13.0000 deg       0.0010
       6  Left-Turn       28.5000 deg       0.4823
   FUTURE-APP-4-0
       1  Straight         4.0000 nmi
       2  Left-Turn       12.3000 deg       0.9136
       3  Right-Turn       1.5000 deg       0.0010
       4  Right-Turn      20.2000 deg       0.3026
   FUTURE-APP-5-0
       1  Straight         5.0000 nmi
       2  Left-Turn       11.2000 deg       0.0010
       3  Left-Turn       60.6000 deg       0.2064
       4  Right-Turn       3.5000 deg       0.0010
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    5  Straight          0.1991 nmi
FUTURE-DEP-1-0
    1  Left-Turn        80.6000 deg       0.3185
    2  Straight          5.0000 nmi
FUTURE-DEP-2-0
    1  Right-Turn       28.5000 deg       0.4823
    2  Right-Turn       17.9000 deg       0.2198
    3  Right-Turn        3.5000 deg       0.0010
    4  Right-Turn       62.3000 deg       0.0412
    5  Straight          5.0000 nmi
FUTURE-DEP-3-0
    1  Right-Turn       28.5000 deg       0.4823
    2  Left-Turn        13.0000 deg       0.0010
    3  Left-Turn        17.9000 deg       0.2198
    4  Left-Turn         3.1000 deg       0.0010
    5  Left-Turn        62.3000 deg       0.0412
    6  Straight          5.0000 nmi
FUTURE-DEP-4-0
    1  Left-Turn        20.2000 deg       0.3026
    2  Left-Turn         1.5000 deg       0.0010
    3  Right-Turn       12.3000 deg       0.9136
    4  Straight          4.0000 nmi
FUTURE-DEP-5-0
    1  Straight          0.1991 nmi
    2  Left-Turn         3.5000 deg       0.0010
    3  Right-Turn       60.6000 deg       0.2064
    4  Right-Turn       11.2000 deg       0.0010
    5  Straight          5.0000 nmi
INT-1-APP-1-0
    1  Straight          3.0000 nmi
    2  Right-Turn        4.9000 deg       0.0100
    3  Right-Turn       46.9000 deg       0.3347
    4  Left-Turn         1.0000 deg       0.0100
    5  Right-Turn       36.0000 deg       0.5886
    6  Right-Turn        3.2000 deg       0.0100
    7  Straight          0.0727 nmi
INT-1-APP-2-0
    1  Straight          3.0000 nmi
    2  Left-Turn         2.6000 deg       0.0100
    3  Left-Turn        47.8000 deg       0.0795
    4  Left-Turn         0.8000 deg       0.0100
    5  Left-Turn        23.2000 deg       0.1594
    6  Right-Turn        0.6000 deg       0.0100
    7  Left-Turn         9.1000 deg       0.5155
    8  Right-Turn        1.5000 deg       0.0100
    9  Left-Turn         7.8000 deg       1.6562
   10  Left-Turn         0.8000 deg       0.0100
   11  Straight          0.1392 nmi
INT-1-APP-3-0
    1  Straight          3.0000 nmi
    2  Right-Turn        0.8000 deg       0.0100
    3  Left-Turn         6.7000 deg       0.3228
    4  Right-Turn        2.2000 deg       0.0100
    5  Left-Turn        14.8000 deg       0.0554
    6  Left-Turn         1.0000 deg       0.0100
    7  Straight          0.0982 nmi
    8  Left-Turn         1.0000 deg       0.0100
    9  Right-Turn       20.5000 deg       0.1612
   10  Right-Turn        1.2000 deg       0.0100
   11  Straight          0.0863 nmi
   12  Left-Turn         2.7000 deg       0.0100
   13  Left-Turn        13.5000 deg       0.2536
INT-1-DEP-1-0
    1  Straight          0.0728 nmi
    2  Left-Turn         3.2000 deg       0.0100
    3  Left-Turn        36.0000 deg       0.5886
    4  Right-Turn        1.0000 deg       0.0100
    5  Left-Turn        46.9000 deg       0.3347
    6  Left-Turn         4.9000 deg       0.0100
    7  Straight          3.0000 nmi
INT-1-DEP-2-0
    1  Straight          0.1392 nmi
    2  Right-Turn        0.8000 deg       0.0100
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	3	Right-Turn	7.8000 deg	1.6562
	4	Left-Turn	1.5000 deg	0.0100
	5	Right-Turn	9.1000 deg	0.5155
	6	Left-Turn	0.6000 deg	0.0100
	7	Right-Turn	23.2000 deg	0.1594
	8	Right-Turn	1.6000 deg	0.0100
	9	Right-Turn	47.8000 deg	0.0795
	10	Right-Turn	1.8000 deg	0.0100
	11	Straight	3.0000 nmi	
INT-1-DEP-3-0				
	1	Right-Turn	13.5000 deg	0.2536
	2	Right-Turn	2.7000 deg	0.0100
	3	Straight	0.0863 nmi	
	4	Left-Turn	1.2000 deg	0.0100
	5	Left-Turn	20.5000 deg	0.1612
	6	Right-Turn	1.0000 deg	0.0100
	7	Straight	0.0982 nmi	
	8	Right-Turn	1.0000 deg	0.0100
	9	Right-Turn	14.8000 deg	0.0554
	10	Left-Turn	2.2000 deg	0.0100
	11	Right-Turn	6.7000 deg	0.3228
	12	Left-Turn	0.8000 deg	0.0100
	13	Straight	3.0000 nmi	
INT-2-APP-1-0				
	1	Straight	3.0000 nmi	
	2	Left-Turn	2.7000 deg	0.0100
	3	Right-Turn	60.1000 deg	0.3440
	4	Right-Turn	0.1000 deg	0.0100
	5	Right-Turn	30.0000 deg	0.5046
	6	Right-Turn	2.5000 deg	0.0100
	7	Straight	0.0888 nmi	
INT-2-APP-2-0				
	1	Straight	3.0000 nmi	
	2	Left-Turn	5.0000 deg	0.0100
	3	Left-Turn	51.5000 deg	0.0523
	4	Right-Turn	0.6000 deg	0.0100
	5	Left-Turn	21.4000 deg	0.3618
	6	Right-Turn	0.6000 deg	0.0100
	7	Left-Turn	14.2000 deg	1.0551
	8	Right-Turn	0.9000 deg	0.0100
	9	Straight	0.0888 nmi	
INT-2-APP-3-0				
	1	Straight	5.0000 nmi	
INT-2-DEP-1-0				
	1	Straight	0.0888 nmi	
	2	Left-Turn	2.5000 deg	0.0100
	3	Left-Turn	30.0000 deg	0.5046
	4	Left-Turn	0.1000 deg	0.0100
	5	Left-Turn	60.1000 deg	0.3440
	6	Right-Turn	2.7000 deg	0.0100
	7	Straight	3.0000 nmi	
INT-2-DEP-2-0				
	1	Straight	0.0888 nmi	
	2	Left-Turn	0.9000 deg	0.0100
	3	Right-Turn	14.2000 deg	1.0551
	4	Left-Turn	0.6000 deg	0.0100
	5	Right-Turn	21.4000 deg	0.3618
	6	Left-Turn	0.6000 deg	0.0100
	7	Right-Turn	51.5000 deg	0.0523
	8	Right-Turn	5.0000 deg	0.0100
	9	Straight	3.0000 nmi	
INT-2-DEP-3-0				
	1	Straight	5.0000 nmi	
INTERIM-APP-1-0				
	1	Straight	4.0000 nmi	
	2	Right-Turn	60.0000 deg	0.3350
	3	Right-Turn	34.2000 deg	0.6226
INTERIM-APP-2-0				
	1	Straight	5.0000 nmi	
	2	Left-Turn	93.5000 deg	0.0642
INTERIM-APP-3-0				
	1	Straight	5.0000 nmi	
	2	Left-Turn	20.5000 deg	0.0100

```
      3  Right-Turn       11.8000 deg       1.2938
   INTERIM-DEP-1-0
      1  Left-Turn        34.2000 deg       0.6226
      2  Left-Turn        60.0000 deg       0.3350
      3  Straight          4.0000 nmi
   INTERIM-DEP-2-0
      1  Right-Turn       93.5000 deg       0.0642
      2  Straight          5.0000 nmi
   INTERIM-DEP-3-0
      1  Left-Turn        11.8000 deg       1.2938
      2  Right-Turn       20.5000 deg       0.0100
      3  Straight          5.0000 nmi

AIRCRAFT GROUP ASSIGNMENTS

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STUDY AIRPLANES

STUDY SUBSTITUTION AIRPLANES

USER-DEFINED NOISE CURVES

USER-DEFINED METRICS

USER-DEFINED PROFILE IDENTIFIERS

USER-DEFINED PROCEDURAL PROFILES

USER-DEFINED FIXED-POINT PROFILES

USER-DEFINED FLAP COEFFICIENTS

USER-DEFINED JET THRUST COEFFICIENTS

USER-DEFINED PROP THRUST COEFFICIENTS

USER-DEFINED GENERAL THRUST COEFFICIENTS

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STUDY MILITARY AIRPLANES

USER-DEFINED MILITARY NOISE CURVES

USER-DEFINED MILITARY PROFILE IDENTIFIERS

USER-DEFINED MILITARY FIXED-POINT PROFILES

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STUDY HELICOPTERS
   B222          Standard data
   B429          Standard data
   EC130         Standard data
   S70           Standard data
   S76           Standard data
   SA330J        Standard data
   SA355F        Standard data

USER-DEFINED HELICOPTER PROFILE IDENTIFIERS
      Op   Profile Stg  Weight(lb)
   B222
      APP  USER      1        7800
      DEP  USER      1        7800
   B429
      APP  USER      1        7000
      DEP  USER      1        7000
   EC130
      APP  USER      1        5290
      DEP  USER      1        5290
   S70
      APP  USER      1       18000
```

DEP	USER	1	18000
S76			
APP	USER	1	10000
DEP	USER	1	10000
SA330J			
APP	USER	1	15432
DEP	USER	1	15432
SA355F			
APP	USER	1	5070
DEP	USER	1	5070

USER-DEFINED HELICOPTER PROCEDURAL PROFILES

#	StepType	Duration(sec)	Distance(ft)	Altitude(ft)	Speed(kt)
B222-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
B222-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
B429-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
B429-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
EC130-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
EC130-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
S70-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	26400.0	0.0	0.0

3	App Horiz Decel	0.0	2000.0	0.0	80.0
4	App Desc Decel	0.0	1000.0	700.0	60.0
5	App Desc Decel	0.0	1000.0	500.0	40.0
6	App Desc Decel	0.0	500.0	300.0	35.0
7	App Desc Decel	0.0	200.0	150.0	25.0
8	App Desc Decel	0.0	150.0	75.0	0.0
9	App Desc Decel	0.0	150.0	0.0	0.0
10	Flight Idle	60.0	0.0	0.0	0.0
11	Ground Idle	30.0	0.0	0.0	0.0
S70-APP-USER-1					
1	Ground Idle	60.0	0.0	0.0	0.0
2	Flight Idle	120.0	0.0	0.0	0.0
3	Dep Vertical	3.0	0.0	50.0	0.0
4	Dep Climb Accel	0.0	100.0	75.0	45.0
5	Dep Climb Accel	0.0	200.0	100.0	55.0
6	Dep Climb Accel	0.0	300.0	200.0	65.0
7	Dep Climb Accel	0.0	900.0	400.0	80.0
8	Dep Const Speed	0.0	1500.0	1000.0	0.0
9	Dep Horiz Accel	0.0	2000.0	0.0	120.0
10	Level Fly	0.0	26400.0	0.0	0.0
S76-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	110.0
2	Level Fly	0.0	26400.0	0.0	0.0
3	App Horiz Decel	0.0	2000.0	0.0	80.0
4	App Desc Decel	0.0	1000.0	700.0	60.0
5	App Desc Decel	0.0	1000.0	500.0	40.0
6	App Desc Decel	0.0	500.0	300.0	35.0
7	App Desc Decel	0.0	200.0	150.0	25.0
8	App Desc Decel	0.0	150.0	75.0	0.0
9	App Desc Decel	0.0	150.0	0.0	0.0
10	Flight Idle	60.0	0.0	0.0	0.0
11	Ground Idle	30.0	0.0	0.0	0.0
S76-APP-USER-1					
1	Ground Idle	180.0	0.0	0.0	0.0
2	Flight Idle	270.0	0.0	0.0	0.0
3	Dep Vertical	3.0	0.0	50.0	0.0
4	Dep Climb Accel	0.0	100.0	75.0	40.0
5	Dep Climb Accel	0.0	150.0	100.0	50.0
6	Dep Climb Accel	0.0	300.0	300.0	70.0
7	Dep Climb Accel	0.0	350.0	500.0	80.0
8	Dep Const Speed	0.0	1000.0	1000.0	0.0
9	Dep Horiz Accel	0.0	2000.0	0.0	110.0
10	Level Fly	0.0	27500.0	0.0	0.0
SA330J-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
SA330J-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
SA355F-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
SA355F-APP-USER-1					

				report	
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0

USER-DEFINED HELICOPTER NOISE CURVES

USER-DEFINED HELICOPTER DIRECTIVITY

CASE FLIGHT OPERATIONS - [Interim_2-Lmax-S70]

Acft	Op	Profile	Stg	Rwy	Track	Sub	Group	Day	Evening	Night
S70	APP	USER	1	INT-2	1	0	---	1.0000	0.0000	0.0000
S70	APP	USER	1	INT-2	2	0	---	1.0000	0.0000	0.0000
S70	APP	USER	1	INT-2	3	0	---	1.0000	0.0000	0.0000
S70	DEP	USER	1	INT-2	1	0	---	1.0000	0.0000	0.0000
S70	DEP	USER	1	INT-2	2	0	---	1.0000	0.0000	0.0000
S70	DEP	USER	1	INT-2	3	0	---	1.0000	0.0000	0.0000

CASE RUNUP OPERATIONS - [Interim_2-Lmax-S70]

SCENARIO RUN OPTIONS
- Run Type : Single-Metric
- NoiseMetric : LCMAX
- Do Terrain : No Terrain
- Do Contour : Recursive Grid
- Refinement : 14
- Tolerance : 0.25
- Low Cutoff : 75.0
- High Cutoff : 105.0
- Ground Type : All-Soft-Ground
- Do Population : No
- Do Locations : Yes
- Do Standard : No
- Do Detailed : No
- Compute System Metrics:
  - DNL : No
  - CNEL : No
  - LAEQ : No
  - LAEQD : No
  - LAEQN : No
  - SEL : No
  - LAMAX : No
  - TALA : No
  - NEF : No
  - WECPNL : No
  - EPNL : No
  - PNLTM : No
  - TAPNL : No
  - CEXP : No
  - LCMAX : No
  - TALC : No

SCENARIO GRID DEFINITIONS

Name	Type	X(nmi)	Y(nmi)	Ang(deg)	DisI(nmi)	DisJ(nmi)	NI	NJ	Thrsh	dAmb	(hr)
CONTOUR	Contour	-1.0000	-1.0000	0.0	2.0000	2.0000	2	2	85.0	0.0	0.00
LOCATION	Location	0.0000	0.0000	0.0	0.0000	0.0001	1	1	85.0	0.0	0.00

POINT_ID	METRIC
"R1 "	81.4
"R2 "	81.2
"R3 "	89.7
"R4 "	85.4
"R5 "	81.6
"R6 "	85.5
"R7 "	83.7
"R8 "	83.1

INM 7.0d SCENARIO RUN INPUT REPORT 15-Jun-16 15:27

STUDY: C:\USERS\SEAN\DROPBOX\AES\HELICOPTER\
   Created   : 21-Apr-16 15:03
   Units   : English
   Airport   : UCLA
   Description :
      HUCLA

SCENARIO: Lmax-Future
   Created   : 16-May-16 15:07
   Description : Future-Lmax
   Last Run   : 27-May-16 09:41
   Run Duration : 000:00:01

STUDY AIRPORT
   Latitude   : 0.000000 deg
   Longitude   : 0.000000 deg
   Elevation   : 0.0 ft

CASES RUN:

CASENAME: Future-Lmax-S70
   Temperature : 59.0 F
   Pressure   : 29.92 in-Hg
   AverageWind : 8.0 kt
   ChangeNPD   : No

STUDY RUNWAYS

CASENAME: Future-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Future-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Future-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Future-Lmax-S70
      RwyWind   : 8.0 kt

CASENAME: Future-Lmax-S70
      RwyWind   : 8.0 kt

STUDY HELIPADS
   EXISTING
      Latitude : 0.000000 deg
      Longitude : 0.000000 deg
      Xcoord   : 0.0000 nmi
      Ycoord   : 0.0000 nmi
   FUTURE
      Latitude : 0.000047 deg
      Longitude : -0.000136 deg
      Xcoord   : -0.0082 nmi
      Ycoord   : 0.0028 nmi
   INT-1
      Latitude : -0.000700 deg
      Longitude : -0.004499 deg
      Xcoord   : -0.2704 nmi
      Ycoord   : -0.0418 nmi
   INT-2
      Latitude : -0.000717 deg
      Longitude : -0.003898 deg
      Xcoord   : -0.2343 nmi
      Ycoord   : -0.0428 nmi
   INTERIM
      Latitude : -0.000714 deg
      Longitude : -0.004380 deg
      Xcoord   : -0.2633 nmi
      Ycoord   : -0.0426 nmi

STUDY TRACKS

RwyId-OpType-TrkId	Sub	PctSub	TrkType	Delta(ft)
EXISTING-APP-1	0	100.00	Vectors	257.6
EXISTING-APP-2	0	100.00	Vectors	70.8
EXISTING-APP-3	0	100.00	Vectors	70.8
EXISTING-APP-4	0	100.00	Vectors	317.0
EXISTING-DEP-1	0	100.00	Vectors	77.7
EXISTING-DEP-2	0	100.00	Vectors	250.8
EXISTING-DEP-3	0	100.00	Vectors	250.8
EXISTING-DEP-4	0	100.00	Vectors	137.0
FUTURE-APP-1	0	100.00	Vectors	260.6
FUTURE-APP-2	0	100.00	Vectors	67.8
FUTURE-APP-3	0	100.00	Vectors	67.8
FUTURE-APP-4	0	100.00	Vectors	312.5
FUTURE-APP-5	0	100.00	Vectors	111.7
FUTURE-DEP-1	0	100.00	Vectors	80.6
FUTURE-DEP-2	0	100.00	Vectors	247.8
FUTURE-DEP-3	0	100.00	Vectors	247.8
FUTURE-DEP-4	0	100.00	Vectors	132.5
FUTURE-DEP-5	0	100.00	Vectors	291.7
INT-1-APP-1	0	100.00	Vectors	270.0
INT-1-APP-2	0	100.00	Vectors	270.0
INT-1-APP-3	0	100.00	Vectors	165.0
INT-1-DEP-1	0	100.00	Vectors	90.0
INT-1-DEP-2	0	100.00	Vectors	90.0
INT-1-DEP-3	0	100.00	Vectors	345.0
INT-2-APP-1	0	100.00	Vectors	270.0
INT-2-APP-2	0	100.00	Vectors	270.0
INT-2-APP-3	0	100.00	Vectors	90.0
INT-2-DEP-1	0	100.00	Vectors	90.0
INT-2-DEP-2	0	100.00	Vectors	90.0
INT-2-DEP-3	0	100.00	Vectors	270.0
INTERIM-APP-1	0	100.00	Vectors	274.0
INTERIM-APP-2	0	100.00	Vectors	86.5
INTERIM-APP-3	0	100.00	Vectors	171.3
INTERIM-DEP-1				

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      0   100.00   Vectors        94.0
   INTERIM-DEP-2
      0   100.00   Vectors       266.5
   INTERIM-DEP-3
      0   100.00   Vectors       351.3

STUDY TRACK DETAIL
   RwyId-OpType-TrkId-SubTrk
       #  SegType       Dist/Angle      Radius(nmi)
   EXISTING-APP-1-0
       1  Straight         2.0000 nmi
       2  Right-Turn      77.7000 deg       0.3285
   EXISTING-APP-2-0
       1  Straight         4.0000 nmi
       2  Left-Turn       63.5000 deg       0.0411
       3  Left-Turn       21.7000 deg       0.1800
       4  Left-Turn       24.0000 deg       0.5904
   EXISTING-APP-3-0
       1  Straight         4.0000 nmi
       2  Right-Turn      63.5000 deg       0.0411
       3  Right-Turn      21.3000 deg       0.1800
       4  Right-Turn      10.0000 deg       0.0100
       5  Left-Turn       24.0000 deg       0.5904
   EXISTING-APP-4-0
       1  Straight         4.0000 nmi
       2  Right-Turn       3.5000 deg       0.1000
       3  Left-Turn       13.0000 deg       0.8300
       4  Right-Turn      26.6000 deg       0.2128
   EXISTING-DEP-1-0
       1  Left-Turn       77.7000 deg       0.3285
       2  Straight         4.0000 nmi
   EXISTING-DEP-2-0
       1  Right-Turn      24.0000 deg       0.5904
       2  Right-Turn      21.7000 deg       0.1800
       3  Right-Turn      63.5000 deg       0.0411
       4  Straight         4.0000 nmi
   EXISTING-DEP-3-0
       1  Right-Turn      24.0000 deg       0.5904
       2  Left-Turn       10.0000 deg       0.0100
       3  Left-Turn       21.3000 deg       0.1800
       4  Left-Turn       63.5000 deg       0.0411
       5  Straight         4.0000 nmi
   EXISTING-DEP-4-0
       1  Left-Turn       26.6000 deg       0.2128
       2  Right-Turn      13.0000 deg       0.8300
       3  Left-Turn        3.5000 deg       0.1000
       4  Straight         4.0000 nmi
   FUTURE-APP-1-0
       1  Straight         5.0000 nmi
       2  Right-Turn      80.6000 deg       0.3185
   FUTURE-APP-2-0
       1  Straight         4.0000 nmi
       2  Left-Turn       62.3000 deg       0.0412
       3  Left-Turn        3.5000 deg       0.0010
       4  Left-Turn       17.9000 deg       0.2198
       5  Left-Turn       28.5000 deg       0.4823
   FUTURE-APP-3-0
       1  Straight         4.0000 nmi
       2  Right-Turn      62.3000 deg       0.0412
       3  Right-Turn       3.1000 deg       0.0010
       4  Right-Turn      17.9000 deg       0.2198
       5  Right-Turn      13.0000 deg       0.0010
       6  Left-Turn       28.5000 deg       0.4823
   FUTURE-APP-4-0
       1  Straight         4.0000 nmi
       2  Left-Turn       12.3000 deg       0.9136
       3  Right-Turn       1.5000 deg       0.0010
       4  Right-Turn      20.2000 deg       0.3026
   FUTURE-APP-5-0
       1  Straight         5.0000 nmi
       2  Left-Turn       11.2000 deg       0.0010
       3  Left-Turn       60.6000 deg       0.2064
       4  Right-Turn       3.5000 deg       0.0010
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    5  Straight          0.1991 nmi
FUTURE-DEP-1-0
    1  Left-Turn        80.6000 deg       0.3185
    2  Straight          5.0000 nmi
FUTURE-DEP-2-0
    1  Right-Turn       28.5000 deg       0.4823
    2  Right-Turn       17.9000 deg       0.2198
    3  Right-Turn        3.5000 deg       0.0010
    4  Right-Turn       62.3000 deg       0.0412
    5  Straight          5.0000 nmi
FUTURE-DEP-3-0
    1  Right-Turn       28.5000 deg       0.4823
    2  Left-Turn        13.0000 deg       0.0010
    3  Left-Turn        17.9000 deg       0.2198
    4  Left-Turn         3.1000 deg       0.0010
    5  Left-Turn        62.3000 deg       0.0412
    6  Straight          5.0000 nmi
FUTURE-DEP-4-0
    1  Left-Turn        20.2000 deg       0.3026
    2  Left-Turn         1.5000 deg       0.0010
    3  Right-Turn       12.3000 deg       0.9136
    4  Straight          4.0000 nmi
FUTURE-DEP-5-0
    1  Straight          0.1991 nmi
    2  Left-Turn         3.5000 deg       0.0010
    3  Right-Turn       60.6000 deg       0.2064
    4  Right-Turn       11.2000 deg       0.0010
    5  Straight          5.0000 nmi
INT-1-APP-1-0
    1  Straight          3.0000 nmi
    2  Right-Turn        4.9000 deg       0.0100
    3  Right-Turn       46.9000 deg       0.3347
    4  Left-Turn         1.0000 deg       0.0100
    5  Right-Turn       36.0000 deg       0.5886
    6  Right-Turn        3.2000 deg       0.0100
    7  Straight          0.0727 nmi
INT-1-APP-2-0
    1  Straight          3.0000 nmi
    2  Left-Turn         2.6000 deg       0.0100
    3  Left-Turn        47.8000 deg       0.0795
    4  Left-Turn         0.8000 deg       0.0100
    5  Left-Turn        23.2000 deg       0.1594
    6  Right-Turn        0.6000 deg       0.0100
    7  Left-Turn         9.1000 deg       0.5155
    8  Right-Turn        1.5000 deg       0.0100
    9  Left-Turn         7.8000 deg       1.6562
   10  Left-Turn         0.8000 deg       0.0100
   11  Straight          0.1392 nmi
INT-1-APP-3-0
    1  Straight          3.0000 nmi
    2  Right-Turn        0.8000 deg       0.0100
    3  Left-Turn         6.7000 deg       0.3228
    4  Right-Turn        2.2000 deg       0.0100
    5  Left-Turn        14.8000 deg       0.0554
    6  Left-Turn         1.0000 deg       0.0100
    7  Straight          0.0982 nmi
    8  Left-Turn         1.0000 deg       0.0100
    9  Right-Turn       20.5000 deg       0.1612
   10  Right-Turn        1.2000 deg       0.0100
   11  Straight          0.0863 nmi
   12  Left-Turn         2.7000 deg       0.0100
   13  Left-Turn        13.5000 deg       0.2536
INT-1-DEP-1-0
    1  Straight          0.0728 nmi
    2  Left-Turn         3.2000 deg       0.0100
    3  Left-Turn        36.0000 deg       0.5886
    4  Right-Turn        1.0000 deg       0.0100
    5  Left-Turn        46.9000 deg       0.3347
    6  Left-Turn         4.9000 deg       0.0100
    7  Straight          3.0000 nmi
INT-1-DEP-2-0
    1  Straight          0.1392 nmi
    2  Right-Turn        0.8000 deg       0.0100
```

	3	Right-Turn	7.8000 deg	1.6562
	4	Left-Turn	1.5000 deg	0.0100
	5	Right-Turn	9.1000 deg	0.5155
	6	Left-Turn	0.6000 deg	0.0100
	7	Right-Turn	23.2000 deg	0.1594
	8	Right-Turn	1.6000 deg	0.0100
	9	Right-Turn	47.8000 deg	0.0795
	10	Right-Turn	1.8000 deg	0.0100
	11	Straight	3.0000 nmi	
INT-1-DEP-3-0				
	1	Right-Turn	13.5000 deg	0.2536
	2	Right-Turn	2.7000 deg	0.0100
	3	Straight	0.0863 nmi	
	4	Left-Turn	1.2000 deg	0.0100
	5	Left-Turn	20.5000 deg	0.1612
	6	Right-Turn	1.0000 deg	0.0100
	7	Straight	0.0982 nmi	
	8	Right-Turn	1.0000 deg	0.0100
	9	Right-Turn	14.8000 deg	0.0554
	10	Left-Turn	2.2000 deg	0.0100
	11	Right-Turn	6.7000 deg	0.3228
	12	Left-Turn	0.8000 deg	0.0100
	13	Straight	3.0000 nmi	
INT-2-APP-1-0				
	1	Straight	3.0000 nmi	
	2	Left-Turn	2.7000 deg	0.0100
	3	Right-Turn	60.1000 deg	0.3440
	4	Right-Turn	0.1000 deg	0.0100
	5	Right-Turn	30.0000 deg	0.5046
	6	Right-Turn	2.5000 deg	0.0100
	7	Straight	0.0888 nmi	
INT-2-APP-2-0				
	1	Straight	3.0000 nmi	
	2	Left-Turn	5.0000 deg	0.0100
	3	Left-Turn	51.5000 deg	0.0523
	4	Right-Turn	0.6000 deg	0.0100
	5	Left-Turn	21.4000 deg	0.3618
	6	Right-Turn	0.6000 deg	0.0100
	7	Left-Turn	14.2000 deg	1.0551
	8	Right-Turn	0.9000 deg	0.0100
	9	Straight	0.0888 nmi	
INT-2-APP-3-0				
	1	Straight	5.0000 nmi	
INT-2-DEP-1-0				
	1	Straight	0.0888 nmi	
	2	Left-Turn	2.5000 deg	0.0100
	3	Left-Turn	30.0000 deg	0.5046
	4	Left-Turn	0.1000 deg	0.0100
	5	Left-Turn	60.1000 deg	0.3440
	6	Right-Turn	2.7000 deg	0.0100
	7	Straight	3.0000 nmi	
INT-2-DEP-2-0				
	1	Straight	0.0888 nmi	
	2	Left-Turn	0.9000 deg	0.0100
	3	Right-Turn	14.2000 deg	1.0551
	4	Left-Turn	0.6000 deg	0.0100
	5	Right-Turn	21.4000 deg	0.3618
	6	Left-Turn	0.6000 deg	0.0100
	7	Right-Turn	51.5000 deg	0.0523
	8	Right-Turn	5.0000 deg	0.0100
	9	Straight	3.0000 nmi	
INT-2-DEP-3-0				
	1	Straight	5.0000 nmi	
INTERIM-APP-1-0				
	1	Straight	4.0000 nmi	
	2	Right-Turn	60.0000 deg	0.3350
	3	Right-Turn	34.2000 deg	0.6226
INTERIM-APP-2-0				
	1	Straight	5.0000 nmi	
	2	Left-Turn	93.5000 deg	0.0642
INTERIM-APP-3-0				
	1	Straight	5.0000 nmi	
	2	Left-Turn	20.5000 deg	0.0100

```
      3  Right-Turn       11.8000 deg       1.2938
   INTERIM-DEP-1-0
      1  Left-Turn        34.2000 deg       0.6226
      2  Left-Turn        60.0000 deg       0.3350
      3  Straight          4.0000 nmi
   INTERIM-DEP-2-0
      1  Right-Turn       93.5000 deg       0.0642
      2  Straight          5.0000 nmi
   INTERIM-DEP-3-0
      1  Left-Turn        11.8000 deg       1.2938
      2  Right-Turn       20.5000 deg       0.0100
      3  Straight          5.0000 nmi

AIRCRAFT GROUP ASSIGNMENTS

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STUDY AIRPLANES

STUDY SUBSTITUTION AIRPLANES

USER-DEFINED NOISE CURVES

USER-DEFINED METRICS

USER-DEFINED PROFILE IDENTIFIERS

USER-DEFINED PROCEDURAL PROFILES

USER-DEFINED FIXED-POINT PROFILES

USER-DEFINED FLAP COEFFICIENTS

USER-DEFINED JET THRUST COEFFICIENTS

USER-DEFINED PROP THRUST COEFFICIENTS

USER-DEFINED GENERAL THRUST COEFFICIENTS

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STUDY MILITARY AIRPLANES

USER-DEFINED MILITARY NOISE CURVES

USER-DEFINED MILITARY PROFILE IDENTIFIERS

USER-DEFINED MILITARY FIXED-POINT PROFILES

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STUDY HELICOPTERS
   B222          Standard data
   B429          Standard data
   EC130         Standard data
   S70           Standard data
   S76           Standard data
   SA330J        Standard data
   SA355F        Standard data

USER-DEFINED HELICOPTER PROFILE IDENTIFIERS
      Op   Profile Stg  Weight(lb)
   B222
      APP  USER      1        7800
      DEP  USER      1        7800
   B429
      APP  USER      1        7000
      DEP  USER      1        7000
   EC130
      APP  USER      1        5290
      DEP  USER      1        5290
   S70
      APP  USER      1       18000
```

DEP	USER	1	18000
S76			
APP	USER	1	10000
DEP	USER	1	10000
SA330J			
APP	USER	1	15432
DEP	USER	1	15432
SA355F			
APP	USER	1	5070
DEP	USER	1	5070

USER-DEFINED HELICOPTER PROCEDURAL PROFILES

#	StepType	Duration(sec)	Distance(ft)	Altitude(ft)	Speed(kt)
B222-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
B222-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
B429-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
B429-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
EC130-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
EC130-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
S70-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	26400.0	0.0	0.0

3	App Horiz Decel	0.0	2000.0	0.0	80.0
4	App Desc Decel	0.0	1000.0	700.0	60.0
5	App Desc Decel	0.0	1000.0	500.0	40.0
6	App Desc Decel	0.0	500.0	300.0	35.0
7	App Desc Decel	0.0	200.0	150.0	25.0
8	App Desc Decel	0.0	150.0	75.0	0.0
9	App Desc Decel	0.0	150.0	0.0	0.0
10	Flight Idle	60.0	0.0	0.0	0.0
11	Ground Idle	30.0	0.0	0.0	0.0
S70-APP-USER-1					
1	Ground Idle	60.0	0.0	0.0	0.0
2	Flight Idle	120.0	0.0	0.0	0.0
3	Dep Vertical	3.0	0.0	50.0	0.0
4	Dep Climb Accel	0.0	100.0	75.0	45.0
5	Dep Climb Accel	0.0	200.0	100.0	55.0
6	Dep Climb Accel	0.0	300.0	200.0	65.0
7	Dep Climb Accel	0.0	900.0	400.0	80.0
8	Dep Const Speed	0.0	1500.0	1000.0	0.0
9	Dep Horiz Accel	0.0	2000.0	0.0	120.0
10	Level Fly	0.0	26400.0	0.0	0.0
S76-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	110.0
2	Level Fly	0.0	26400.0	0.0	0.0
3	App Horiz Decel	0.0	2000.0	0.0	80.0
4	App Desc Decel	0.0	1000.0	700.0	60.0
5	App Desc Decel	0.0	1000.0	500.0	40.0
6	App Desc Decel	0.0	500.0	300.0	35.0
7	App Desc Decel	0.0	200.0	150.0	25.0
8	App Desc Decel	0.0	150.0	75.0	0.0
9	App Desc Decel	0.0	150.0	0.0	0.0
10	Flight Idle	60.0	0.0	0.0	0.0
11	Ground Idle	30.0	0.0	0.0	0.0
S76-APP-USER-1					
1	Ground Idle	180.0	0.0	0.0	0.0
2	Flight Idle	270.0	0.0	0.0	0.0
3	Dep Vertical	3.0	0.0	50.0	0.0
4	Dep Climb Accel	0.0	100.0	75.0	40.0
5	Dep Climb Accel	0.0	150.0	100.0	50.0
6	Dep Climb Accel	0.0	300.0	300.0	70.0
7	Dep Climb Accel	0.0	350.0	500.0	80.0
8	Dep Const Speed	0.0	1000.0	1000.0	0.0
9	Dep Horiz Accel	0.0	2000.0	0.0	110.0
10	Level Fly	0.0	27500.0	0.0	0.0
SA330J-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
SA330J-APP-USER-1					
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0
SA355F-DEP-USER-1					
1	Start Altitude	0.0	0.0	1000.0	120.0
2	Level Fly	0.0	19400.0	0.0	0.0
3	App Desc Decel	0.0	9000.0	500.0	60.0
4	App Desc Decel	0.0	2000.0	300.0	40.0
5	App Desc Decel	0.0	500.0	200.0	30.0
6	App Desc Decel	0.0	300.0	100.0	20.0
7	App Desc Decel	0.0	200.0	0.0	0.0
8	Flight Idle	60.0	0.0	0.0	0.0
9	Ground Idle	30.0	0.0	0.0	0.0
SA355F-APP-USER-1					

			report		
1	Ground Idle	30.0	0.0	0.0	0.0
2	Flight Idle	30.0	0.0	0.0	0.0
3	Dep Vertical	10.0	0.0	200.0	0.0
4	Dep Horiz Accel	0.0	1000.0	0.0	40.0
5	Dep Climb Accel	0.0	1000.0	367.0	65.0
6	Dep Const Speed	0.0	5000.0	1200.0	0.0
7	Dep Horiz Accel	0.0	3000.0	0.0	120.0
8	Level Fly	0.0	21400.0	0.0	0.0

USER-DEFINED HELICOPTER NOISE CURVES

USER-DEFINED HELICOPTER DIRECTIVITY

CASE FLIGHT OPERATIONS - [Future-Lmax-S70]

Acft	Op	Profile	Stg	Rwy	Track	Sub	Group	Day	Evening	Night
S70	APP	USER	1	FUTURE	1	0	---	1.0000	0.0000	0.0000
S70	APP	USER	1	FUTURE	2	0	---	1.0000	0.0000	0.0000
S70	APP	USER	1	FUTURE	3	0	---	1.0000	0.0000	0.0000
S70	APP	USER	1	FUTURE	4	0	---	1.0000	0.0000	0.0000
S70	APP	USER	1	FUTURE	5	0	---	1.0000	0.0000	0.0000
S70	DEP	USER	1	FUTURE	1	0	---	1.0000	0.0000	0.0000
S70	DEP	USER	1	FUTURE	2	0	---	1.0000	0.0000	0.0000
S70	DEP	USER	1	FUTURE	3	0	---	1.0000	0.0000	0.0000
S70	DEP	USER	1	FUTURE	4	0	---	1.0000	0.0000	0.0000
S70	DEP	USER	1	FUTURE	5	0	---	1.0000	0.0000	0.0000

CASE RUNUP OPERATIONS - [Future-Lmax-S70]

SCENARIO RUN OPTIONS
- Run Type : Single-Metric
- NoiseMetric : LAMAX
- Do Terrain : No Terrain
- Do Contour : Recursive Grid
- Refinement : 8
- Tolerance : 0.25
- Low Cutoff : 75.0
- High Cutoff : 105.0
- Ground Type : All-Soft-Ground
- Do Population : No
- Do Locations : Yes
- Do Standard : No
- Do Detailed : No
- Compute System Metrics:
  - DNL : No
  - CNEL : No
  - LAEQ : No
  - LAEQD : No
  - LAEQN : No
  - SEL : No
  - LAMAX : No
  - TALA : No
  - NEF : No
  - WECPNL : No
  - EPNL : No
  - PNLTM : No
  - TAPNL : No
  - CEXP : No
  - LCMAX : No
  - TALC : No

SCENARIO GRID DEFINITIONS

Name	Type	X(nmi)	Y(nmi)	Ang(deg)	DisI(nmi)	DisJ(nmi)	NI	NJ	Thrsh	dAmb	(hr)
CONTOUR	Contour	-1.0000	-1.0000	0.0	2.0000	2.0000	2	2	85.0	0.0	0.00
LOCATION	Location	0.0000	0.0000	0.0	0.0000	0.0001	1	1	85.0	0.0	0.00

POINT_ID	METRIC
"R1 "	83.8
"R2 "	84.2
"R3 "	82.9
"R4 "	81.5
"R5 "	80.8
"R6 "	80.8
"R7 "	79.0
"R8 "	80.6

Helistop Relocation
Helistop Relocation & Operations Study

HARBOR-UCLA MEDICAL CENTER CAMPUS MASTER PLAN - ENVIRONMENTAL IMPACT REPORT

Prepared for:
ESA PCR
2121 Alton Parkway, Suite 100
Irvine, California 92606

June 2016

Report Ref:
HC-2013132

Prepared by:
Heliport Consultants
148 Gazania Court
Thousand Oaks, CA 91362

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1.0 INTRODUCTION AND BACKGROUND

1.1 Introduction

Harbor-UCLA Medical Center (HUCLAMC) is classified as a Level I Trauma Center and as such is an integral part of the County of Los Angeles' healthcare system. The trauma hospitals in the County have helistops on campus because they utilize Helicopter Emergency Medical Services (HEMS) for patient transport from accident scenes, or for inter-facility transfers.

Harbor-UCLA Medical Center (HUCLAMC) currently has a helistop on a one-story structure to the south of the Emergency Department (see **Figure 1, Figure 3**). However, the existing helistop will need to be relocated to another site temporarily in order to construct a new Hospital Tower with a rooftop helistop which is part of the Master Plan. The construction of the future 9 story Hospital Tower building will overlap the site of the current one-story helistop thereby destroying its use. The relocation of the helicopter operations to another helistop site will change the current flight paths and thus the helicopter noise exposure.

This Helicopter and Helistop Study (Study) reviewed the recommended relocation sites, the associated flight paths, and analyzed the helicopter landings and takeoffs which in turn provided the data base for the Noise Impact Study.

1.2 Background and Site Description

The Harbor-UCLA Medical Center is a 72 acre County facility located in an unincorporated portion of Los Angeles County near the City of Torrance. The hospital campus is bounded by Carson Street to the north, West 220th Street to the south, South Vermont Avenue to the east and South Normandie Avenue to the west.

As shown in **Figure 1**, the Medical Center is located within an urban area that is developed with medical, commercial and residential uses. There are single family residential uses located to the south of the site across West 220th Street, further to the west across Normandie Avenue and further to the north across West Carson Street behind the commercial strip mall. Multi-family residential uses are also located north of Carson Street, east of South Vermont Avenue, south of West 220th Street and west of Normandie Avenue. There are trailer parks mixed in with commercial properties along the east side of Vermont Avenue.

1.2.1 Historical Background

There has been a long history of helicopter usage at HUCLAMC. Three FAA approved helistops have existed over the years on the hospital campus. They were a ground level helistop, a temporary raised metal helistop, and currently a 14 ft raised helistop on a one story building. The ground level and the one story helistop were practically constructed in the same place at the intersection of Central Drive and Medical Center Drive.

1.2.1.a Ground Level Helistop

There was a ground level helistop(pre-1994), southeast of the intersection of Central Drive and Medical Center Drive, which was approximately 400 ft north of the nearest multi-family apartment house. This was in use for many years, but as the needs of the hospital increased, the area around the ground level helipad became more crowded with vehicle traffic, lamp poles and other built obstacles. An addition was made to the Ambulatory/ Emergency Department building which impacted the continued use of the ground level helistop.

1.2.1.b Temporary Raised Metal Helistop

The original ground level helistop was eventually demolished to make room for a new 14 ft. high helipad which was 45 ft to the north of the ground level helipad more in the center of the campus. During the construction of the 14 ft. raised helipad, the helicopters landed on the first temporary helipad replacement. This was a metal framed raised (approximately 10 ft) helipad structure designed to be temporary and thus, like Legos, could be taken apart (see **Figure 2**). The temporary helipad was located in the southwest quadrant of the Campus and erected in the parking lot, 167 ft. behind the St. John's Cardio Vascular Research Center (now referenced as the L.A. BioMed Project area) and just north of West 220th Street and the townhouses on the south side of West 220th Street. This temporary helistop was raised approximately10 ft above ground to allow the flight paths to clear the various obstacles in the vicinity such as the driveways and the cars in the area. Operations from this helipad began sometime in 2008 and continued during the Ambulatory/Emergency Department (ED) remodel and the construction of a third helistop on the roof of a one-story structure located just south of the ED.

1.2.1.c Current Temporary Raised 14 ft. Helistop Building:

The temporary metal structure was decommissioned and removed upon the completion of the one-story,14 ft. high building that also doubled as a storage unit parking area below with the helipad on top. This third helipad was centrally located and closer to the ED than the original ground level helipad by about 45 ft. It is approximately 444 ft. to the north of the nearest residential apartment units which are south of 220th Street. Helicopter began operations sometime in 2013 and it has been in continued use as the current helistop.

1.2.2 Future Helistop Location Descriptions

The hospital's goal is to build the new Hospital Tower with the rooftop helistop. Since the construction site for this new facility will overlap the current helistop location (see **Figure 1**), another temporary helistop location will need to be approved and permitted before the current 14 ft raised helistop building can be removed.

The ideal location for a temporary helistop is on one of the surface parking lots close to the ED. However, this is not possible at HUCLA since the competition for vehicle parking near the ambulatory/emergency department is also in high demand. In addition to the standard requirements for a flat area large enough for the helipad, there is also the requirement for clear unobstructed flight paths and transitional slopes associated with the helistop design. This increases the area that needs to be dedicated for the helistop.

There are two locations under consideration for the third temporary helistop. They are about 0.3 to 0.4 miles away from the ambulance entrance to the ED. The areas of interest are the parking lots in the southwest quadrant of the medical campus (see **Figure 1**). A metal structure similar to the one used for the first temporary helipad could be designed to meet the heliport design criteria (see **Figure 2**). Either helipad needs to be raised a minimum of 10 ft or more to provide for clear, unobstructed flight paths. This study will analyze the benefits and burdens of the three future helistops.

1.2.2.a Interim Helistop 1

A temporary Interim Helistop 1 could be located in the parking lot to the southeast of the Professional Building (see **Figure 1**). It would be on a raised structure at the far south end of the west most, double rows of north/south parking. The helipad would need to be elevated 10 ft. or more in order for the flight paths and primary helipad surface to clear the driveway, trees and some of the light pole fixtures. The center of the helipad would be 485 ft to the nearest single family dwellings west of South Normandie Avenue and 153 ft. across 220th Street to the closest residential area.

1.2.2.b Interim Helistop 2

In the alternative, the other Interim Helistop #2 is located in a separate parking lot to the east of Interim Helistop1. There is a distance of 213 ft. between Interim 1 and 2 when measured from their respective center points. The helipad is directly south of the St. John's Cardio Vascular Research Center building within the 11.4 acres designated as the future home of the BioMed Development Project. The proposed helipad site would be at the same location as the first temporary helistop metal structure established in 2008. It would also be raised at least 10 ft. above the parking lot elevation. The distance from the center of the helipad to the nearest noise sensitive residential area west of South Normandie Ave. is 698 ft. The townhouses south of the helipad and 220th Street are at a distance of 135 ft.

1.2.2.c Future Permanent Rooftop Helistop

When the permanent helistop is built, it will be located on top of the 9 story new Hospital Tower at approximately 133 ft above ground level almost in the center of the medical campus. It will be almost in the same place as the current helipad only much higher. This increase in the helipad elevation will have a positive impact on the helicopter noise exposure. The nearest multifamiliy dwelling on the east side of South Vermont is 793 ft from the estimated center of the helipad. The apartment building on the south side of 220th Street is 456 ft from the helipad. The helipad is 1,057 ft from the nearest residential area behind the commercial mall on the north side of Carson St.

2.0 HELISTOP DESIGN CRITERIA, CONDITIONS, AND CONTRAINTS

2.1 Regulatory Design Criteria – Federal and State

The new helipads, whether temporary or permanent, will need to meet the Federal Aviation Administration (FAA), latest design criteria as set forth in the most recent FAA Advisory Circular (AC No. 150/5390-2C, 2012) along with the design requirements specified by the State Division of Aeronautics (DOA), Caltrans, regulations (California Code of Regulations Title 21, Sections 3525-3560). This means that the helistop will be designed for the largest helicopter that is anticipated to land at HUCLA. As it currently stands, the Sikorsky S-70 (Firehawk) flown by the L.A. County Fire - Air Operations is the largest and would be the design helicopter. The DOA is the responsible agency that will issue the heliport operating permit once the facility is built according to plans approved by the DOA.

2.2 Site Conditions and Constraints

The helicopter landing site consists of the load bearing area where the helicopter lands and several imaginary surfaces representing the flight paths and primary surfaces. These surfaces should be clear of obstructions. Helistop placement should also take into consideration wind direction that will allow the helicopter to takeoff and land into the wind. The wind in this area is predominantly from the west/northwest except during Santa Ana wind conditions when it comes from the northeast or southeast in this area.

Patient transport by helicopter is a fast and efficient means of providing life saving medical attention. The current helistop is in an ideal location because the patient can be transferred from the helicopter by gurney to the ED. The temporary sites are at a distance from the ED that would make it impractical to move the patient by gurney over the interior roadways to the ED. Therefore, the hospital would use an ambulance for patient transport. Each temporary site has two alternate routes that could be used in the event one of the routes was blocked. Security guards should be present at all helicopter landings and takeoffs in order to control the vehicle and pedestrian traffic and keep them at a safe distance from the helicopter operations.

The helipad analysis evaluates the “benefits” of the site for a temporary helistop as well as the negative aspects of the site. The three future helistops are analyzed as follows:

2.2.1 Interim Helistop 1

This helistop would be located southeast of the Professional Building in the parking lot (see **Figure 4**). There are two double rows of north/south parking. The helistop would be placed at the south end of the far westerly row of parking. The flight paths will be to and from the east and the northwest. The flight path from the east will parallel 220th Street and the flight path to the northwest will follow Medical Center Drive and West Drive to Carson Street.

The vehicle parking in this area seems to be light to medium demand. There will be room to build a raised metal structure for the helipad (see **Figure 2**). The ground underneath the metal structure might need to be reinforced. The raised helipad might need to be a little higher than 10 ft above the ground depending upon the final height of the parking lot lights. Electricity is available in this area to supply power for the lights on the helipad and windcone.

The flight path is not clear of obstructions to the west because of the proximity and height of the SCE power poles and wires running north and south along S. Normandie Avenue. Four or five trees will need to be removed from the immediate area surrounding the helipad location and under the flight path to the northwest. Two or three parking lot light fixtures will need to be removed or lowered.

The ambulance could take two different routes to the ED but both routes would need to travel north through the Professional Building parking lot until reaching either Medical Center Drive or Medical Foundation Drive. Care would need to be taken to watch out for cars backing out of parking spaces. The ambulance would head in an easterly direction along either interior road to Central Drive then turn north to the hospital ambulance entrance. This is the slightly longer route when compared to Interim Helistop 2.

2.2.2 Interim Helistop 2

The Interim Helistop 2 could be built at the same location as the first temporary helistop established in 2008 (see **Figure 2 and 5**) if the construction schedule for the BioMedical Development Project at that location and along the flight paths could be coordinated with the amount of time the Interim Helistop 2 would be in operation. This would have to be determined.

Assuming that this area could be used for the temporary landing location, it has some benefits to consider. The site was already prepared for a raised helistop (10 ft), and any trees or poles, except for one parking light

pole to the west, have been removed. The flight paths would remain the same as before – coming in from the east and departing to the west. The ground under the proposed site has been enhanced to withstand the weight of a raised metal helipad structure (see **Figure 2**).

There are high SCE power lines running east and west along 220th Street and north and south on the South Normandie Ave (see **Figure 2**). With the raised helipad, the flight path is able to clear the power lines to the west on Normandie Ave. The flight paths will parallel the power poles on 220th Street. Electricity is available for the helipad lights.

The ambulance route to the Emergency Department could be east along South Drive and then north on Central Drive to the ambulance entrance. An alternate route could be directly south out the driveway on the east side of the helipad proceed easterly along 220th Street then turn north at Central Drive to the ambulance entrance. The Interim 2 location is slightly closer to the ED then Interim Helistop 1.

2.2.3 Future Permanent Rooftop Helistop

A rooftop helipad is planned for the new Hospital Tower. It will be 9 stories above ground right in the immediate area of the current helistop (see **Figure 6**). Again, it will be more in the middle of the medical campus. This will be beneficial in reducing the noise exposure to the neighbors and in increasing the possible flight paths the helicopter pilot could use.

Depending upon the final architectural plans there should be no issue of obstructions in the helistop area including the flight paths except for a possible elevator tower that will be used to transport the patient to the hospital services below.

3.0 FLIGHT PATHS AND NOISE MITIGATION MEASURES

The wind direction and the flight paths for the three different helistops were also taken into consideration when analyzing the sites. The wind in this area comes predominantly from the west/ northwest except during Santa Ana wind conditions when the wind changes direction and comes from the northeast or southeast. The helicopter is like a fixed wing aircraft and should takeoff and landing into the wind. But it is more versatile than a fixed wing because the pilot can move the aircraft into the wind within a very short distance and in a hover. Thus, on landing or departure the pilot will orient the aircraft, depending upon the wind speed, into the wind, and head to the west or northwest depending upon the prevailing wind direction. Similarly, the pilot will reverse these landing procedures when the wind is from the northeast or southeast during Santa Ana wind conditions.

The flight paths for the different helistops including the current in use helistop are illustrated in **Figures 3 through 6**. The helicopter can come from many directions to the hospital. The flight paths were all designed to avoid, as much as possible, over flying noise sensitive areas such as residential uses. The pilots also use a noise abatement flight profile in which they fly a steeper approach and departure to keep the aircraft's altitude as high as possible within the constraints of the Air Traffic Control directions from the neighboring airports. They can also use a noise mitigation measure such as flying alternate flight paths so that the noise exposure on the community below is not the same.

There is a similarity in the flight paths to and from the existing helistop and Interim 1 and 2, and the permanent helistop. The segments of the flight paths stay oriented over the hospital property on the approach and departure from the helistops. The flight path to the northeast stays over the hospital property until it reaches South Vermont St. It then angles further to the northeast over commercial area, avoiding the trailer park below, and onto the Fwy 110.

The helicopter pilots try to follow the major highways or freeways depending upon their mission destination. If the pilot is approaching from the southeast to the helistop, the flight path goes over commercial areas, crosses South Vermont and then onto the hospital property to the helistop. The direction would be the same for the current and the permanent helistops. But, the altitude would be higher for the permanent helistop. If the landing was at Interim 1 or 2, the flight path would parallel 220th Street on the hospital property in order to avoid the power lines (see **Figure 2** for power poles).

The departure flight paths from Interim 1 and 2 differ from each other and somewhat from the existing helistop. The departure from Interim 1 utilizes a northwest flight path, because the short distance from the helipad to the power lines to the west along South Normandie Ave. is insufficient to clear the power poles. The northwest flight path stays to the east of Medical Center Drive and West Drive and would avoid over flying the Children's Institute at the northwest corner of the intersection of West Drive and Medical Foundation Drive.

The westerly flight path from the Interim 2 could go over the SCE power poles along South Normandie Ave. This was the same flight path that was approved when the helipad was there temporarily in 2008 to 20013.

Figure 6 illustrates just a few of the possible flight paths from the permanent helistop. Since the helipad will be elevated and there should be no obstructions, it will be easy for the pilot to chose different flight directions depending upon the weather and the destination of the mission. It should be noted that the helipad is more central to the campus and clear, unobstructed flight paths could be achievable in all directions. This location will also allow the pilot to vary the flight path usage to avoid concentrating the noise exposure at the same noise

sensitive site.

4.0 HELICOPTER EMERGENCY MEDICAL SERVICE PROVIDERS (HEMS)

The helicopter medical services providers that land at HUCLAMC are both public sponsored agencies and private companies. (see **Table 1**). There are four public air operations agencies consisting of L.A. County Fire (LACFD), L.A. City Fire (LAFD), L.A. County Sheriff's Department (LASD), and the U.S. Coast Guard (USCG). The private companies that most often land at the existing helistop are Air Methods (Mercy Air), Helinet, Calstar, and REACH.

HUCLAMC is a County owned Level 1 designated trauma hospital and the main helicopter services are public agencies. The public air support providers' main mission is to transport trauma patients from accident scenes when they are not fighting fires, searching and rescuing people in the mountains or desert, and performing water rescues. The private HEMS focus on inter-hospital patient transfers such as moving a child victim from HUCLAMC to Children's Hospital, organ transplant and delivery, and also transport of trauma victims when the public agencies are over scheduled. **Figure 7** shows that 60 percent of the total helicopter takeoff and landings (542 operations) at HUCLAMC were performed by public agencies and 40 percent by the private HEMS. The public agencies had 106 more landings and takeoffs than the private providers.

The weight range for all the helicopters is between 4,900 lbs to 21,000 lbs. The public agencies fly some of the larger aircraft. There were six different types of aircraft used by the public agencies and they all have twin turbine engines. In the last couple of years, the LASD replaced the Sikorsky S-61 (Seahawk S3, 21,000 lbs) with the Super Puma (AS332L1, 17,000 lbs) which is a newer model aircraft.

The four private HEMS providers use ten different types of helicopters, and all but two models are twin turbine engine helicopters. The Bell 222, twin engine aircraft with good patient capacity, was a popular model with the private providers but it was quite noisy. Over the past few years all of the providers have replaced the Bell 222 with quieter models. Recently in June, 2016, REACH and Calstar announced that they would be merging so there may be more changes in aircraft models.

Figure 8 shows the analysis of the number of landings by helicopter model over a 96 month time period (January 9, 2008 to December 8, 2015). The Sikorsky S-70, Firehawk, from the LACFD air operations, landed the most often (74 landings) followed by the Bell 222 operated by Air Methods (52 landings), Calstar (1), REACH (1). As noted above, the Bell 222 was replaced with newer, quieter aircraft such as the EC 135 and EC 145 (name change to Airbus H135 and H145). This will have an impact on lowering the noise exposure under the flight paths for both the neighborhood and the hospital.

5.0 HELISTOP AND HELICOPTER OPERATIONS

Helicopter operations data was gathered from the eight HEMS providers going back as far as 7 years for some providers to 2008. The first set of data was captured in 2013 and then updated at the end of 2015. The period of time covers 416 weeks, rounded up to 96 months. An operation is defined as a landing or a takeoff. There were a total of 542 recorded operations over this period of time. For every 271 landing, there was a takeoff since no helicopters were based at the hospital helistop or allowed to stay overnight.

There was an average number of 67.75 (68 operations) operations per year; 5.6 (6 operations) operations per month or 3 landings and 3 takeoffs. The number of helicopter landings was analyzed by month as shown in **Figure 9**. The summer months seem to be the busiest for helicopter hospital visits. The month of September at 36 landings was followed by August with 33 landings. According to the Department of Health Services there are more penetrating traumas; and an increase in search and rescue operations due to an increase in outdoor activities; and more people on the road for vacation travel before school starts resulting in more traffic accidents.

The helicopter providers that landed the most during the summer months were LACFD – with the Sikorsky S-70 and Air Methods (Mercy Air) with the Bell 222. The analysis of the 36 landings in September attributed 42 percent to the S-70 and 22 percent to the Bell 222. The 33 August landings were more evenly divided between the S-70 at 33 percent and the Bell 222 at 30 percent.

The Helicopter Noise Study was based upon the number of operations (542 landings and takeoffs) that occurred within three periods of time representing the Community Noise Equivalent Level (CNEL) land use noise measure. **Table 2** and **Figure 10** illustrates the spread of the helicopter operations over these time periods. The number of landings do not always match up with the number of takeoffs within a given time period because the helicopter might land at the end of one time period and then takeoff in the next time period.

The results of the number of operations within a given CNEL time period reveals that 52.6 percent of the operations occurred during 7 am to 7 pm or daytime hours. Only 16 percent of the operations were in the evening between 7 pm and 10 pm and 31.4 percent of the operations were in the nighttime hours of 10 pm to 7 am. The majority of the flyovers were in the daytime when the ambient background noise is higher. The least number of operations were in the evening or family hours. A little less than a third of the flyovers occurred at night after 10 pm.

A further analysis of the number of landings and takeoffs within the three CNEL time periods was examined by helicopter model as seen in **Figures 11 and 12**. The number of landings by helicopter model was displayed in **Figure 8**, in which

the Bell 222 and the S-70 were the two helicopter models with the most operations. This was then evaluated by CNEL time period in **Figures 11** for landings and **Figure 12** for departures. The results confirm that the Bell 222 and the S-70 land the most often. However, this more detailed analysis shows that the Bell 222 lands in the daytime hours more frequently (27.7 percent) and the S-70 lands more in the nighttime hours when the ambient background level is lower. For example, out of a total of 86 nighttime landings 45 or 52 percent are a result of the LACFD S-70. The next highest user is the U.S. Coast Guard with the AS365. They performed 13.9 percent of the nighttime landings compared with 6.9 percent of the landings from the Bell 222 – Air Methods. A similar analysis can be made for the number of departures as illustrated in **Table 2 and Figure 12**. In the future, the contribution of the helicopter noise levels to the ambient background should be reduced with the continued use of quieter helicopters and pilot noise mitigation measures.

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Helistop Locations

FIGURE 1

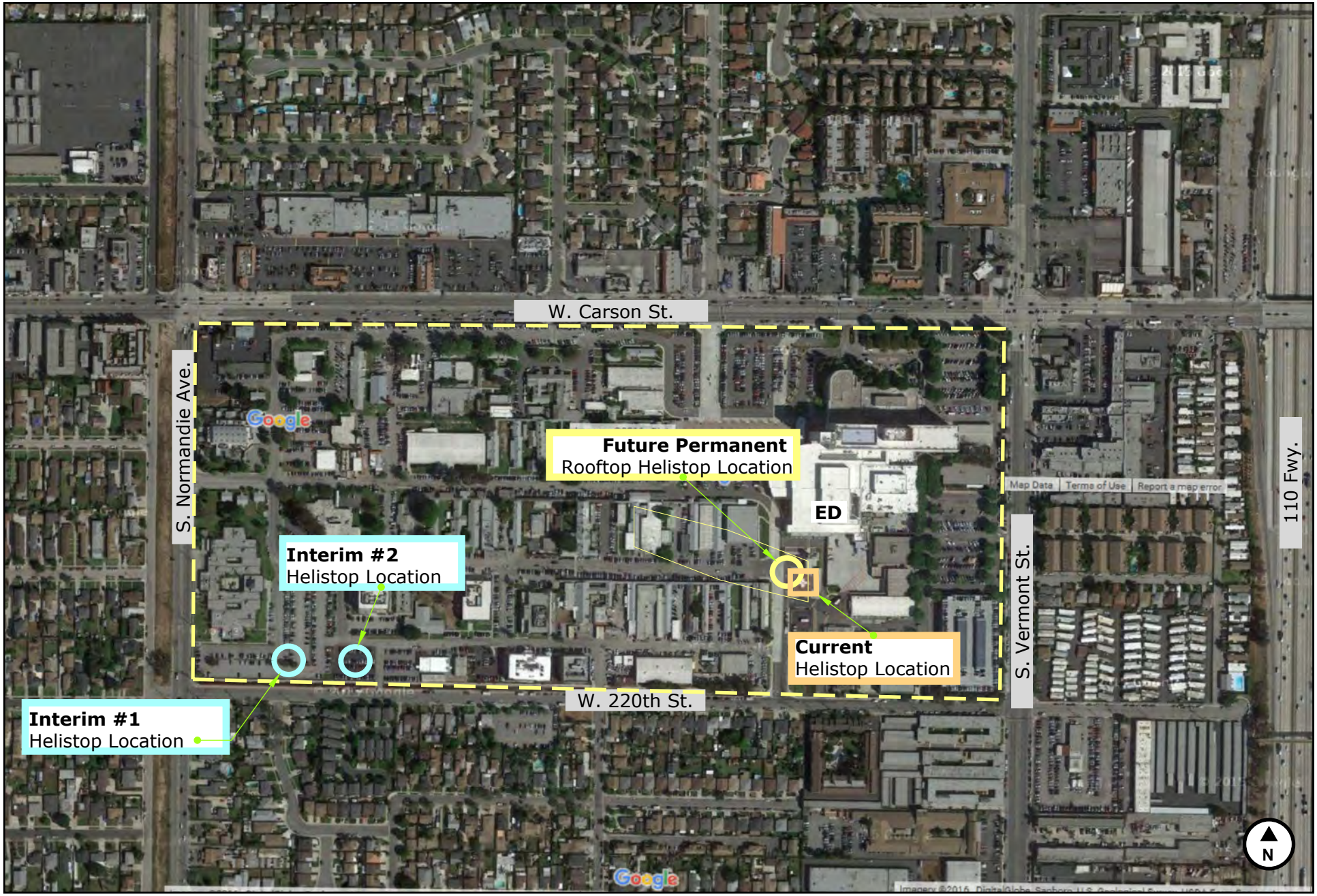

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FIGURE 2

Example of Temporary Helistop Structure Raised Minimum 10 ft.

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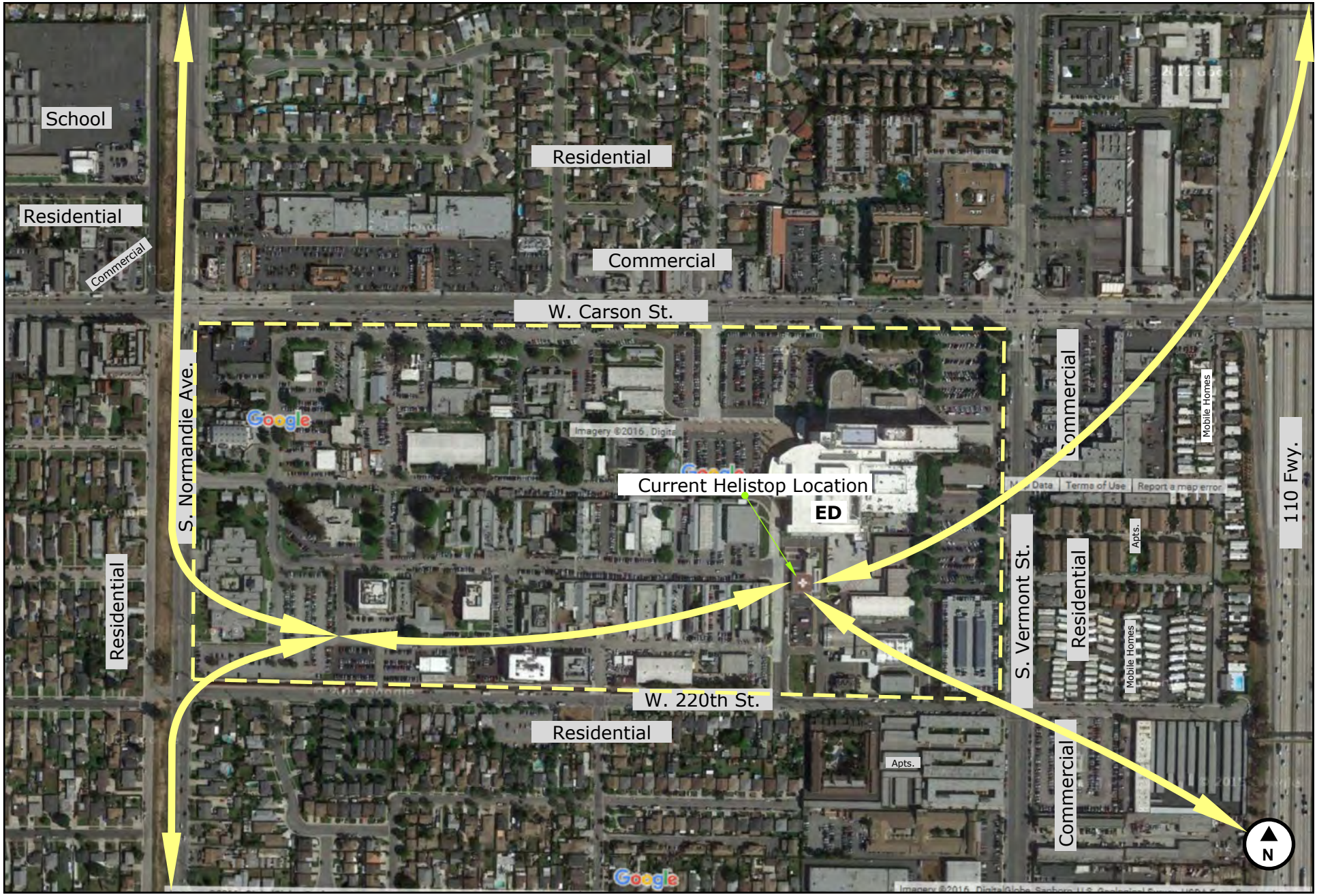
Existing Helistop Flight Paths

FIGURE 3



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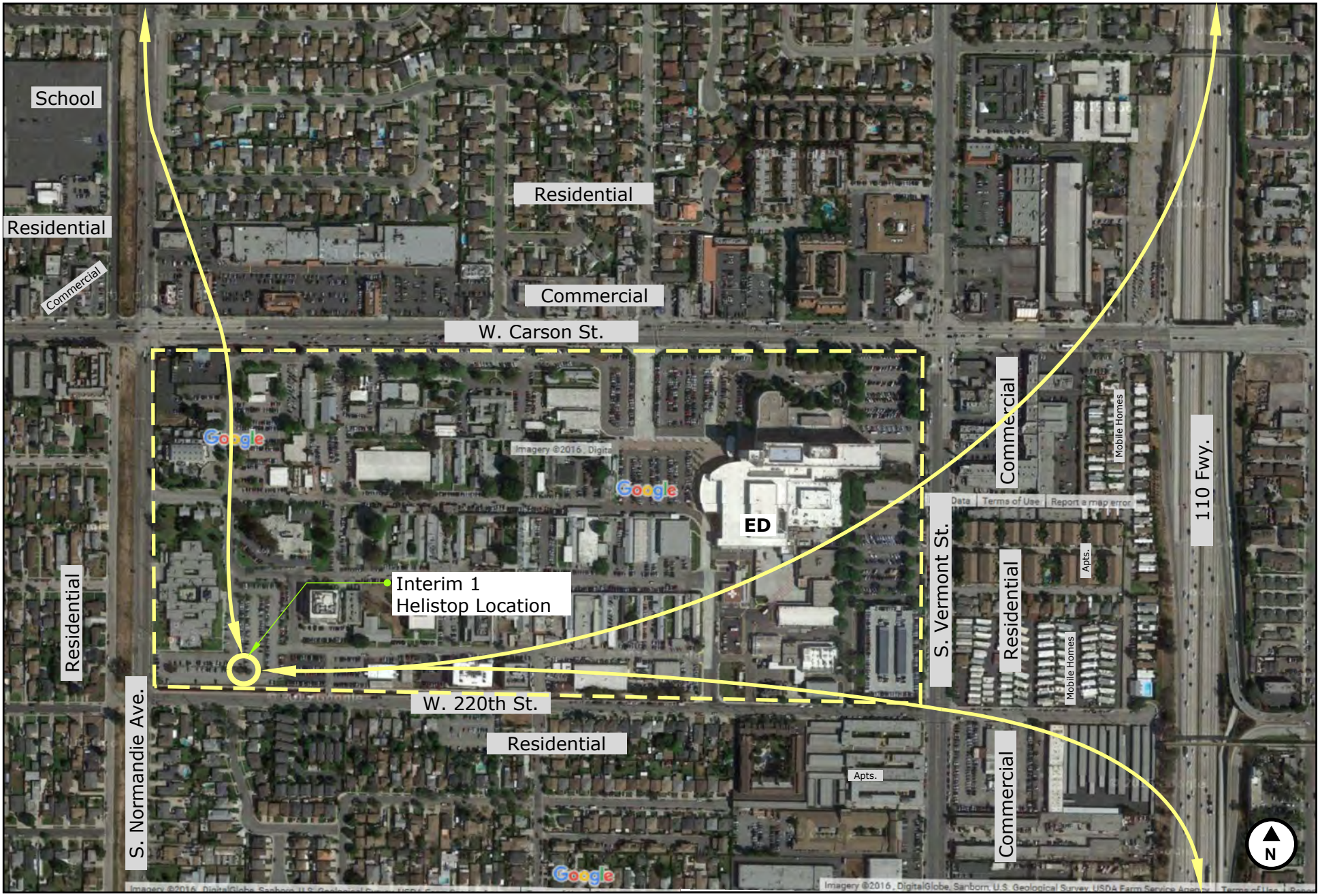
Interim 1 Helistop Flight Paths

FIGURE 4



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Interim 2 Helistop Flight Paths

FIGURE 5

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Permanent Rooftop Helistop Flight Paths

FIGURE 6

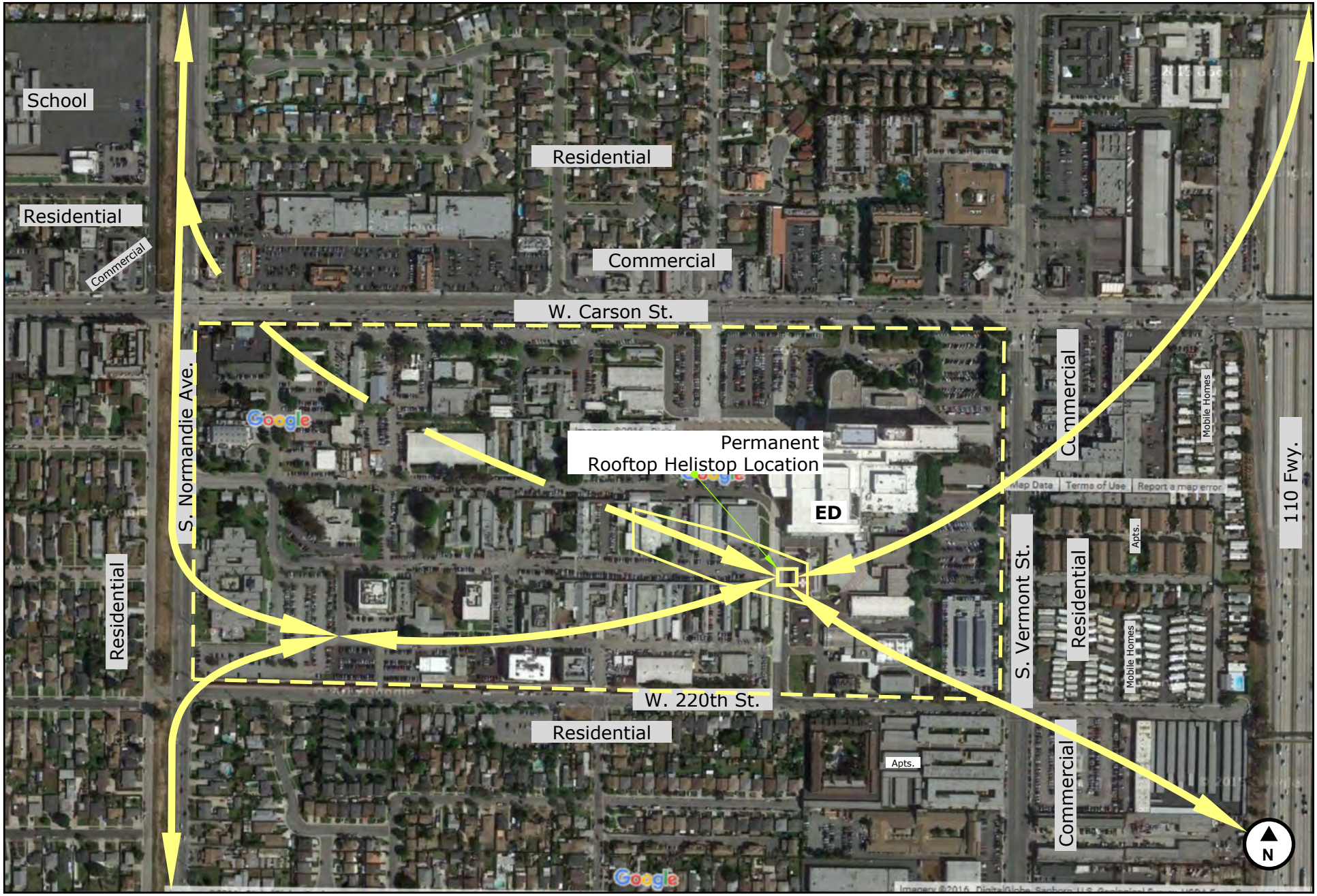
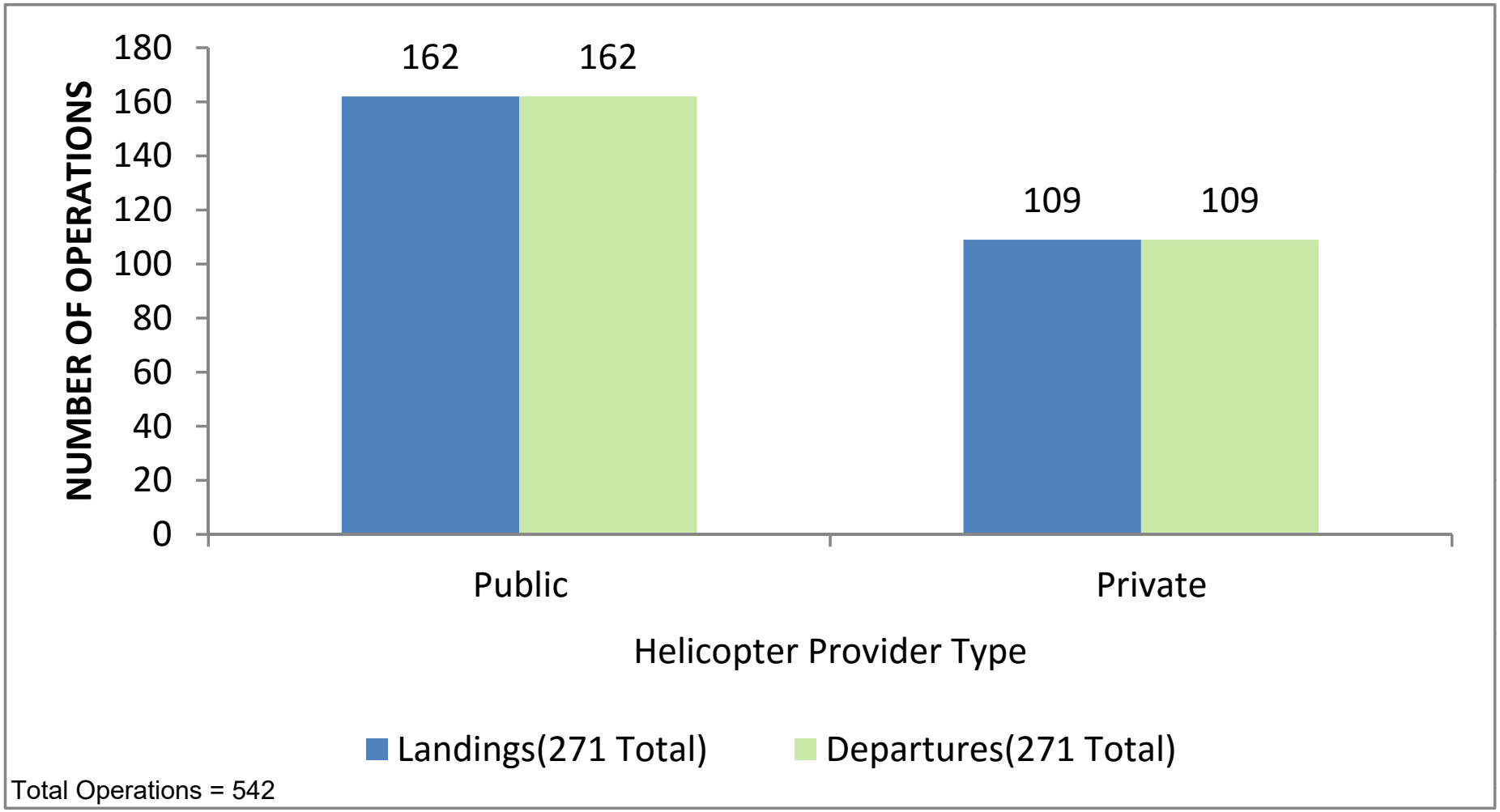


FIGURE: 7 NUMBER OF HELICOPTER OPERATIONS BY PROVIDER TYPE

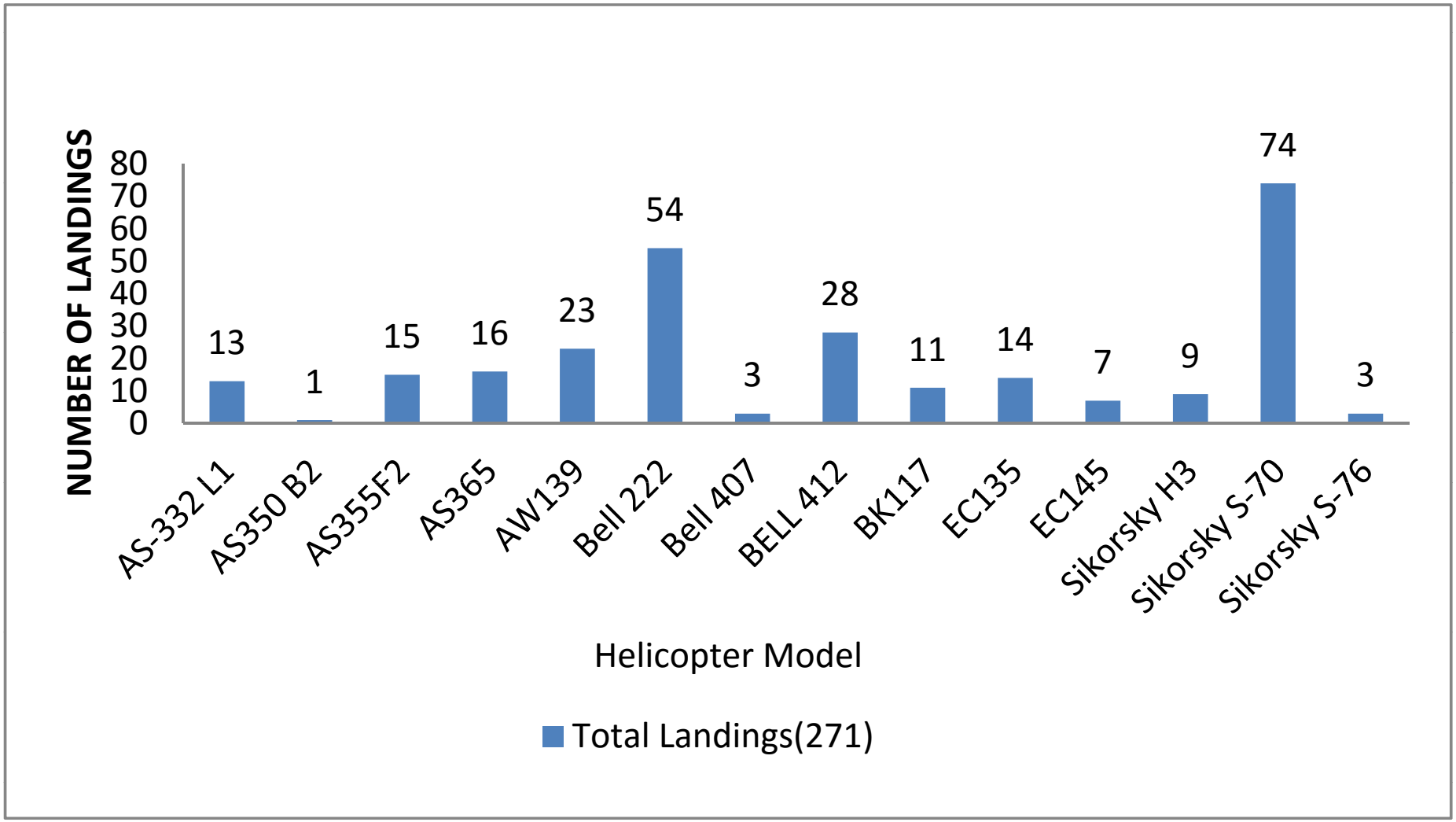


Total Operations = 542

Date Range: January 9, 2008 - December 8, 2015

*416 Weeks of Data = 96 Months

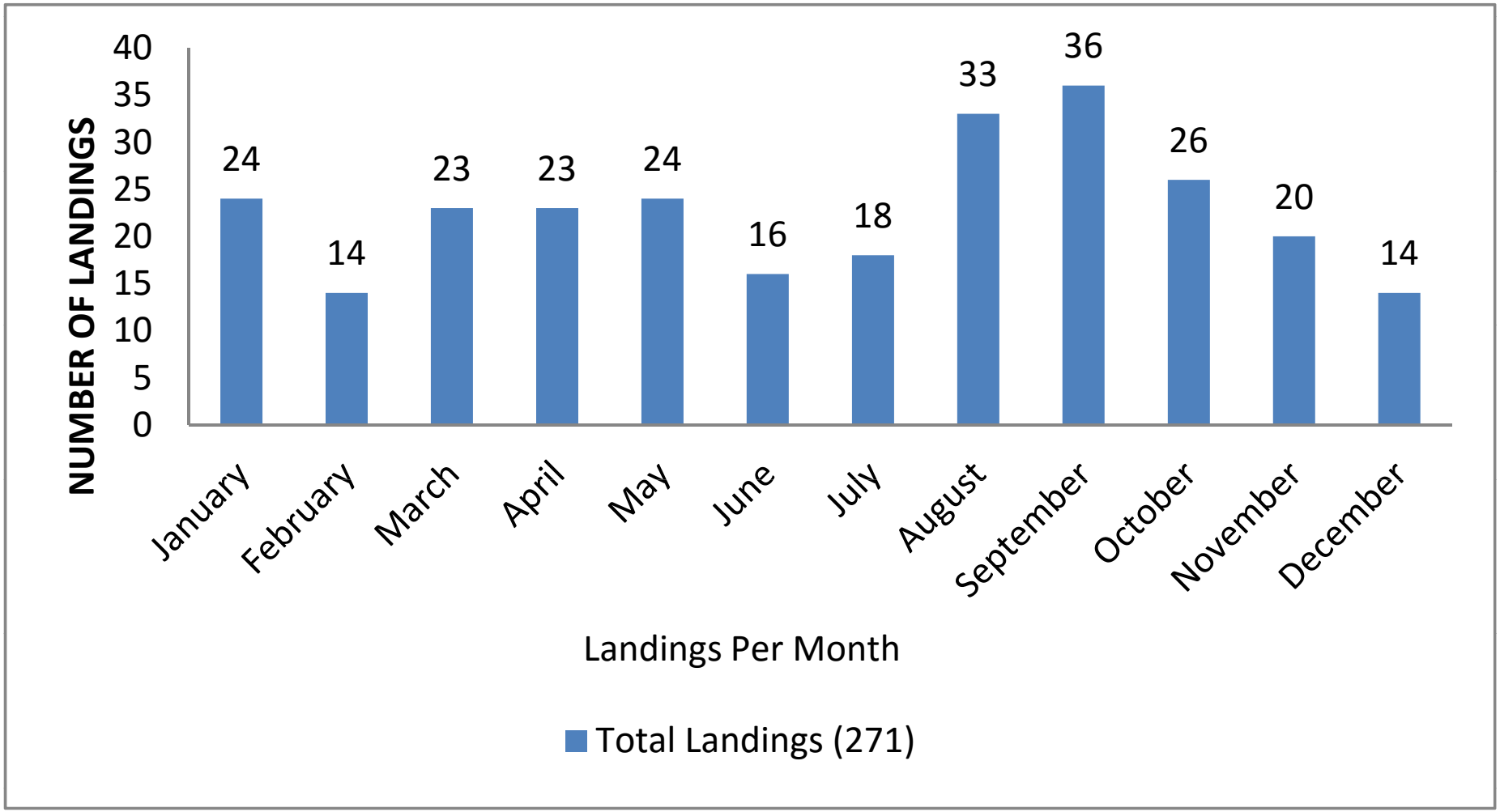
FIGURE: 8 NUMBER OF LANDINGS BY HELICOPTER MODEL



Date Range: January 9, 2008 - December 8, 2015

*416 Weeks of Data = 96 Months

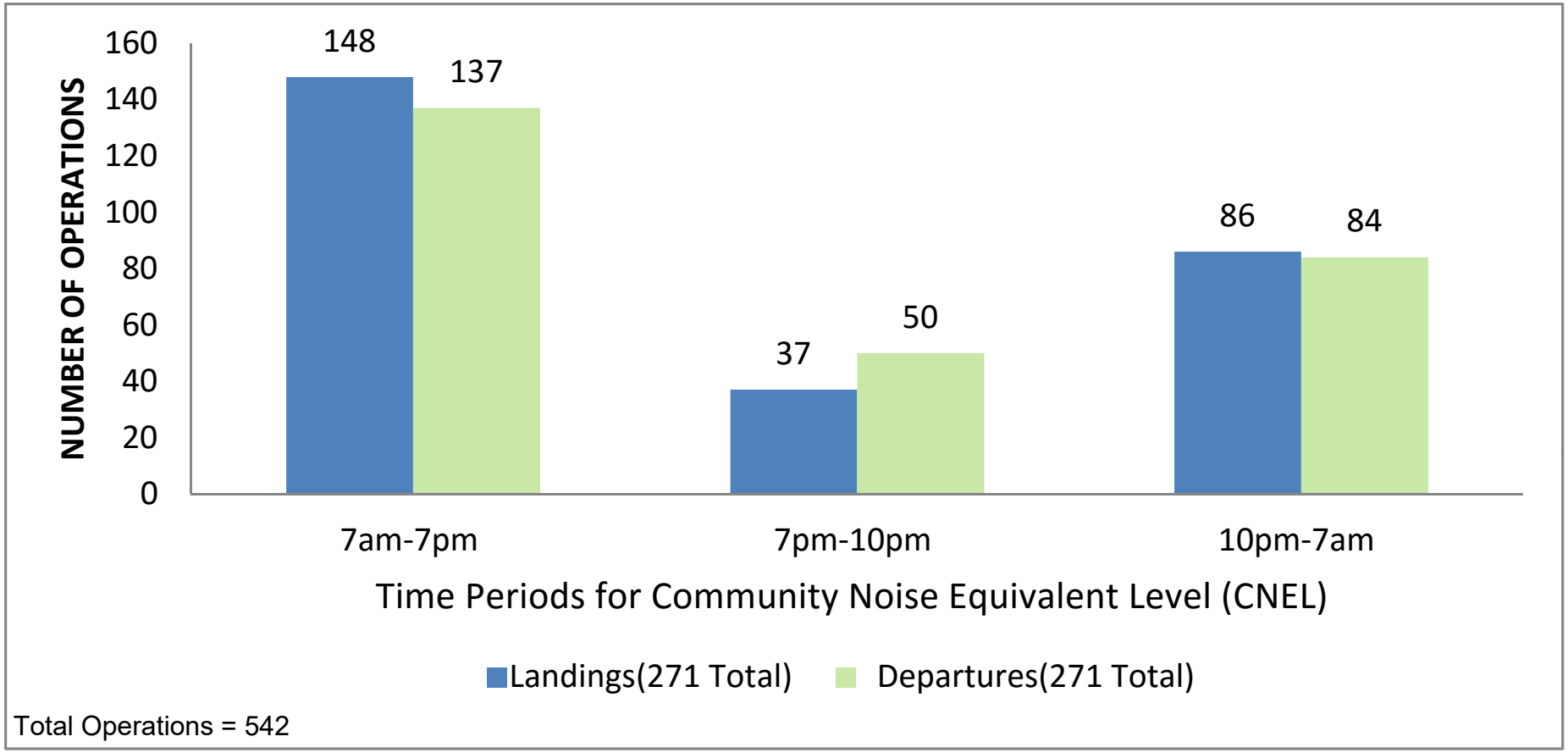
FIGURE: 9 NUMBER OF HELICOPTER LANDINGS PER MONTH



Date Range: January 9, 2008 - December 8, 2015

*416 Weeks of Data = 96 Months

FIGURE: 10 NUMBER OF HELICOPTER OPERATIONS WITHIN CNEL TIME PERIODS

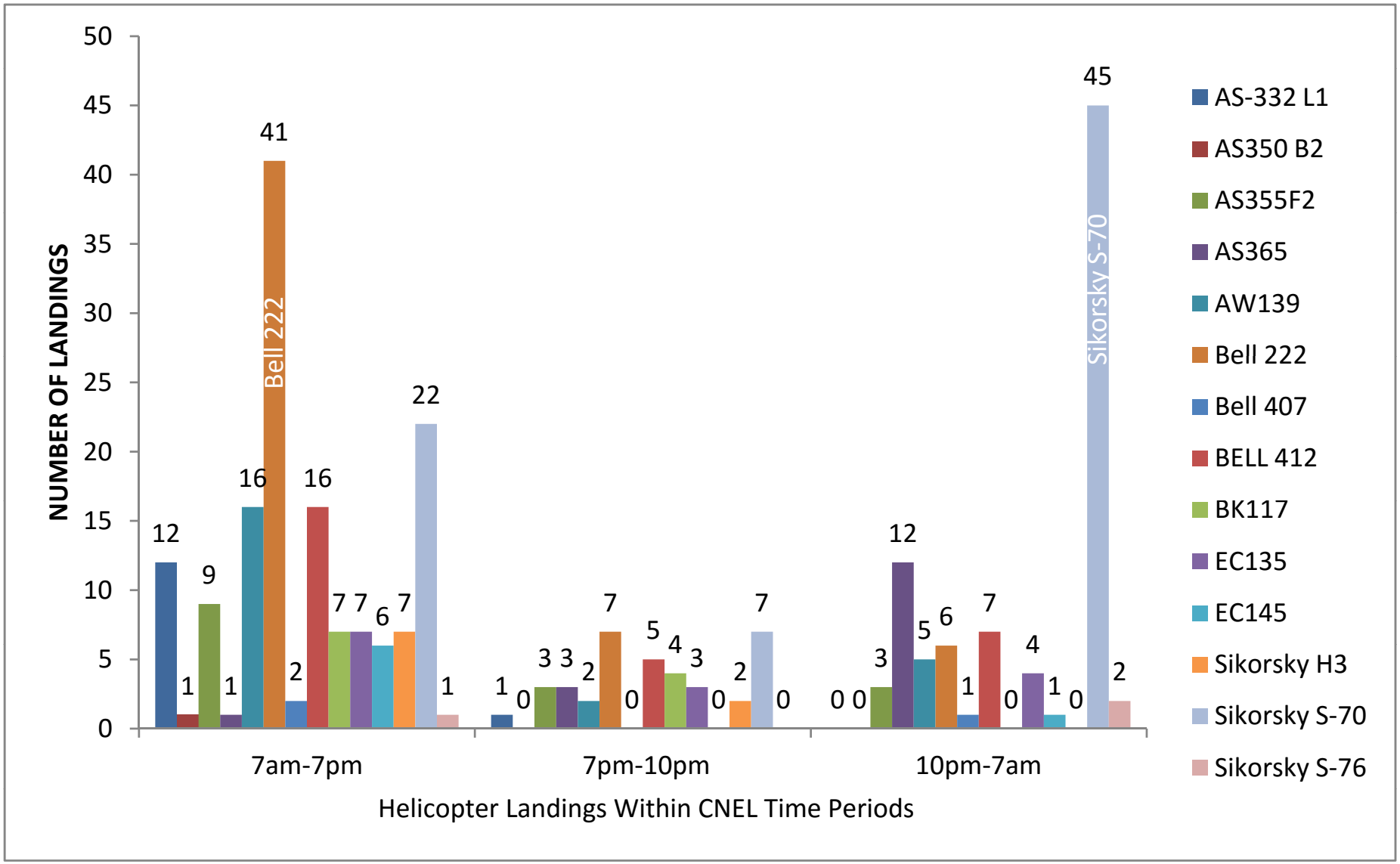


Total Operations = 542

Date Range: January 9, 2008 - December 8, 2015

*416 Weeks of Data = 96 Months

FIGURE: 11 NUMBER OF LANDINGS BY HELICOPTER MODEL WITHIN CNEL TIME PERIODS



Date Range: January 9, 2008 - December 8, 2015

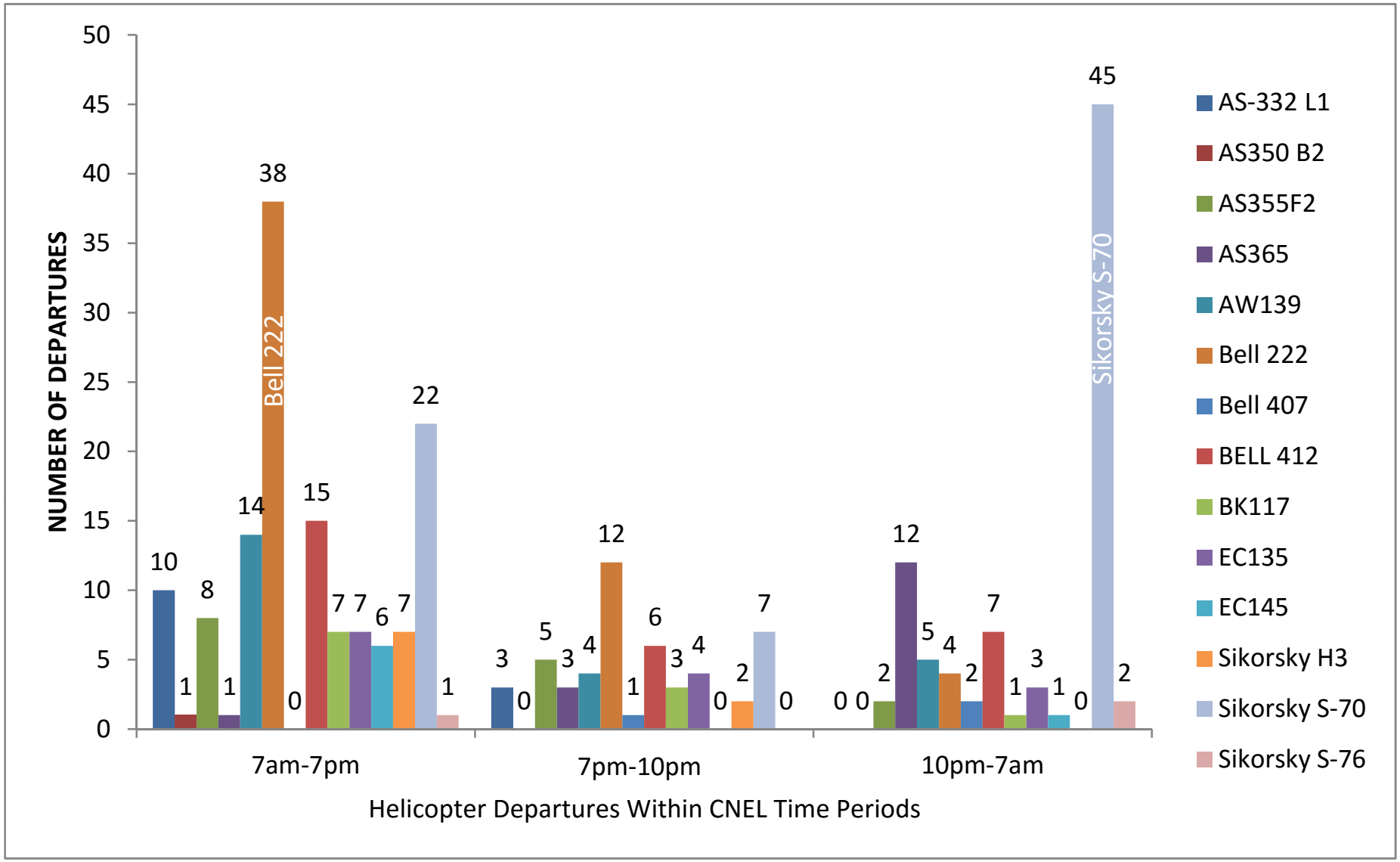
*416 Weeks of Data = 96 Months

Total Landings (271)

Heliport Consultants

07/1/16

FIGURE: 12 NUMBER OF DEPARTURES BY HELICOPTER MODEL WITHIN CNEL TIME PERIODS



Date Range: January 9, 2008 - December 8, 2015

*416 Weeks of Data = 96 Months

Total Departures (271)

Heliport Consultants

07/1/16

TABLE 1 - HELICOPTER EMERGENCY MEDICAL SERVICES (HEMS)

PUBLIC HEMS	TYPE	MGW (lbs.)
LACFD - Los Angeles County Fire Department	Bell 412	11,900
	Sikorsky S70 (Firehawk)	18,000
LASD - Los Angeles Sheriff's Department	AS332 L1 (Super Puma)	17,000
	Sikorsky S-61 (Seahawk - H3) [1]	21,000
LAFD - Los Angeles Fire Department	AW139	14,110
	Bell 412	11,900
USCG - United States Coast Guard	AS365N2 (Dauphin)	9,480

PRIVATE HEMS	TYPE	MGW (lbs.)
AirMethods (Mercy Air) -	AS350 B2	4,960
	EC135	6,250
	BK 117	7,827
	EC145	7,903
	Bell 222 [1]	8,250
	Bell 407	5,250
	Bell 412	11,900
CALSTAR -	BELL 222UT [1]	8,250
Helinet -	AS355F2	5,600
	Sikorsky S-76	10,500
REACH -	Bell 222 [1]	8,250
	Bell 407	5,250
	EC135	6,250

[1] This helicopter no longer in use by the HEMS provider

TABLE 2 - PERCENTAGE OF HELICOPTER OPERATIONS WITHIN CNEL TIME PERIODS

Time of Day CNEL	Total Operations	Percent of Total Operations	Landings	Percent of Total Operations	Departures	Percent of Total Operations
7AM - 7PM	285	52.6%	148	27.3%	137	25.3%
7PM - 10PM	87	16%	37	6.8%	50	9.2%
10PM - 7AM	170	31.4%	86	15.9%	84	15.5%
Total Operations	542	100%	271	50%	271	50%