Appendix D
Noise Data

Field Noise Measurement Data

Submitted by: cwong@dudek.com

Submitted time: Apr 2, 2026, 9:52:41 AM

Project Name

La puente day1

Project #

17021.02

Observer(s)

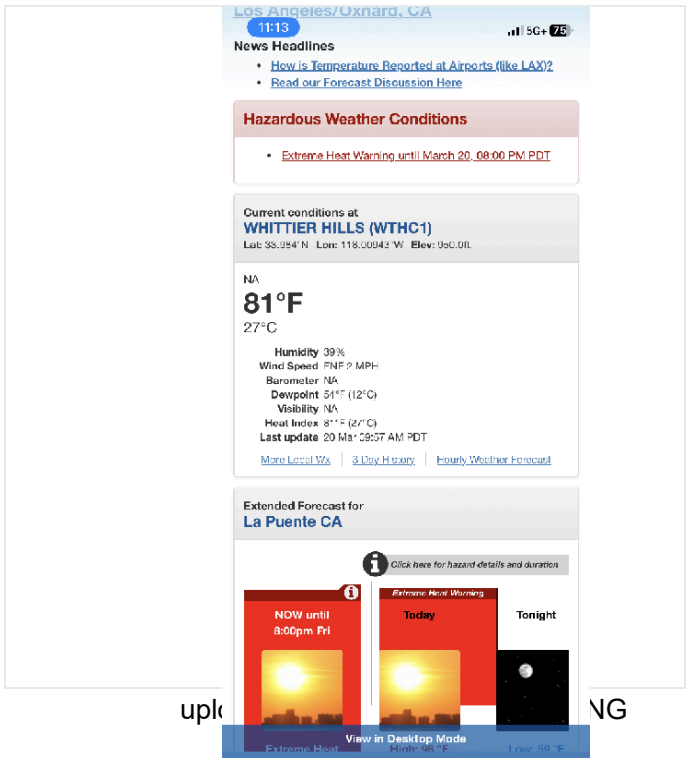
Carson Wong

Date

Mar 20, 2026

Meteorological Conditions

Upload NOAA Forecast



upl NG

Instrument and Calib

Instrument Name List

(ENC) Rion NL-52

Manufacturer

Rion

Model

NL-52

Serial Number

553896

Calibrator Name

(ENC) LD CAL150

Calibrator Manufacturer

LD CAL150

Calibrator Model

Larson Davis

Calibrator Serial #

5152

Pre-Test (dBA SPL)

94

Post-Test (dBA SPL)

94

Windscreen

Yes

Weighting?

A-WTD

Monitoring

Record #

{451e1ebf-f191-459c-b101-07a07d571312}

Site ID

ST1

Begin (Time)

10:20

End (Time)

10:35

Leq

66

Lmax

83

Lmin

51

Primary Noise Source

Traffic

Other Noise Sources (Background)

- **Distant Conversations / Yelling**
- **Distant Traffic**

Source Info and Traffic Counts

Lane Width (feet)

10

Roadway Width (feet)

100

Roadway Width (m)

31

Description / Photos

Site Photos

Photo

sitephoto-20260320-173655.jpg

Photo

sitephoto-20260320-173702.jpg

Photo

sitephoto-20260320-173712.jpg

Record #

{e6347589-348e-45a8-b0a6-dc24d935d318}

Site ID

ST2

Begin (Time)

10:46

End (Time)

11:01

Leq

73

Lmax

90

Lmin

58

Primary Noise Source

Traffic

Other Noise Sources (Background)

- **Distant Conversations / Yelling**
- **Distant Gardener / Landscape Noise**

Source Info and Traffic Counts

Lane Width (feet)

10

Roadway Width (feet)

100

Roadway Width (m)

31

Description / Photos

Site Photos

Photo

sitephoto-20260320-180024.jpg

Comments / Description

Facing northeast

Photo

sitephoto-20260320-180147.jpg

Comments / Description

Facing southeast

Photo

sitephoto-20260320-180159.jpg

Comments / Description

Facing south

Record #

{3fabb93f-f7ae-43ca-97e0-955a9fabf25d}

Site ID

ST3

Begin (Time)

11:10

End (Time)

11:25

Leq

69

Lmax

81

Lmin

45

Primary Noise Source

Traffic

Other Noise Sources (Background)

- **Distant Conversations / Yelling**
- **Distant Traffic**

Source Info and Traffic Counts

Lane Width (feet)

10

Roadway Width (feet)

100

Roadway Width (m)

31

Description / Photos

Site Photos

Photo

sitephoto-20260320-181614.jpg

Comments / Description

Facing southwest

Photo

sitephoto-20260320-183738.jpg

Photo

sitephoto-20260320-183746.jpg

Field Noise Measurement Data

Submitted by: cwong@dudek.com

Submitted time: Mar 24, 2026, 3:30:14 PM

Project Name

La puente day 2

Project #

17021.02

Observer(s)

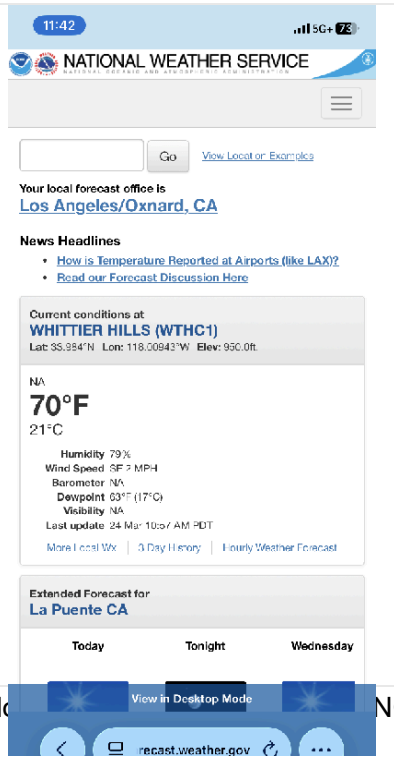
Carson Wong

Date

Mar 24, 2026

Meteorological Conditions

Upload NOAA Forecast



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Rion

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Serial Number

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Calibrator Name

(ENC) LD CAL150

Calibrator Manufacturer

LD CAL150

Calibrator Model

Larson Davis

Calibrator Serial #

5152

Pre-Test (dBA SPL)

94

Post-Test (dBA SPL)

94

Windscreen

Yes

Weighting?

A-WTD

Slow/Fast?

Slow

Monitoring

Record #

{577bb44e-0501-4536-b0d6-53e34436b306}

Site ID

ST5

Begin (Time)

11:40

End (Time)

11:55

Leq

70

Lmax

88

Lmin

53

Other Lx?

L50

L50

67

Primary Noise Source

Traffic

Other Noise Sources (Background)

- **Birds**
- **Rustling Leaves**
- **Distant Conversations / Yelling**

Source Info and Traffic Counts

Lane Width (feet)

10

Roadway Width (feet)

100

Roadway Width (m)

31

Description / Photos

Site Photos

Photo

sitephoto-20260324-184112.jpg

Comments / Description

Facing northwest

Photo

sitephoto-20260324-184144.jpg

Comments / Description

Facing southeast

Photo

sitephoto-20260324-184159.jpg

Comments / Description

Facing northeast

Record #

{c36d4c2c-e6ef-456d-b5da-e9d01228de18}

Site ID

ST4

Begin (Time)

12:19

End (Time)

12:34

Leq

69

Lmax

87

Lmin

54

Primary Noise Source

Traffic

Source Info and Traffic Counts

Lane Width (feet)

10

Roadway Width (feet)

100

Roadway Width (m)

31

Description / Photos

Site Photos

Photo

sitephoto-20260324-192010.jpg

Comments / Description

Facing west

Photo

sitephoto-20260324-192026.jpg

Comments / Description

Facing south

Photo

sitephoto-20260324-192044.jpg

Comments / Description

Facing east

Record #

{37ae019e-8c27-45ad-81bc-977c5a719d37}

Site ID

ST6

Begin (Time)

12:53

End (Time)

13:08

Leq

72

Lmax

82

Lmin

55

Primary Noise Source

Traffic

Other Noise Sources (Background)

- **Distant Conversations / Yelling**

Source Info and Traffic Counts

Lane Width (feet)

10

Roadway Width (feet)

100

Roadway Width (m)

31

Description / Photos

Site Photos

Photo

sitephoto-20260324-195423.jpg

Comments / Description

Facing east

Photo

sitephoto-20260324-195437.jpg

Comments / Description

Facing west

Photo

sitephoto-20260324-195452.jpg

Comments / Description

Facing northeast

Field Noise Measurement Data

Submitted by: cwong@dudek.com

Submitted time: Apr 6, 2026, 3:11:53 PM

Project Name

La Puente ST5&6

Observer(s)

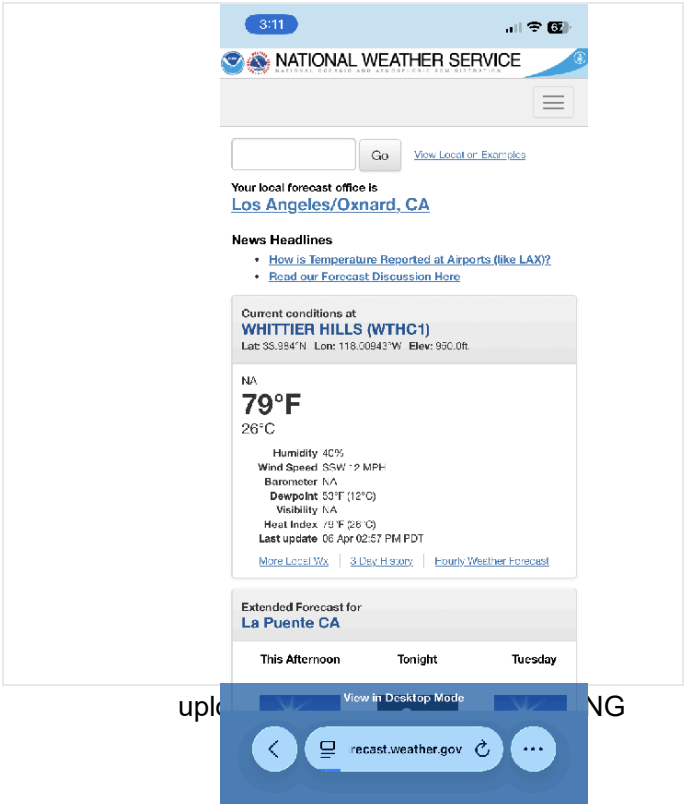
Carson Wong

Date

Apr 6, 2026

Meteorological Conditions

Upload NOAA Forecast



upl NG

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(ENC) Rion NL-52

Manufacturer

Rion

Model

NL-52

Serial Number

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Calibrator Name

(ENC) LD CAL150

Calibrator Manufacturer

LD CAL150

Calibrator Model

Larson Davis

Calibrator Serial #

5152

Pre-Test (dBA SPL)

94

Post-Test (dBA SPL)

94

Windscreen

Yes

Weighting?

A-WTD

Slow/Fast?

Slow

ANSI?

Yes

Monitoring

Record #

{877fb03f-1155-4be1-81e6-d4daa8e27ebd}

Site ID

ST5

Begin (Time)

11:13

End (Time)

11:28

Leq

67

Lmax

77

Lmin

61

Primary Noise Source

Traffic

Other Noise Sources (Background)

- **Distant Conversations / Yelling**

Source Info and Traffic Counts

Lane Width (feet)

10

Roadway Width (feet)

100

Roadway Width (m)

31

Description / Photos

Site Photos

Photo

sitephoto-20260406-182928.jpg

Comments / Description

Facing northwest

Photo

sitephoto-20260406-182947.jpg

Comments / Description

Facing southwest

Photo

sitephoto-20260406-182959.jpg

Comments / Description

Facing southeast

Record #

{5ee6d490-9469-4dc8-bd9c-8233e947e328}

Site ID

ST6

Begin (Time)

12:18

End (Time)

12:33

Leq

68

Lmax

87

Lmin

56

Source Info and Traffic Counts

Lane Width (feet)

10

Roadway Width (feet)

100

Roadway Width (m)

31

Description / Photos

Site Photos

Photo

sitephoto-20260406-193319.jpg

Comments / Description

Facing east

Source to barrier distance: Varies
Receiver to barrier distance: Varies
Receiver height: 5

magnitude of threshold (dBA) = 80
allowable hours over which Leq is to be averaged = 8

0 = temporary barrier (TB) of input height inserted between source and receptor

Construction Activity	Equipment	Total Equipment Qty	Reference Level (Leq or Lmax) @ 50 ft. from FHWA RCNM 2 Table	Air Quality/Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Distance-Adjusted Level	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Demolition	Dozer	1	80.0	Rubber-Tired Dozer	85	73.9	8.00	480	74	5.3	5	0	10	75	85	11.3	75.2	85.0	0.00	0.1	5.2	5.2	0.7	0.7	0.1
	Concrete Saw	1	85.4	Concrete/Industrial saws	85	78.3	8.00	480	78	2.2	5	0	10	75	85	10.2	75.2	85.0	0.00	0.1	3.6	3.6	0.7	0.7	0.1
	Backhoe	1	75.8	Tractors/Loaders/Backhoes	85	69.4	8.00	480	69	4.5	5	0	10	75	85	11.0	75.2	85.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
							Total for Demolition Phase:		**80.0**																
Site Preparation	Grader (passby)	1	78.5	Graders	69	75.6	8.00	480	76	6.0	5	0	10	59	69	11.7	59.2	69.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	Backhoe	1	75.8	Tractors/Loaders/Backhoes	69	72.4	7.00	420	72	4.5	5	0	10	59	69	11.0	59.2	69.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
	Dozer	1	80.0	Rubber-Tired Dozer	69	76.9	8.00	480	77	5.3	5	0	10	59	69	11.3	59.2	69.0	0.00	0.1	5.2	5.2	0.7	0.7	0.1
							Total for Site Preparation Phase:		**80.0**																
Grading	Dozer	1	80.0	Rubber-Tired Dozer	69	76.9	8.00	480	77	5.3	5	0	10	59	69	11.3	59.2	69.0	0.00	0.1	5.2	5.2	0.7	0.7	0.1
	Backhoe	1	75.8	Tractors/Loaders/Backhoes	69	72.4	7.00	420	72	4.5	5	0	10	59	69	11.0	59.2	69.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
	Grader (passby)	1	78.5	Graders	69	75.6	8.00	480	76	6.0	5	0	10	59	69	11.7	59.2	69.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total for Grading Phase:		**80.0**																
Building Construction	Crane	1	74.2	Crane	91	67.9	6.00	360	67	7.7	5	0	10	81	91	12.6	81.2	91.0	0.00	0.1	6.4	6.4	0.6	0.6	0.1
	Telescopic Handler (Forklift)	1	88.3	Forklift	91	80.6	6.00	360	79	3.0	5	0	10	81	91	10.4	81.2	91.0	0.00	0.1	4.0	4.0	0.7	0.7	0.1
	Backhoe	1	75.8	Tractors/Loaders/Backhoes	91	68.6	6.00	360	67	4.5	5	0	10	81	91	11.0	81.2	91.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
	Welding Machine	1	71.2	Welders	91	63.3	8.00	480	63	2.5	5	0	10	81	91	10.3	81.2	91.0	0.00	0.1	3.8	3.8	0.7	0.7	0.1
	Generator	1	67.1	Generator sets	91	59.8	8.00	480	60	4.5	5	0	10	81	91	11.0	81.2	91.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
							Total for Building Construction Phase:		**80.0**																
Paving	Paving - Asphalt (Paver + Dump Truck)	1	81.8	Pavers	87	75.3	6.00	360	74	5.0	5	0	10	77	87	11.2	77.2	87.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	Paving - Concrete (Texturing/Curing Machine)	1	73.3	Paving equipment	87	67.8	6.00	360	67	8.0	5	0	10	77	87	12.8	77.2	87.1	0.00	0.1	6.5	6.5	0.6	0.6	0.1
	Concrete Mixer Truck	1	81.1	Cement and mortar mixers	87	74.6	7.00	420	74	5.0	5	0	10	77	87	11.2	77.2	87.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	Compactor (Roller)	1	82.4	Roller	87	75.7	8.00	480	76	4.4	5	0	10	77	87	10.9	77.2	87.0	0.00	0.1	4.7	4.7	0.7	0.7	0.1
	Backhoe	1	75.8	Tractors/Loaders/Backhoes	87	69.1	8.00	480	69	4.5	5	0	10	77	87	11.0	77.2	87.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
							Total for Paving Phase:		**80.0**																
Architectural Coating	Compressor	1	65.6	Air compressor	8	81.5	6.00	360	80	4.3	5	0	4	4	8	5.9	6.4	8.0	0.00	0.1	4.7	4.7	0.7	0.7	0.1
							Total for Architectural Coating Phase:		**80.2**																
Pile Driving	Impact Pile Driver	1	98.9	Air compressor	236	81.3	6.00	360	80	5.3	5	0	10	226	236	11.3	226.1	236.0	0.00	0.1	5.2	5.2	0.7	0.7	0.1
							Total for Pile Driving Phase:		**80.0**																

To User: boxed cells are user inputs. Leave others alone.

Non-transient groundborne vibration at exterior façade of following FTA Building/Structural Category

	I. R-concrete, steel, or timber	***II. E-concrete and masonry***	***III. N-E timber and masonry***	***IV. Extremely susceptible***
exponent	1.5	1.5	1.5	1.5
threshold (ips PPV)	0.5	0.3	0.2	0.12

Groundborne Vibration Source (equipment or process)	PPV (at 25 feet)	VdB	I. Rcvr dist. (feet)	I. PPV rcvr	I. VdB*	II. Rcvr dist. (feet)	II. PPV rcvr	II. VdB*	III. Rcvr dist. (feet)	III. PPV rcvr	III. VdB*	IV. Rcvr dist. (feet)	IV. PPV rcvr	IV. VdB*
Vibratory Roller	0.21	94	73	0.042	80	20	0.293	97	30	0.160	92	30	0.160	92
Large bulldozer	0.089	87	41	0.042	81	15	0.191	94	15	0.191	94	15	0.191	94
Caisson drilling	0.089	87	10	0.352	99	15	0.191	94	15	0.191	94	15	0.191	94
Loaded trucks	0.076	86	10	0.300	98	15	0.164	92	15	0.164	92	15	0.164	92
small bulldozer	0.003	58	5	0.034	78	5	0.034	78	5	0.034	78	5	0.034	78
Pile Driver	1.518	112	272	0.042	80	25	1.518	112	25	1.518	112	25	1.518	112
Jackhammer	0.035	79	36	0.020	74	25	0.035	79	25	0.035	79	25	0.035	79
(Enter comparable equipment type from FTA's Table 7-4)	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79
(Enter comparable equipment type from FTA's Table 7-4)	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79
(Enter comparable equipment type from FTA's Table 7-4)	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79
(Enter comparable equipment type from FTA's Table 7-4)	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79
(Enter comparable equipment type from FTA's Table 7-4)	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79
(Enter comparable equipment type from FTA's Table 7-4)	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79
(Enter comparable equipment type from FTA's Table 7-4)	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79
(Enter comparable equipment type from FTA's Table 7-4)	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79	25	0.035	79

*root mean square of the PPV, and presumes crest factor of 4 per FTA calculation technique

Tables below are from FTA's 2018 *Transit Noise and Vibration Impact Assessment Manual:*

Table 7-4 Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 ft, in/sec	Approximate Lv* at 25 ft
Pile Driver (impact)	upper range	1.518	112
	typical	0.644	104
Pile Driver (sonic)	upper range	0.734	105
	typical	0.17	93
Clam shovel drop (slurry wall)		0.202	94
Hydromill (slurry wall)	in soil	0.008	66
	in rock	0.017	75
Vibratory Roller		0.21	94
Hoe Ram		0.089	87
Large bulldozer		0.089	87
Caisson drilling		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

* RMS velocity in decibels, VdB re 1 micro-in/sec

Table 7-5 Construction Vibration Damage Criteria

Building/ Structural Category	PPV, in/sec	Approximate Lv*
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

*RMS velocity in decibels, VdB re 1 micro-in/sec

To User: boxed cells are user inputs. Leave others alone.

exponent: 1.5
threshold: 0.2 ips PPV

*VdB calc presumes crest factor of 4, per FTA guidance

	PPV at 25'	'dB (at 25')	Rcvr dist. (feet)	PPV rcvr	VdB*
Impact pile driver (typical)	0.644	104	97	0.0843	86
jackhammer	0.035	79	36	0.0203	74
dozer	0.089	87	15	0.1915	94
roller	0.21	94	26	0.198	94
Impact pile driver (typical)	0.644	104	**55**	0.1974	94
jackhammer	0.035	79	**8**	0.1933	94
dozer	0.089	87	15	0.1915	94
roller	0.21	94	26	0.198	94
Impact pile driver (typical)	0.644	104	**155**	0.0417	80
jackhammer	0.035	79	**23**	0.0397	80
dozer	0.089	87	**42**	0.0409	80
roller	0.21	94	**73**	0.0421	80

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project

Case: La Puente Mixed-Use - Azusa Crossing

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	59	53	53
Source 1	59	53	53
Source 2	0	0	0
Source 3	0	0	0
Source 4	0	0	0
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS								
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**	
Source Num.	Freight Locomotive	9						
Distance (source to receiver)	distance (ft)	150						
Daytime Hours	speed (mph)	20						
(7 AM - 10 PM)	trains/hour	0.5						
	locos/train	3						
Nighttime Hours	speed (mph)	20						
(10 PM - 7 AM)	trains/hour	0.5						
	locos/train	3						
Wheel Flats?		0.00%						
Jointed Track?	Y/N	N						
Embedded Track?	Y/N	N						
Aerial Structure?	Y/N	N						
Barrier Present?	Y/N	N						
Intervening Rows of of Buildings	number of rows	0						

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Appendix D

Traffic Noise Modeling Calculations - Summary

Project: 17021.02 City of La Puente Mixed-Use Places Project

Number	Segment Description and Location Name	From	To	Existing (2026)	Future (2046)	Δ Existing (2026) – Future (2046)	
Summary of Net Changes							
1	Glendora Avenue	Temple Avenue	Hacienda Boulevard	67.1	67.5	0.4	
2	Glendora Avenue	Temple Avenue	Nelson Avenue	69.0	69.4	0.4	
3	Temple Avenue	Glendora Avenue	Del Valle Avenue	70.5	70.9	0.4	
4	Temple Avenue	Glendora Avenue	Hacienda Boulevard	69.2	69.6	0.4	
5	Hacienda Boulevard	Amar Road	Fairgrove Avenue	73.5	73.9	0.4	
6	Hacienda Boulevard	Amar Road	Glendora Avenue	73.6	74.0	0.4	
7	Amar Road	Hacienda Boulevard	Unruh Avenue	70.1	70.5	0.4	
8	Amar Road	Hacienda Boulevard	Del Valle Avenue	70.2	70.6	0.4	
9	Amar Road	Echelon Avenue	Del Valle Avenue	71.0	71.4	0.4	
10	Hacienda Boulevard	W Franciscquito Avenue	Francisquito Avenue	69.3	69.7	0.4	
11	Hacienda Boulevard	W Franciscquito Avenue	Maplegrove Street	69.6	70.1	0.4	
12	W Francisquito Avenue	Hacienda Boulevard	California Avenue	70.1	70.6	0.4	
13	Amar Road	Ardilla Avenue	Willow Avenue	70.5	70.9	0.4	
14	Amar Road	Ardilla Avenue	Puente Avenue	70.5	70.9	0.4	
15	Ardilla Avenue	Amar Road	Commercial Lot	59.4	59.8	0.4	
16	Ardilla Avenue	Amar Road	Temple Avenue	53.6	54.0	0.4	
17	Hurley Street	Azusa Way	Azusa Avenue	70.1	70.5	0.4	
18	Hurley Street	Azusa Way	Dora Guzman Avenue	64.3	64.8	0.4	
19	Hurley Street	Asuza Avenue	Valley Boulevard	53.8	54.3	0.4	
20	Azusa Avenue	Hurley Street	Main Street	67.0	67.5	0.4	
21	Azusa Avenue	Hurley Street	Anaheim and Puente Road	67.9	68.3	0.4	
22	Azusa Way	Main Street	Hurley Street	63.4	63.9	0.4	
23	Azusa Way	Hurley Street	Valley Boulevard	66.5	66.9	0.4	

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix D - 1

Traffic Noise Model Calculations

Project: 17021.02 City of La Puente Mixed-Use Places Project

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor: 10

		Segment Description and Location		Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Existing (2026) Conditions																		
1	Glendora Avenue	Temple Avenue	Hacienda Boulevard	10,326	35	30	30	100.0%	0.0%	0.0%	80.0%	5.0%	15.0%	67.1	19	41	89	191
2	Glendora Avenue	Temple Avenue	Nelson Avenue	10,808	35	30	30	92.0%	8.0%	0.0%	80.0%	5.0%	15.0%	69.0	26	55	119	256
3	Temple Avenue	Glendora Avenue	Del Valle Avenue	13,510	40	35	35	91.4%	8.6%	0.0%	80.0%	5.0%	15.0%	70.5	38	81	175	378
4	Temple Avenue	Glendora Avenue	Hacienda Boulevard	12,352	40	35	35	96.9%	3.1%	0.0%	80.0%	5.0%	15.0%	69.2	31	67	144	311
5	Hacienda Boulevard	Amar Road	Fairgrove Avenue	34,431	35	30	30	96.4%	2.7%	0.9%	80.0%	5.0%	15.0%	73.5	51	110	238	512
6	Hacienda Boulevard	Amar Road	Glendora Avenue	35,358	35	30	30	96.5%	2.6%	0.9%	80.0%	5.0%	15.0%	73.6	52	112	241	519
7	Amar Road	Hacienda Boulevard	Unruh Avenue	26,171	40	50	50	98.2%	1.2%	0.6%	80.0%	5.0%	15.0%	70.1	51	110	236	509
8	Amar Road	Hacienda Boulevard	Del Valle Avenue	26,634	40	50	50	98.3%	1.2%	0.6%	80.0%	5.0%	15.0%	70.2	51	111	239	514
9	Amar Road	Echelon Avenue	Del Valle Avenue	29,970	40	50	50	97.0%	2.2%	0.7%	80.0%	5.0%	15.0%	71.0	58	125	269	580
10	Hacienda Boulevard	W Franciscquito Avenue	Francisquito Avenue	31,570	35	50	50	97.6%	2.2%	0.2%	80.0%	5.0%	15.0%	69.3	45	96	207	446
11	Hacienda Boulevard	W Franciscquito Avenue	Maplegrove Street	34,930	35	50	50	97.8%	2.0%	0.2%	80.0%	5.0%	15.0%	69.6	47	102	220	473
12	W Francisquito Avenue	Hacienda Boulevard	California Avenue	19,539	40	40	40	98.6%	1.1%	0.4%	80.0%	5.0%	15.0%	70.1	41	88	190	409
13	Amar Road	Ardilla Avenue	Willow Avenue	23,088	40	45	45	97.8%	1.3%	1.0%	80.0%	5.0%	15.0%	70.5	48	104	225	484
14	Amar Road	Ardilla Avenue	Puente Avenue	23,162	40	45	45	97.8%	1.3%	1.0%	80.0%	5.0%	15.0%	70.5	48	104	225	485
15	Ardilla Avenue	Amar Road	Commercial Lot	4,004	25	30	30	98.5%	1.5%	0.0%	80.0%	5.0%	15.0%	59.4	6	13	27	59
16	Ardilla Avenue	Amar Road	Temple Avenue	1,725	35	100	100	89.3%	10.7%	0.0%	80.0%	5.0%	15.0%	53.6	8	17	37	81
17	Hurley Street	Azusa Way	Azusa Avenue	10,045	35	30	30	90.4%	5.5%	4.1%	80.0%	5.0%	15.0%	70.1	30	65	141	304
18	Hurley Street	Azusa Way	Dora Guzman Avenue	3,784	35	25	25	98.2%	1.8%	0.0%	80.0%	5.0%	15.0%	64.3	10	23	49	105
19	Hurley Street	Asuza Avenue	Valley Boulevard	3,784	35	250	250	82.9%	7.8%	9.3%	80.0%	5.0%	15.0%	53.8	21	45	97	209
20	Azusa Avenue	Hurley Street	Main Street	39,200	45	145	145	95.9%	2.7%	1.4%	80.0%	5.0%	15.0%	67.0	92	198	426	918
21	Azusa Avenue	Hurley Street	Anaheim and Puente Road	40,880	45	145	145	93.7%	3.3%	3.1%	80.0%	5.0%	15.0%	67.9	105	226	487	1050
22	Azusa Way	Main Street	Hurley Street	4,472	35	30	30	100.0%	0.0%	0.0%	80.0%	5.0%	15.0%	63.4	11	24	51	109
23	Azusa Way	Hurley Street	Valley Boulevard	11,421	30	50	50	89.8%	4.8%	5.4%	80.0%	5.0%	15.0%	66.5	29	63	136	292

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix D - 2

Traffic Noise Model Calculations

Project: 17021.02 City of La Puente Mixed-Use Places Project

Noise Level Descriptor: Ldn
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor: 10

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						Ldn,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Future (2046) Conditions																		
1	Glendora Avenue	Temple Avenue	Hacienda Boulevard	11,396	35	30	30	100.0%	0.0%	0.0%	80.0%	5.0%	15.0%	67.5	20	44	95	204
2	Glendora Avenue	Temple Avenue	Nelson Avenue	11,928	35	30	30	92.0%	8.0%	0.0%	80.0%	5.0%	15.0%	69.4	27	59	127	273
3	Temple Avenue	Glendora Avenue	Del Valle Avenue	14,910	40	35	35	91.4%	8.6%	0.0%	80.0%	5.0%	15.0%	70.9	40	87	187	404
4	Temple Avenue	Glendora Avenue	Hacienda Boulevard	13,632	40	35	35	96.9%	3.1%	0.0%	80.0%	5.0%	15.0%	69.6	33	71	154	332
5	Hacienda Boulevard	Amar Road	Fairgrove Avenue	37,999	35	30	30	96.4%	2.7%	0.9%	80.0%	5.0%	15.0%	73.9	55	118	254	547
6	Hacienda Boulevard	Amar Road	Glendora Avenue	39,022	35	30	30	96.5%	2.6%	0.9%	80.0%	5.0%	15.0%	74.0	55	119	257	555
7	Amar Road	Hacienda Boulevard	Unruh Avenue	28,883	40	50	50	98.2%	1.2%	0.6%	80.0%	5.0%	15.0%	70.5	54	117	252	543
8	Amar Road	Hacienda Boulevard	Del Valle Avenue	29,394	40	50	50	98.3%	1.2%	0.6%	80.0%	5.0%	15.0%	70.6	55	118	255	549
9	Amar Road	Echelon Avenue	Del Valle Avenue	33,048	40	50	50	97.0%	2.2%	0.7%	80.0%	5.0%	15.0%	71.4	62	133	287	619
10	Hacienda Boulevard	W Franciscquito Avenue	Francisquito Avenue	34,817	35	50	50	97.6%	2.2%	0.2%	80.0%	5.0%	15.0%	69.7	48	103	221	477
11	Hacienda Boulevard	W Franciscquito Avenue	Maplegrove Street	38,523	35	50	50	97.8%	2.0%	0.2%	80.0%	5.0%	15.0%	70.1	50	109	234	505
12	W Francisquito Avenue	Hacienda Boulevard	California Avenue	21,584	40	40	40	98.6%	1.1%	0.4%	80.0%	5.0%	15.0%	70.6	44	94	203	437
13	Amar Road	Ardilla Avenue	Willow Avenue	25,459	40	45	45	97.8%	1.3%	1.0%	80.0%	5.0%	15.0%	70.9	52	111	240	516
14	Amar Road	Ardilla Avenue	Puente Avenue	25,541	40	45	45	97.8%	1.3%	1.0%	80.0%	5.0%	15.0%	70.9	52	111	240	517
15	Ardilla Avenue	Amar Road	Commercial Lot	4,420	25	30	30	98.5%	1.5%	0.0%	80.0%	5.0%	15.0%	59.8	6	14	29	63
16	Ardilla Avenue	Amar Road	Temple Avenue	1,904	35	100	100	89.3%	10.7%	0.0%	80.0%	5.0%	15.0%	54.0	9	19	40	86
17	Hurley Street	Azusa Way	Azusa Avenue	11,096	35	30	30	90.4%	5.5%	4.1%	80.0%	5.0%	15.0%	70.5	32	70	151	324
18	Hurley Street	Azusa Way	Dora Guzman Avenue	4,180	35	25	25	98.2%	1.8%	0.0%	80.0%	5.0%	15.0%	64.8	11	24	52	112
19	Hurley Street	Asuza Avenue	Valley Boulevard	4,180	35	250	250	82.9%	7.8%	9.3%	80.0%	5.0%	15.0%	54.3	22	48	104	223
20	Azusa Avenue	Hurley Street	Main Street	43,232	45	145	145	95.9%	2.7%	1.4%	80.0%	5.0%	15.0%	67.5	98	211	455	980
21	Azusa Avenue	Hurley Street	Anaheim and Puente Road	45,085	45	145	145	93.7%	3.3%	3.1%	80.0%	5.0%	15.0%	68.3	112	241	520	1121
22	Azusa Way	Main Street	Hurley Street	4,940	35	30	30	100.0%	0.0%	0.0%	80.0%	5.0%	15.0%	63.9	12	25	54	117
23	Azusa Way	Hurley Street	Valley Boulevard	12,616	30	50	50	89.8%	4.8%	5.4%	80.0%	5.0%	15.0%	66.9	31	67	145	313

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

AHUs (plenum-type return fan only, no condenser units [see separate worksheet]):
Building Minimum Ventilation

Sample Mixed-Use Development

	sq ft
Bldg 1	175970
Bldg 2	154473

percent GSF actually occupied (and need ventilation): 90

*from 3-10 minute range for "retail stores", 2-5 minute range for "residences" per Loren Cook's "Engineering Cookbook", 1999 edition, p. 41

													A-weighted PWL (for CadnaA inputs)								
Bldg	Land Use	GSF	Avail. SF	Height (ft)	Avg. minutes to change air*	Volume (ft3)	CFM	m^2	comparable facility function	Pressure (iwg)	Pressure (Pa)	Q (m^3/s)	fantype = plug, tube, or prop	63	125	250	500	1000	2000	4000	8000	OA dB
return air fans in building rooftop AHUs:																						
1	Residential (80%)	140776	126698	40	3.5	5067936	1447981.71	11777	residences	2	500	683	plug	76	88	89	90	87	80	74	69	**95**
1	Commercial (20%)	35194	31675	15	6.5	475119	73095.2308	2944	retail stores	2	500	34	plug	63	75	76	77	74	67	61	56	**82**
2	Residential (80%)	123578.4	111221	40	3.5	4448822	1271092.11	10338	residences	2	500	600	plug	76	88	89	90	87	80	74	69	**95**
2	Commercial (20%)	30894.6	27805	15	6.5	417077	64165.7077	2585	retail stores	2	500	30	plug	63	75	76	77	74	67	61	56	**82**
																				overall PWL dBA:		**98.2**

A-weighting adjustments		26	13	9	3	0	-1	-1	1
average of values for the two fan diameter ranges, per Guyer (Table 12)	plug	40	40	38	34	29	23	19	16
average of values for the two fan diameter ranges, per Guyer (Table 12)	tube	47	44	46	47	44	45	38	35
per Guyer (Table 12, presumed based on Bies & Hansen ENC)	prop	46	48	55	53	52	48	43	38
per Guyer (Table 12, presumed based on Bies & Hansen ENC)	none	0	0	0	0	0	0	0	0
fan or AHU cabinet liner/interior attenuation (excludes inlet/outlet PWL split, already in calcs above:		2	3	4	5	6	8	10	10

Sample Mixed-Use Development

ACCs (air-cooled chillers or condensers on rooftops):
Building Interior Comfort

with or without sound insulation? (enter Y/N): y

	tons	LWA	**unweighted** PWL (dB) per OCBF (Hz) at full load (100%)							
			63	125	250	500	1000	2000	4000	8000
Bryant BH16-018 (no sound blanket)	1.5	67	66.2	66.2	63.9	63.8	62.3	58.4	56.4	50.3
Bryant BH16-024 (no sound blanket)	2	71	65	65	63.7	63.4	68.5	64.7	58.7	52.8
Bryant BH16-036 (no sound blanket)	3	71	68.2	68.2	66.4	67.5	68.4	59.6	58.2	52.4
Bryant BH16-048 (no sound blanket)	4	71	68.4	68.4	67.7	69.7	67.6	59.4	56.4	50
Bryant BH16-060 (no sound blanket)	5	69	63.7	63.7	65.4	67.3	64.9	58.3	56.2	51.9
Daikin AGZ-E 30 (w/out sound insulation)	30	85	84	84	83	84	77	75	74	70
Daikin AGZ-E 40 (w/out sound insulation)	40	85	84	84	83	84	77	75	74	70
Daikin AGZ-E 50 (w/out sound insulation)	50	87	85	85	85	86	80	77	75	70
Daikin AGZ-E 60 (w/out sound insulation)	60	87	85	85	85	86	80	77	75	70
Daikin AGZ-E 70 (w/out sound insulation)	70	87	85	85	85	86	80	77	75	70
Daikin AGZ-E 80 (w/out sound insulation)	80	88	88	85	87	86	81	81	77	71
Daikin AGZ-E 90 (w/out sound insulation)	90	88	88	87	87	86	83	80	77	71
Daikin AGZ-E 120 (w/out sound insulation)	120	89	91	85	88	86	82	81	79	72
Daikin AGZ-E 240 (w/out sound insulation)	241	94	94	88	91	90	91	84	82	75

data for models "without sound insulation" or no "sound blankets"

LWA	63	125	250	500	1000	2000	4000	8000
68	66.2	66.2	63.8	64.1	64.6	59.9	57.7	53.6
72	63.4	63.4	63.3	63.3	70.4	64.5	59.3	55.5
72	67.7	67.7	66.8	68.1	69.9	62.8	60.3	55.2
73	67.5	67.5	67.8	70.1	70.6	63.1	58.5	53.3
70	61.7	61.7	65.6	68.1	65.8	59.8	58.4	56.1
88	92	91	88	87	83	78	73	68
89	92	91	90	88	84	79	74	69
90	93	93	91	89	85	79	74	69
91	94	93	94	89	86	81	76	71
92	95	95	94	89	87	81	76	71
92	95	95	95	89	87	81	76	71
93	94	95	92	91	89	83	81	81
95	93	96	92	92	90	84	84	82
100	98	98	98	95	96	90	90	86

data for models "with sound insulation" or "sound blankets"

LWA	63	125	250	500	1000	2000	4000	8000
67	66.2	66.2	63.9	63.8	62.3	58.4	56.4	50.3
71	65	65	63.7	63.4	68.5	64.7	58.7	52.8
71	68.2	68.2	66.4	67.5	68.4	59.6	58.2	52.4
71	68.4	68.4	67.7	69.7	67.6	59.4	56.4	50
69	63.7	63.7	65.4	67.3	64.9	58.3	56.2	51.9
85	84	84	83	84	77	75	74	70
85	84	84	83	84	77	75	74	70
87	85	85	85	86	80	77	75	70
87	85	85	85	86	80	77	75	70
87	85	85	85	86	80	77	75	70
88	88	85	87	86	81	81	77	71
88	88	87	87	86	83	80	77	71
91	85	88	86	82	81	81	77	71
94	91	90	91	84	82	89	91	85
98	98	98	95	96	90	90	86	94

"based upon "ro" value per Loren Cook's "Engineering Cookbook", 1999 edition, pp. 59-60

actual percent of GSF occupied: 90

Bldg	Land Use	GSF	Avail. SF	comparable facility function	Avg. GSF per ton*	tons of refrig.	Approx. Qty. of ACCs	tons per ACC	Approx. Total PWL (dBA)
1	Residential (80%)	140776	126698	Residential - large	600	211.2	60	4	**89**
1	Commercial (20%)	35194	31675	Department Stores - main floor	350	90.5	3	30	**90**
2	Residential (80%)	123578.4	111221	Residential - large	600	185.4	60	3	**89**
2	Commercial (20%)	30894.6	27805	Department Stores - main floor	350	79.4	2	40	**88**
							overall PWL dBA:		**92.3**

	unweighted PWL (dB) per OCBF (Hz) at full load (100%)							
	63	125	250	500	1000	2000	4000	8000
	86	86	84	85	86	77	76	70
	89	89	88	89	82	80	79	75
	86	86	84	85	86	77	76	70
	87	87	86	87	80	78	77	73