

APPENDIX I

Ambient Noise Measurements and Contour Diagrams for General Plan 2040

Ambient noise monitoring was conducted within the San Rafael Planning Area by PlaceWorks in May 2019 to determine a baseline noise level at different environments. Measurements were made during weekday periods when the Planning Area is expected to be most active. Long-term (48-hour) measurements were conducted at 10 locations within the Planning Area, and short-term (10 minute) measurements were conducted at 22 locations in the Planning Area. Of these, 3 long-term and 9 short-term measurements were conducted in the Downtown Precise Plan Area. All measurements were conducted from Thursday, May 2, through Thursday, May 9, 2019. Short-term measurements were generally made during morning (7:00 a.m. to 10:00 a.m.) and evening (3:00 p.m. to 7:00 p.m.) peak commute hours.

Meteorological conditions during the measurement periods were favorable for outdoor sound measurements and were noted to be representative of the typical conditions for the season. All sound level meters were equipped with a windscreen during measurements.

All sound level meters used for noise monitoring satisfy the American National Standards Institute standard for Type 1 instrumentation.¹ The sound level meters were set to “slow” response and “A” weighting (dBA). The meters were calibrated prior to and after the monitoring period. All measurements were at least 5 feet above the ground and away from reflective surfaces. Noise measurement locations are described below and shown on Figure I-1.

Long-Term Noise Monitoring Locations

- **Long-Term Location 1 (LT-1)** was on Northgate Drive across from Northgate Mall. The measurement location was approximately 30 feet south of the Northgate Drive eastbound centerline. A 24-hour noise measurement was conducted, beginning at the 5:00 p.m. hour on Tuesday, May 7, 2019. The noise environment of this site is characterized primarily by local traffic.
- **Long-Term Location 2 (LT-2)** was adjacent to the SMART train right-of-way at the end of Las Gallinas Avenue. During train pass-bys, the crossing bell was noted, but there was no train horn. The measurement location was approximately 50 feet east of the SMART centerline. A 24-hour noise measurement was conducted, beginning at the 5:00 p.m. hour on Tuesday, May 7, 2019. The noise environment of this site is characterized primarily by rail activity and traffic on Los Ranchitos Road.
- **Long-Term Location 3 (LT-3)** was on Elizabeth Way north of Chestnut Avenue. The measurement location was approximately 25 feet east of the Elizabeth Way northbound centerline. A 24-hour noise measurement was conducted, beginning at the 4:00 p.m. hour on Tuesday, May 7, 2019. The noise environment of this site is characterized primarily by local traffic.
- **Long-Term Location 4 (LT-4)** was on Mountain View Avenue south of Linden Lane. The measurement location was approximately 15 feet west of the Mountain View Avenue southbound centerline. A 24-

¹ Monitoring of ambient noise was performed using Larson-Davis Model LxT and 820 sound level meters.

hour noise measurement was conducted, beginning at the 8:00 p.m. hour on Thursday, May 2, 2019. The noise environment of this site is characterized primarily by local traffic.

- **Long-Term Location 5 (LT-5)** was on Point San Pedro Road east of Heritage Drive. The measurement location was approximately 45 feet north of the Point San Pedro Road westbound centerline. A 24-hour noise measurement was conducted, beginning at the 4:00 p.m. hour on Tuesday, May 7, 2019. The noise environment of this site is characterized primarily by local traffic.
- **Long-Term Location 6 (LT-6)** was on Fourth Street east of F Street. The measurement location was approximately 20 feet north of the Fourth Street westbound centerline. A 24-hour noise measurement was conducted, beginning at the 7:00 p.m. hour on Thursday, May 2, 2019. The noise environment of this site is characterized primarily by local traffic and downtown commercial activity.
- **Long-Term Location 7 (LT-7)** was on the corner of Third Street and Tamalpais Avenue. A 24-hour noise measurement was conducted, beginning at the 6:00 p.m. hour on Thursday, May 2, 2019. The noise environment of this site is characterized primarily by traffic on local roadways and US-101, SMART rail activity, and downtown commercial activity.
- **Long-Term Location 8 (LT-8)** was on Bayview Street west of Marin Street. The measurement location was approximately 20 feet south of the Bayview Street eastbound centerline. A 24-hour noise measurement was conducted, beginning at the 6:00 p.m. hour on Thursday, May 2, 2019. The noise environment of this site is characterized primarily by local traffic.
- **Long-Term Location 9 (LT-9)** was on Southern Heights Boulevard north of Meyer Road. A 24-hour noise measurement was conducted, beginning at the 3:00 p.m. hour on Tuesday, May 7, 2019. The noise environment of this site was noted to be relatively low, however distant property maintenance noise was noted during installation of the noise monitoring equipment.
- **Long-Term Location 10 (LT-10)** was on Catalina Boulevard north of Baypoint Drive. The measurement location was approximately 20 feet west of the Catalina Boulevard southbound centerline. A 24-hour noise measurement was conducted, beginning at the 5:00 pm hour on Thursday, May 2, 2019. The noise environment of this site is characterized primarily by local traffic.

Short-Term Noise Monitoring Locations

- **Short-Term Location 1 (ST-1)** was on Lucas Valley Road east of Huckleberry Road. The measurement location was approximately 20 feet north of the Lucas Valley Road westbound centerline. A 15-minute noise measurement was conducted, beginning at 3:28 p.m. on Thursday, May 9, 2019. The noise environment of this site is characterized primarily by local traffic. Secondary noise sources included occasional aircraft flyovers and birds.
- **Short-Term Location 2 (ST-2)** was on Lucas Valley Road east of Las Gallinas Avenue. The measurement location was approximately 20 feet north of the Lucas Valley Road westbound centerline. A 15-minute noise measurement was conducted, beginning at 3:02 p.m. on Thursday, May 9, 2019. The noise environment of this site is characterized primarily by local traffic.
- **Short-Term Location 3 (ST-3)** was on Smith Ranch Road west of Yosemite Road. The measurement location was approximately 35 feet south of the Smith Ranch Road eastbound centerline. A 15-minute noise measurement was conducted, beginning at 3:53 p.m. on Thursday, May 9, 2019. The noise environment of this site is characterized primarily by local traffic. Secondary noise sources included occasional aircraft flyovers and distant rail crossing noise.

- **Short-Term Location 4 (ST-4)** was in front of 1054 Las Gallinas Avenue. The measurement location was approximately 30 feet east of the Las Gallinas Avenue northbound centerline. A 15-minute noise measurement was conducted, beginning at 4:39 p.m. on Thursday, May 9, 2019. The noise environment of this site is characterized primarily by local traffic. Secondary noise sources included birds and distant highway noise.
- **Short-Term Location 5 (ST-5)** was on Los Gamos Drive north of Oleander Drive. The measurement location was approximately 30 feet east of the Los Gamos Drive northbound centerline. A 15-minute noise measurement was conducted, beginning at 4:17 pm on Thursday, May 9, 2019. The noise environment of this site is characterized primarily by highway traffic. Secondary noise sources included occasional aircraft flyovers and birds. No car pass-bys were observed on Los Gamos Drive.
- **Short-Term Location 6 (ST-6)** was in front of 405 North San Pedro Road. The measurement location was approximately 20 feet west of the North San Pedro Road southbound centerline. A 15-minute noise measurement was conducted, beginning at 9:44 a.m. on Thursday, May 9, 2019. The noise environment of this site is characterized primarily by local traffic. Secondary noise sources included distant construction, nearby HVAC equipment, and occasional dogs and chickens.
- **Short-Term Location 7 (ST-7)** was on Manuel T. Freitas Parkway west of Las Gallinas Avenue. The measurement location was approximately 30 feet north of the Manuel T. Freitas Parkway westbound centerline. A 15-minute noise measurement was conducted, beginning at 5:00 p.m. on Thursday, May 9, 2019. The noise environment of this site is characterized primarily by local traffic. Secondary noise sources included birds and dogs.
- **Short-Term Location 8 (ST-8)** was in front of 411 Montecillo Road. The measurement location was approximately 20 feet west of the Montecillo Road southbound centerline. A 15-minute noise measurement was conducted, beginning at 5:24 p.m. on Thursday, May 9, 2019. The noise environment of this site is characterized primarily by local traffic. Secondary noise sources included occasional aircraft flyovers, and typical residential noises such as children playing.
- **Short-Term Location 9 (ST-9)** was across from 148 North San Pedro Road. The measurement location was approximately 20 feet south of the North San Pedro Road northbound centerline. A 15-minute noise measurement was conducted, beginning at 9:23 a.m. on Thursday, May 9, 2019. The noise environment of this site is characterized primarily by local traffic. Secondary noise sources included occasional birds.
- **Short-Term Location 10 (ST-10)** was on Fifth Avenue east of Eye Street. The measurement location was approximately 25 feet north of the Fifth Avenue westbound centerline. A 15-minute noise measurement was conducted, beginning at 3:00 p.m. on Tuesday, May 7, 2019. The noise environment of this site is characterized primarily by local traffic. Secondary noise sources included occasional birds.
- **Short-Term Location 11 (ST-11)** was in front of 1330 Grand Avenue. The measurement location was approximately 20 feet east of the Grand Avenue northbound centerline. A 15-minute noise measurement was conducted, beginning at 8:56 a.m. on Thursday, May 9, 2019. The noise environment of this site is characterized primarily by local traffic and distant highway noise. Secondary noise sources included occasional birds.
- **Short-Term Location 12 (ST-12)** was on Third Street west of Shaver Street. The measurement location was approximately 30 feet north of the Third Street westbound centerline. A 15-minute noise

measurement was conducted, beginning at 3:30 p.m. on Tuesday, May 7, 2019. The noise environment of this site is characterized primarily by local traffic. Secondary noise sources included a nearby car wash.

- **Short-Term Location 13 (ST-13)** was in front of 1122 Fourth Street. The measurement location was approximately 20 feet north of the Fourth Street westbound centerline. A 15-minute noise measurement was conducted, beginning at 5:01 p.m. on Tuesday, May 7, 2019. The noise environment of this site is characterized primarily by local traffic and downtown commercial activity.
- **Short-Term Location 14 (ST-14)** was on Lincoln Avenue north of Fifth Avenue. The measurement location was approximately 20 feet east of the Lincoln Avenue northbound centerline. A 15-minute noise measurement was conducted, beginning at 6:05 p.m. on Tuesday, May 7, 2019. The noise environment of this site is characterized primarily by local traffic. Secondary noise sources included occasional birds.
- **Short-Term Location 15 (ST-15)** was on Second Street west of B Street. The measurement location was approximately 20 feet south of the Second Street eastbound centerline. A 15-minute noise measurement was conducted, beginning at 4:24 p.m. on Tuesday, May 7, 2019. The noise environment of this site is characterized primarily by local traffic.
- **Short-Term Location 16 (ST-16)** was on Fourth Street east of Grand Avenue. The measurement location was approximately 30 feet north of the Fourth Street westbound centerline. A 15-minute noise measurement was conducted, beginning at 6:36 p.m. on Tuesday, May 7, 2019. The noise environment of this site is characterized primarily by local traffic and distant highway traffic. Secondary noise sources included occasional birds.
- **Short-Term Location 17 (ST-17)** was on D Street north of Ross Street. The measurement location was approximately 30 feet west of the D Street southbound centerline. A 15-minute noise measurement was conducted, beginning at 3:56 p.m. on Tuesday, May 7, 2019. The noise environment of this site is characterized primarily by local traffic and distant highway traffic. Secondary noise sources included occasional birds.
- **Short-Term Location 18 (ST-18)** was near the baseball diamond at Albert Park. The measurement location was approximately 65 feet south of the Anderson Drive eastbound centerline. A 15-minute noise measurement was conducted, beginning at 5:37 p.m. on Tuesday, May 7, 2019. The noise environment of this site is characterized primarily by local traffic and distant highway traffic and children playing baseball. Secondary noise sources included occasional birds.
- **Short-Term Location 19 (ST-19)** was in front of 314 Du Bois Street. The measurement location was approximately 20 feet east of the Du Bois Street northbound centerline. A 15-minute noise measurement was conducted, beginning at 8:26 a.m. on Thursday, May 9, 2019. The noise environment of this site is characterized primarily by local traffic. Secondary noise sources included distant yard maintenance and occasional birds.
- **Short-Term Location 20 (ST-20)** was on Kerner Boulevard south of Bahia Way. The measurement location was approximately 20 feet east of the Kerner Boulevard northbound centerline. A 15-minute noise measurement was conducted, beginning at 7:51 a.m. on Thursday, May 9, 2019. The noise environment of this site is characterized primarily by local traffic and distant highway traffic. Secondary noise sources included typical residential neighborhood sounds such as children.

- **Short-Term Location 21 (ST-21)** was in front of 233 Bellam Boulevard. The measurement location was approximately 25 feet north of the Bellam Boulevard westbound centerline. A 15-minute noise measurement was conducted, beginning at 7:27 a.m. on Thursday, May 9, 2019. The noise environment of this site is characterized primarily by local traffic and distant highway traffic.
- **Short-Term Location 22 (ST-22)** was on Shoreline Parkway east of Kerner Boulevard. The measurement location was approximately 20 feet south of the Shoreline Parkway eastbound centerline. A 15-minute noise measurement was conducted, beginning at 7:00 a.m. on Thursday, May 9, 2019. The noise environment of this site is characterized primarily by local traffic and distant highway traffic.

Ambient Noise Results, Long-Term Monitoring

During the ambient noise survey, the L_{dn} noise levels at monitoring locations ranged from 47 to 74 dBA L_{dn} . The long-term noise measurement results are summarized in Table I-1. Graphs at the end of this Appendix show the sound levels from the noise monitors during the sample periods.

Existing Traffic Noise

Traffic noise levels were estimated using the FHWA Highway Traffic Noise Prediction Model and traffic data provided by Fehr & Peers Transportation Consultants. The FHWA model predicts noise levels through a series of adjustments to a referenced sound level. These adjustments account for distances from the roadway, traffic volumes, vehicle speeds, car/truck mix, number of lanes, and road width. Existing (2019) roadway and highway noise contours of 60, 65, and 70 dBA L_{dn} noise contours are shown on Figures I-2 through I-9.

Aircraft Noise

Aircraft noise in the EIR Study Area is characterized as rare but can be intrusive to nearby sensitive receptors. There is one airport in the EIR Study Area, the San Rafael Airport, which is in the northeastern portion of the EIR Study Area. The nearest heliport is the San Rafael Private Heliport located on Kerner Boulevard in San Rafael. The San Rafael Airport is a private airstrip with minimal air traffic. As shown on Figure I-10, airport noise contours from 2003 do not extend much beyond the runway, and aircraft noise does not substantially affect nearby sensitive receptors. Figure I-11 shows the San Rafael Private Heliport noise contours. The heliport is in a commercial part of the Planning Area.

Railroad Noise

The SMART rail is the only source of rail noise in the Planning Area. There is no freight service along the rail line. Due to the establishment of a Quiet Zone in Marin County, noise from the SMART rail is not substantial much beyond the rail right-of-way. Train operators are not required to sound their horn at grade crossings due to the Quiet Zone. However, the train operator may still sound their horn in the case of emergencies at their discretion. Ambient noise monitoring at the long-term monitoring location LT-2 indicates that the 60 L_{dn} noise contour from SMART rail activity does not extend beyond 50 feet from the railroad centerline. Although there were a few locations near the SMART tracks with ambient noise levels exceeding 60 L_{dn} , the higher ambient noise is associated with proximity to local roadways and US-101 rather than SMART rail activity alone.

TABLE I-1 LONG-TERM NOISE MEASUREMENT SUMMARY (DBA)

Monitoring Location	Description	L _{dn}	Lowest L _{eq, 1-Hour}	Highest L _{eq, 1-Hour}
LT-1	Northgate Drive	60	35.1	61.7
LT-2	SMART Rail Crossing	60	37.5	60.5
LT-3	Elizabeth Way	59	31.1	62.3
LT-4	Mountain View Avenue	64	44.7	68.9
LT-5	Point San Pedro Road	58	40.0	61.6
LT-6	Fourth Street	71	56.8	68.5
LT-7	Third Street	74	54.8	75.1
LT-8	Bayview Street	62	41.8	72.2
LT-9	Southern Heights Boulevard	47	29.8	50.0
LT-10	Catalina Boulevard	58	35.0	59.2

Source: PlaceWorks, 2019.

Short-Term Noise Monitoring Results

The short-term noise measurement results are summarized in Table I-2.

TABLE I-2 SHORT-TERM NOISE MEASUREMENT SUMMARY (DBA)

Monitoring Location	Description	15-Minute Noise Level, dBA		
		L _{min}	L _{eq}	L _{max}
ST-1	Lucas Valley Road - 3:28 pm, 5/9/2019	42.4	71.4	80.8
ST-2	Lucas Valley Road - 3:02 pm, 5/9/2019	49.9	72.1	82.6
ST-3	Smith Ranch Road - 3:53 pm, 5/9/2019	45.8	62.1	71.7
ST-4	Las Gallinas Avenue - 4:39 pm, 5/9/2019	44.9	62.4	74.9
ST-5	Los Gamos Road - 4:17 pm, 5/9/2019	50.5	53.9	61.0
ST-6	N. San Pedro Road - 9:44 am, 5/9/2019	42.4	65.4	77.5
ST-7	Manuel T. Freitas Parkway - 5:00 pm, 5/9/2019	43.1	67.9	77.6
ST-8	Montecillo Road - 5:24 pm, 5/9/2019	37.3	55.4	68.3
ST-9	N. San Pedro Road - 9:23 am, 5/9/2019	48.0	66.9	78.6
ST-10	Fifth Avenue - 3:00 pm, 5/7/2019	42.2	62.1	72.0
ST-11	Grand Avenue - 8:56 am, 5/9/2019	50.9	64.6	76.6
ST-12	Third Street - 3:30 pm, 5/7/2019	48.2	70.8	81.1
ST-13	Fourth Street - 5:01 pm, 5/7/2019	54.2	69.9	87.7
ST-14	Lincoln Avenue - 6:05 pm, 5/7/2019	51.9	62.9	74.2
ST-15	Second Street - 4:24 pm, 5/7/2019	51.4	69.0	82.9
ST-16	Fourth Street - 6:36 pm, 5/7/2019	53.0	63.3	78.0
ST-17	D Street - 3:56 pm, 5/7/2019	47.7	63.6	74.7
ST-18	Albert Park - 5:37 pm, 5/7/2019	46.1	58.1	72.3
ST-19	Du Bois Street - 8:26 am, 5/9/2019	42.7	57.4	78.5
ST-20	Kerner Boulevard - 7:51 am, 5/9/2019	49.0	62.2	79.2
ST-21	Bellam Boulevard - 7:27 AM, 5/9/2019	56.1	63.6	75.7
ST-22	Shoreline Parkway - 7:00 AM, 5/9/2019	50.2	63.9	77.7

Source: PlaceWorks, 2019.

Stationary Source Noise

Stationary sources of noises may occur on all types of land uses. Residential uses generate noise from landscaping, maintenance activities, and air conditioning systems. Commercial uses generate noise from heating, ventilation, air conditioning (HVAC) systems, loading docks, and other sources. Industrial uses may generate HVAC systems, loading docks, and possibly machinery. Noise generated by residential or commercial uses are generally short and intermittent. Industrial uses may generate noise on a more continual basis due to the nature of the activities. Nightclubs, outdoor dining areas, gas stations, car washes, fire stations, drive-throughs, swimming pool and hot tub pumps, school playgrounds, athletic and music events, and public parks are other common noise sources.

Emergency backup generators are also a common outdoor noise source. Effective November 2019, the City has approved an ordinance allowing residents and businesses to use generators during power failures, even when the resulting noise levels exceed adopted limits. This is in response to recent public safety power shutoffs issued by Pacific Gas & Electric that were instituted for wildfire prevention in 2019 and are anticipated to continue to be used as a wildfire prevention mechanism in the future.

The San Rafael Rock Quarry and McNear Brickworks is a stationary source of noise. Located in unincorporated Marin County adjacent to the city at 1000 Point San Pedro Road, noise sources from the quarry include on-site machinery, truck movements, periodic rock blasting, and on-road haul trucks traveling to and from the site.

Projected Year 2040 Noise Contours

Future development from implementation of the proposed General Plan 2040 would cause increases in traffic along local roadways. Traffic noise levels were estimated using the FHWA Highway Traffic Noise Prediction Model. Traffic volumes for existing and 2040 conditions were obtained from Fehr & Peers. The FHWA model predicts noise levels through a series of adjustments to a reference sound level. These adjustments account for distances from the roadway, traffic volumes, vehicle speeds, car/truck mix, number of lanes, and road width.

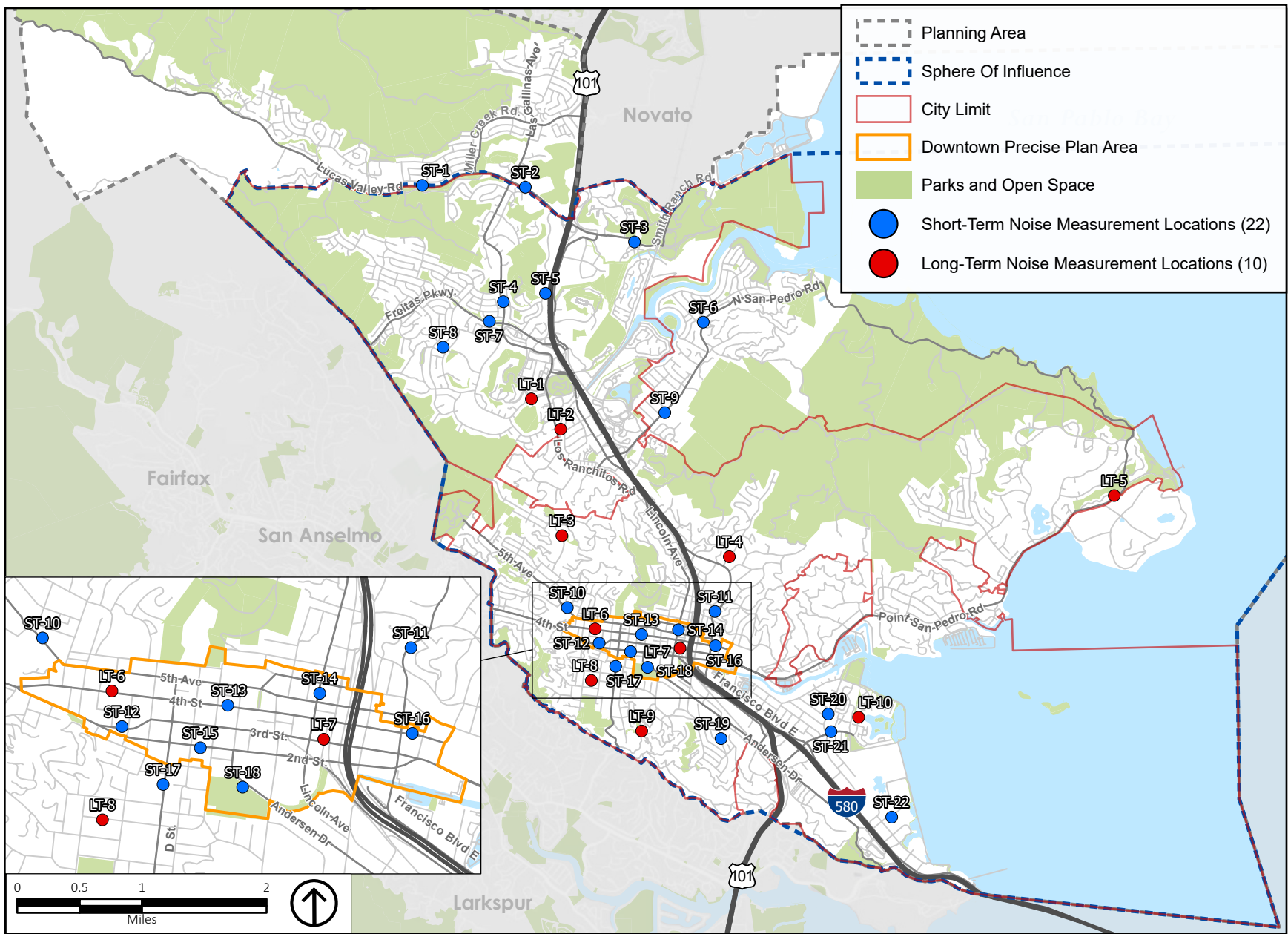
Table I-3 presents the noise level increases on roadways over existing conditions at 50 feet from the centerline of the nearest travel lane. Figures I-12 through 4.13-20 show the 60, 65, and 70 dBA L_{dn} noise contours from roadways and highways.

As shown in Table I-3, traffic noise increases along roadways are generally in the range of 0 to 1.5 dBA CNEL with implementation of the proposed 2040 General Plan. Increases over 1.5 CNEL are indicated in a few locations.

TABLE I-3 TRAFFIC NOISE INCREASES IN THE EIR STUDY AREA

Roadway Segment	Existing L _{dn} (dBA) at 50 Feet	2040 General Plan L _{dn} (dBA) at 50 Feet	Increase	Threshold	Significant?
2nd St from 2nd-4th-Marquard to Hayes St	71.8	72.4	0.6	1.5	no
2nd St from Hayes St to Grand Ave	69.8	70.3	0.5	1.5	no
3rd St from Shaver St to Union St	67.5	68.4	0.8	1.5	no
3rd St from Union St to Mooring St	68.7	68.7	0.0	1.5	no
4th St from Ross Valley to 2nd-4th-Marquard	73.4	73.4	0.0	1.5	no
4th St from 2nd-4th-Marquard to Grand Ave	61.6	61.7	0.1	3	no
5th Ave from H St to Grand Ave	57.5	58.0	0.5	5	no
A St from 2nd St to 5th St	57.4	57.6	0.1	5	no
Andersen Dr from 2nd St to Bellam Blvd	65.2	65.5	0.3	1.5	no
Andersen from Bellam to Sir Francis Drake	69.2	69.3	0.0	1.5	no
Bellam from Andersen to Kerner	70.2	70.4	0.2	1.5	no
Civic Center Dr from Freitas to Merrydale O/C	63.9	64.9	1.0	3	no
Civic Center from Merrydale O/C to N San Pedro	59.5	61.0	1.6	5	no
D St from 4th to Bayview	62.9	63.0	0.1	3	no
Francisco Blvd East from Grand Ave to Bellam	65.8	66.3	0.5	1.5	no
Francisco East from Bellam to Main	67.2	68.0	0.9	1.5	no
Francisco West from 2nd St to Andersen	59.5	61.1	1.6	5	no
Freitas from Montecillo to Las Gallinas	65.8	66.2	0.4	1.5	no
Freitas from Las Gallinas to Del Presidio	69.3	70.2	1.0	1.5	no
Grand Ave from Villa to Mission Ave	58.0	58.3	0.3	5	no
Grand Ave from Mission to 2nd St	62.0	62.0	0.0	3	no
Hetherton from Mission to 2nd St	68.0	69.2	1.1	1.5	no
Irwin from Mission to 2nd St	67.2	68.1	0.9	1.5	no
Kerner from Canal to Bellam	61.0	61.0	0.0	3	no
Las Gallinas from Lucas Valley to Freitas	59.1	59.5	0.4	5	no
Las Gallinas from Freitas to Northgate	62.8	63.8	1.0	3	no
Lincoln from US-101 SB-Hammondale to Mission	62.3	63.8	1.4	3	no
Lincoln from Mission to Irwin	61.6	64.0	2.5	3	no
Lindaro from 3rd to Andersen	60.5	60.9	0.4	3	no
Los Ranchitos from Northgate to N San Pedro	60.0	60.9	0.9	3	no
Los Ranchitos from N San Pedro to Lincoln	59.9	62.1	2.3	5	no
Lucas Valley from Las Gallinas to US-101 SB Ramps	69.1	69.2	0.1	1.5	no
Mission from H St to Lincoln	57.9	58.4	0.5	5	no
Mission from Lincoln to Grand Ave	60.7	62.9	2.2	3	no
N San Pedro from Los Ranchitos to Civic Center	62.4	63.1	0.7	3	no
Northgate from Freitas to Los Ranchitos	56.9	57.9	1.0	5	no
Point San Pedro from Mooring to end	69.7	69.8	0.1	1.5	no
Redwood Highway from Smith Ranch to Freitas	63.9	63.9	0.0	3	no
Smith Ranch from US-101 NB Ramps to Silvera	65.5	65.5	0.0	1.5	no
Woodland from Lindaro to Irwin	58.1	59.4	1.3	5	no
Woodland from Irwin to Bellam	61.3	62.6	1.3	3	no

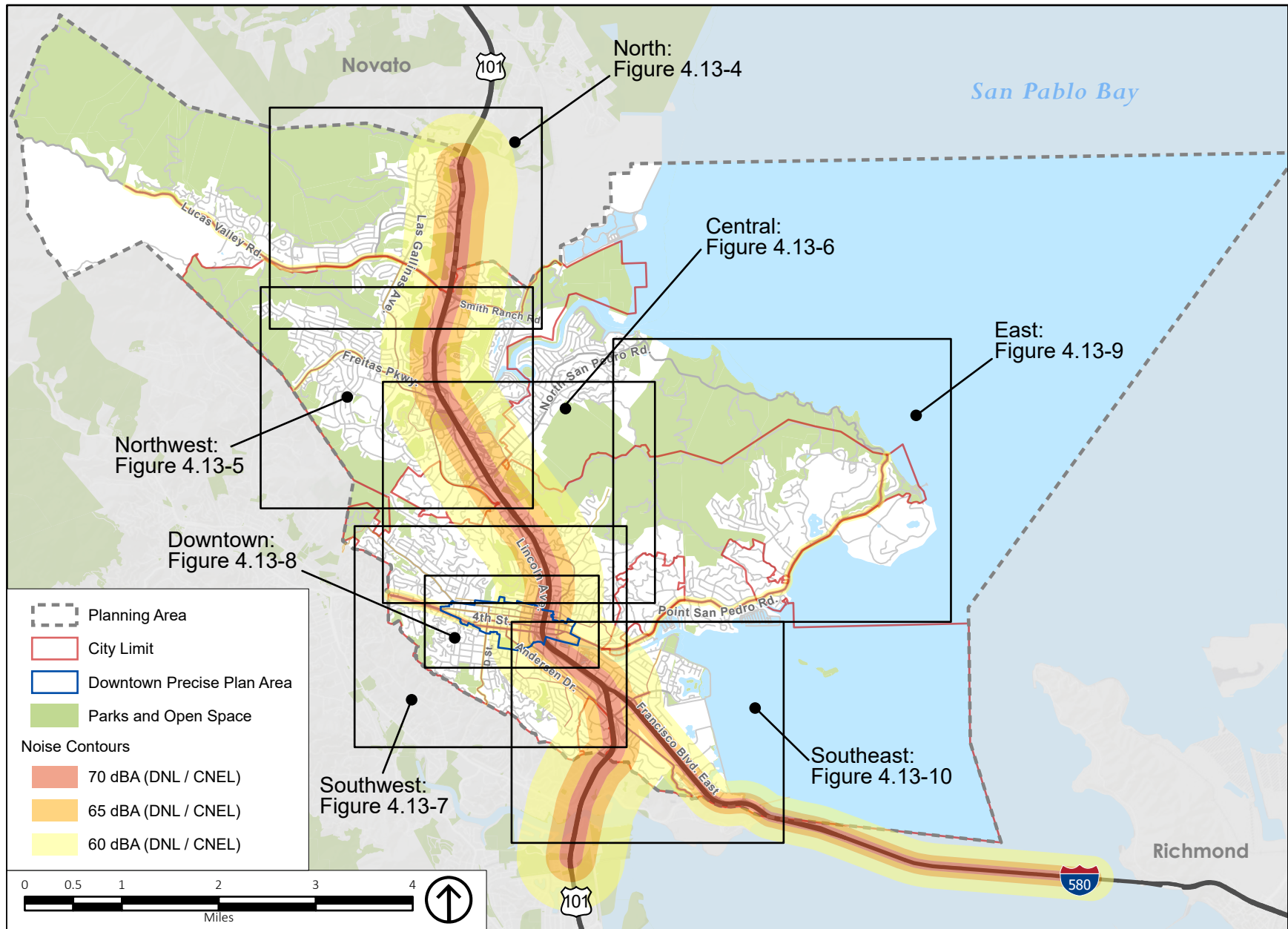
Source: Based on FHWA’s traffic noise prediction model methodology using roadway volumes, vehicle mix, time of day splits, and number of lanes provided by Fehr & Peers, 2020 (see Appendix H, Noise Data, of this Draft EIR).



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure I-1

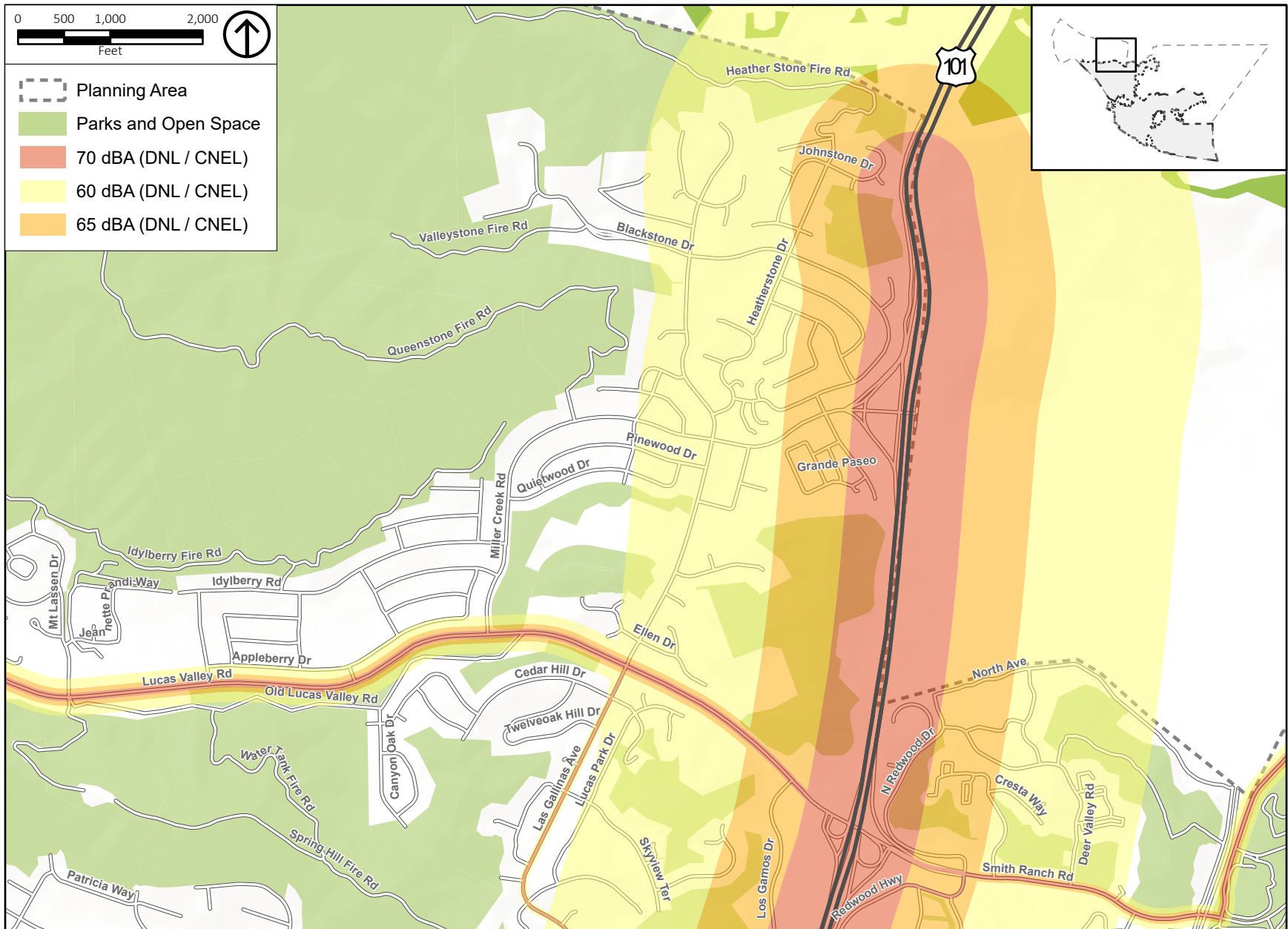
Approximate Noise Monitoring Locations



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure I-2

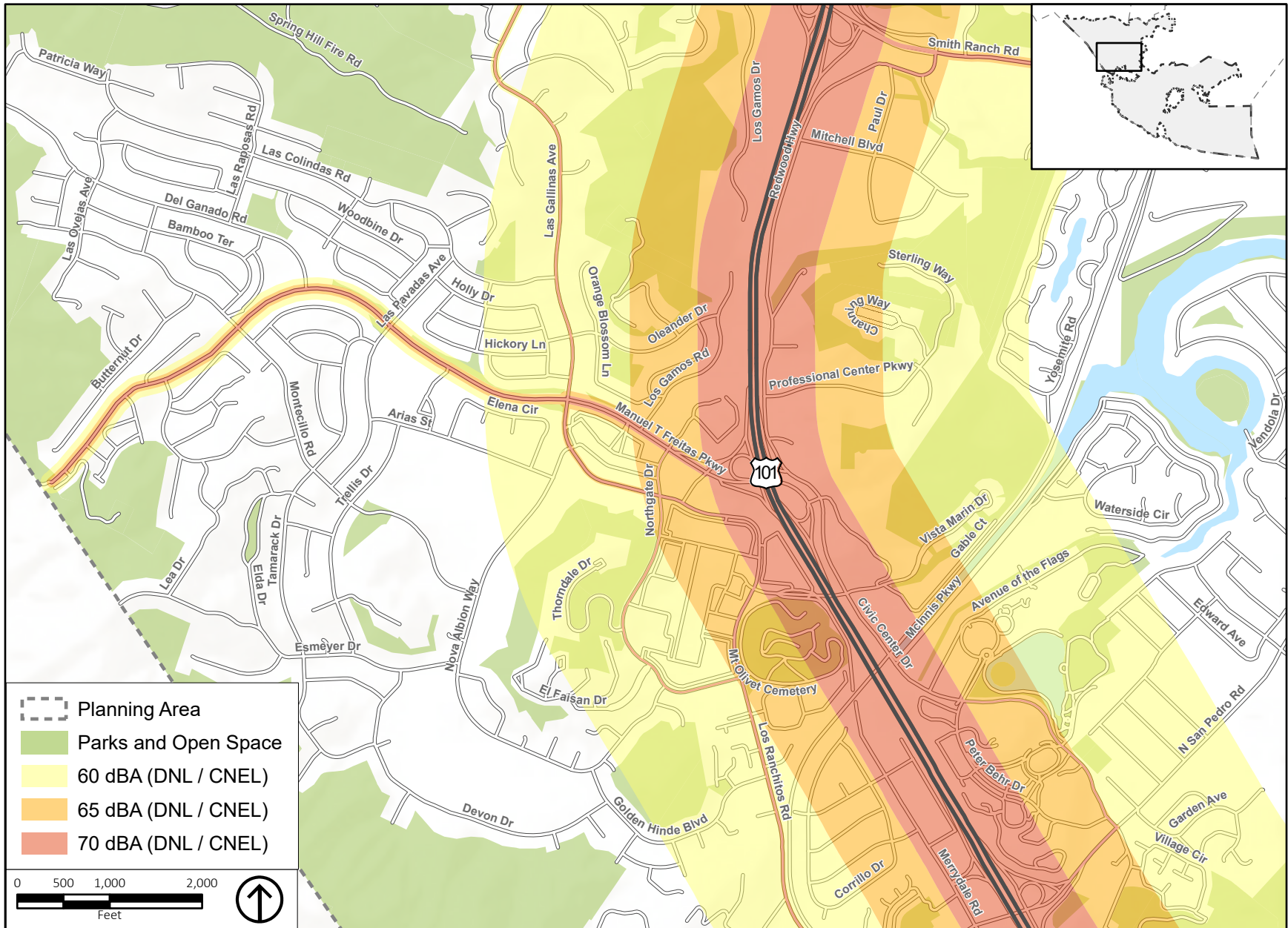
Existing Traffic Noise Contours-Planning Area



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

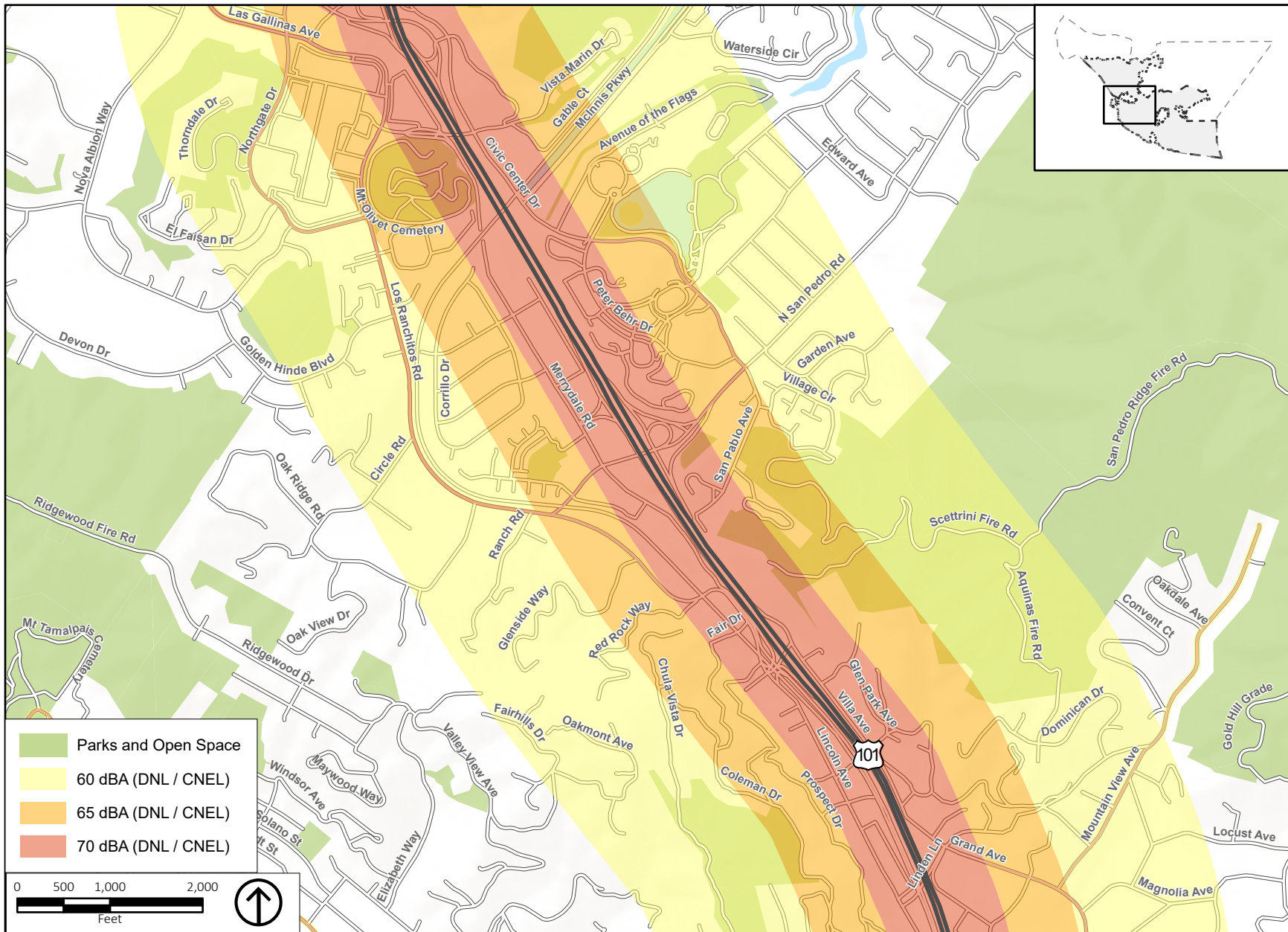
Figure I-3

Existing Traffic Noise Contours-North



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

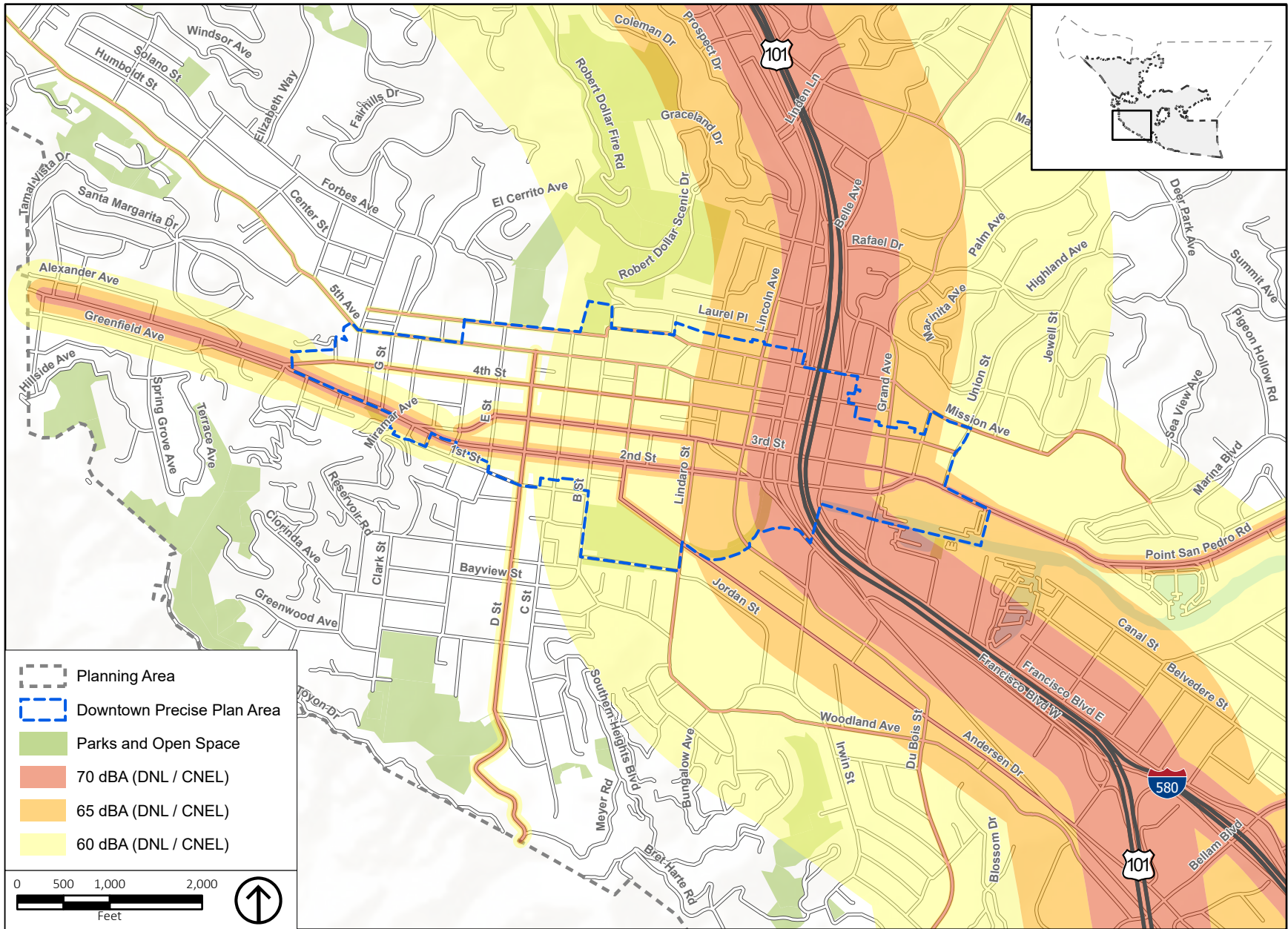
Figure I-4
Existing Traffic Noise Contours-Northwest



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure I-5

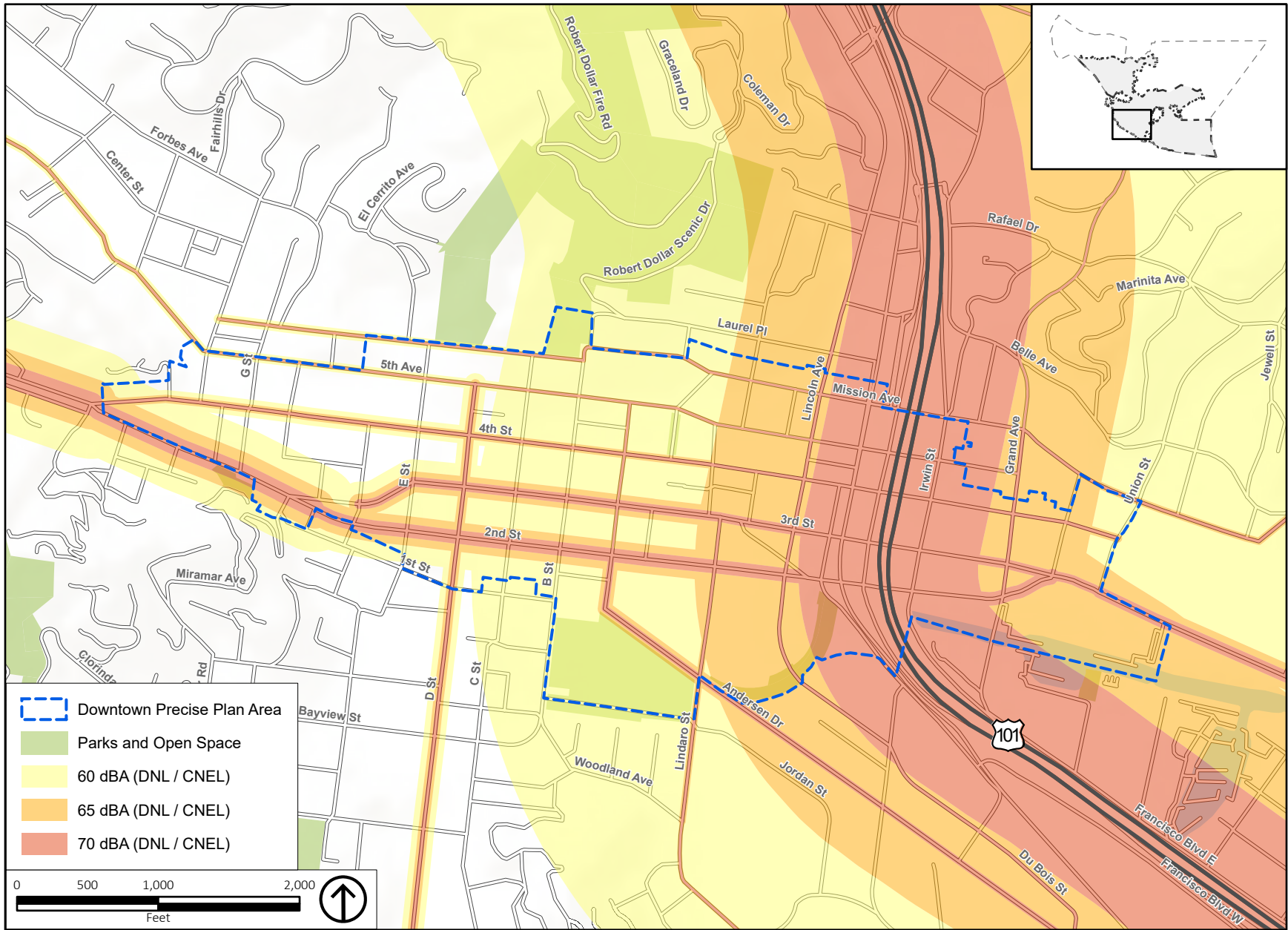
Existing Traffic Noise Contours-Central



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure I-6

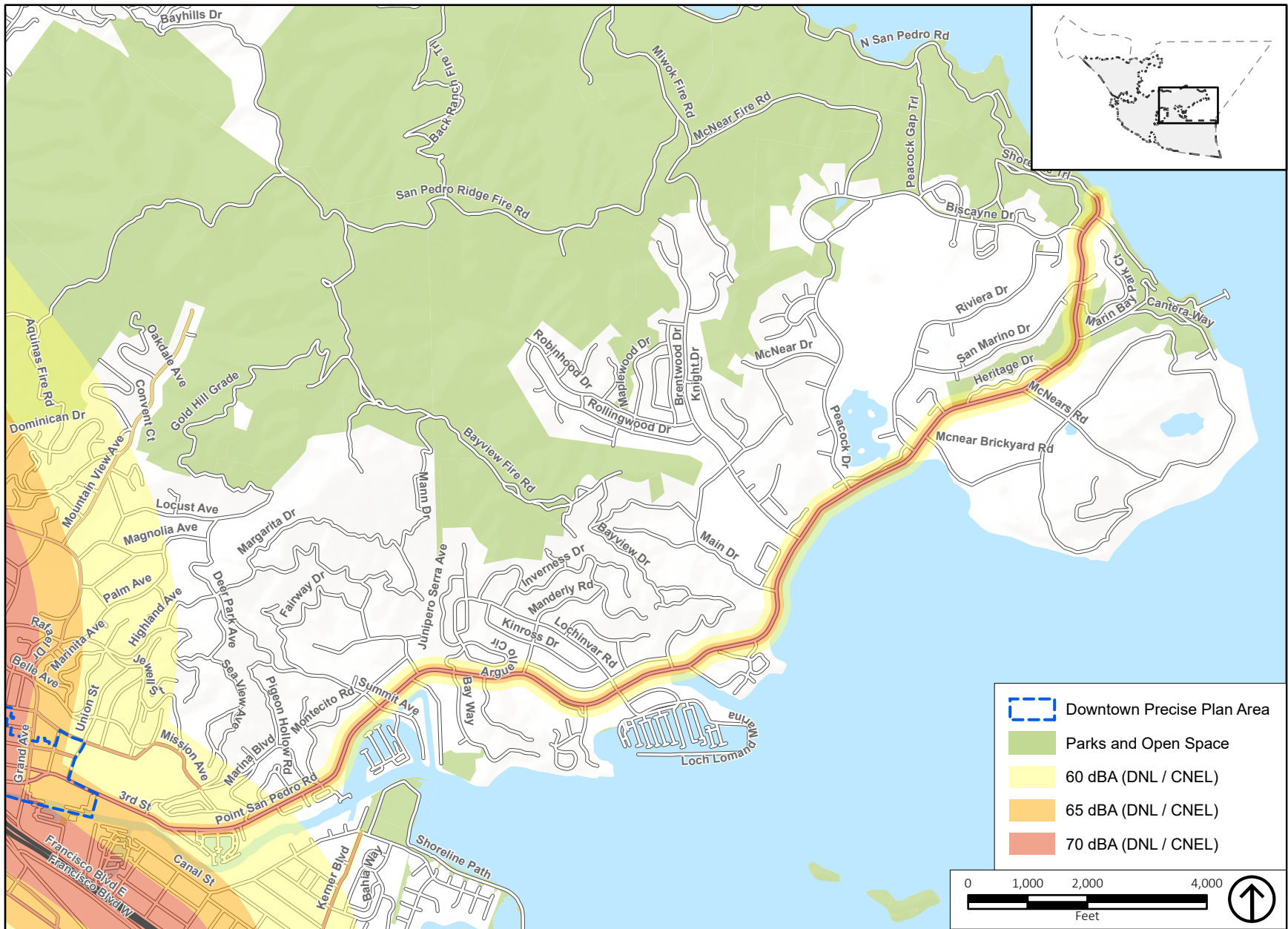
Existing Traffic Noise Contours-Southwest



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

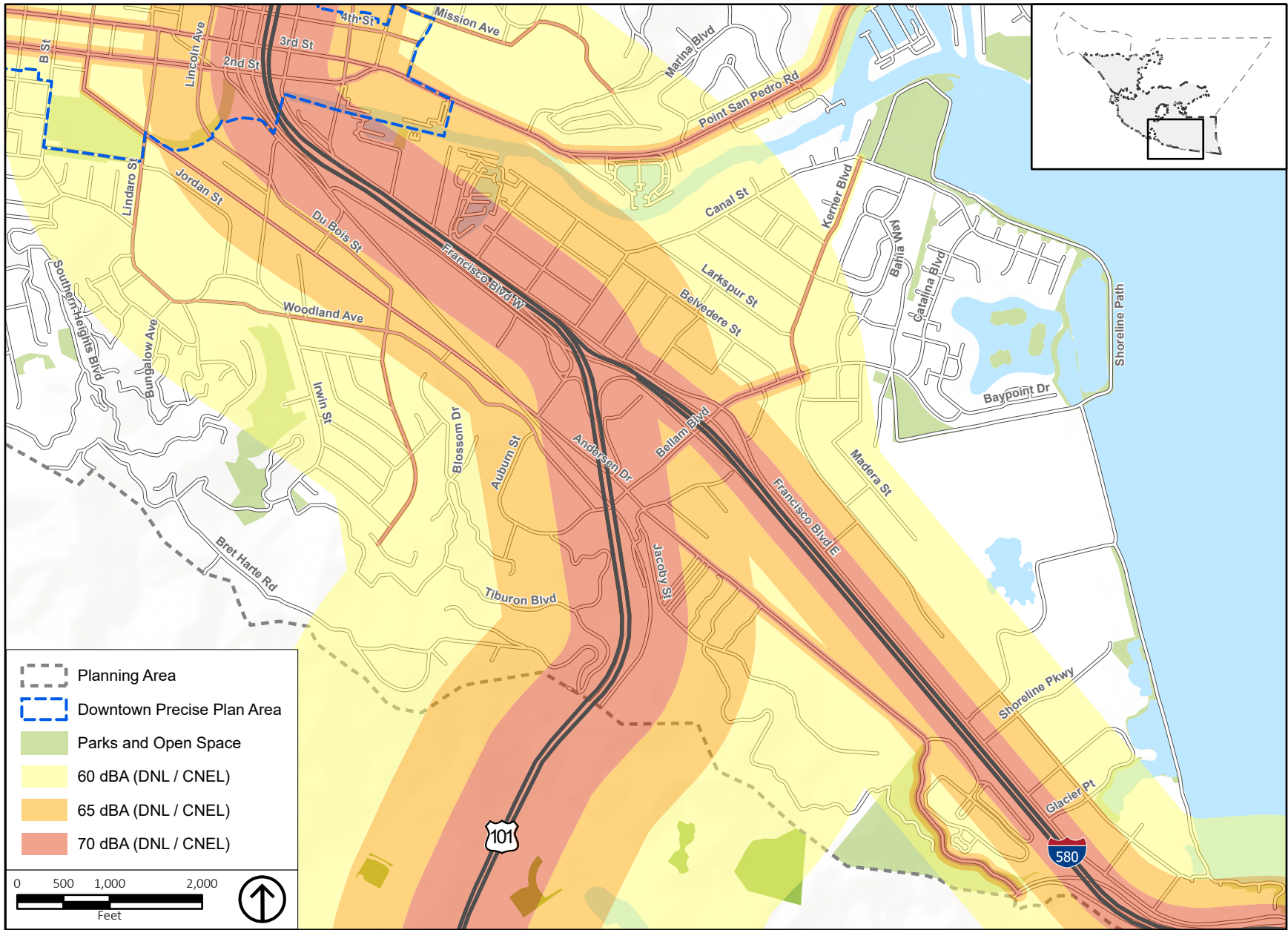
Figure I-7

Existing Traffic Noise Contours -Downtown



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

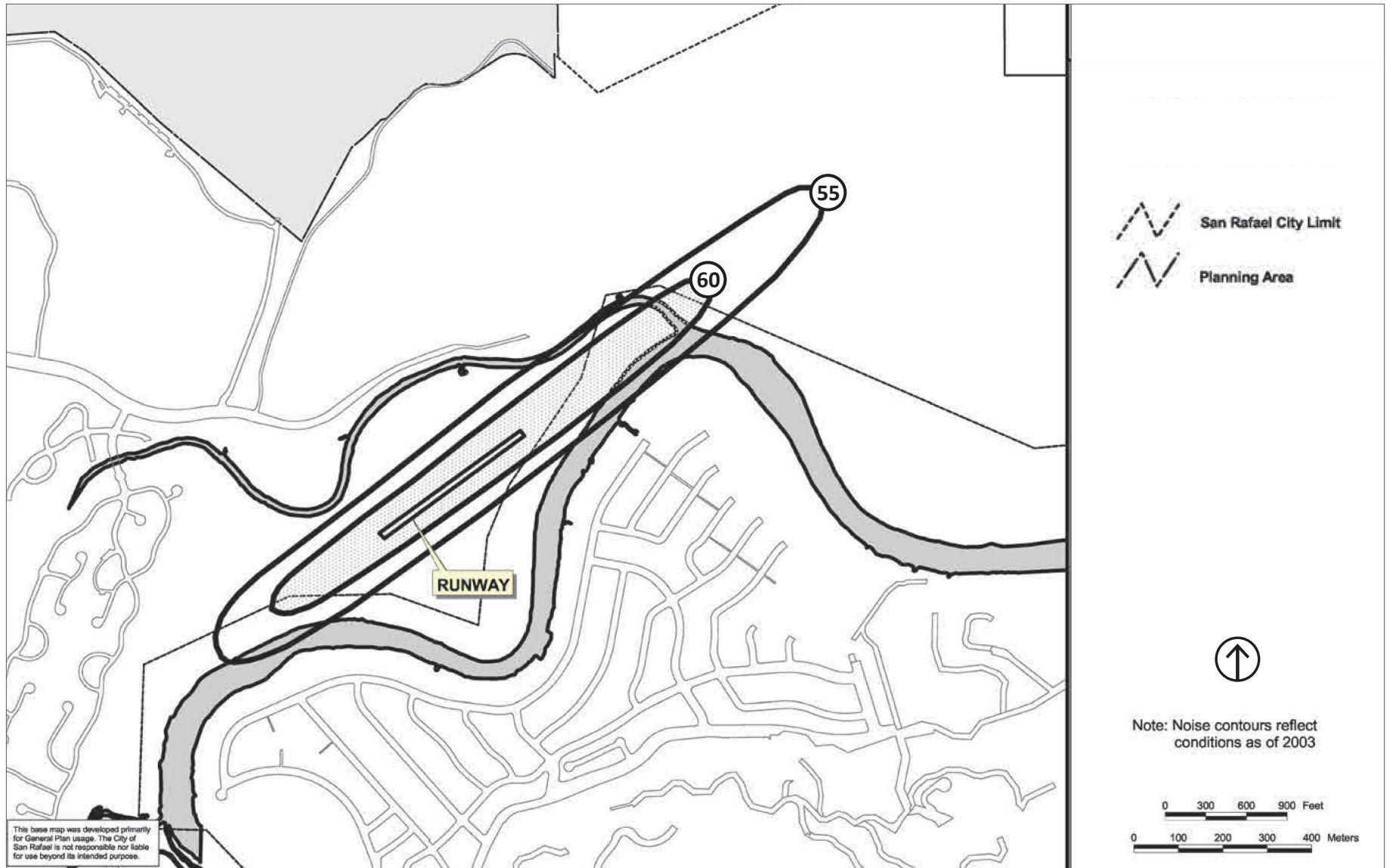
Figure I-8
Existing Traffic Noise Contours-East



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure I-9

Existing Traffic Noise Contours-Southeast



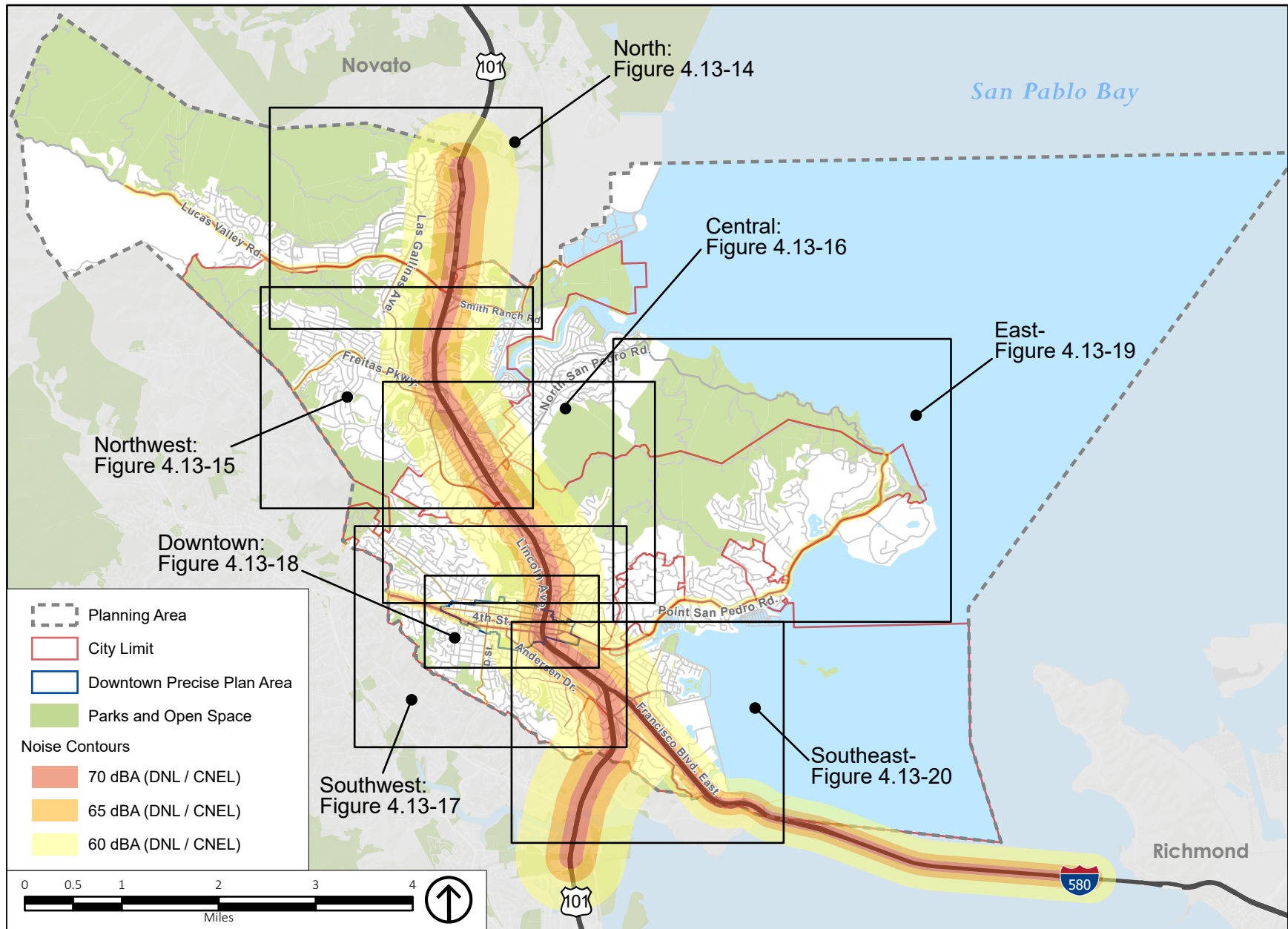
Source: City of San Rafael General Plan 2020, Exhibit 32.

Figure I-10
San Rafael Airport Noise Contours



Source: City of San Rafael General Plan 2020, Exhibit 33.

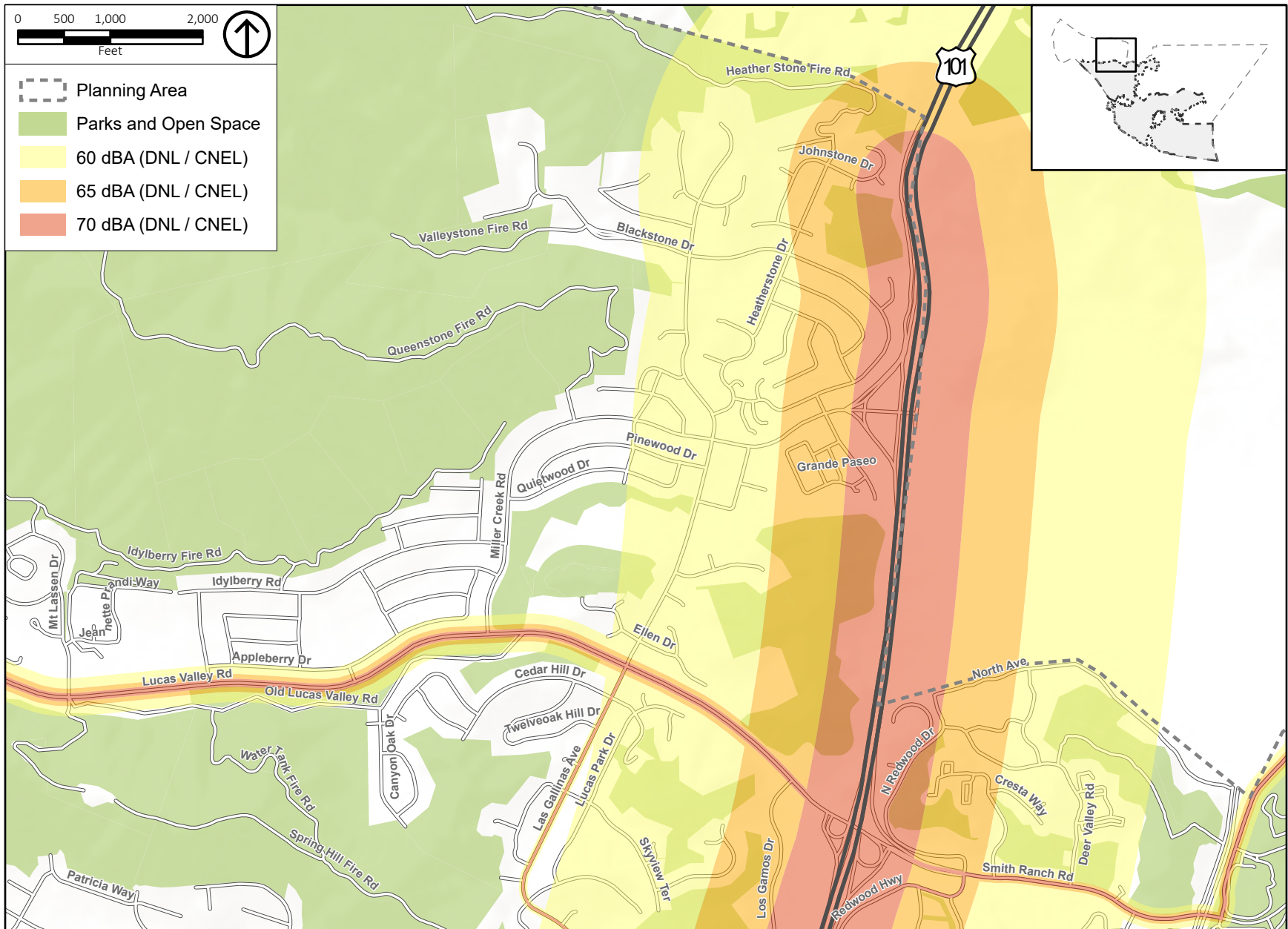
Figure I-11
Heliport Noise Contours



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure I-12

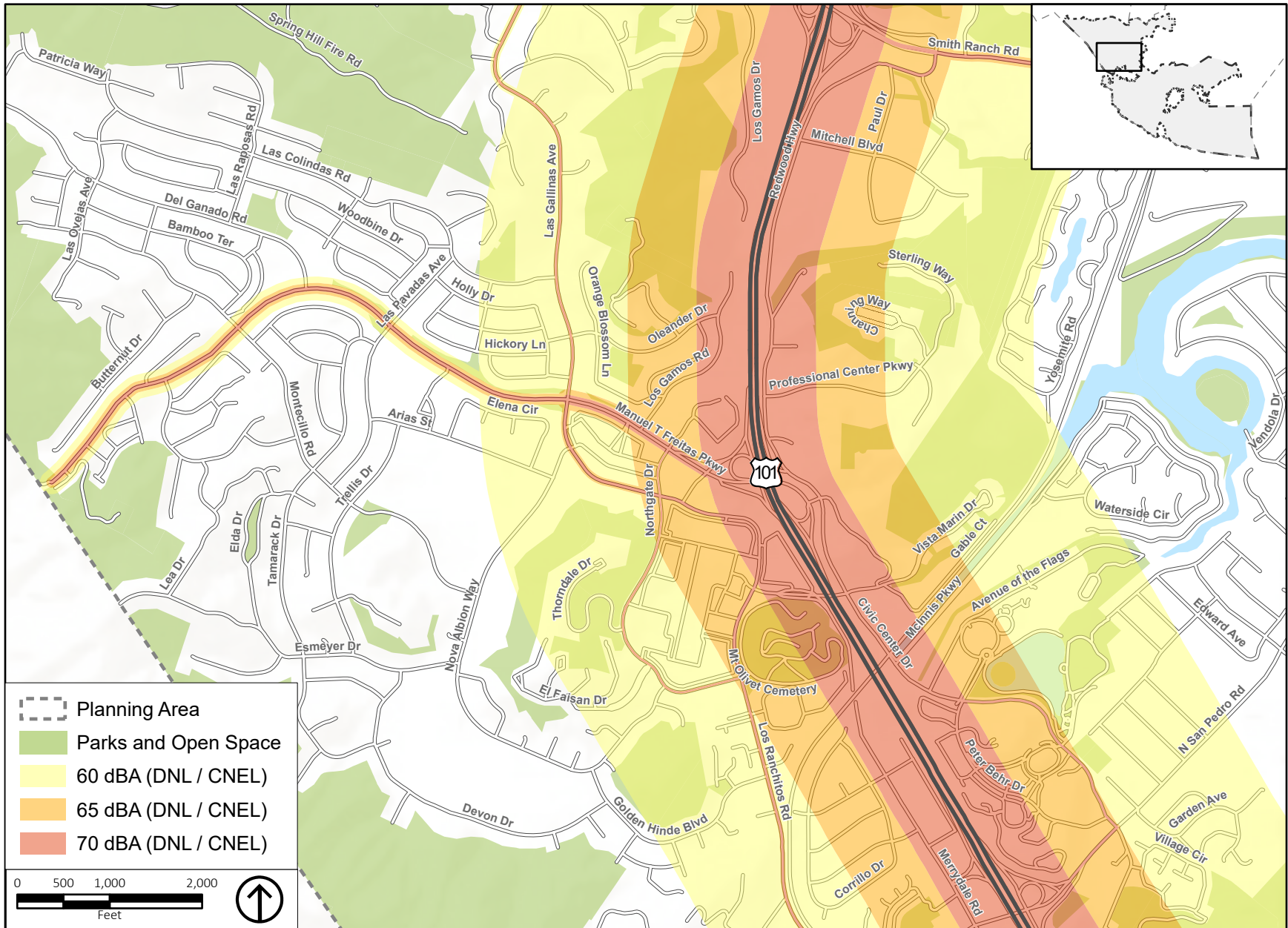
2040 Traffic Noise Contours-Planning Area



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

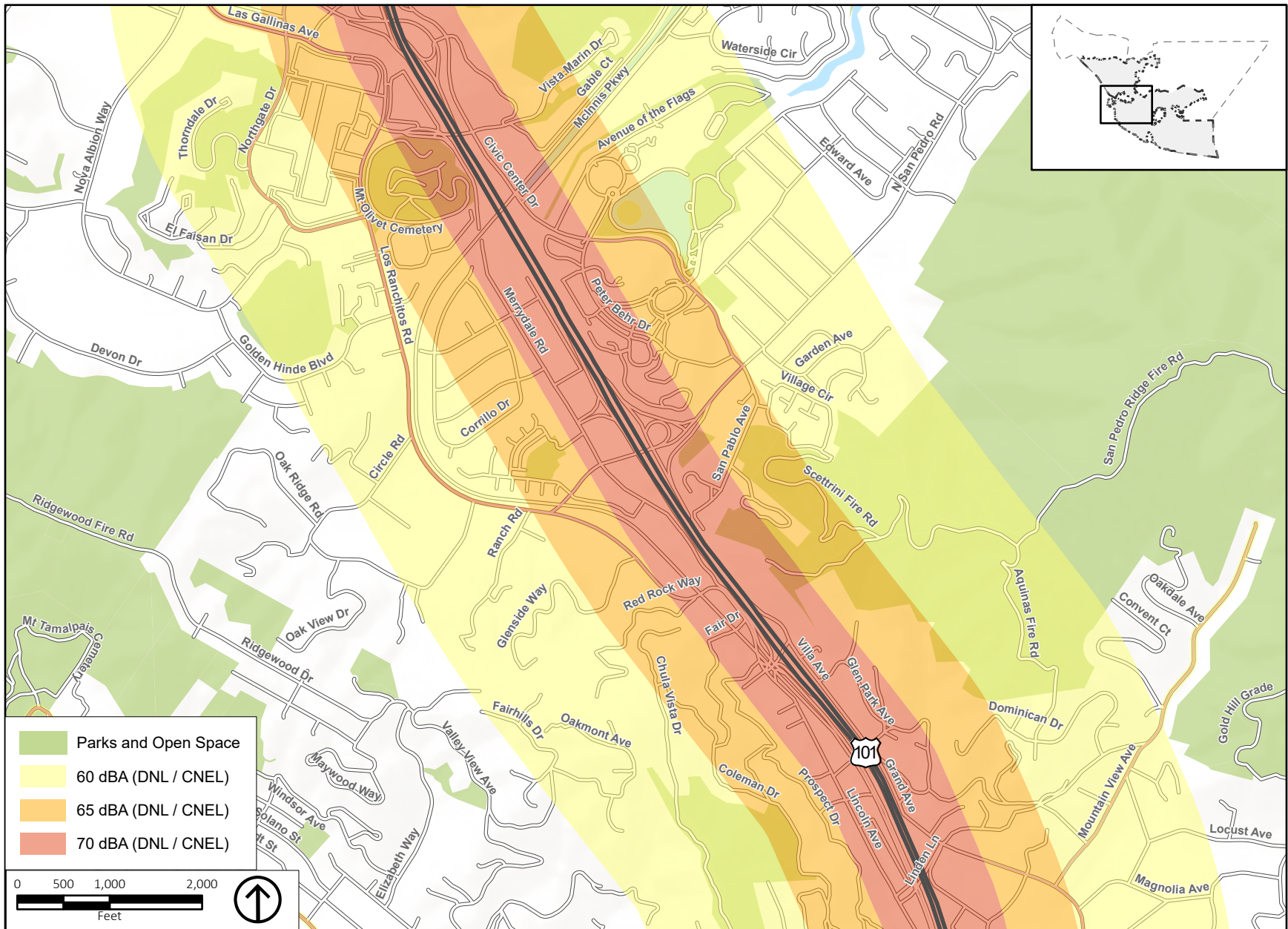
Figure I-13

2040 Traffic Noise Contours-North



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

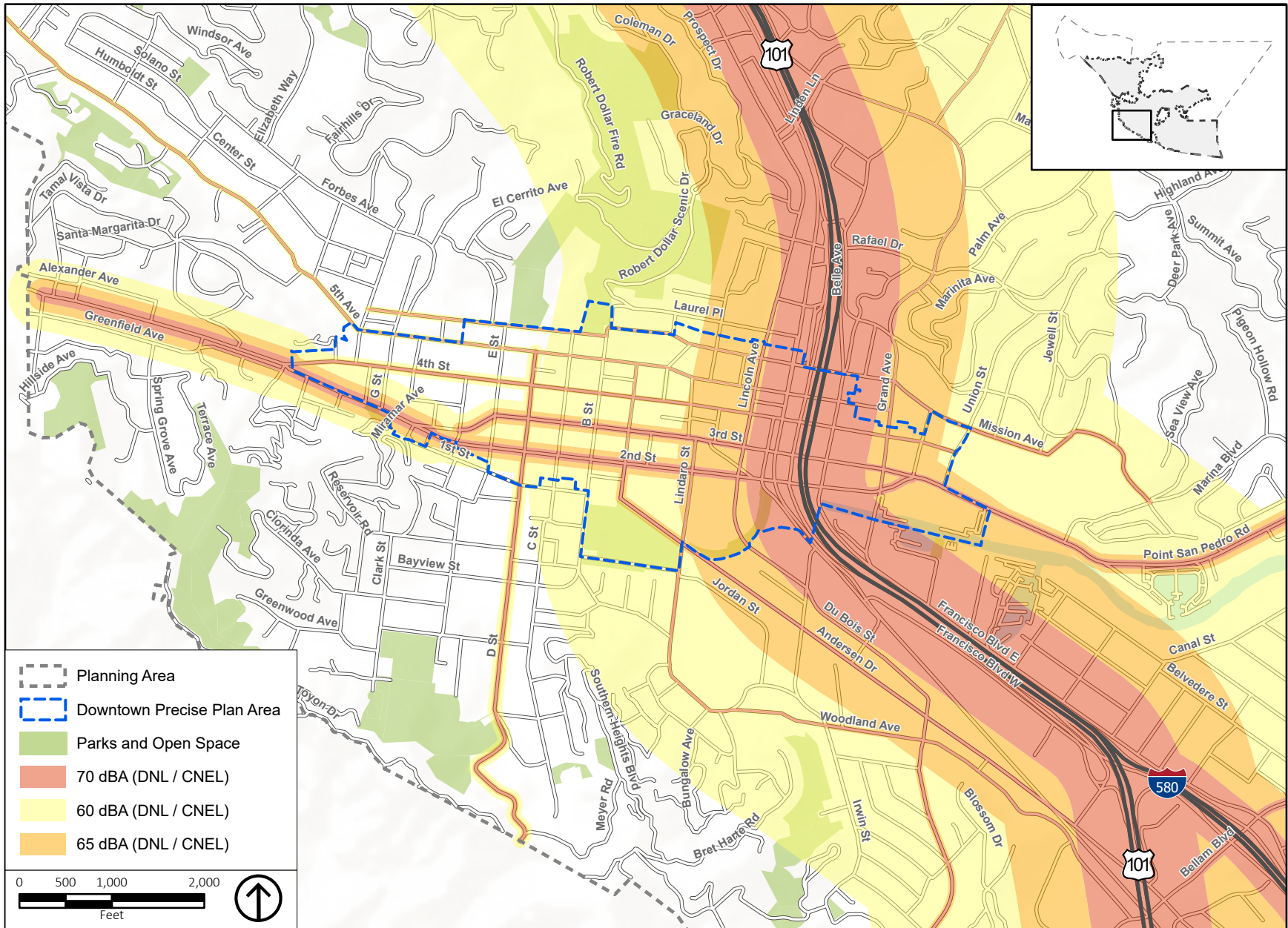
Figure I-14
2040 Traffic Noise Contours-Northwest



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure I-15

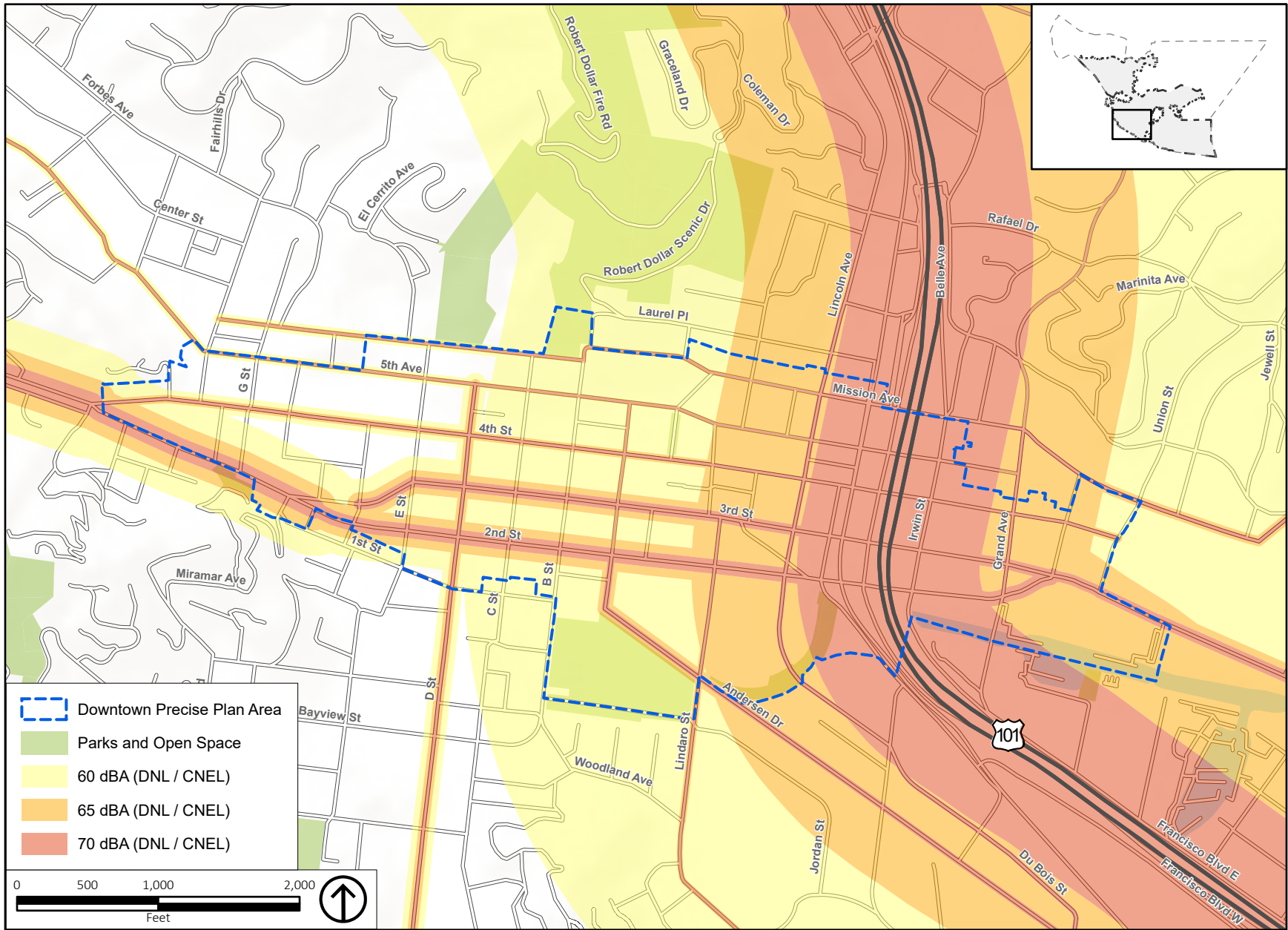
2040 Traffic Noise Contours-Central



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure I-16

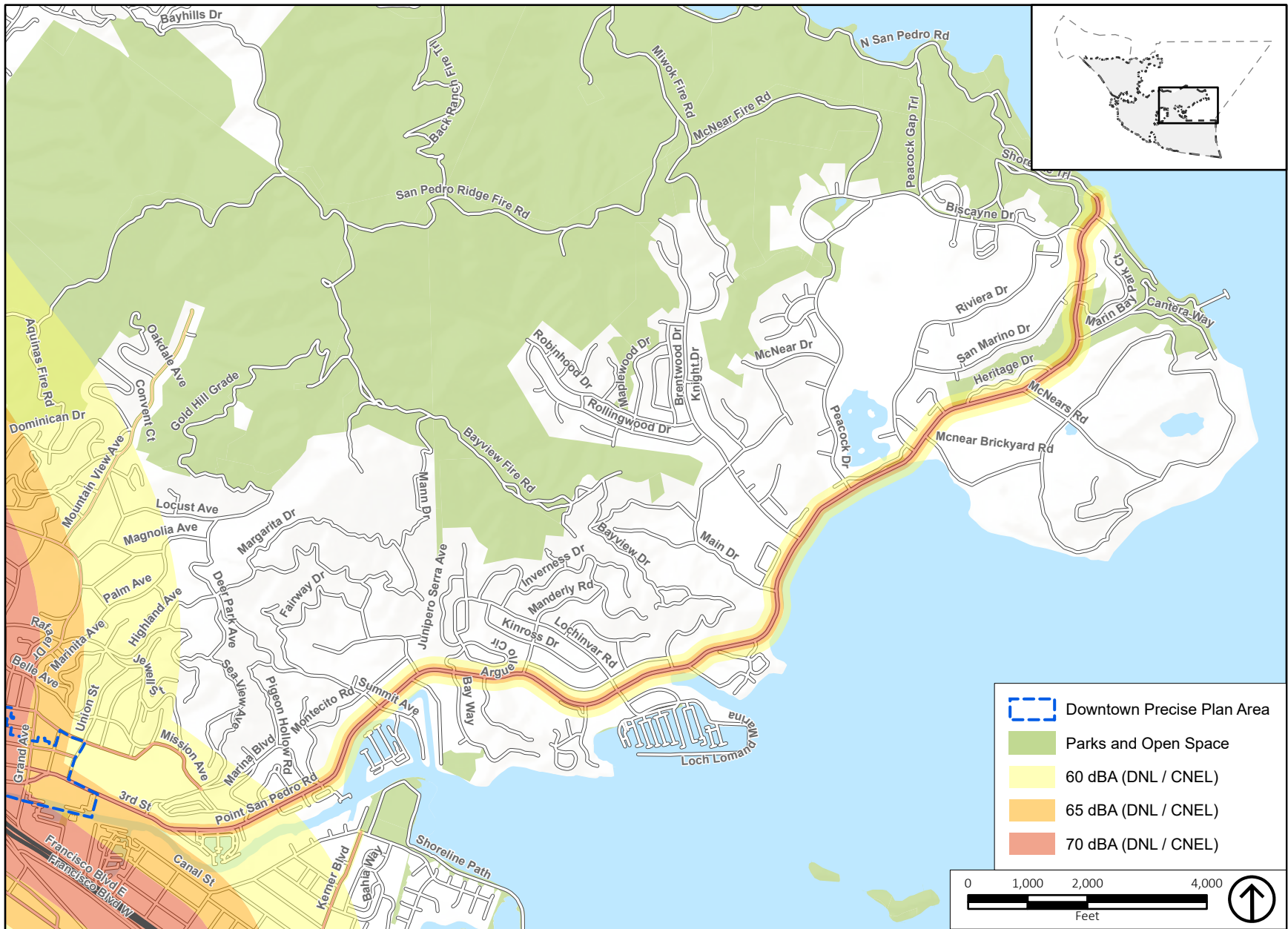
2040 Traffic Noise Contours-Southwest



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure I-17

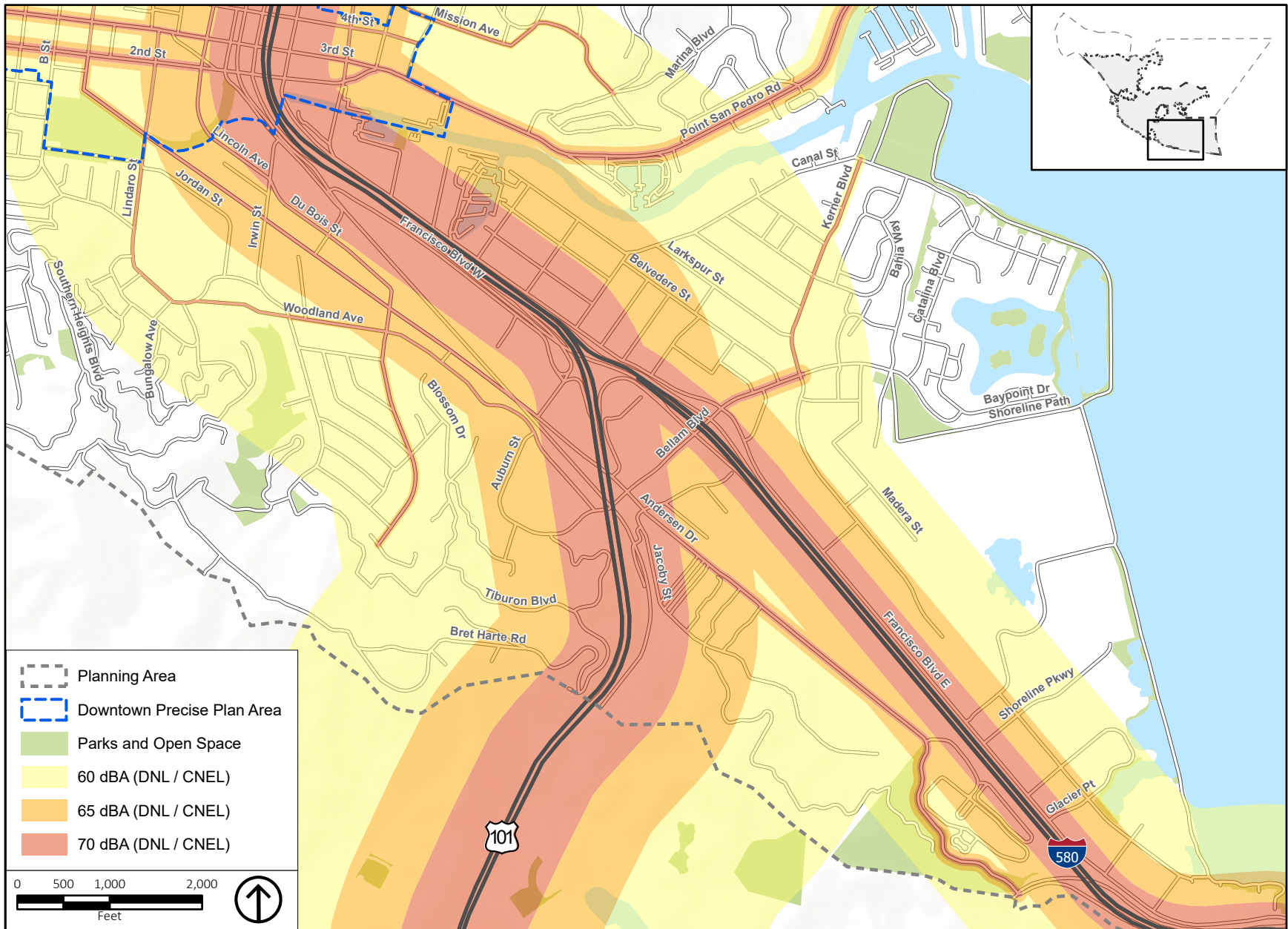
2040 Traffic Noise Contours -Downtown



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure I-18

2040 Traffic Noise Contours-East

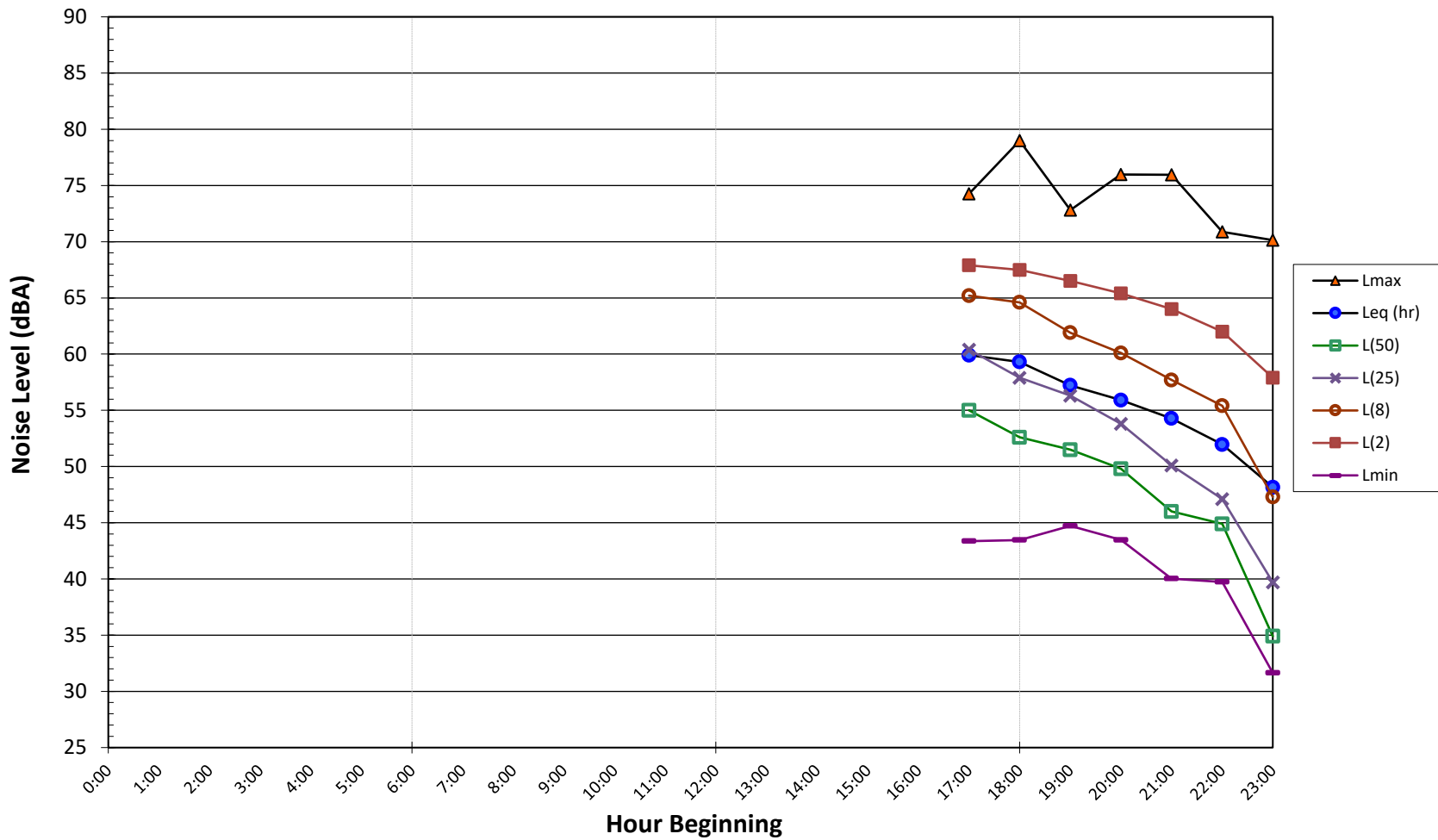


Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

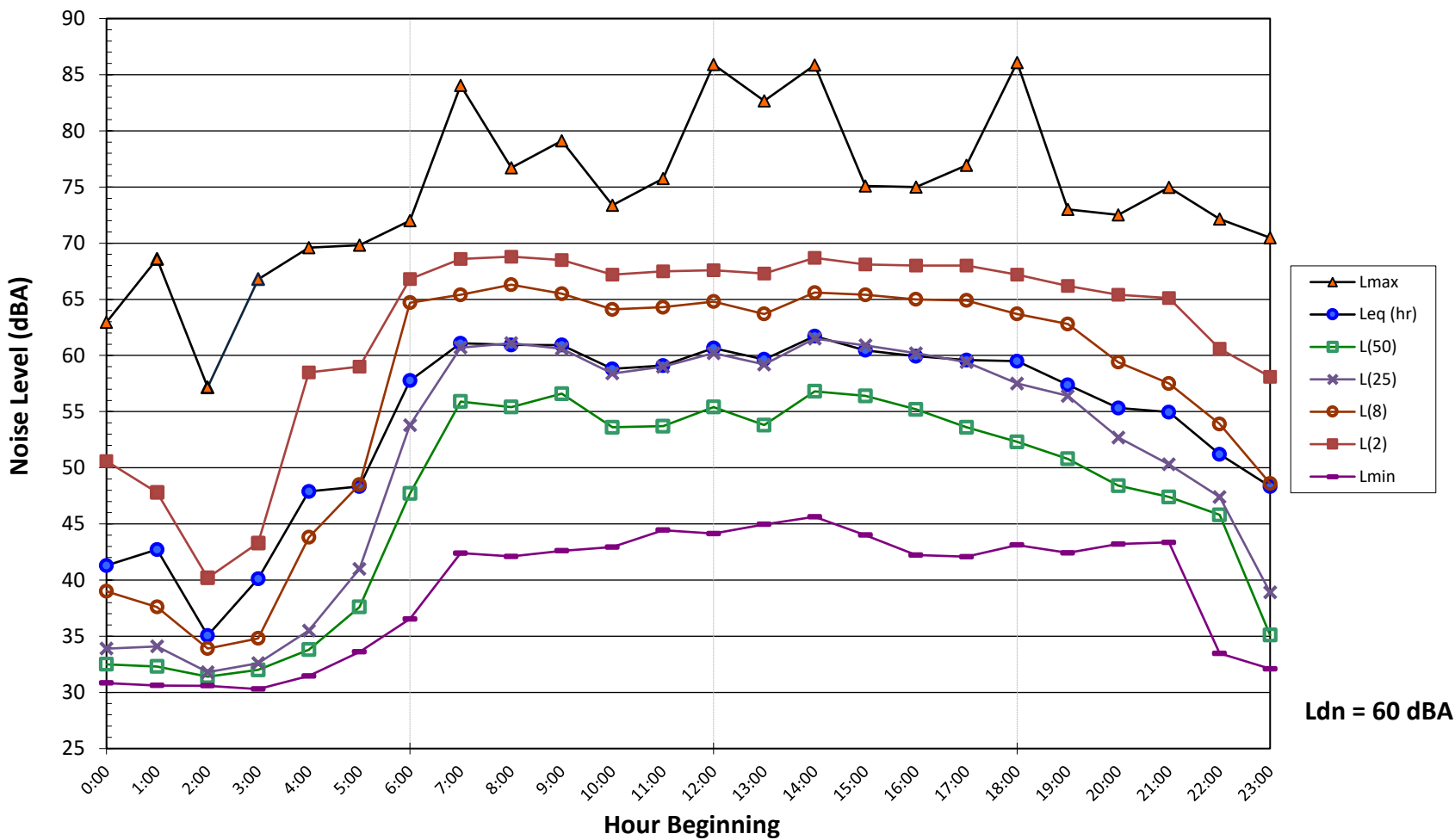
Figure I-19

2040 Traffic Noise Contours-Southeast

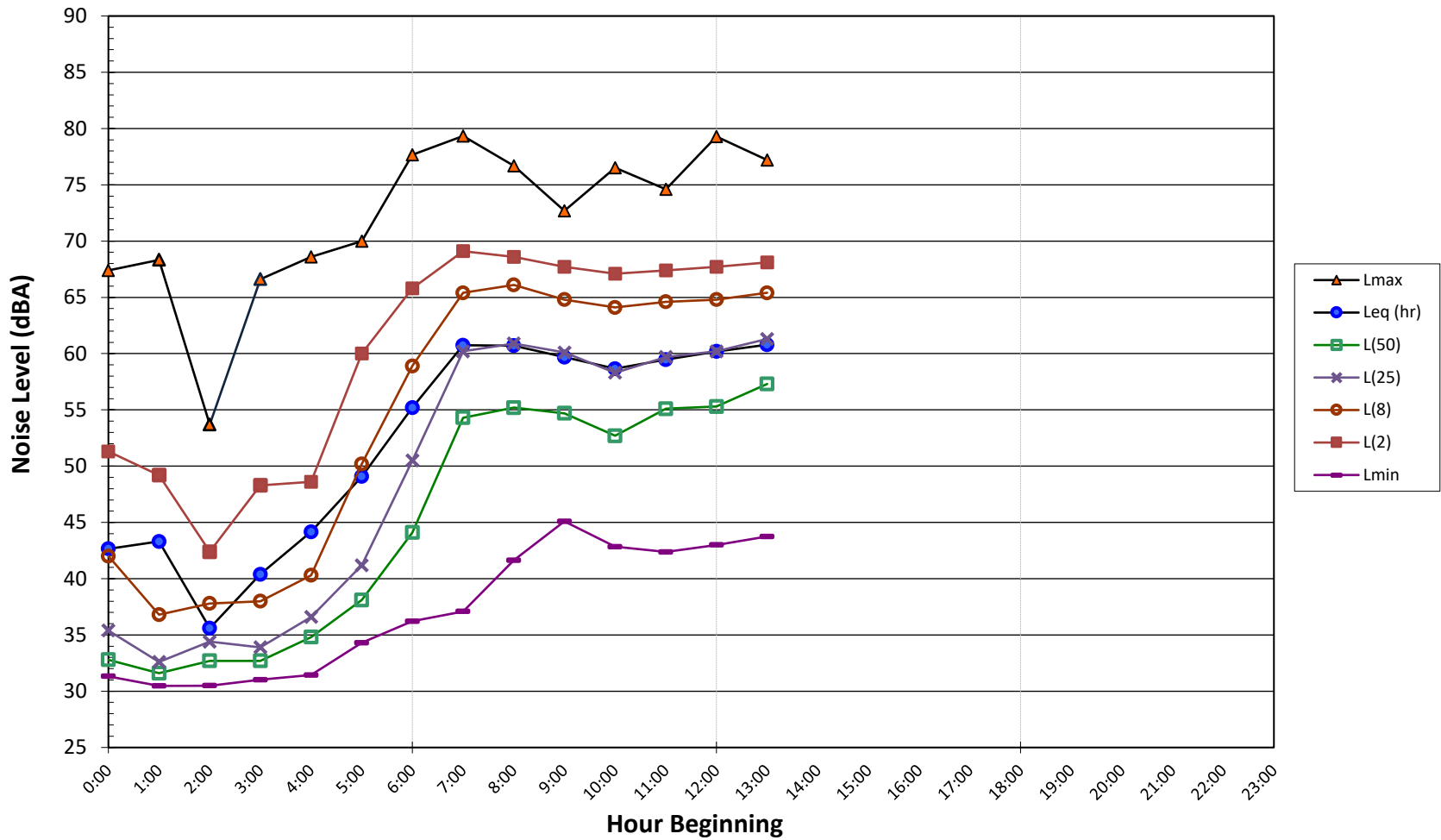
**Noise Levels at LT-1
Northgate Drive, San Rafael, CA
Tuesday, May 7, 2019**



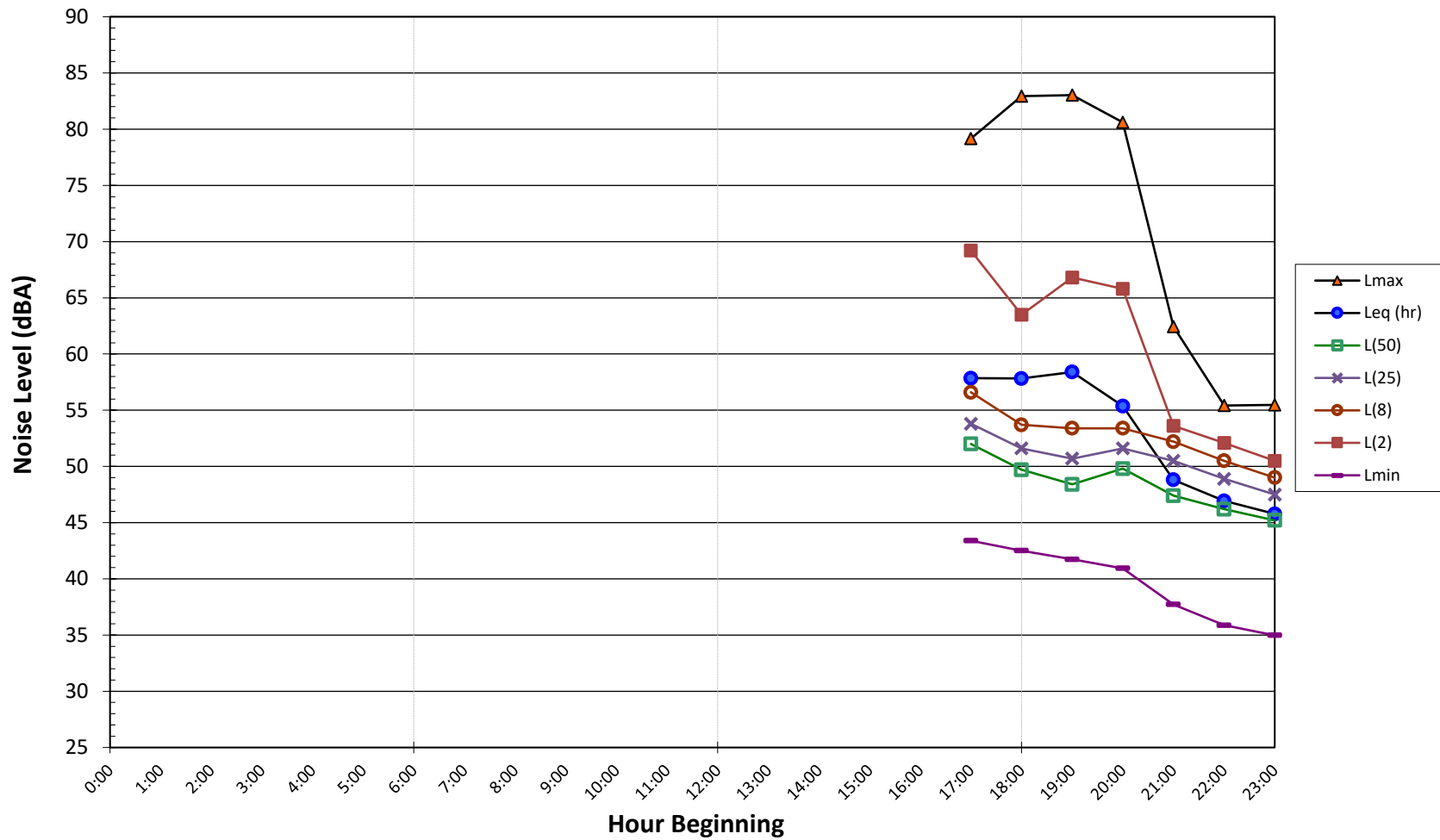
**Noise Levels at LT-1
Northgate Drive, San Rafael, CA
Wednesday, May 8, 2019**



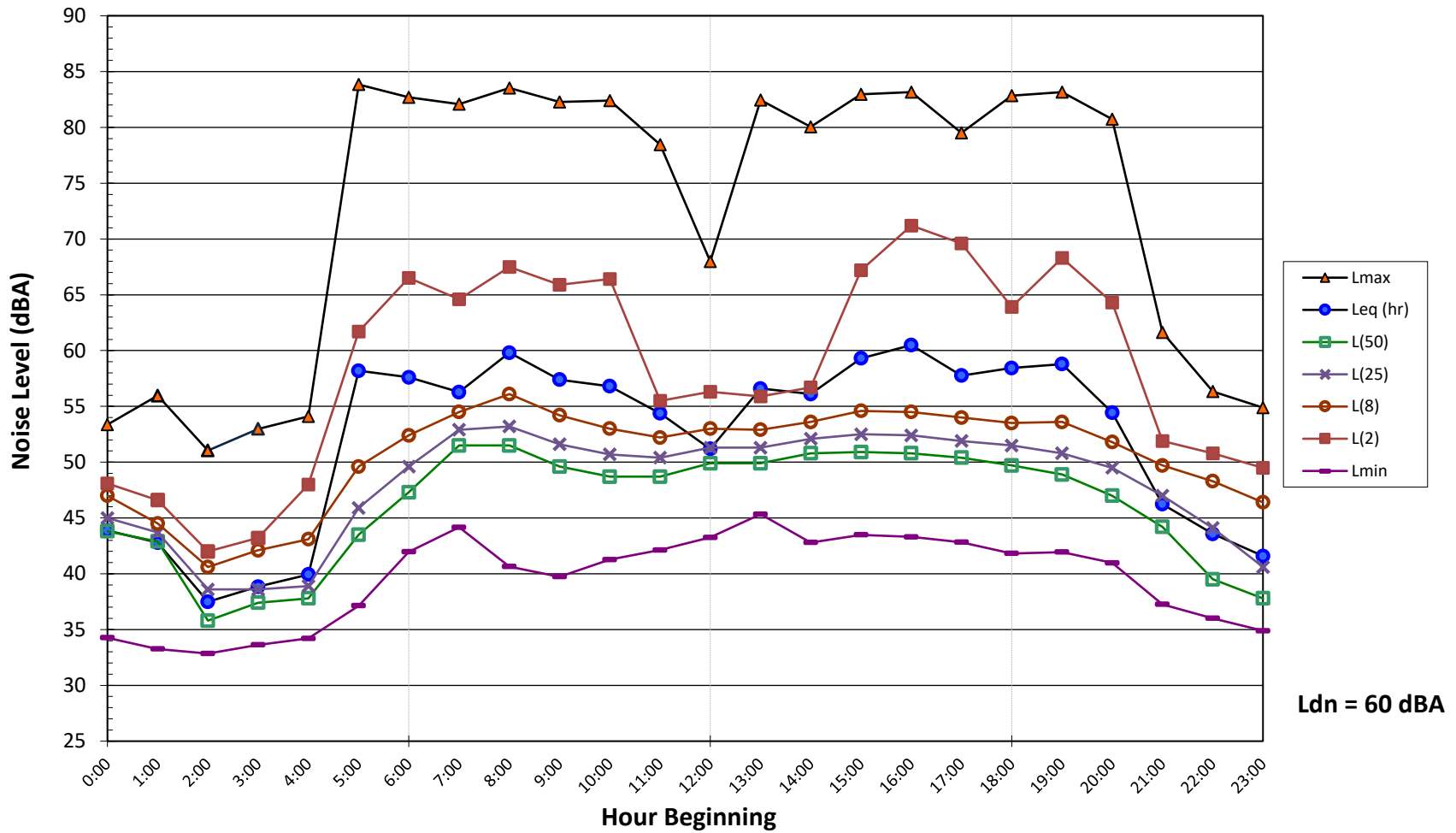
**Noise Levels at LT-1
Northgate Drive, San Rafael, CA
Thursday, May 9, 2019**



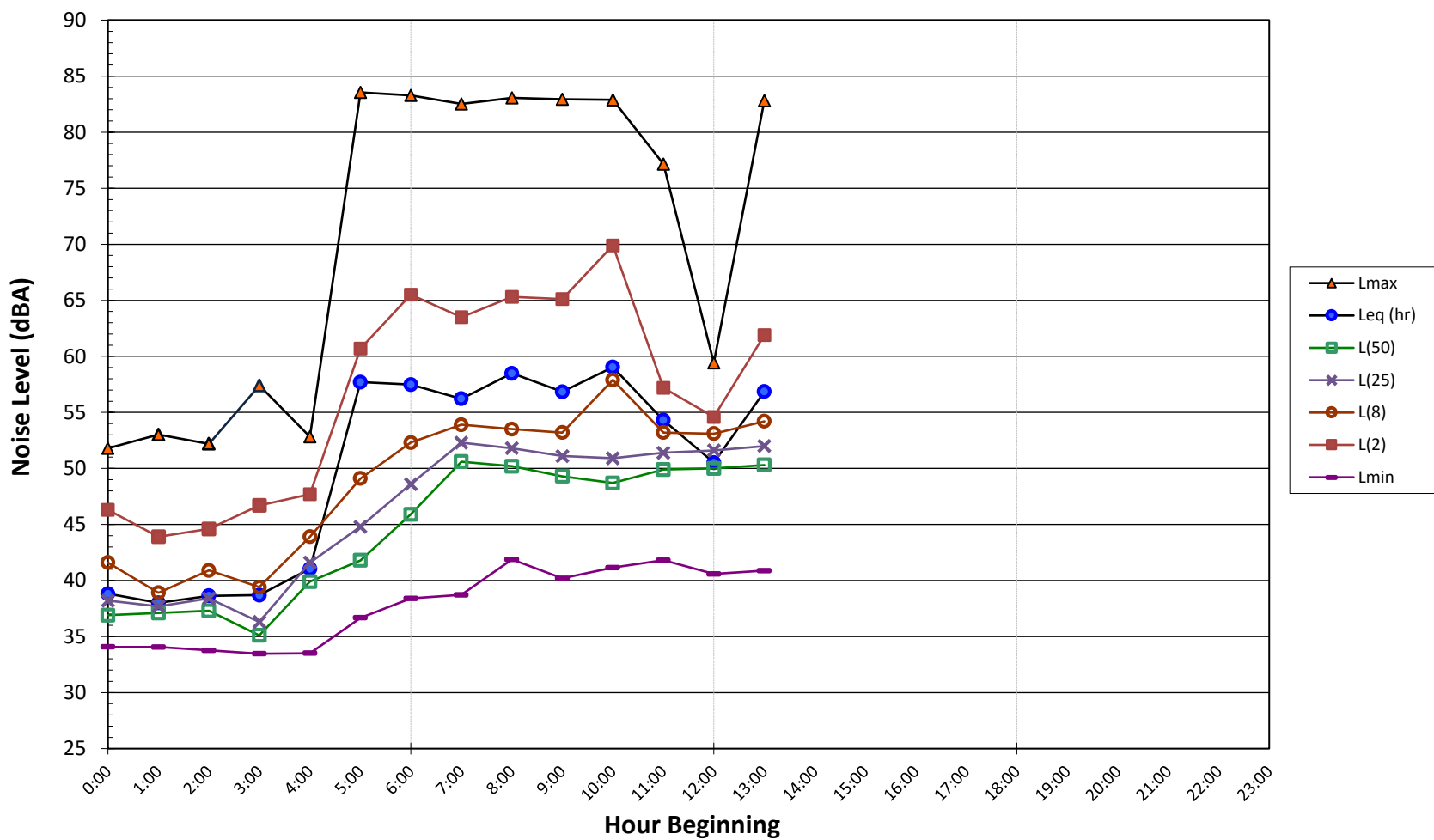
**Noise Levels at LT-2
SMART Rail Crossing, San Rafael, CA
Tuesday, May 7, 2019**



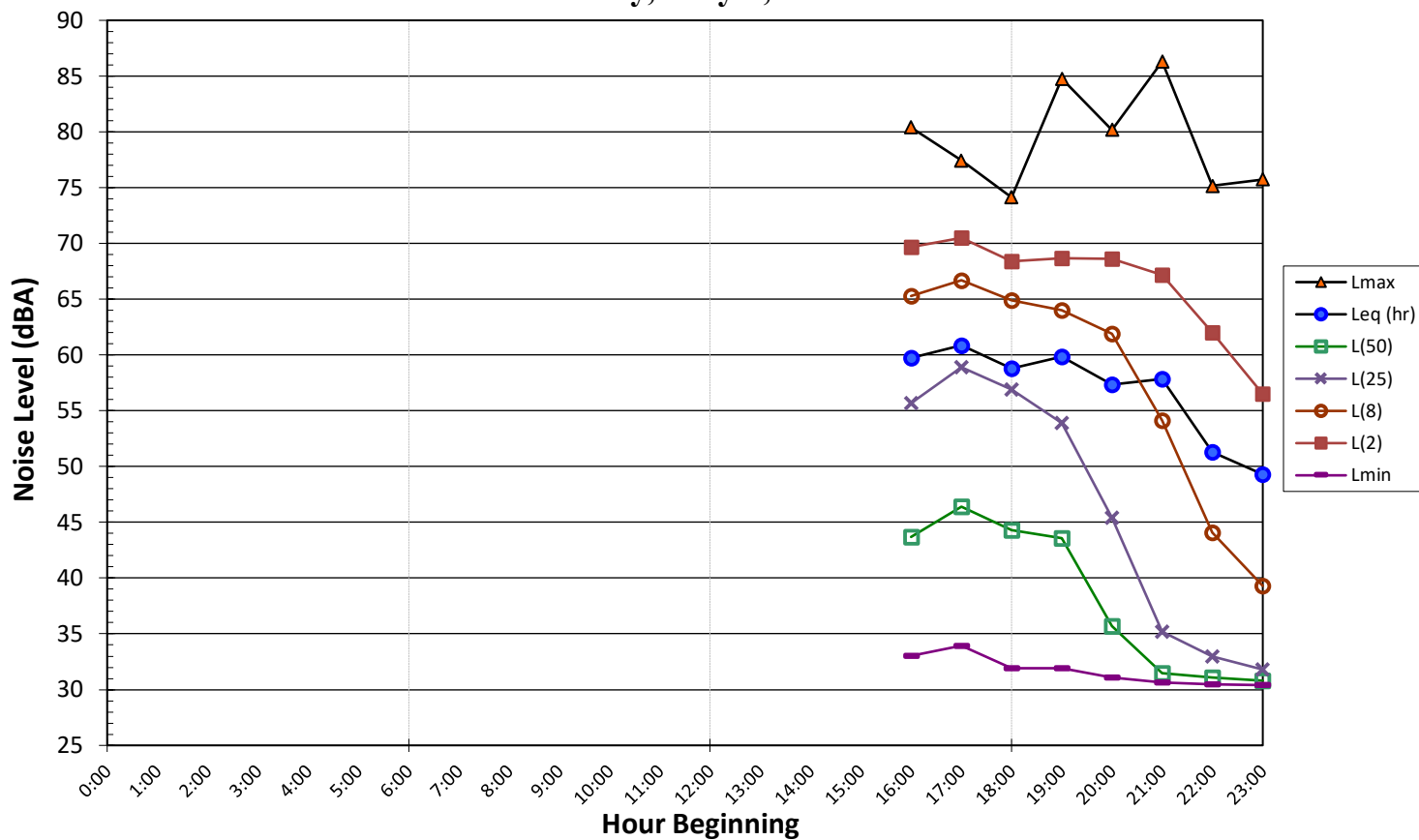
**Noise Levels at LT-2
SMART Rail Crossing, San Rafael, CA
Wednesday, May 8, 2019**



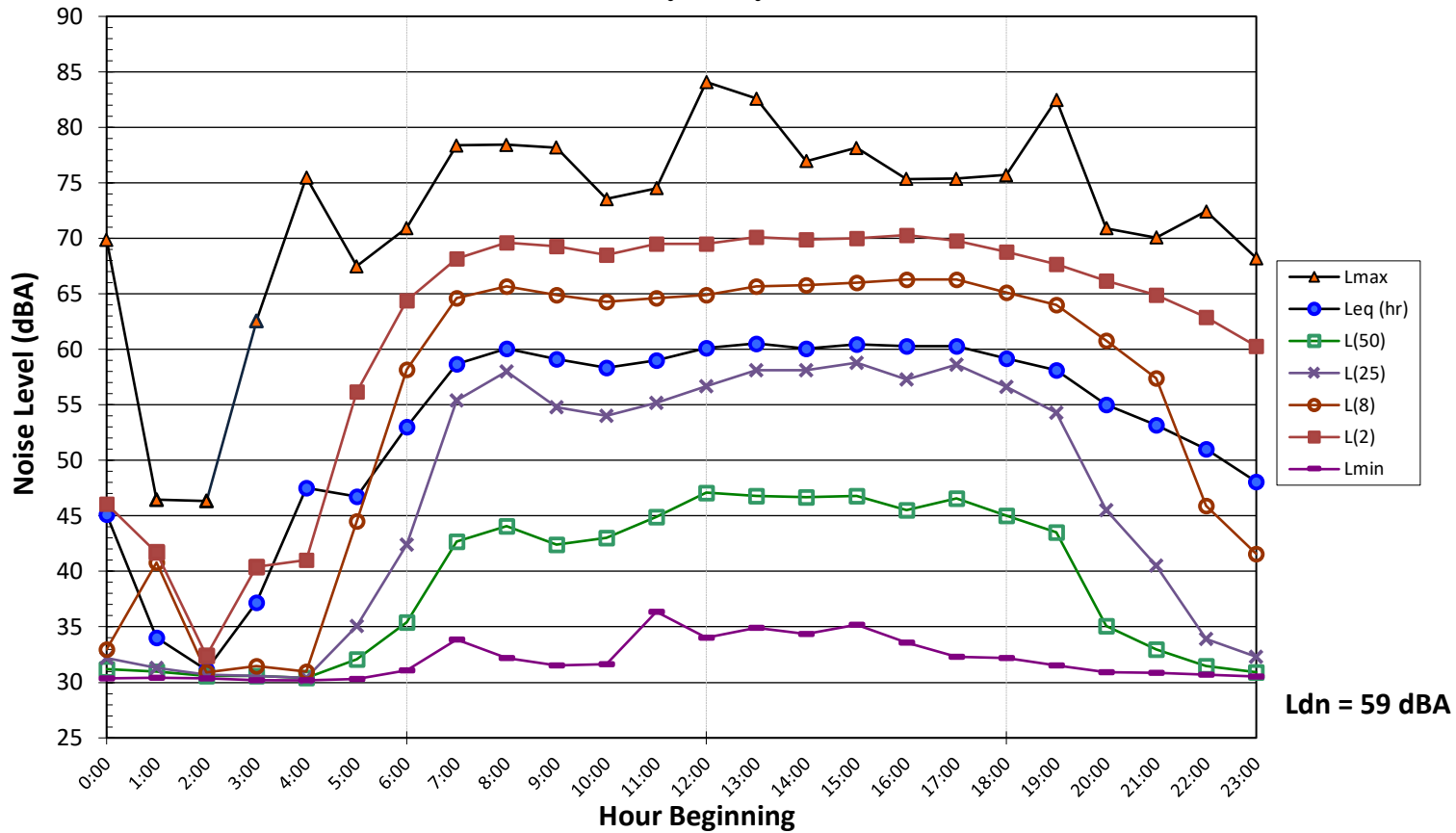
Noise Levels at LT-2 SMART Rail Crossing, San Rafael, CA Thursday, May 9, 2019



**Noise Levels at LT-3
Elizabeth Way, San Rafael, CA
Tuesday, May 7, 2019**

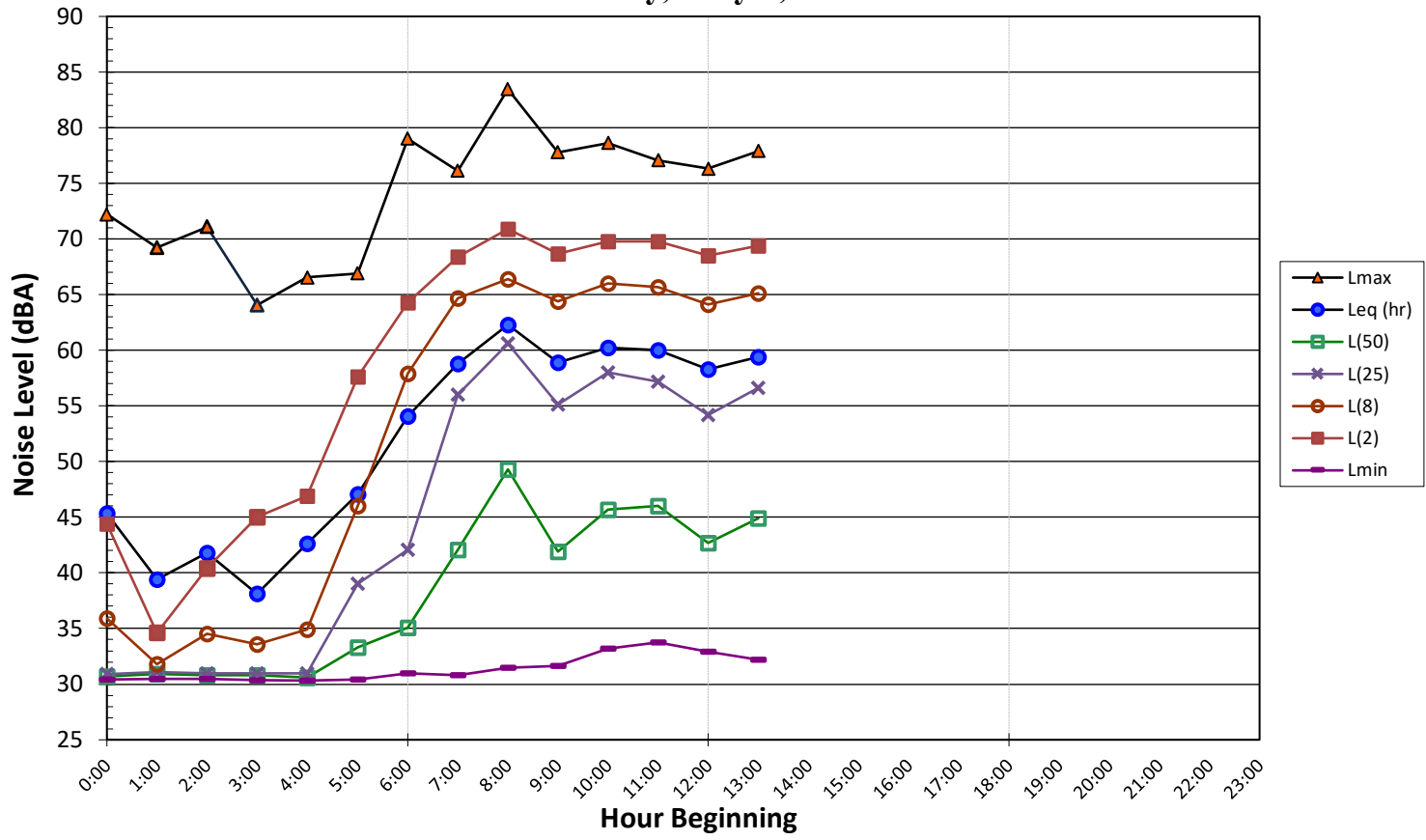


**Noise Levels at LT-3
Elizabeth Way, San Rafael, CA
Wednesday, May 8, 2019**

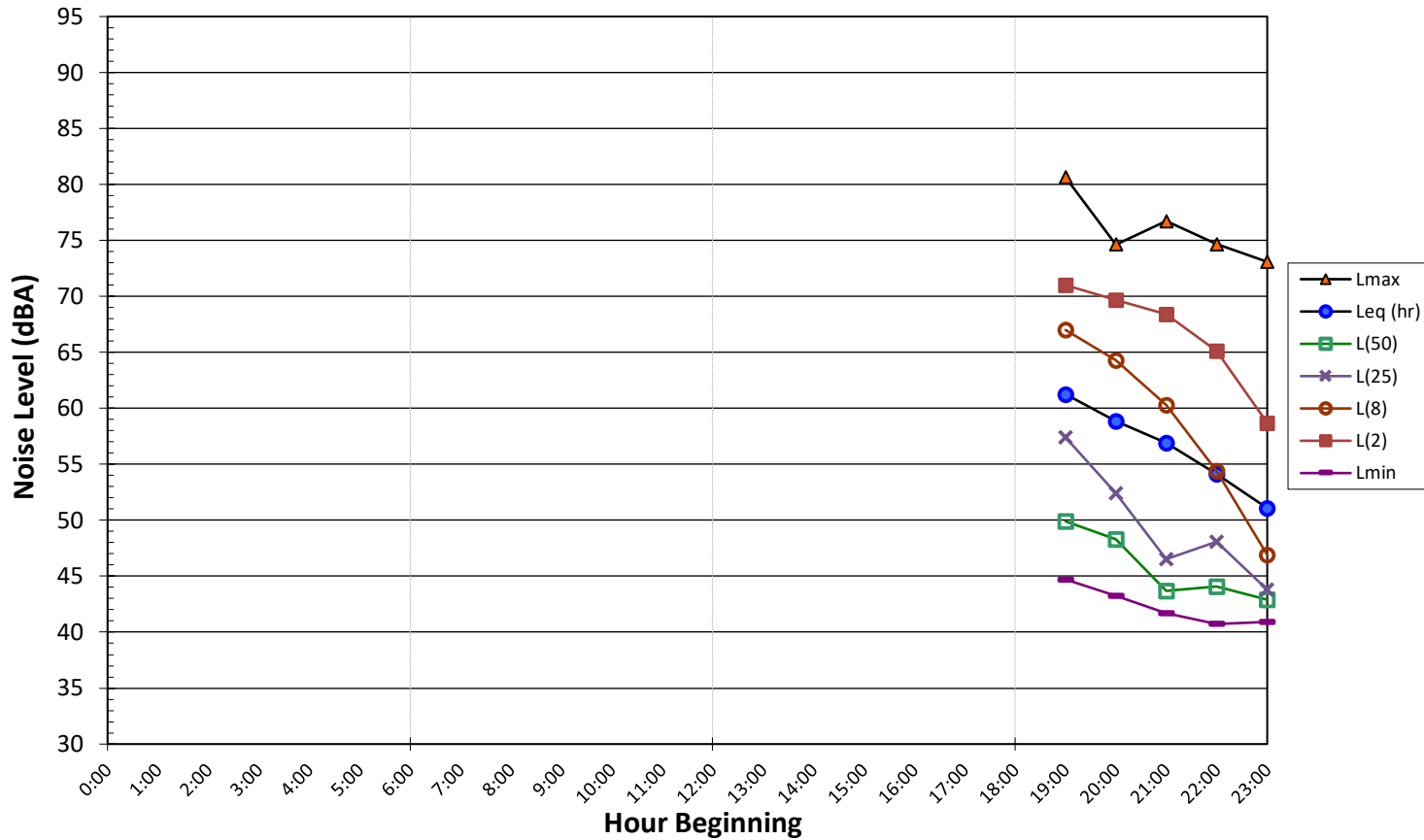


Ldn = 59 dBA

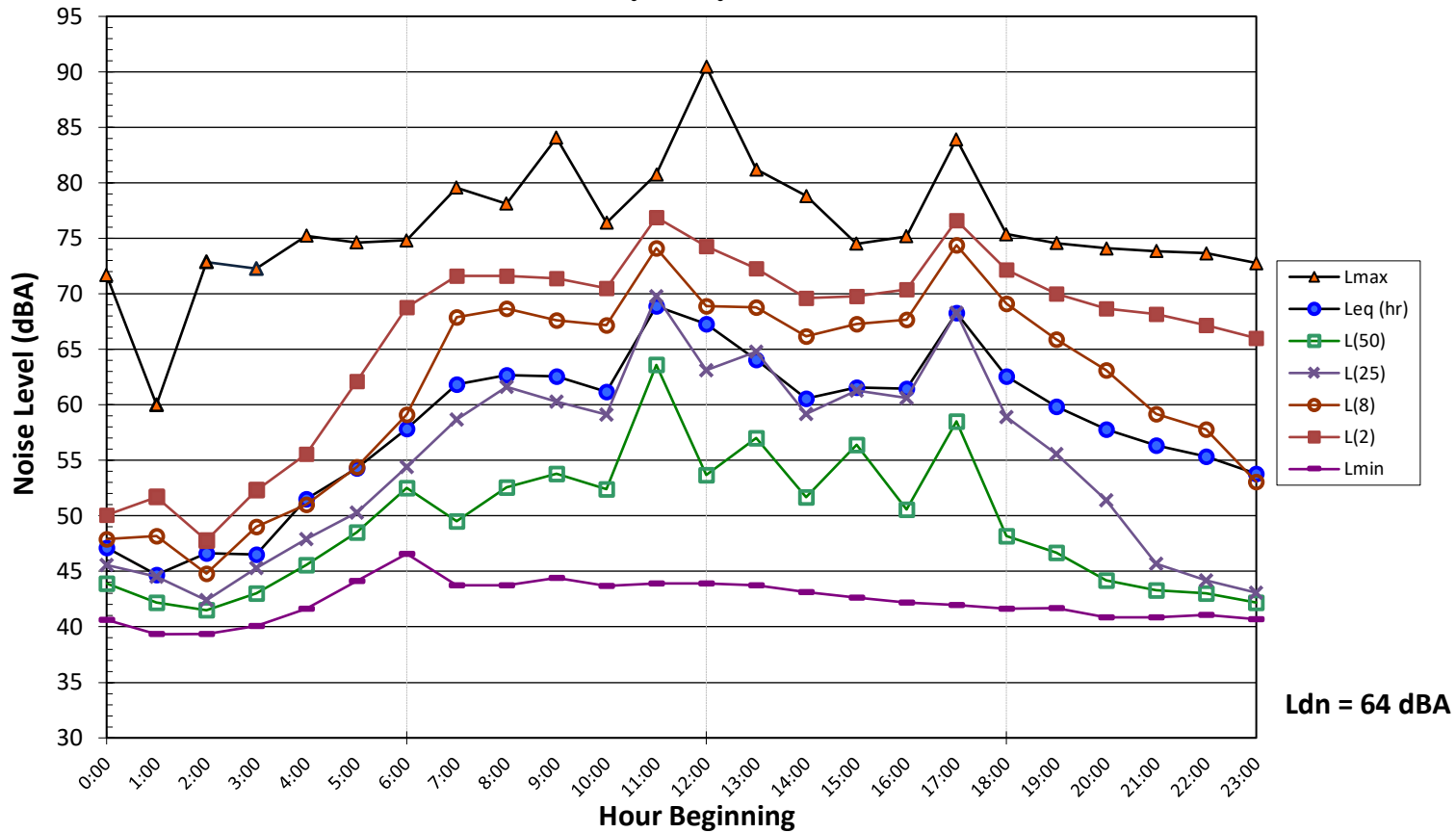
**Noise Levels at LT-3
Elizabeth Way, San Rafael, CA
Thursday, May 9, 2019**



**Noise Levels at LT-4
Mountain View Avenue, San Rafael, CA
Thursday, May 2, 2019**

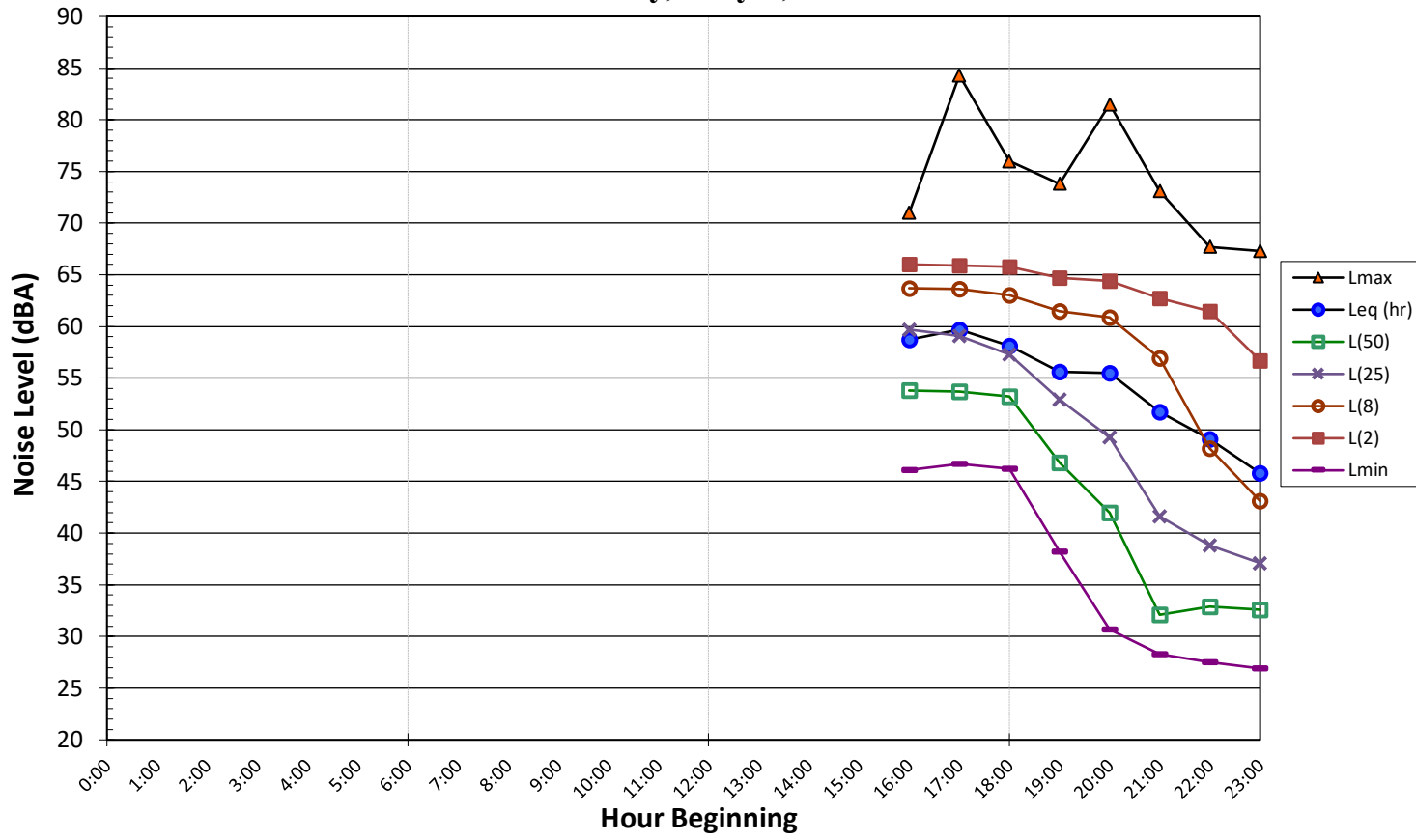


**Noise Levels at LT-4
Mountain View Avenue, San Rafael, CA
Friday, May 3, 2019**

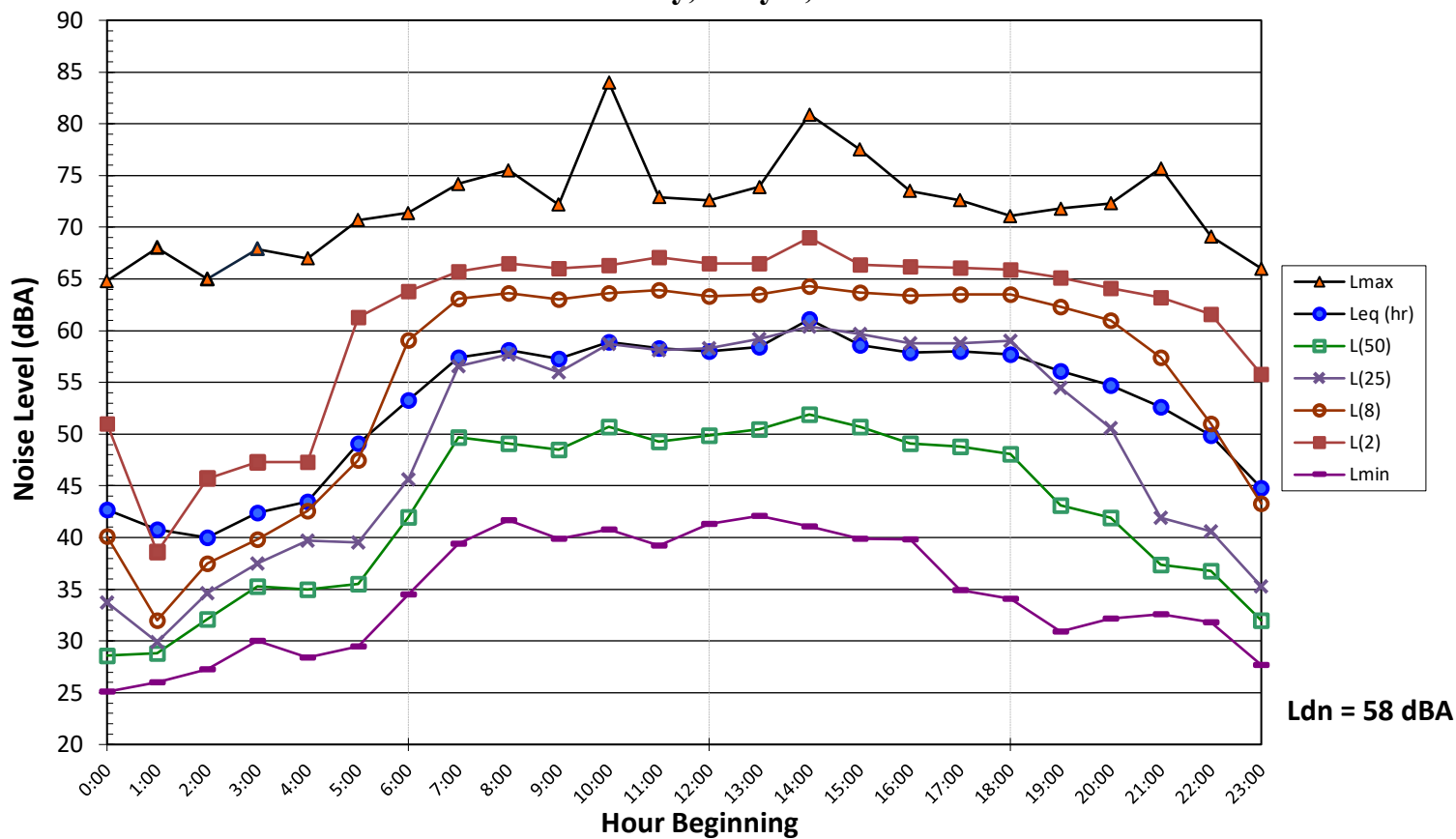


Ldn = 64 dBA

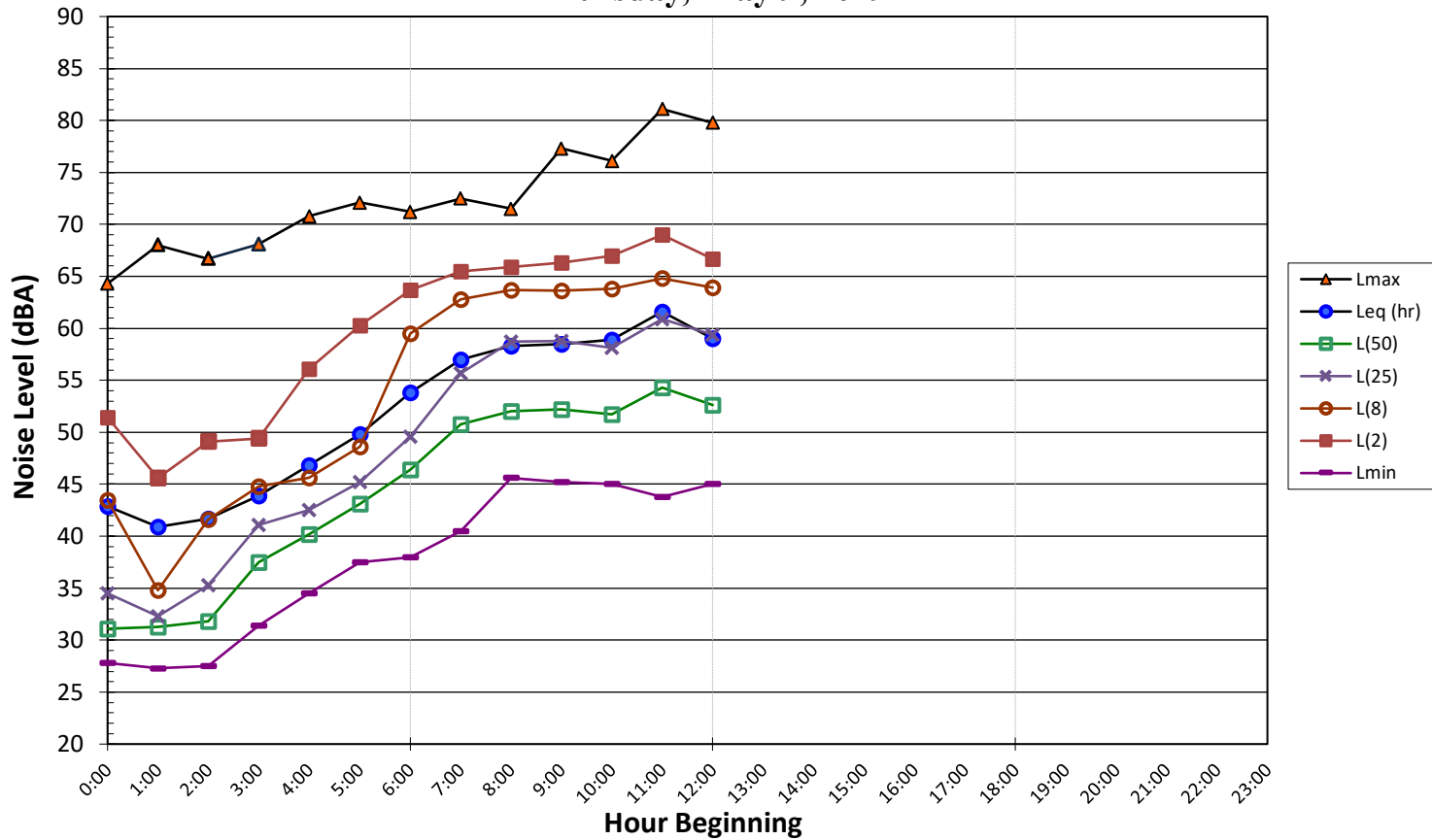
**Noise Levels at LT-5
Point San Pedro Road, San Rafael, CA
Tuesday, May 7, 2019**



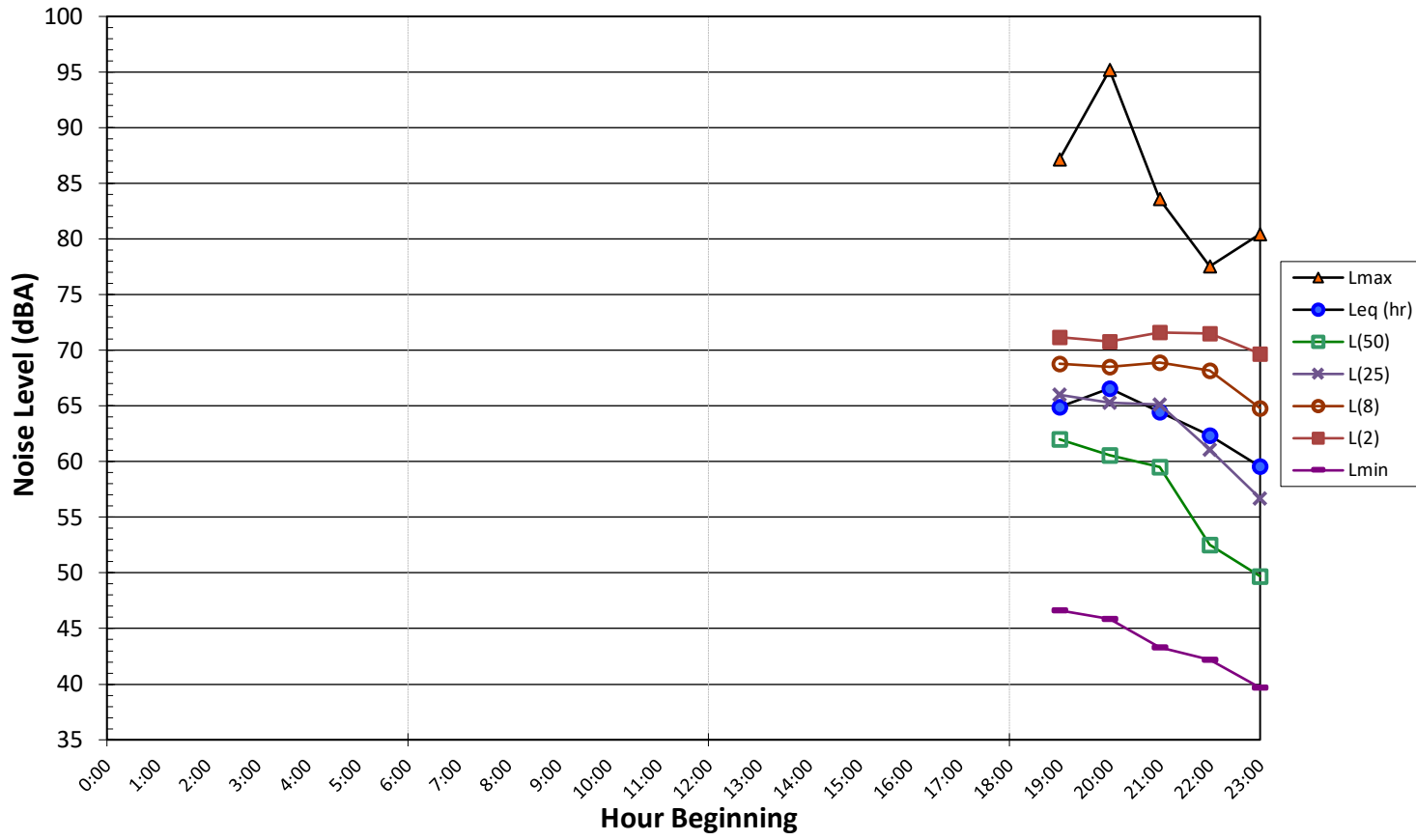
**Noise Levels at LT-5
Point San Pedro Road, San Rafael, CA
Wednesday, May 8, 2019**



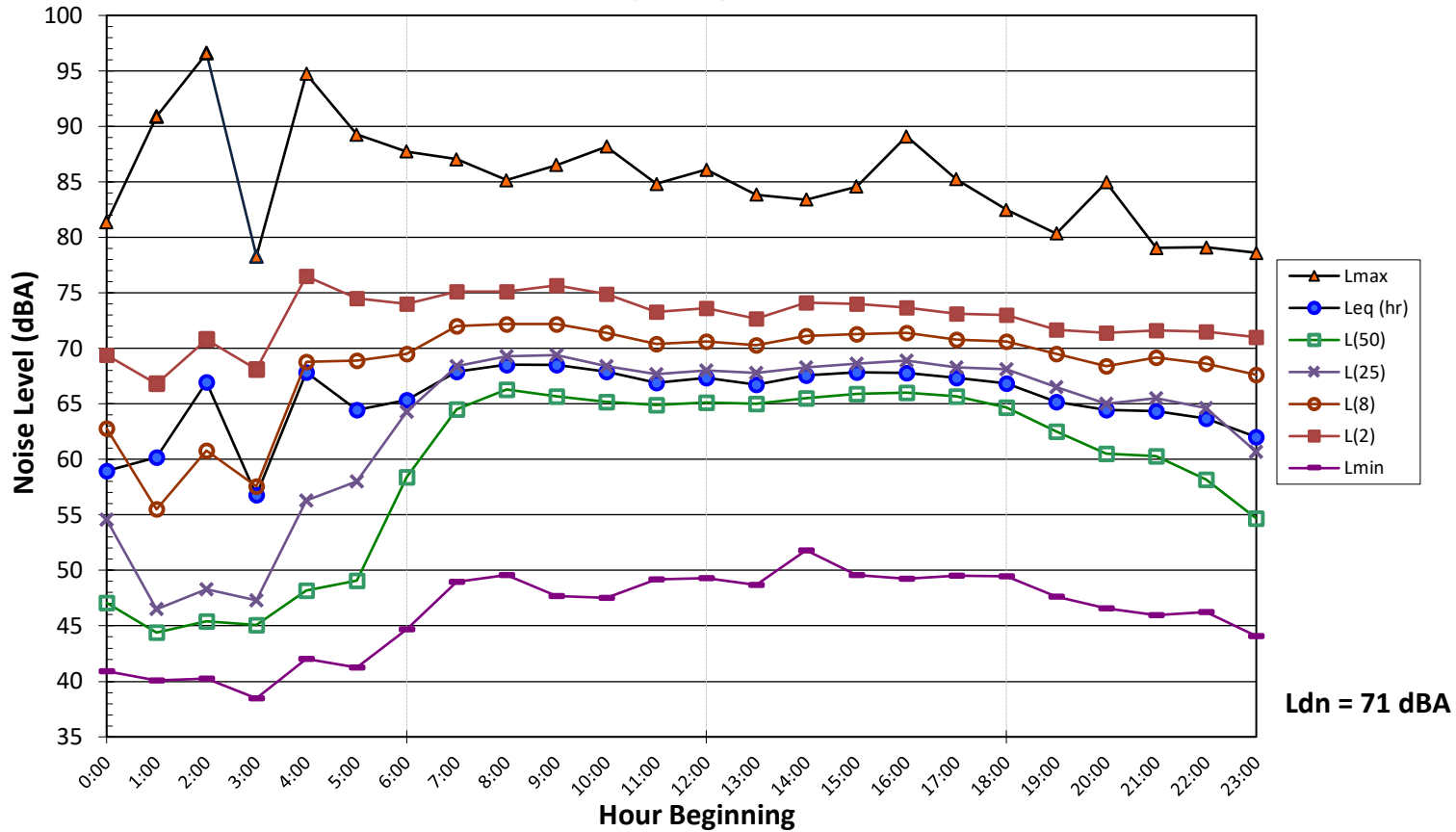
**Noise Levels at LT-5
Point San Pedro Road, San Rafael, CA
Thursday, May 9, 2019**



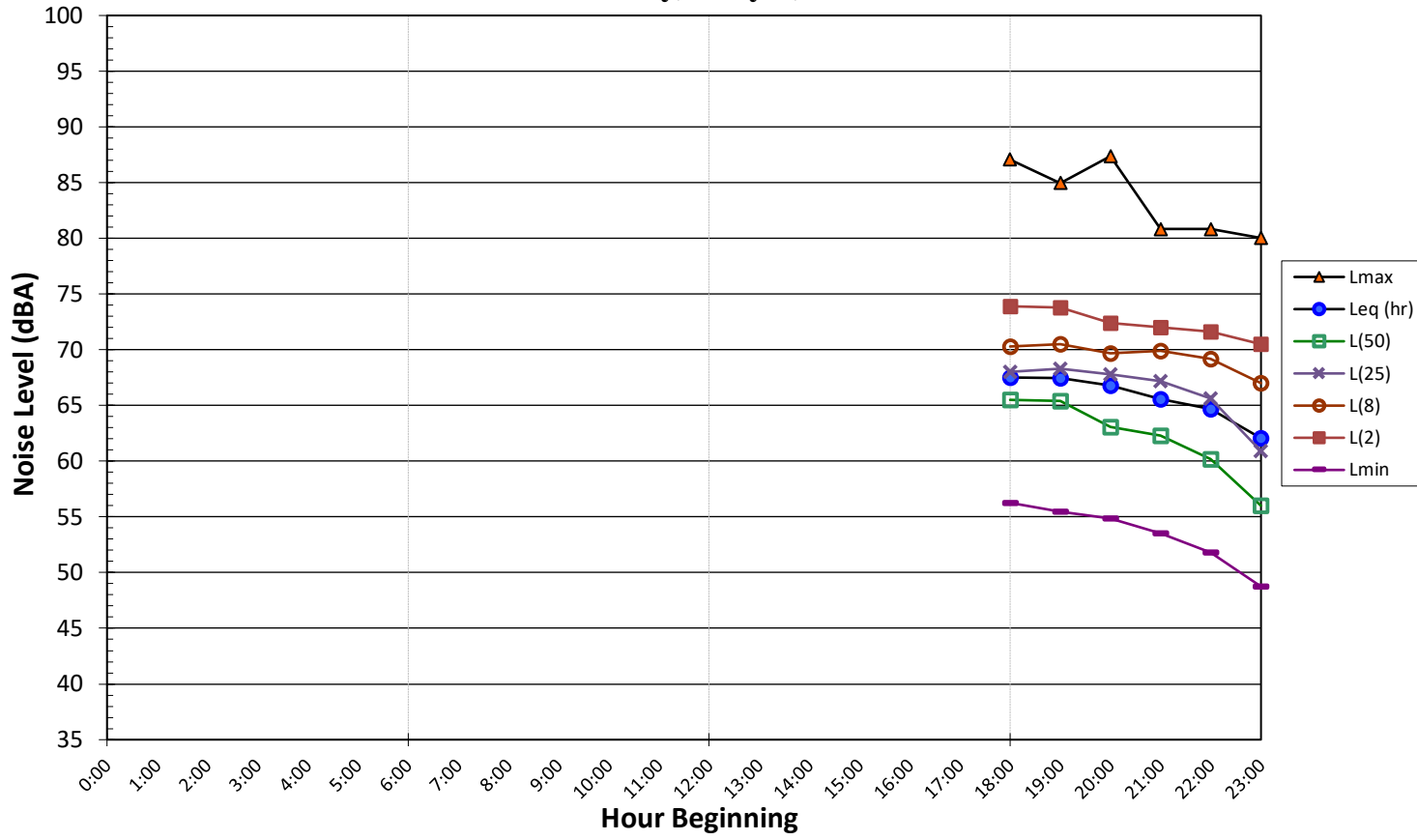
**Noise Levels at LT-6
Fourth Street, San Rafael, CA
Thursday, May 2, 2019**



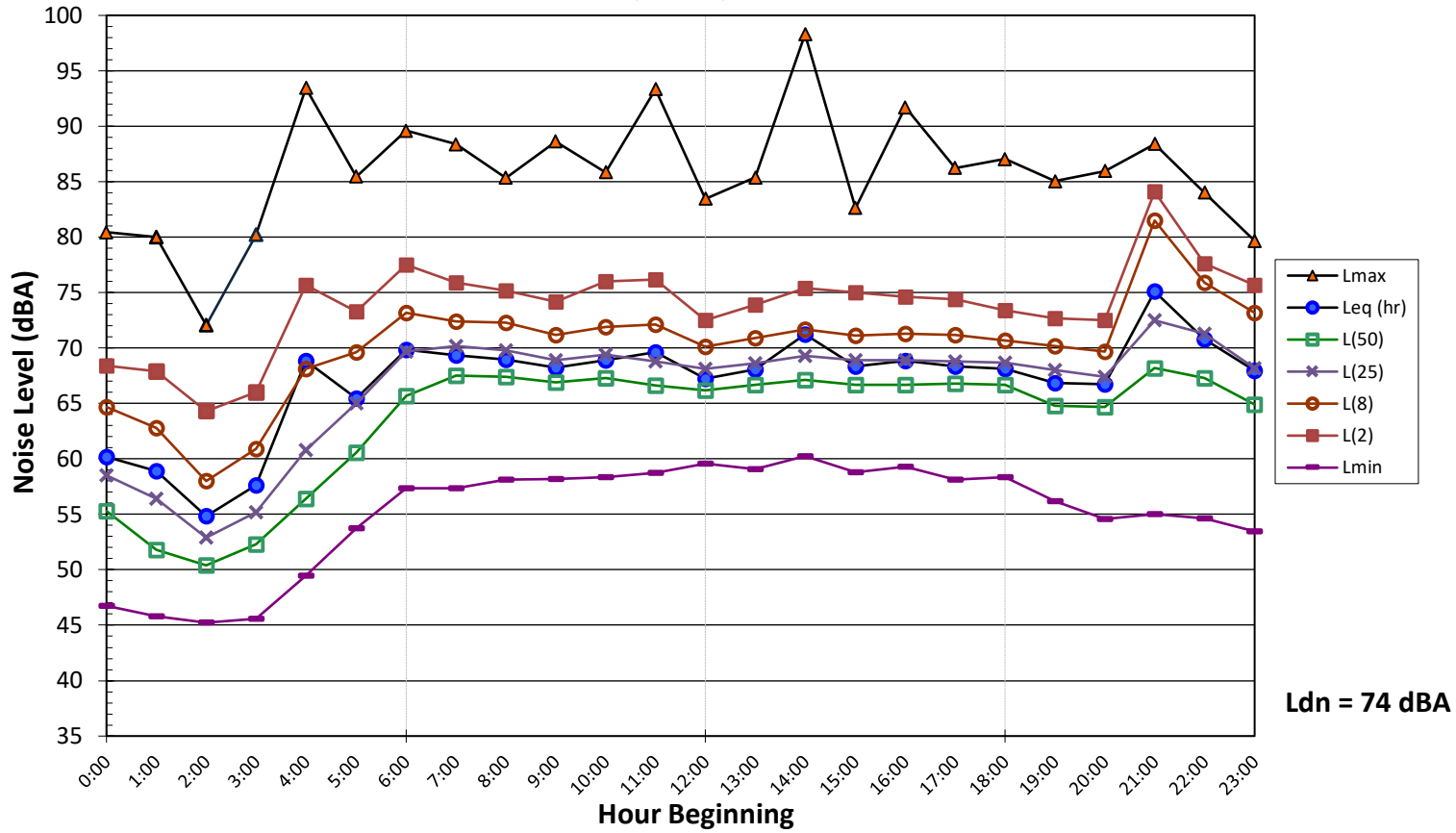
**Noise Levels at LT-6
Fourth Street, San Rafael, CA
Friday, May 3, 2019**



**Noise Levels at LT-7
Third Street, San Rafael, CA
Thursday, May 2, 2019**

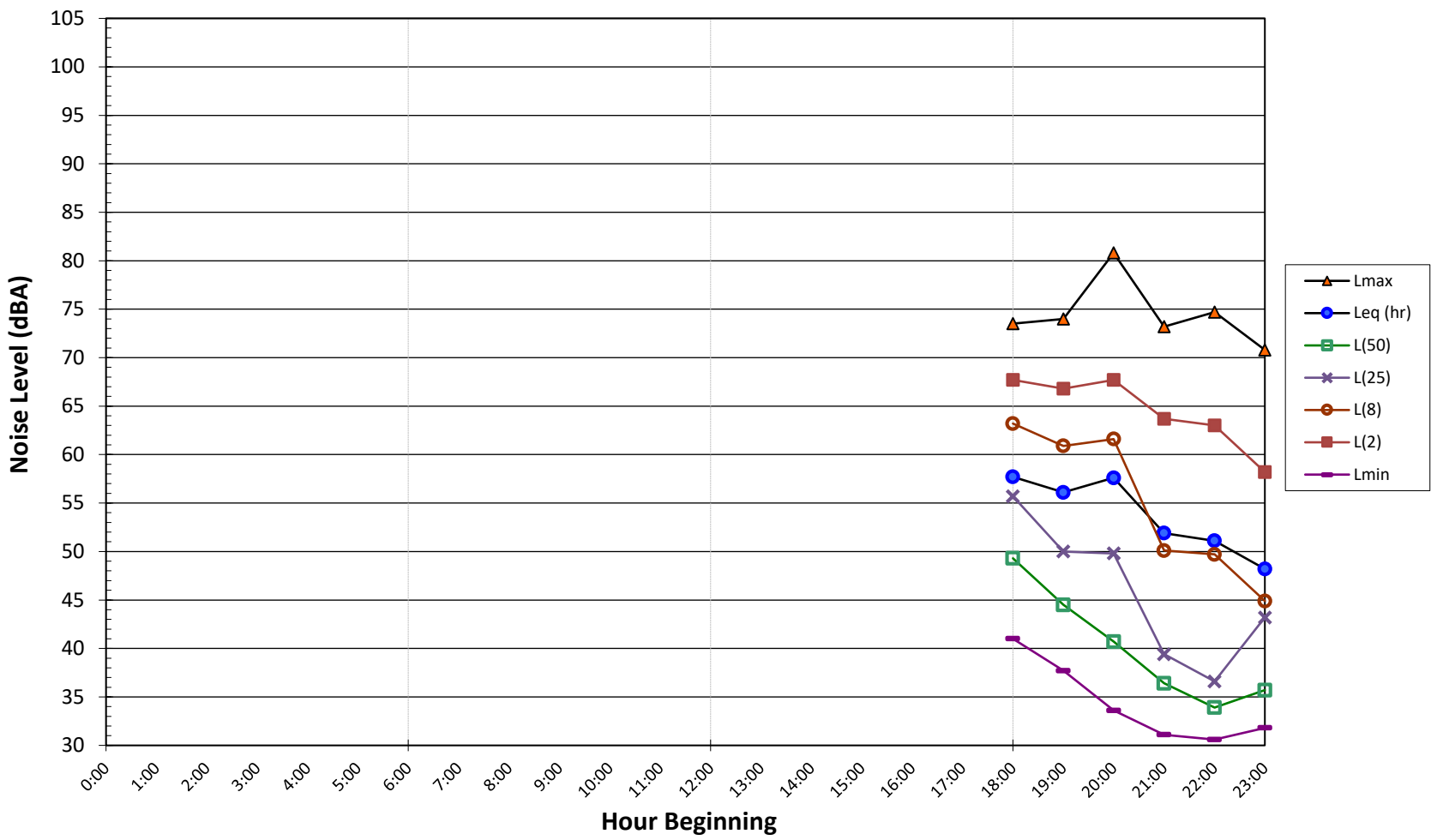


**Noise Levels at LT-7
Third Street, San Rafael, CA
Friday, May 3, 2019**

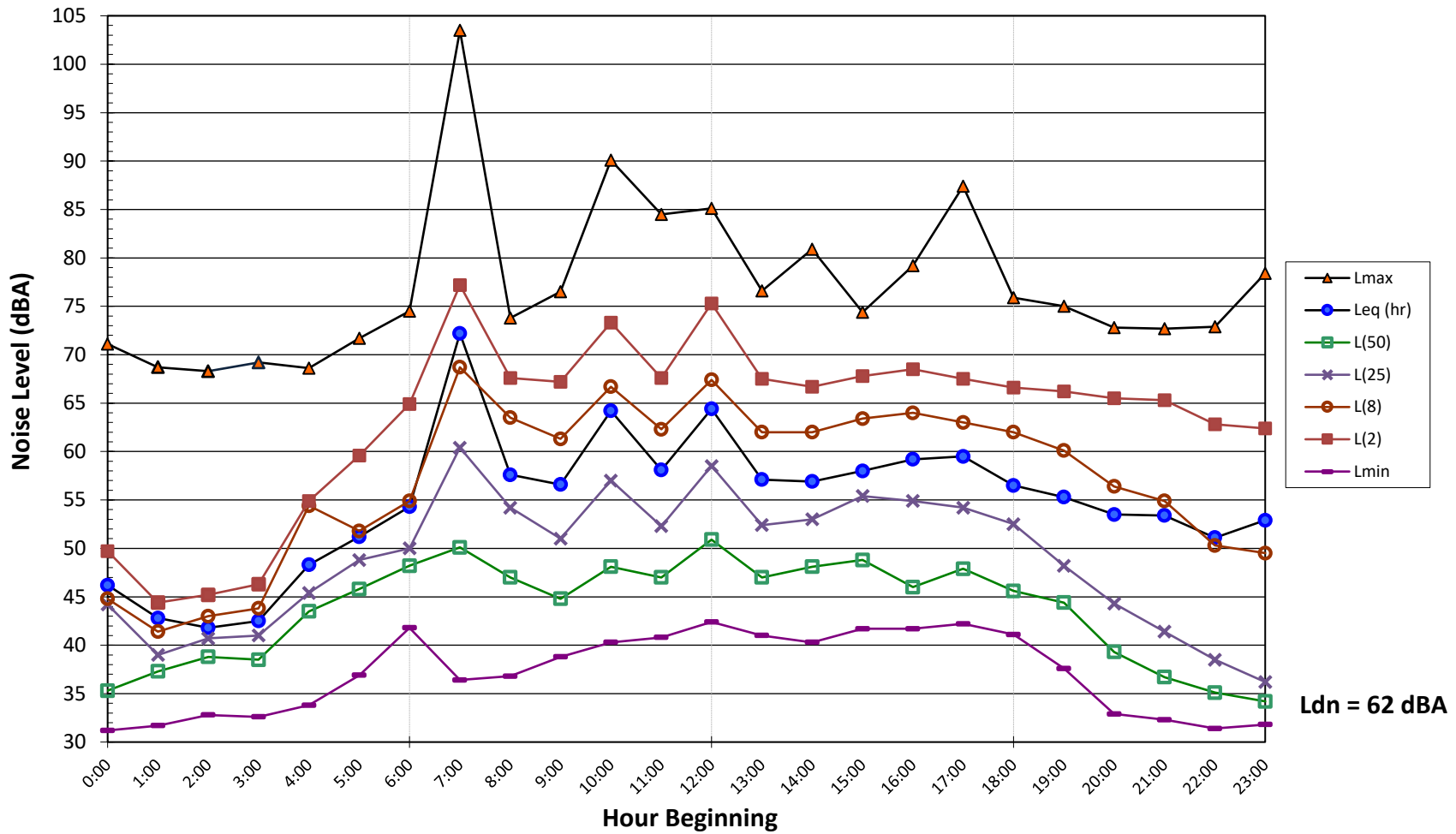


Ldn = 74 dBA

**Noise Levels at LT-8
Bayview Street, San Rafael, CA
Thursday, May 2, 2019**

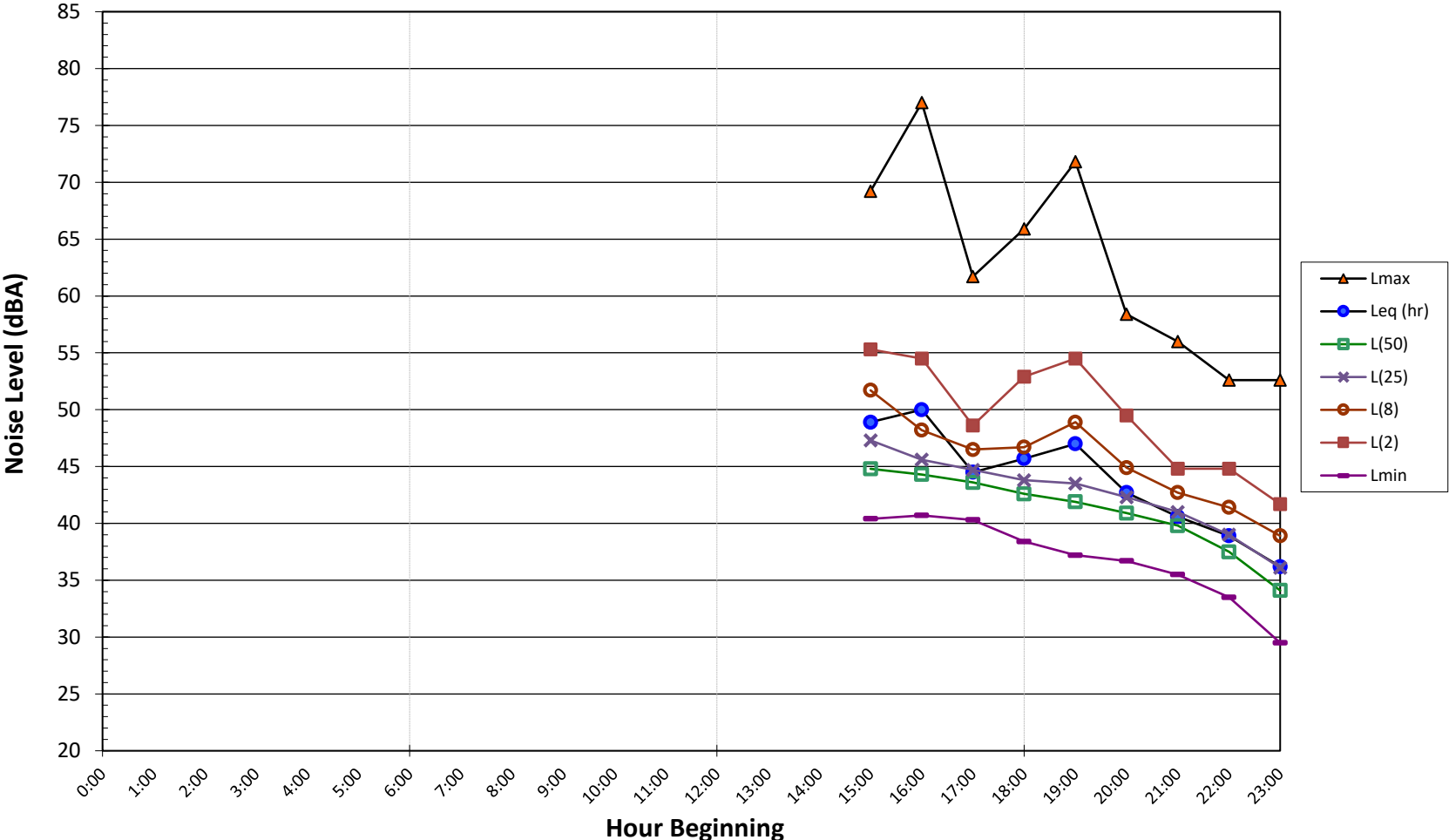


**Noise Levels at LT-8
Bayview Street, San Rafael, CA
Friday, May 3, 2019**

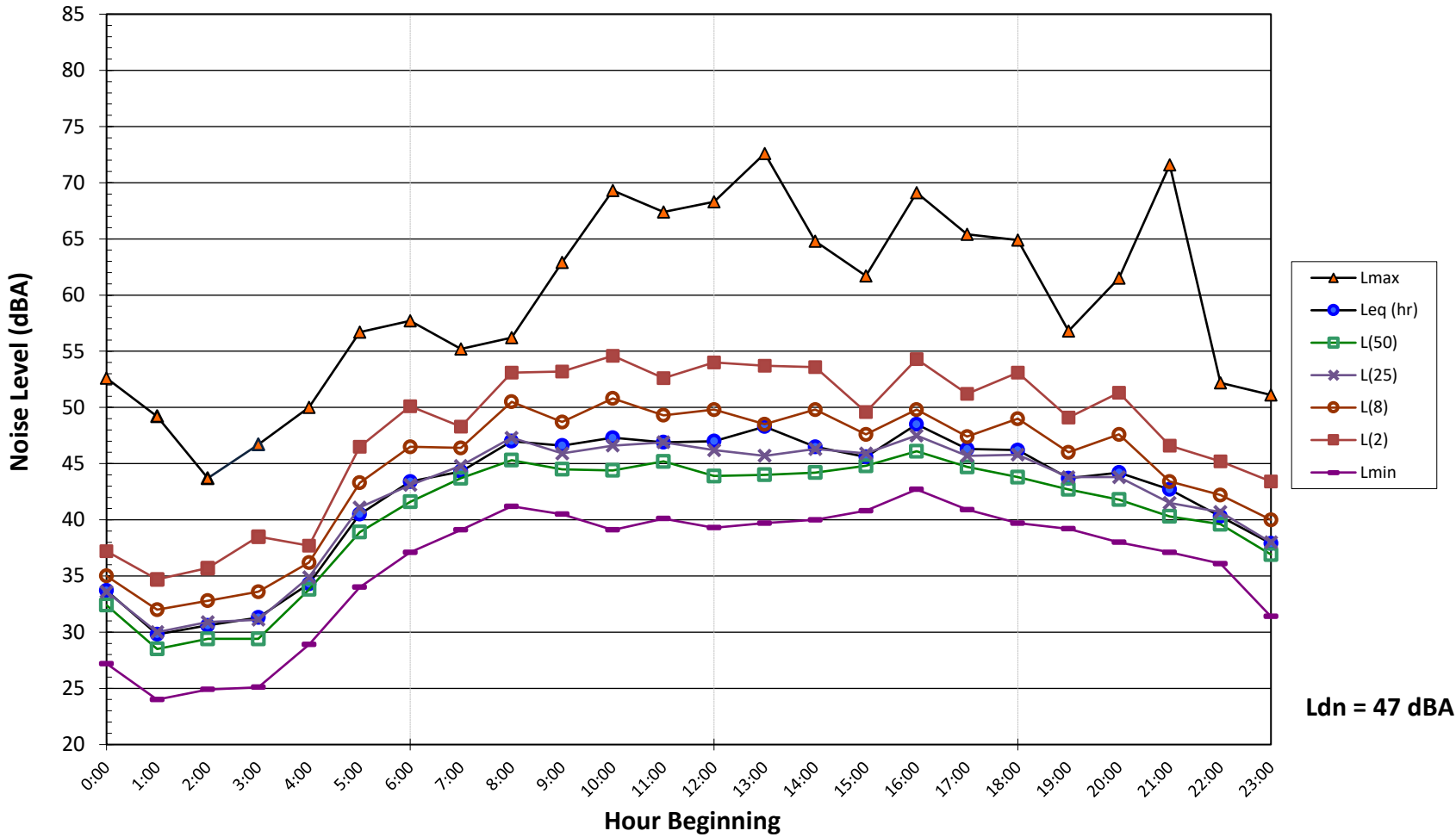


Ldn = 62 dBA

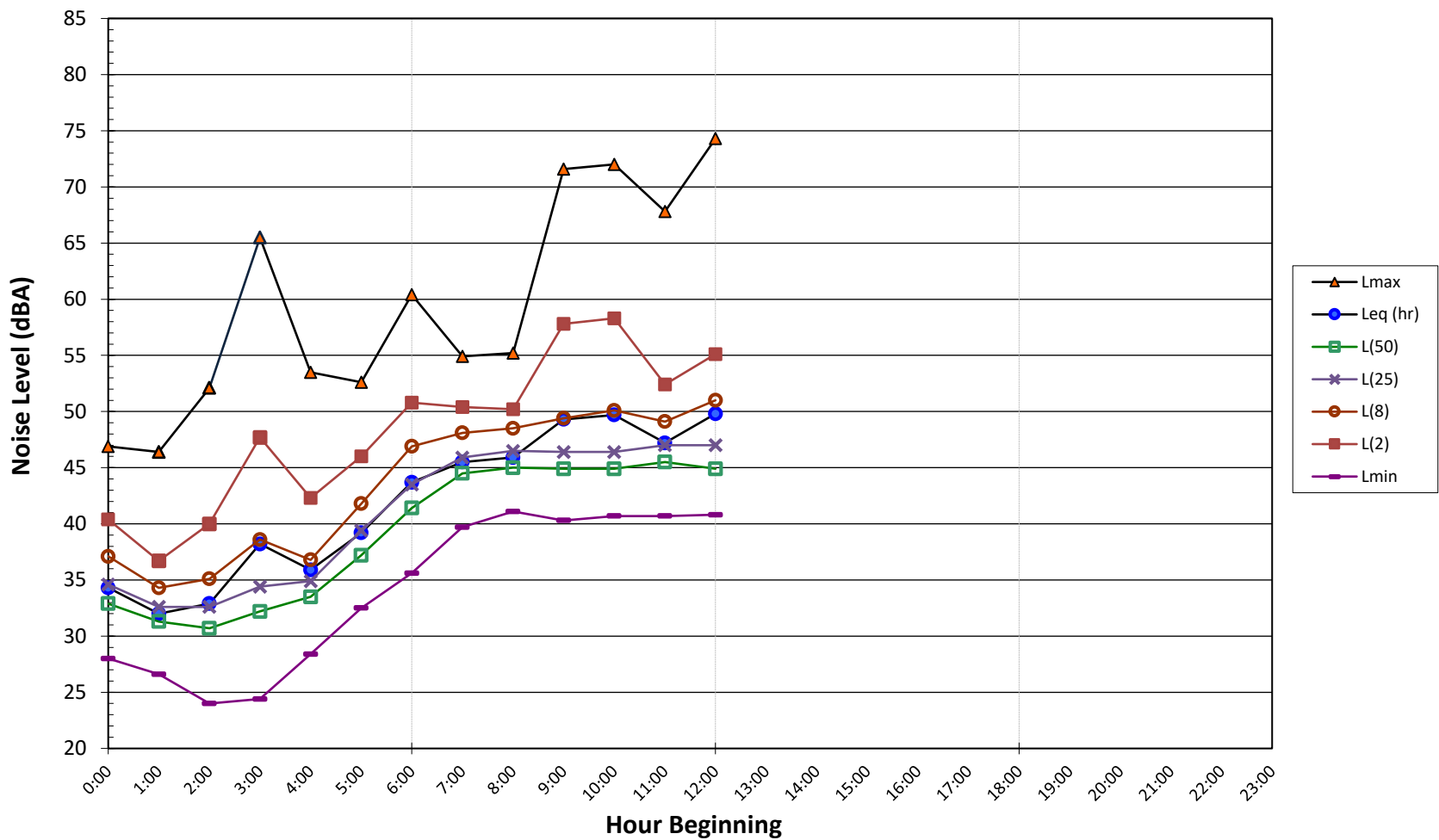
**Noise Levels at LT-9
Southern Heights Boulevard, San Rafael, CA
Tuesday, May 7, 2019**



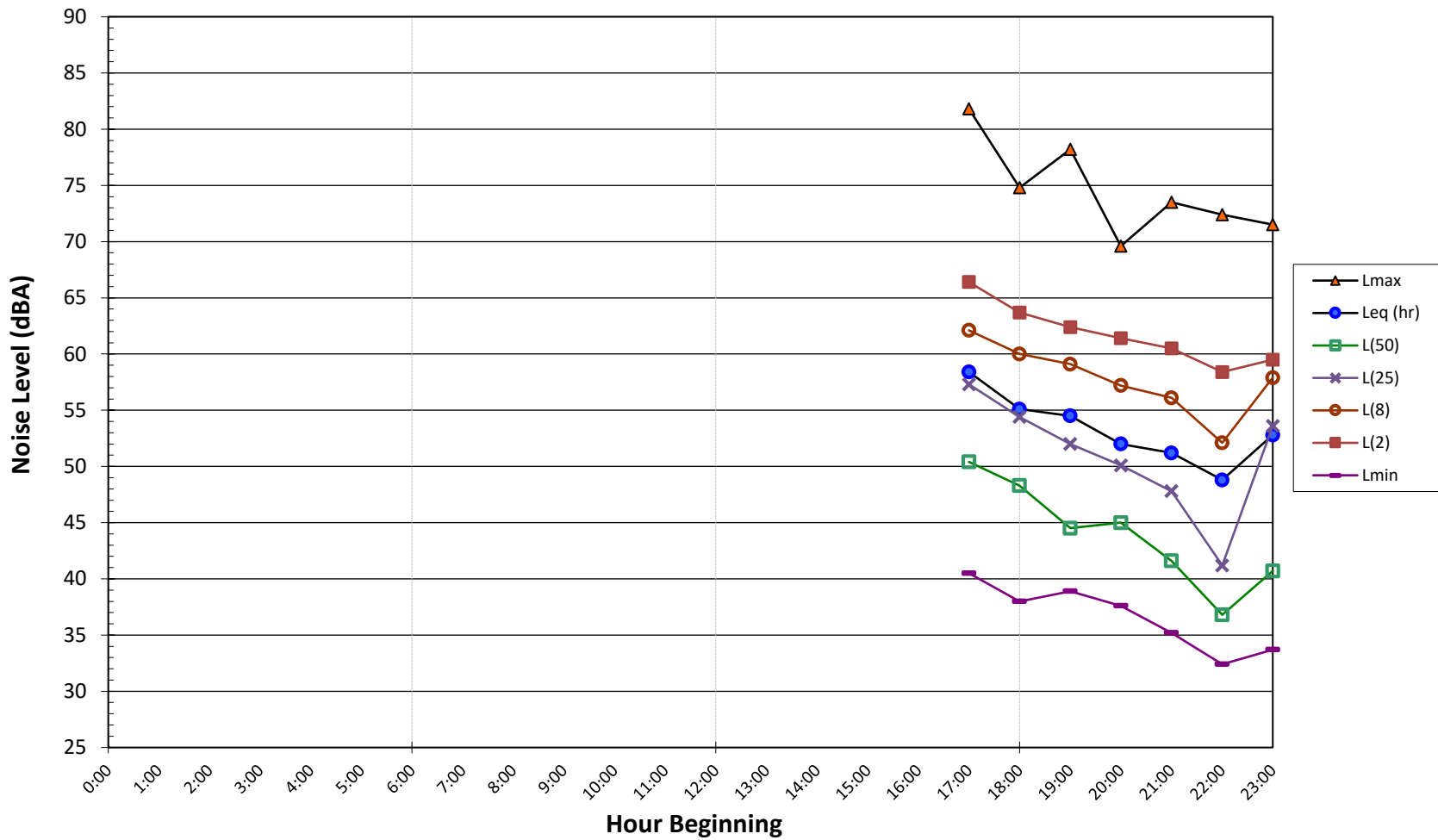
**Noise Levels at LT-9
Southern Heights Boulevard, San Rafael, CA
Wednesday, May 8, 2019**



**Noise Levels at LT-9
Southern Heights Boulevard, San Rafael, CA
Thursday, May 9, 2019**



**Noise Levels at LT-10
Catalina Boulevard, San Rafael, CA
Thursday, May 2, 2019**



**Noise Levels at LT-10
Catalina Boulevard, San Rafael, CA
Friday, May 3, 2019**

