City of Duarte

General Plan
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Field Noise Measurement Sites
Exhibit N - 3b

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Field Noise Measurement Sites

Exhibit N - 3c

Measured noise levels ranged from 48.4 to 71.1 dBA Leq. Noise monitoring equipment used for the ambient noise survey consisted of a Larson Davis Laboratories Model LDL 820 sound level analyzer equipped with a Larson Davis Type 2561 microphone. The instrumentation was calibrated prior to use with a Larson Davis CA250 acoustical calibrator to ensure the accuracy of the measurements, and complies with applicable requirements of the American National Standards Institute (ANSI) for Type I (precision) sound level meters. The accuracy of the calibrator is maintained through a program established by the manufacturer, and is traceable to the National Bureau of Standards. All instrumentation meets the requirements of ANSI S1.4-1971.

Projected Noise Conditions

Exhibit N - 5 (2020 Noise Contours) displays the projected 60, 65, and 70 CNEL noise contours calculated from the roadway centerline.

Table N - 7 “Projected 2020 Traffic Noise Levels” depicts the average daily traffic (ADT) for projected ADTs and the volume noise levels at 100 feet from the roadway centerline and the distance from the roadway centerline to the 70, 65 and 60 dBA CNEL contours. Tables in the Circulation Element indicate traffic volumes on designated street segments. Surface traffic noise has the greatest impact on the noise environment of residential and sensitive-receptor properties. Contours between 55 and 60 dBA CNEL are common along City collector streets, while 65 dBA CNEL or greater contours are common along major streets.

Of the 35 roadway links modeled within the City planning area, nine roadway links generate noise levels at 65 CNEL or greater at 100 feet from centerline. Ten of the roadway links modeled generate noise levels between 60 CNEL and 65 CNEL at 100 feet from centerline. These links include Huntington Drive east of Las Lomas, Duarte Road, segments along Buena Vista, Buena Vista Street between I-210 Freeway to the south of Duarte Road, segments along Royal Oaks, Central Ave. east of Buena Vista Street, and Mount Olive Drive. Thirteen of the thirty-five roadway segments modeled generate noise levels between 55 CNEL and 60 CNEL. These segments are along Mountain Avenue south of Duarte Road, Buena Vista Street, Highland Avenue, Royal Oaks Drive, Central Avenue, and Las Lomas. Three modeled roadway links with noise levels below 55 CNEL at 100 feet from centerline are Royal Oaks Drive west of Encanto Parkway, Bradbourne Avenue, and Los Lomas Road north of Royal Oaks Drive.

In the City of Duarte, soundwalls are adjacent to the I-210 Freeway. These soundwalls serve as a noise barrier and as noise attenuation. All other noise impacts are located within commercial or industrial areas in the City, which are not identified as sensitive receptors.

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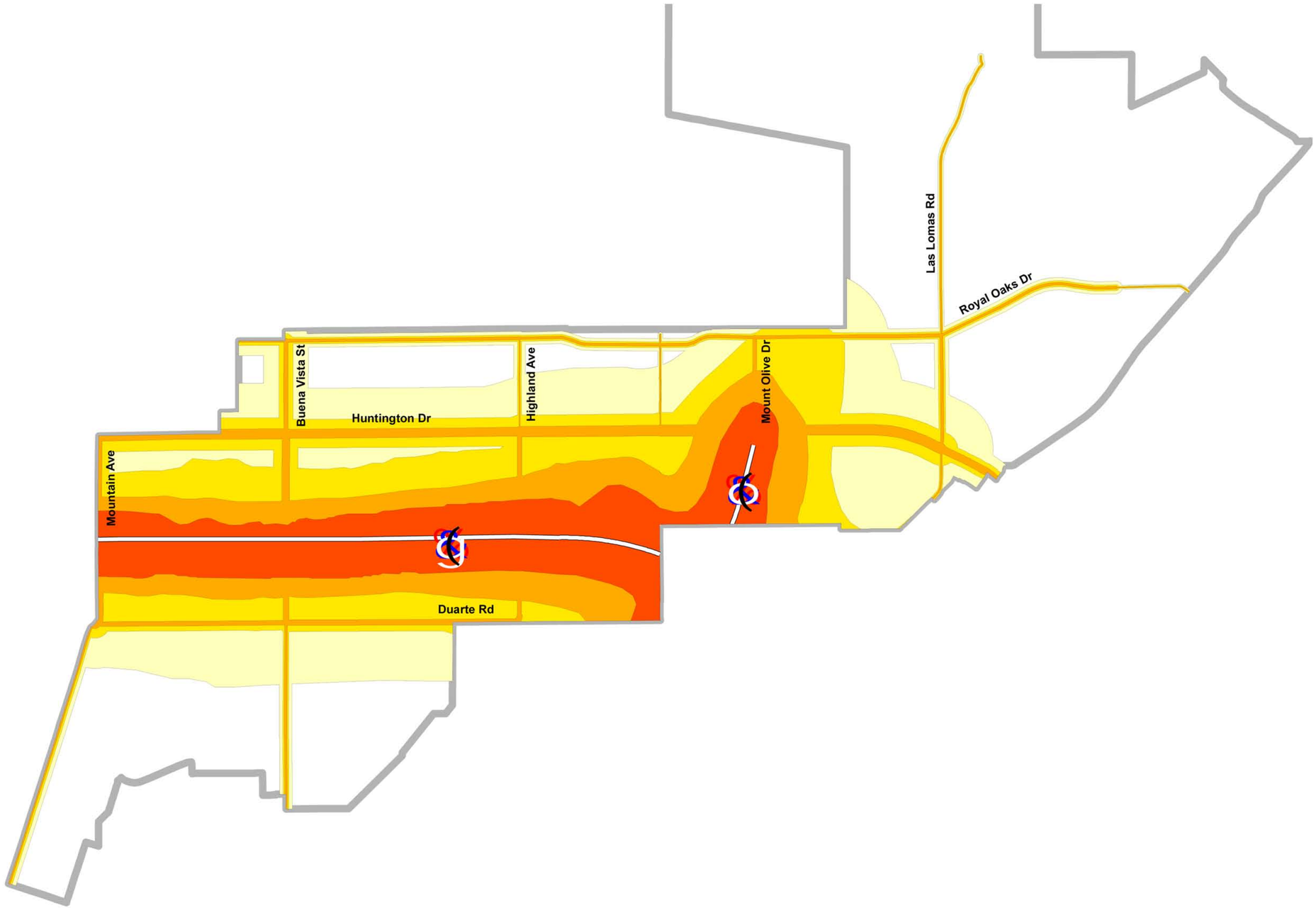
2020 Noise Contours

Diagram N - 2



LEGEND

Noise Levels - 2020 Projected

- 75 CNEL
- 70 CNEL
- 65 CNEL
- 60 CNEL

Interstates

- 210
- 605

City Limits

NORTH

0 1,500 3,000

Feet

July 14, 2006

Table N - 7

Projected 2020 Traffic Noise Levels

Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Noise Contour (distance from centerline)		
			60 CNEL	65 CNEL	70 CNEL
Arterial Roadways:					
Huntington Drive:					
Between Mountain Ave. and Buena Vista St.	30,700	67.8	720	228	72
Between Buena Vista St, and Highland Ave.	27,400	67.3	642	203	64
Between Highland Ave. and Bradbourne Ave.	31,800	67.9	745	236	75
Between Bradbourne Ave. and Mount Olive Dr	34,000	68.2	796	525	80
Between Mount Olive Dr. and Las Lomas Rd.	31,400	67.8	736	233	74
Huntington Drive east of Las Lomas Road	30,000	64.6	243	113	52
Duarte Road:					
Between Mountain Ave. and Buena Vista St.	14,000	64.5	328	104	33
Buena Vista Street to Highland Avenue	17,000	65.3	398	126	40
Mountain Avenue:					
Between Huntington Drive and I-210 Freeway	28,200	66.3	486	154	49
Between I-210 Freeway and Duarte Road	36,300	67.3	626	198	63
Mountain Avenue South of Duarte Road	11,900	59.8	107	50	23
Buena Vista Street:					
Between Royal Oaks Dr. and Huntington Dr.	13,600	64.3	318	101	32
Between Huntington Drive and I-210 Freeway	23,400	66.7	548	173	55
Between I-210 Freeway and Duarte Road	19,000	62.7	179	83	39
Buena Vista Street South of Duarte Road	9,100	58.6	89	41	19
Highland Avenue:					
Between Royal Oaks Dr. and Huntington Dr.	4,800	58.7	83	26	8
Between Huntington Drive and I-210 Freeway	13,500	64.5	316	100	32
Between I-210 Freeway and Duarte Road	12,800	61.3	137	64	30
Collector Streets:					
Royal Oaks Drive:					
Royal Oaks Drive west of Buena Vista Street	12,100	62.8	209	66	21
Between Buena Vista St. to Highland Avenue	10,200	59.1	96	45	21
Between Highland Ave. and Bradbourne Ave.	9,100	58.7	89	41	19
Between Bradbourne Ave. and Mount Olive Dr	9,300	58.8	91	42	20
Between Mount Olive Dr. and Las Lomas Rd.	12,000	59.8	107	50	23
Royal Oaks Drive east of Las Lomas Road	9,100	58.7	89	41	19
Royal Oaks Drive west of Encanto Parkway	1,700	51.4	29	14	6

Table N - 7 [continued]

Projected 2020 Traffic Noise Levels

Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Noise Contour (distance from centerline)		
			60 CNEL	65 CNEL	70 CNEL
Central Avenue:					
Central Avenue west of Buena Vista Street	4,800	57.5	59	19	6
Central Avenue east of Buena Vista Street	14,000	62.1	173	55	17
Central Avenue west of Highland Avenue	4,300	57.0	53	17	5
Between Highland Ave. and Bradbourne Ave.	8,200	59.8	101	32	10
Bradbourne Avenue:					
Between Royal Oaks Dr. and Huntington Drive	1, 600	52.1	34	16	7
Mount Olive Drive:					
Between Royal Oaks Dr. to Huntington Drive	11,600	60.9	129	60	28
Mount Olive Drive south of Huntington Drive	27,900	64.2	231	107	50
Las Lomas Road:					
Las Lomas Road north of Royal Oaks Drive	3,900	53.5	41	19	9
Between Royal Oaks Dr. and Huntington Drive	10,900	59.0	101	47	22
Las Lomas Road south of Huntington Drive	4,700	55.7	57	27	12

Source: Chapter 4, Circulation Element, prepared by RBF Consulting, April 2006.

DESCRIPTION OF NOISE PLAN

Transportation noise is the most serious noise problem in Duarte. However, local government has little direct control of transportation noise at the source. State and federal agencies have the responsibility to control vehicle noise emission levels. The most effective method the City has to mitigate transportation noise is by reducing noise impact on the community. Mitigation through site planning and the design and construction of a noise barrier (generally a wall or berm) are the most common ways of alleviating traffic noise impacts in existing urban environments.

Typical Noise Attenuation Rates

Noise impacts can be mitigated in three basic ways: by reducing the sound level of the noise generator, by increasing the distance between the source and receiver, and by insulating the receiver.

Noise reduction can be accomplished by placement of walls, landscaped berms, or a combination of the two, between the noise source and the receiver. Generally, effective noise shielding requires a solid barrier with a mass of at least four pounds per square-foot of surface area which is large enough to block the line of sight between source and receiver. Variations may be appropriate in individual cases based on distance, nature and orientation of buildings behind the barrier, and a number of other factors. Garages or other buildings may be used to shield dwelling units and outdoor living areas from traffic noise.

In addition to site design techniques, noise insulation can be accomplished through proper design of buildings. Nearby noise generators should be recognized in determining the location of doors, windows and vent openings. Sound-rated windows (extra thick or multi-paned) and wall insulation are also effective. None of these measures, however, can realize their full potential unless care is taken in actual construction: doors and windows fitted properly, openings sealed, joints caulked, plumbing adequately insulated from structural members.

Of course, sound-rated doors and windows will have little effect if left open. This may require installation of air conditioning for adequate ventilation. The chain of design, construction and operation is only as effective as its weakest link.

Noise impacts can be reduced by insulating noise sensitive uses, such as residences, schools, libraries, hospitals, nursing and carehomes and some types of commercial activities. But perhaps a more efficient approach involves limiting the level of noise generation at the source. State and Federal statutes have largely preempted local control over vehicular noise emissions but commercial and industrial operations and certain residential activities provide opportunities for local government to assist in noise abatement. Local ordinances may establish maximum levels for noise generated on-site. This usually takes the form of limiting the level of noise permitted to leave the property where it may impact other uses.

Although vehicular noise emissions standards are established at the State and Federal levels, local agencies can play a significant part in reducing traffic noise by controlling traffic volume and congestion. Traffic noise is greatest at intersections due to acceleration, deceleration and gear shifting. Measures such as signal synchronization can help to minimize this problem. Likewise, reduction of congestion aids in reduction of noise. This can be accomplished through the application of traffic engineering techniques such as channelization of turning movements, parking restrictions, separation of modes (bus, auto, bicycle, pedestrian) and restrictions on truck traffic.

Noise reduction through reduction of traffic volumes can also be accomplished with incentive programs for use of public transit facilities and high-occupancy vehicles, staggering of work hours and land use controls. Vehicle trips can be turned into pedestrian trips with integration of housing and employment into the same project or area, construction of high-density, affordable housing in proximity to employment, shopping and public transit facilities and other techniques.

Noise and Land Use Planning Integration

Information relative to the existing and future noise environments within Duarte should be integrated into future land use planning decisions. This Element presents the existing and future noise environments so that the City will include noise impact considerations in development programs. Noise and land use compatibility guidelines are presented, as well as noise standards for new developments. Community noise considerations are to be incorporated into land use planning to the maximum extent feasible.

Transportation Noise Control

The most efficient and effective means of controlling noise from transportation systems is to reduce noise at the source. However, since the City has little direct control over source noise levels because of State and federal preemption (for example, State motor vehicle noise standards and federal air regulations), the City should focus on reducing the impact of the noise on the community.

Non-Transportation Noise Control

People must be protected from excessive noise from non-transportation sources, including commercial and industrial centers. These impacts are most effectively controlled through the application of the City's Noise Ordinance.

IMPLEMENTATION MEASURES

Government Code 65400 requires the legislative body to consider and adopt reasonable and practical means for implementing the general plan. This is necessary so that the plan will serve as an effective guide for orderly growth and development, and the efficient expenditure of public funds relating to the subjects addressed in the general plan. The State also requires an annual report to the legislative body, State Department of Housing and Community Development

(HCD) and State Office of Planning and Research on the status of the plan and progress in implementing the plan.

This section provides an implementation matrix for policies found in the Noise chapter. The matrix identifies the policy to be implemented, the implementation measure to be used for that policy, the responsible agency or department that will be implementing the measure, the funding source and the estimated timeframe to complete the implementation.

Responsible Agency:

All = All Departments
CD = Community Development
CM = City Manager
AS = Administrative Services
PS = Public Safety
P&R = Parks and Recreation

Funding Source:

GF = General Fund
RA = Redevelopment Agency
G = Grants
DF = Development Fees
SF= State funds
FF = Federal Funds
OF = Other Funds

Implementation Timeframe (or as resources provide):

ST = Short-term by 2009
MT = Mid-term by 2015
LT = Long Term by 2020
On = Ongoing

Table N - 8
Noise Implementation Measures

Policy #	Implementation Measure	Responsible Agency	Funding Source	Time frame
N 1.1.1	Require new developments to pay their fair share of mitigating measures.	CD	DF, OF, GF	On
N 1.1.2	In coordination with Caltrans, the City will continue to participate in the phased program for the construction of sound walls along I-210 and I-605.	CD	FF, SF, GF	On
N 1.1.3	Require earthen berms, setbacks and other noise reduction techniques as conditions of development where applicable.	CD	OF	On
N 1.1.4	Require noise mitigation methods as a condition of approval during the development review process. Encourage the use of Sound Transmission Glass (STC) or Outdoor Indoor Transmission Glass (OITC) rated windows for residential uses adjacent to the freeways and along major arterials.	CD	OF	On
N 1.1.5	Limit construction, delivery, and through truck traffic to designated routes.	PS	GF	On

N 1.1.6	Incorporate noise reduction measures into all development proposals, as necessary. Monitor existing noise levels along major arterials and enforce the City's noise ordinance where necessary.	CD	GF	On
N 1.1.7	Support noise abatement legislation through increased lobbying activities.	CM, CD	GF	On
N 1.1.8	Support the use of rubberized asphalt on city streets for projects that require substantial paving activity, or roadways with high levels of traffic.	CD	GF, OF, SF	On
N 2.1.1	Strictly enforce the Noise Ordinance to ensure that noise generating uses are promptly abated.	PS, CD	GF	On
N 2.1.2	Require noise studies to be prepared in accordance with the City's environmental review procedure for all projects that are not "clearly compatible" with the future noise levels at the site. Consider developing maximum noise standards for ventilation systems (i.e., air conditioning units) in residential areas. Consider developing regulations to prohibit the use of public address systems and encourage the use of alternative (noise sensitive) communication devices (i.e., walkie-talkies, hand-held phones, or other similar methods).	CD	OF, GF	On
N 2.1.3	Continue to monitor activities from the Irwindale and Azusa Rock Quarries and prepare periodic reports, which will analyze noise reduction attempts.	CM, CD	GF	On
N 2.1.4	Require noise studies during the development review process if a project has the potential to generate significant noise.	CD, CM	OF	On
N 2.1.5	Evaluate the noise impacts from proposed development projects and existing uses (i.e., Irwindale Raceway and San Gabriel Valley Gun Club) in adjacent cities as part of the environmental (CEQA) and project review process and implement measures to mitigate any significant impacts.	CD	GF	On
N 3.1.1	Prepare noise and land use compatibility guidelines that can effectively reduce noise exposure to acceptable levels.	CD	GF	MT
N 3.1.2	Review the City's noise reduction ordinance to ensure compliance with State requirements.	CD	GF	MT
N 3.1.3	Condition projects adjacent to developed/occupied uses to require the developer to submit a construction related noise mitigation plan to the Director of Community Development for review and	CD	GF	On

	approval prior to issuance of grading permits.			
N 3.1.4	Refine the Noise Ordinance to reduce spillage of noise to adjacent properties and adopt a light spillage ordinance	CD	GF	MT