

**Appendix G:  
Noise Study**

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# Appendix G: Noise Study

## Table of Contents

Construction Noise Analysis .....	1
Traffic Noise Analysis.....	7
Vibration Impact Analysis .....	27

**Construction Activity - MITIGATED**

Receptor: 1315 S. Anaheim Blvd. (Residential)

Noise Level Calculation Prior to Implementation of Noise Attenuation Requirements											
No.	Equipment Description	Reference (dBA) 50 ft	Quantity	Usage factor[1]	Distance to Receptor	Ground Effect[2]	Shielding (dBA)[3]	Calculated (dBA)		Energy	
		Lmax						Leq			
1	Grader	85.0	1	40	115	0	10	67.8	63.8	2391136.227	
2	Bulldozer	81.7	1	40	115	0	10	64.5	60.5	1118418.441	
3											
4											
5											
6											
7											
8											
9											
10											
								<b>Lmax[4]</b>	<b>68</b>	<b>Leq</b>	<b>65</b>

- Notes:  
 [1] Percentage of time activity occurs each hour  
 [2] Assumes no excess attenuation due to ground or terrain features  
 [3] Assumes shielding per Mitigation Measure NOI-1  
 [4] Calculated Lmax is the loudest value.

Ldn Calculations					
	Time	Hourly Leq	Leq'	0.1*Leq	antiLog
Night	12:00 AM	0.0	10.0	1	10
	1:00 AM	0.0	10.0	1	10
	2:00 AM	0.0	10.0	1	10
	3:00 AM	0.0	10.0	1	10
	4:00 AM	0.0	10.0	1	10
	5:00 AM	0.0	10.0	1	10
Day	6:00 AM	0.0	10.0	1	10
	7:00 AM	65.5	65.5	6.545252012	3509554.668
	8:00 AM	65.5	65.5	6.545252012	3509554.668
	9:00 AM	65.5	65.5	6.545252012	3509554.668
	10:00 AM	65.5	65.5	6.545252012	3509554.668
	11:00 AM	65.5	65.5	6.545252012	3509554.668
	12:00 PM	65.5	65.5	6.545252012	3509554.668
	1:00 PM	65.5	65.5	6.545252012	3509554.668
	2:00 PM	65.5	65.5	6.545252012	3509554.668
	3:00 PM	65.5	65.5	6.545252012	3509554.668
	4:00 PM	65.5	65.5	6.545252012	3509554.668
	5:00 PM	65.5	65.5	6.545252012	3509554.668
	6:00 PM	0.0	0.0	0	1
	7:00 PM	0.0	0.0	0	1
Night	8:00 PM	0.0	0.0	0	1
	9:00 PM	0.0	0.0	0	1
	10:00 PM	0.0	10.0	1	10
	11:00 PM	0.0	10.0	1	10
				Sum	38605195.35
				Sum/24	1608549.806
				Log10(Sum/24)	6.206434513
				10*Log10(Sum/24)	62.06434513
				<b>24 Hour Ldn</b>	<b>62</b>

CNEL Calculations					
	Time	Hourly Leq	Leq'	0.1*Leq	antiLog
Night	12:00 AM	0.0	0.0	0	1
	1:00 AM	0.0	0.0	0	1
	2:00 AM	0.0	0.0	0	1
	3:00 AM	0.0	0.0	0	1
	4:00 AM	0.0	0.0	0	1
	5:00 AM	0.0	0.0	0	1
Day	6:00 AM	0.0	0.0	0	1
	7:00 AM	65.5	65.5	6.545252	3509555
	8:00 AM	65.5	65.5	6.545252	3509555
	9:00 AM	65.5	65.5	6.545252	3509555
	10:00 AM	65.5	65.5	6.545252	3509555
	11:00 AM	65.5	65.5	6.545252	3509555
	12:00 PM	65.5	65.5	6.545252	3509555
	1:00 PM	65.5	65.5	6.545252	3509555
	2:00 PM	65.5	65.5	6.545252	3509555
	3:00 PM	65.5	65.5	6.545252	3509555
	4:00 PM	65.5	65.5	6.545252	3509555
	5:00 PM	65.5	65.5	6.545252	3509555
	6:00 PM	65.5	65.5	6.545252	3509555
	Evening	7:00 PM	0.0	0.0	0
8:00 PM		0.0	0.0	0	1
9:00 PM		0.0	0.0	0	1
Night	10:00 PM	0.0	0.0	0	1
	11:00 PM	0.0	0.0	0	1
				Sum	42114668
				Sum/24	1754778
				Log10(Sum/24)	6.244222
				10*Log10(Sum/24)	62.44222
				<b>24 Hour CNEL</b>	<b>62</b>

**Construction Activity**

Receptor: 1315 S. Anaheim Blvd. (Residential)

Noise Level Calculation Prior to Implementation of Noise Attenuation Requirements											
No.	Equipment Description	Reference (dBA) 50 ft	Quantity	Usage factor[1]	Distance to Receptor	Ground Effect[2]	Shielding (dBA)[3]	Calculated (dBA)		Energy	
		Lmax						Leq			
1	Grader	85.0	1	40	115	0	0	77.8	73.8	23911362.27	
2	Bulldozer	81.7	1	40	115	0	0	74.5	70.5	11184184.41	
3											
4											
5											
6											
7											
8											
9											
10											
								<b>Lmax[4]</b>	<b>78</b>	<b>Leq</b>	<b>75</b>

- Notes:  
 [1] Percentage of time activity occurs each hour  
 [2] Assumes no excess attenuation due to ground or terrain features  
 [3] Assumes no shielding between project site and receptor  
 [4] Calculated Lmax is the loudest value.

Ldn Calculations						
	Time	Hourly Leq	Leq'	0.1*Leq	antiLog	
Night	12:00 AM	0.0	10.0	1	10	
	1:00 AM	0.0	10.0	1	10	
	2:00 AM	0.0	10.0	1	10	
	3:00 AM	0.0	10.0	1	10	
	4:00 AM	0.0	10.0	1	10	
	5:00 AM	0.0	10.0	1	10	
Day	6:00 AM	0.0	10.0	1	10	
	7:00 AM	75.5	75.5	7.545252012	35095546.68	
	8:00 AM	75.5	75.5	7.545252012	35095546.68	
	9:00 AM	75.5	75.5	7.545252012	35095546.68	
	10:00 AM	75.5	75.5	7.545252012	35095546.68	
	11:00 AM	75.5	75.5	7.545252012	35095546.68	
	12:00 PM	75.5	75.5	7.545252012	35095546.68	
	1:00 PM	75.5	75.5	7.545252012	35095546.68	
	2:00 PM	75.5	75.5	7.545252012	35095546.68	
	3:00 PM	75.5	75.5	7.545252012	35095546.68	
	4:00 PM	75.5	75.5	7.545252012	35095546.68	
	5:00 PM	75.5	75.5	7.545252012	35095546.68	
	6:00 PM	0.0	0.0	0	1	
	7:00 PM	0.0	0.0	0	1	
	8:00 PM	0.0	0.0	0	1	
	9:00 PM	0.0	0.0	0	1	
	Night	10:00 PM	0.0	10.0	1	10
		11:00 PM	0.0	10.0	1	10
				Sum	386051107.5	
				Sum/24	16085462.81	
				Log10(Sum/24)	7.206433561	
				10*Log10(Sum/24)	72.06433561	
				<b>24 Hour Ldn</b>	<b>72</b>	

CNEL Calculations					
	Time	Hourly Leq	Leq'	0.1*Leq	antiLog
Night	12:00 AM	0.0	0.0	0	1
	1:00 AM	0.0	0.0	0	1
	2:00 AM	0.0	0.0	0	1
	3:00 AM	0.0	0.0	0	1
	4:00 AM	0.0	0.0	0	1
	5:00 AM	0.0	0.0	0	1
Day	6:00 AM	0.0	0.0	0	1
	7:00 AM	75.5	75.5	7.545252	35095547
	8:00 AM	75.5	75.5	7.545252	35095547
	9:00 AM	75.5	75.5	7.545252	35095547
	10:00 AM	75.5	75.5	7.545252	35095547
	11:00 AM	75.5	75.5	7.545252	35095547
	12:00 PM	75.5	75.5	7.545252	35095547
	1:00 PM	75.5	75.5	7.545252	35095547
	2:00 PM	75.5	75.5	7.545252	35095547
	3:00 PM	75.5	75.5	7.545252	35095547
	4:00 PM	75.5	75.5	7.545252	35095547
	5:00 PM	75.5	75.5	7.545252	35095547
Evening	6:00 PM	0.0	0.0	0	1
	7:00 PM	0.0	0.0	0	1
	8:00 PM	0.0	0.0	0	1
Night	9:00 PM	0.0	0.0	0	1
	10:00 PM	0.0	0.0	0	1
				Sum	3.86E+08
				Sum/24	16085459
				Log10(Sum/24)	7.206433
				10*Log10(Sum/24)	72.06433
				<b>24 Hour CNEL</b>	<b>72</b>

**Construction Activity - MITIGATED**

Receptor: 1321-1331 S. Anaheim Blvd. (Residential)

Noise Level Calculation Prior to Implementation of Noise Attenuation Requirements										
No.	Equipment Description	Reference (dBA) 50 ft	Quantity	Usage factor[1]	Distance to Receptor	Ground Effect[2]	Shielding (dBA)[3]	Calculated (dBA)		Energy
		Lmax						Leq		
1	Grader	85.0	1	40	115	0	10	67.8	63.8	2391136.227
2	Bulldozer	81.7	1	40	115	0	10	64.5	60.5	1118418.441
3										
4										
5										
6										
7										
8										
9										
10										

Notes: Lmax[4] **68** Leq **65**

- [1] Percentage of time activity occurs each hour
- [2] Assumes no excess attenuation due to ground or terrain features
- [3] Assumes shielding per Mitigation Measure NOI-1
- [4] Calculated Lmax is the loudest value.

CNEL Calculations					
	Time	Hourly Leq	Leq'	0.1*Leq	antiLog
Night	12:00 AM	0.0	0.0	0	1
	1:00 AM	0.0	0.0	0	1
	2:00 AM	0.0	0.0	0	1
	3:00 AM	0.0	0.0	0	1
	4:00 AM	0.0	0.0	0	1
	5:00 AM	0.0	0.0	0	1
Day	6:00 AM	0.0	0.0	0	1
	7:00 AM	65.5	65.5	6.545252	3509555
	8:00 AM	65.5	65.5	6.545252	3509555
	9:00 AM	65.5	65.5	6.545252	3509555
	10:00 AM	65.5	65.5	6.545252	3509555
	11:00 AM	65.5	65.5	6.545252	3509555
	12:00 PM	65.5	65.5	6.545252	3509555
	1:00 PM	65.5	65.5	6.545252	3509555
	2:00 PM	65.5	65.5	6.545252	3509555
	3:00 PM	65.5	65.5	6.545252	3509555
	4:00 PM	65.5	65.5	6.545252	3509555
	5:00 PM	65.5	65.5	6.545252	3509555
Evening	6:00 PM	0.0	0.0	0	1
	7:00 PM	0.0	0.0	0	1
	8:00 PM	0.0	0.0	0	1
Night	9:00 PM	0.0	0.0	0	1
	10:00 PM	0.0	0.0	0	1
	11:00 PM	0.0	0.0	0	1
				Sum	38605114
				Sum/24	1608546
				Log10(Sum/24)	6.206434
				10*Log10(Sum/24)	62.06434
				<b>24 Hour CNEL</b>	<b>62</b>

Ldn Calculations						
	Time	Hourly Leq	Leq'	0.1*Leq	antiLog	
Night	12:00 AM	0.0	10.0	1	10	
	1:00 AM	0.0	10.0	1	10	
	2:00 AM	0.0	10.0	1	10	
	3:00 AM	0.0	10.0	1	10	
	4:00 AM	0.0	10.0	1	10	
	5:00 AM	0.0	10.0	1	10	
Day	6:00 AM	0.0	10.0	1	10	
	7:00 AM	65.5	65.5	6.545252012	3509554.668	
	8:00 AM	65.5	65.5	6.545252012	3509554.668	
	9:00 AM	65.5	65.5	6.545252012	3509554.668	
	10:00 AM	65.5	65.5	6.545252012	3509554.668	
	11:00 AM	65.5	65.5	6.545252012	3509554.668	
	12:00 PM	65.5	65.5	6.545252012	3509554.668	
	1:00 PM	65.5	65.5	6.545252012	3509554.668	
	2:00 PM	65.5	65.5	6.545252012	3509554.668	
	3:00 PM	65.5	65.5	6.545252012	3509554.668	
	4:00 PM	65.5	65.5	6.545252012	3509554.668	
	5:00 PM	65.5	65.5	6.545252012	3509554.668	
	6:00 PM	0.0	0.0	0	1	
	7:00 PM	0.0	0.0	0	1	
	8:00 PM	0.0	0.0	0	1	
	9:00 PM	0.0	0.0	0	1	
	Night	10:00 PM	0.0	10.0	1	10
		11:00 PM	0.0	10.0	1	10
				Sum	38605195.35	
				Sum/24	1608549.806	
				Log10(Sum/24)	6.206434513	
				10*Log10(Sum/24)	62.06434513	
				<b>24 Hour Ldn</b>	<b>62</b>	

**Construction Activity**

Receptor: 1321-1331 S. Anaheim Blvd. (Residential)

Noise Level Calculation Prior to Implementation of Noise Attenuation Requirements											
No.	Equipment Description	Reference (dBA) 50 ft	Quantity	Usage factor[1]	Distance to Receptor	Ground Effect[2]	Shielding (dBA)[3]	Calculated (dBA)		Energy	
		Lmax						Leq			
1	Grader	85.0	1	40	115	0	0	77.8	73.8	23911362.27	
2	Bulldozer	81.7	1	40	115	0	0	74.5	70.5	11184184.41	
3											
4											
5											
6											
7											
8											
9											
10											
								<b>Lmax[4]</b>	<b>78</b>	<b>Leq</b>	<b>75</b>

- Notes:  
 [1] Percentage of time activity occurs each hour  
 [2] Assumes no excess attenuation due to ground or terrain features  
 [3] Assumes no shielding between project site and receptor  
 [4] Calculated Lmax is the loudest value.

Ldn Calculations						
	Time	Hourly Leq	Leq'	0.1*Leq	antiLog	
Night	12:00 AM	0.0	10.0	1	10	
	1:00 AM	0.0	10.0	1	10	
	2:00 AM	0.0	10.0	1	10	
	3:00 AM	0.0	10.0	1	10	
	4:00 AM	0.0	10.0	1	10	
	5:00 AM	0.0	10.0	1	10	
Day	6:00 AM	0.0	10.0	1	10	
	7:00 AM	75.5	75.5	7.545252012	35095546.68	
	8:00 AM	75.5	75.5	7.545252012	35095546.68	
	9:00 AM	75.5	75.5	7.545252012	35095546.68	
	10:00 AM	75.5	75.5	7.545252012	35095546.68	
	11:00 AM	75.5	75.5	7.545252012	35095546.68	
	12:00 PM	75.5	75.5	7.545252012	35095546.68	
	1:00 PM	75.5	75.5	7.545252012	35095546.68	
	2:00 PM	75.5	75.5	7.545252012	35095546.68	
	3:00 PM	75.5	75.5	7.545252012	35095546.68	
	4:00 PM	75.5	75.5	7.545252012	35095546.68	
	5:00 PM	75.5	75.5	7.545252012	35095546.68	
	6:00 PM	0.0	0.0	0	1	
	7:00 PM	0.0	0.0	0	1	
	8:00 PM	0.0	0.0	0	1	
	9:00 PM	0.0	0.0	0	1	
	Night	10:00 PM	0.0	10.0	1	10
		11:00 PM	0.0	10.0	1	10
				Sum	386051107.5	
				Sum/24	16085462.81	
				Log10(Sum/24)	7.206433561	
				10*Log10(Sum/24)	72.06433561	
				<b>24 Hour Ldn</b>	<b>72</b>	

CNEL Calculations					
	Time	Hourly Leq	Leq'	0.1*Leq	antiLog
Night	12:00 AM	0.0	0.0	0	1
	1:00 AM	0.0	0.0	0	1
	2:00 AM	0.0	0.0	0	1
	3:00 AM	0.0	0.0	0	1
	4:00 AM	0.0	0.0	0	1
	5:00 AM	0.0	0.0	0	1
Day	6:00 AM	0.0	0.0	0	1
	7:00 AM	75.5	75.5	7.545252	35095547
	8:00 AM	75.5	75.5	7.545252	35095547
	9:00 AM	75.5	75.5	7.545252	35095547
	10:00 AM	75.5	75.5	7.545252	35095547
	11:00 AM	75.5	75.5	7.545252	35095547
	12:00 PM	75.5	75.5	7.545252	35095547
	1:00 PM	75.5	75.5	7.545252	35095547
	2:00 PM	75.5	75.5	7.545252	35095547
	3:00 PM	75.5	75.5	7.545252	35095547
	4:00 PM	75.5	75.5	7.545252	35095547
	5:00 PM	75.5	75.5	7.545252	35095547
Evening	6:00 PM	0.0	0.0	0	1
	7:00 PM	0.0	0.0	0	1
	8:00 PM	0.0	0.0	0	1
Night	9:00 PM	0.0	0.0	0	1
	10:00 PM	0.0	0.0	0	1
	11:00 PM	0.0	0.0	0	1
				Sum	3.86E+08
				Sum/24	16085459
				Log10(Sum/24)	7.206433
				10*Log10(Sum/24)	72.06433
				<b>24 Hour CNEL</b>	<b>72</b>

**Construction Activity**

Receptor: Happy Hippo Preschool

Noise Level Calculation Prior to Implementation of Noise Attenuation Requirements											
No.	Equipment Description	Reference (dBA) 50 ft	Quantity	Usage factor[1]	Distance to Receptor	Ground Effect[2]	Shielding (dBA)[3]	Calculated (dBA)		Energy	
		Lmax						Leq			
1	Grader	85.0	1	40	380	0	0	67.4	63.4	2189942.978	
2	Bulldozer	81.7	1	40	380	0	0	64.1	60.1	1024313.288	
3											
4											
5											
6											
7											
8											
9											
10											
								<b>Lmax[4]</b>	<b>67</b>	<b>Leq</b>	<b>65</b>

- Notes:  
 [1] Percentage of time activity occurs each hour  
 [2] Assumes no excess attenuation due to ground or terrain features  
 [3] Assumes no shielding between project site and receptor  
 [4] Calculated Lmax is the loudest value.

Ldn Calculations						
	Time	Hourly Leq	Leq'	0.1*Leq	antiLog	
Night	12:00 AM	0.0	10.0		10	
	1:00 AM	0.0	10.0		10	
	2:00 AM	0.0	10.0		10	
	3:00 AM	0.0	10.0		10	
	4:00 AM	0.0	10.0		10	
	5:00 AM	0.0	10.0		10	
Day	6:00 AM	0.0	10.0		10	
	7:00 AM	65.1	65.1	6.507080499	3214256.266	
	8:00 AM	65.1	65.1	6.507080499	3214256.266	
	9:00 AM	65.1	65.1	6.507080499	3214256.266	
	10:00 AM	65.1	65.1	6.507080499	3214256.266	
	11:00 AM	65.1	65.1	6.507080499	3214256.266	
	12:00 PM	65.1	65.1	6.507080499	3214256.266	
	1:00 PM	65.1	65.1	6.507080499	3214256.266	
	2:00 PM	65.1	65.1	6.507080499	3214256.266	
	3:00 PM	65.1	65.1	6.507080499	3214256.266	
	4:00 PM	65.1	65.1	6.507080499	3214256.266	
	5:00 PM	65.1	65.1	6.507080499	3214256.266	
	6:00 PM	0.0	0.0		1	
	7:00 PM	0.0	0.0		1	
	8:00 PM	0.0	0.0		1	
	9:00 PM	0.0	0.0		1	
	Night	10:00 PM	0.0	10.0		10
		11:00 PM	0.0	10.0		10
				Sum	35356912.93	
				Sum/24	1473204.705	
				Log10(Sum/24)	6.168263097	
				10*Log10(Sum/24)	61.68263097	
				<b>24 Hour Ldn</b>	<b>62</b>	

CNEL Calculations					
	Time	Hourly Leq	Leq'	0.1*Leq	antiLog
Night	12:00 AM	0.0	0.0	0	1
	1:00 AM	0.0	0.0	0	1
	2:00 AM	0.0	0.0	0	1
	3:00 AM	0.0	0.0	0	1
	4:00 AM	0.0	0.0	0	1
	5:00 AM	0.0	0.0	0	1
Day	6:00 AM	0.0	0.0	0	1
	7:00 AM	65.1	65.1	6.50708	3214256
	8:00 AM	65.1	65.1	6.50708	3214256
	9:00 AM	65.1	65.1	6.50708	3214256
	10:00 AM	65.1	65.1	6.50708	3214256
	11:00 AM	65.1	65.1	6.50708	3214256
	12:00 PM	65.1	65.1	6.50708	3214256
	1:00 PM	65.1	65.1	6.50708	3214256
	2:00 PM	65.1	65.1	6.50708	3214256
	3:00 PM	65.1	65.1	6.50708	3214256
	4:00 PM	65.1	65.1	6.50708	3214256
	5:00 PM	65.1	65.1	6.50708	3214256
Evening	6:00 PM	0.0	0.0	0	1
	7:00 PM	0.0	0.0	0	1
	8:00 PM	0.0	0.0	0	1
Night	9:00 PM	0.0	0.0	0	1
	10:00 PM	0.0	0.0	0	1
	11:00 PM	0.0	0.0	0	1
				Sum	35356832
				Sum/24	1473201
				Log10(Sum/24)	6.168262
				10*Log10(Sum/24)	61.68262
				<b>24 Hour CNEL</b>	<b>62</b>



**Construction Activity**

Receptor: Paul Revere Elementary School

Noise Level Calculation Prior to Implementation of Noise Attenuation Requirements											
No.	Equipment Description	Reference (dBA) 50 ft	Quantity	Usage factor[1]	Distance to Receptor	Ground Effect[2]	Shielding (dBA)[3]	Calculated (dBA)		Energy	
		Lmax						Leq			
1	Grader	85.0	1	40	400	0	0	66.9	63.0	1976423.538	
2	Bulldozer	81.7	1	40	400	0	0	63.6	59.7	924442.7426	
3											
4											
5											
6											
7											
8											
9											
10											
								<b>Lmax[4]</b>	<b>67</b>	<b>Leq</b>	<b>65</b>

- Notes:  
 [1] Percentage of time activity occurs each hour  
 [2] Assumes no excess attenuation due to ground or terrain features  
 [3] Assumes no shielding between project site and receptor  
 [4] Calculated Lmax is the loudest value.

Ldn Calculations						
	Time	Hourly Leq	Leq'	0.1*Leq	antiLog	
Night	12:00 AM	0.0	10.0	1	10	
	1:00 AM	0.0	10.0	1	10	
	2:00 AM	0.0	10.0	1	10	
	3:00 AM	0.0	10.0	1	10	
	4:00 AM	0.0	10.0	1	10	
	5:00 AM	0.0	10.0	1	10	
Day	6:00 AM	0.0	10.0	1	10	
	7:00 AM	64.6	64.6	6.46252771	2900866.28	
	8:00 AM	64.6	64.6	6.46252771	2900866.28	
	9:00 AM	64.6	64.6	6.46252771	2900866.28	
	10:00 AM	64.6	64.6	6.46252771	2900866.28	
	11:00 AM	64.6	64.6	6.46252771	2900866.28	
	12:00 PM	64.6	64.6	6.46252771	2900866.28	
	1:00 PM	64.6	64.6	6.46252771	2900866.28	
	2:00 PM	64.6	64.6	6.46252771	2900866.28	
	3:00 PM	64.6	64.6	6.46252771	2900866.28	
	4:00 PM	64.6	64.6	6.46252771	2900866.28	
	5:00 PM	64.6	64.6	6.46252771	2900866.28	
	6:00 PM	0.0	0.0	0	1	
	7:00 PM	0.0	0.0	0	1	
	8:00 PM	0.0	0.0	0	1	
	9:00 PM	0.0	0.0	0	1	
	Night	10:00 PM	0.0	10.0	1	10
		11:00 PM	0.0	10.0	1	10
				Sum	31909623.08	
				Sum/24	1329567.628	
				Log10(Sum/24)	6.123710433	
				10*Log10(Sum/24)	61.23710433	
				<b>24 Hour Ldn</b>	<b>61</b>	

CNEL Calculations					
	Time	Hourly Leq	Leq'	0.1*Leq	antiLog
Night	12:00 AM	0.0	0.0	0	1
	1:00 AM	0.0	0.0	0	1
	2:00 AM	0.0	0.0	0	1
	3:00 AM	0.0	0.0	0	1
	4:00 AM	0.0	0.0	0	1
	5:00 AM	0.0	0.0	0	1
Day	6:00 AM	0.0	0.0	0	1
	7:00 AM	64.6	64.6	6.462528	2900866
	8:00 AM	64.6	64.6	6.462528	2900866
	9:00 AM	64.6	64.6	6.462528	2900866
	10:00 AM	64.6	64.6	6.462528	2900866
	11:00 AM	64.6	64.6	6.462528	2900866
	12:00 PM	64.6	64.6	6.462528	2900866
	1:00 PM	64.6	64.6	6.462528	2900866
	2:00 PM	64.6	64.6	6.462528	2900866
	3:00 PM	64.6	64.6	6.462528	2900866
	4:00 PM	64.6	64.6	6.462528	2900866
	5:00 PM	64.6	64.6	6.462528	2900866
Evening	6:00 PM	0.0	0.0	0	1
	7:00 PM	0.0	0.0	0	1
	8:00 PM	0.0	0.0	0	1
Night	9:00 PM	0.0	0.0	0	1
	10:00 PM	0.0	0.0	0	1
	11:00 PM	0.0	0.0	0	1
				Sum	31909542
				Sum/24	1329564
				Log10(Sum/24)	6.123709
				10*Log10(Sum/24)	61.23709
				<b>24 Hour CNEL</b>	<b>61</b>

**RESULTS: SOUND LEVELS**

**Anaheim Ball**

<b>FCS</b>													15 June 2022											
<b>Noah Tanski</b>													TNM 2.5											
													Calculated with TNM 2.5											
<b>RESULTS: SOUND LEVELS</b>																								
<b>PROJECT/CONTRACT:</b>													Anaheim Ball											
<b>RUN:</b>													Anaheim Blvd: AM Existing + Project											
<b>BARRIER DESIGN:</b>													INPUT HEIGHTS											
													Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.											
<b>ATMOSPHERICS:</b>													68 deg F, 50% RH											
<b>Receiver</b>																								
<b>Name</b>													<b>No.</b>	<b>#DUs</b>	<b>Existing LAeq1h</b>	<b>No Barrier LAeq1h</b>	<b>Increase over existing</b>		<b>Type</b>	<b>With Barrier Calculated LAeq1h</b>	<b>Noise Reduction</b>			
																<b>Calculated</b>	<b>Crit'n</b>	<b>Calculated</b>	<b>Crit'n</b>	<b>Impact</b>	<b>Calculated</b>	<b>Calculated</b>	<b>Goal</b>	<b>Calculated minus Goal</b>
															dB	dB	dB	dB	dB		dB	dB	dB	dB
50ft from centerline													1	1	0.0	67.0	66	67.0	10	Snd Lvl	67.0	0.0	8	-8.0
<b>Dwelling Units</b>														<b># DUs</b>	<b>Noise Reduction</b>									
															<b>Min</b>	<b>Avg</b>	<b>Max</b>							
															<b>dB</b>	<b>dB</b>	<b>dB</b>							
All Selected														1	0.0	0.0	0.0							
All Impacted														1	0.0	0.0	0.0							
All that meet NR Goal														0	0.0	0.0	0.0							

**RESULTS: SOUND LEVELS**

**Anaheim Ball**

<b>FCS</b>												
Noah Tanski												
15 June 2022												
TNM 2.5												
Calculated with TNM 2.5												
<b>RESULTS: SOUND LEVELS</b>												
<b>PROJECT/CONTRACT:</b> Anaheim Ball												
<b>RUN:</b> Anaheim Blvd: AM Existing												
<b>BARRIER DESIGN:</b> INPUT HEIGHTS												
Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.												
<b>ATMOSPHERICS:</b> 68 deg F, 50% RH												
<b>Receiver</b>												
<b>Name</b>	<b>No.</b>	<b>#DUs</b>	<b>Existing LAeq1h</b>	<b>No Barrier LAeq1h</b>	<b>Increase over existing</b>		<b>Type</b>	<b>With Barrier</b>		<b>Noise Reduction</b>		
				<b>Calculated</b>	<b>Crit'n</b>	<b>Calculated</b>	<b>Crit'n</b>	<b>Impact</b>	<b>Calculated LAeq1h</b>	<b>Calculated</b>	<b>Goal</b>	<b>Calculated minus Goal</b>
			dB	dB	dB	dB	dB		dB	dB	dB	dB
50ft from centerline	1	1	0.0	66.8	66	66.8	10	Snd Lvl	66.8	0.0	8	-8.0
<b>Dwelling Units</b>		<b># DUs</b>	<b>Noise Reduction</b>									
			<b>Min</b>	<b>Avg</b>	<b>Max</b>							
			<b>dB</b>	<b>dB</b>	<b>dB</b>							
All Selected		1	0.0	0.0	0.0							
All Impacted		1	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

**RESULTS: SOUND LEVELS**

**Anaheim Ball**

<b>FCS</b>												
Noah Tanski												
15 June 2022												
TNM 2.5												
Calculated with TNM 2.5												
<b>RESULTS: SOUND LEVELS</b>												
<b>PROJECT/CONTRACT:</b> Anaheim Ball												
<b>RUN:</b> Anaheim Blvd: PM Existing + Project												
<b>BARRIER DESIGN:</b> INPUT HEIGHTS												
Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.												
<b>ATMOSPHERICS:</b> 68 deg F, 50% RH												
<b>Receiver</b>												
<b>Name</b>	<b>No.</b>	<b>#DUs</b>	<b>Existing LAeq1h</b>	<b>No Barrier LAeq1h</b>	<b>Increase over existing</b>			<b>Type</b>	<b>With Barrier</b>		<b>Noise Reduction</b>	
				<b>Calculated</b>	<b>Crit'n</b>	<b>Calculated</b>	<b>Crit'n</b>	<b>Impact</b>	<b>Calculated LAeq1h</b>	<b>Calculated</b>	<b>Goal</b>	<b>Calculated minus Goal</b>
			dB	dB	dB	dB	dB		dB	dB	dB	dB
50ft from centerline	1	1	0.0	68.0	66	68.0	10	Snd Lvl	68.0	0.0	8	-8.0
<b>Dwelling Units</b>		<b># DUs</b>	<b>Noise Reduction</b>									
			<b>Min</b>	<b>Avg</b>	<b>Max</b>							
			<b>dB</b>	<b>dB</b>	<b>dB</b>							
All Selected		1	0.0	0.0	0.0							
All Impacted		1	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

**RESULTS: SOUND LEVELS**

**Anaheim Ball**

<b>FCS</b>												
Noah Tanski												
15 June 2022												
TNM 2.5												
Calculated with TNM 2.5												
<b>RESULTS: SOUND LEVELS</b>												
<b>PROJECT/CONTRACT:</b> Anaheim Ball												
<b>RUN:</b> Anaheim Blvd: PM Existing												
<b>BARRIER DESIGN:</b> INPUT HEIGHTS												
Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.												
<b>ATMOSPHERICS:</b> 68 deg F, 50% RH												
<b>Receiver</b>												
<b>Name</b>	<b>No.</b>	<b>#DUs</b>	<b>Existing LAeq1h</b>	<b>No Barrier LAeq1h</b>	<b>Increase over existing</b>			<b>Type</b>	<b>With Barrier Calculated LAeq1h</b>	<b>Noise Reduction</b>		
				<b>Calculated</b>	<b>Crit'n</b>	<b>Calculated</b>	<b>Crit'n</b>	<b>Impact</b>		<b>Calculated</b>	<b>Goal</b>	<b>Calculated minus Goal</b>
			dB	dB	dB	dB	dB		dB	dB	dB	dB
50ft from centerline	1	1	0.0	67.8	66	67.8	10	Snd Lvl	67.8	0.0	8	-8.0
<b>Dwelling Units</b>		<b># DUs</b>	<b>Noise Reduction</b>									
			<b>Min</b>	<b>Avg</b>	<b>Max</b>							
			<b>dB</b>	<b>dB</b>	<b>dB</b>							
All Selected		1	0.0	0.0	0.0							
All Impacted		1	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

**RESULTS: SOUND LEVELS**

**Anaheim Ball**

<b>FCS</b>													15 June 2022																							
<b>Noah Tanski</b>													TNM 2.5																							
													Calculated with TNM 2.5																							
<b>RESULTS: SOUND LEVELS</b>																																				
<b>PROJECT/CONTRACT:</b>													Anaheim Ball																							
<b>RUN:</b>													Ball Rd E of Anaheim Blvd: AM Existing +																							
<b>BARRIER DESIGN:</b>													INPUT HEIGHTS																							
													Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.																							
<b>ATMOSPHERICS:</b>													68 deg F, 50% RH																							
<b>Receiver</b>																																				
<b>Name</b>													<b>No.</b>		<b>#DUs</b>		<b>Existing</b>		<b>No Barrier</b>		<b>With Barrier</b>															
															<b>LAeq1h</b>		<b>LAeq1h</b>		<b>Increase over existing</b>		<b>Type</b>		<b>Calculated</b>		<b>Noise Reduction</b>											
																	<b>Calculated</b>		<b>Crit'n</b>		<b>Calculated</b>		<b>Crit'n</b>		<b>Impact</b>		<b>LAeq1h</b>		<b>Calculated</b>		<b>Goal</b>		<b>Calculated</b>			
																													<b>minus</b>		<b>Goal</b>					
															dBA		dBA		dBA		dB		dB				dBA		dB		dB		dB			
50ft north of centerline													1		1		0.0		68.3		66		68.3		10		Snd Lvl		68.3		0.0		8		-8.0	
50ft south of centerline													2		1		0.0		68.9		66		68.9		10		Snd Lvl		68.9		0.0		8		-8.0	
<b>Dwelling Units</b>															<b># DUs</b>		<b>Noise Reduction</b>																			
																	<b>Min</b>		<b>Avg</b>		<b>Max</b>															
																	dB		dB		dB															
All Selected															2		0.0		0.0		0.0															
All Impacted															2		0.0		0.0		0.0															
All that meet NR Goal															0		0.0		0.0		0.0															

**RESULTS: SOUND LEVELS**

**Anaheim Ball**

<b>FCS</b>												
Noah Tanski												
15 June 2022												
TNM 2.5												
Calculated with TNM 2.5												
<b>RESULTS: SOUND LEVELS</b>												
<b>PROJECT/CONTRACT:</b> Anaheim Ball												
<b>RUN:</b> Ball Rd E of Anaheim Blvd: AM Existing												
<b>BARRIER DESIGN:</b> INPUT HEIGHTS												
Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.												
<b>ATMOSPHERICS:</b> 68 deg F, 50% RH												
<b>Receiver</b>												
<b>Name</b>	<b>No.</b>	<b>#DUs</b>	<b>Existing LAeq1h</b>	<b>No Barrier LAeq1h</b>	<b>Increase over existing</b>			<b>Type</b>	<b>With Barrier</b>		<b>Noise Reduction</b>	
				<b>Calculated</b>	<b>Crit'n</b>	<b>Calculated</b>	<b>Crit'n</b>	<b>Impact</b>	<b>Calculated LAeq1h</b>	<b>Calculated</b>	<b>Goal</b>	<b>Calculated minus Goal</b>
			dB	dB	dB	dB	dB		dB	dB	dB	dB
50ft north of centerline	1	1	0.0	67.6	66	67.6	10	Snd Lvl	67.6	0.0	8	-8.0
50ft south of centerline	2	1	0.0	68.2	66	68.2	10	Snd Lvl	68.2	0.0	8	-8.0
<b>Dwelling Units</b>		<b># DUs</b>	<b>Noise Reduction</b>									
			<b>Min</b>	<b>Avg</b>	<b>Max</b>							
			dB	dB	dB							
All Selected		2	0.0	0.0	0.0							
All Impacted		2	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

**RESULTS: SOUND LEVELS**

**Anaheim Ball**

FCS										15 June 2022			
Noah Tanski										TNM 2.5			
										Calculated with TNM 2.5			
<b>RESULTS: SOUND LEVELS</b>													
<b>PROJECT/CONTRACT:</b>										Anaheim Ball			
<b>RUN:</b>										Ball Rd E of Anaheim Blvd: PM Existing +			
<b>BARRIER DESIGN:</b>										INPUT HEIGHTS			
										Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.			
<b>ATMOSPHERICS:</b>										68 deg F, 50% RH			
<b>Receiver</b>													
<b>Name</b>	<b>No.</b>	<b>#DUs</b>	<b>Existing</b>	<b>No Barrier</b>				<b>With Barrier</b>					
			<b>LAeq1h</b>	<b>LAeq1h</b>	<b>Increase over existing</b>		<b>Type</b>	<b>Calculated</b>	<b>Noise Reduction</b>				
				<b>Calculated</b>	<b>Crit'n</b>	<b>Calculated</b>	<b>Crit'n</b>	<b>Impact</b>	<b>LAeq1h</b>	<b>Calculated</b>	<b>Goal</b>	<b>Calculated</b>	
							<b>Sub'l Inc</b>					<b>minus</b>	
			<b>dB</b>	<b>dB</b>	<b>dB</b>	<b>dB</b>			<b>dB</b>	<b>dB</b>	<b>dB</b>	<b>dB</b>	
50ft north of centerline	1	1	0.0	69.9	66	69.9	10	Snd Lvl	69.9	0.0	8	-8.0	
50ft south of centerline	2	1	0.0	69.2	66	69.2	10	Snd Lvl	69.2	0.0	8	-8.0	
<b>Dwelling Units</b>		<b># DUs</b>	<b>Noise Reduction</b>										
			<b>Min</b>	<b>Avg</b>	<b>Max</b>								
			<b>dB</b>	<b>dB</b>	<b>dB</b>								
All Selected		2	0.0	0.0	0.0								
All Impacted		2	0.0	0.0	0.0								
All that meet NR Goal		0	0.0	0.0	0.0								



**RESULTS: SOUND LEVELS**

**Anaheim Ball**

<b>FCS</b>												
Noah Tanski												
15 June 2022												
TNM 2.5												
Calculated with TNM 2.5												
<b>RESULTS: SOUND LEVELS</b>												
<b>PROJECT/CONTRACT:</b>												
Anaheim Ball												
<b>RUN:</b>												
Ball Rd E of Anaheim Blvd: PM Existing												
<b>BARRIER DESIGN:</b>												
INPUT HEIGHTS												
Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.												
<b>ATMOSPHERICS:</b>												
68 deg F, 50% RH												
<b>Receiver</b>												
<b>Name</b>	<b>No.</b>	<b>#DUs</b>	<b>Existing</b>	<b>No Barrier</b>				<b>With Barrier</b>				
			<b>LAeq1h</b>	<b>LAeq1h</b>	<b>Increase over existing</b>		<b>Type</b>	<b>Calculated</b>	<b>Noise Reduction</b>			
				<b>Calculated</b>	<b>Crit'n</b>	<b>Calculated</b>	<b>Crit'n</b>	<b>Impact</b>	<b>LAeq1h</b>	<b>Calculated</b>	<b>Goal</b>	<b>Calculated</b>
							<b>Sub'l Inc</b>					<b>minus</b>
												<b>Goal</b>
			<b>dB</b>	<b>dB</b>	<b>dB</b>	<b>dB</b>	<b>dB</b>		<b>dB</b>	<b>dB</b>	<b>dB</b>	<b>dB</b>
50ft north of centerline	1	1	0.0	69.3	66	69.3	10	Snd Lvl	69.3	0.0	8	-8.0
50ft south of centerline	2	1	0.0	68.4	66	68.4	10	Snd Lvl	68.4	0.0	8	-8.0
<b>Dwelling Units</b>		<b># DUs</b>	<b>Noise Reduction</b>									
			<b>Min</b>	<b>Avg</b>	<b>Max</b>							
			<b>dB</b>	<b>dB</b>	<b>dB</b>							
All Selected		2	0.0	0.0	0.0							
All Impacted		2	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

**RESULTS: SOUND LEVELS**

**Anaheim Ball**

<b>FCS</b>													15 June 2022																							
<b>Noah Tanski</b>													TNM 2.5																							
													Calculated with TNM 2.5																							
<b>RESULTS: SOUND LEVELS</b>																																				
<b>PROJECT/CONTRACT:</b>													Anaheim Ball																							
<b>RUN:</b>													Ball Rd W of Anaheim Blvd: AM Existing +																							
<b>BARRIER DESIGN:</b>													INPUT HEIGHTS																							
													Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.																							
<b>ATMOSPHERICS:</b>													68 deg F, 50% RH																							
<b>Receiver</b>																																				
<b>Name</b>													<b>No.</b>		<b>#DUs</b>		<b>Existing</b>		<b>No Barrier</b>		<b>With Barrier</b>															
															LAeq1h		LAeq1h		Increase over existing		Type		Calculated		Noise Reduction											
																	Calculated		Crit'n		Calculated		Crit'n		Impact		LAeq1h		Calculated		Goal		Calculated			
																															minus		Goal			
															dBA		dBA		dBA		dB		dB				dBA		dB		dB		dB			
50ft north of centerline													1		1		0.0		68.5		66		68.5		10		Snd Lvl		68.5		0.0		8		-8.0	
50ft south of centerline													2		1		0.0		68.7		66		68.7		10		Snd Lvl		68.7		0.0		8		-8.0	
<b>Dwelling Units</b>															<b># DUs</b>		<b>Noise Reduction</b>																			
																	Min		Avg		Max															
															dB		dB		dB		dB															
All Selected															2		0.0		0.0		0.0															
All Impacted															2		0.0		0.0		0.0															
All that meet NR Goal															0		0.0		0.0		0.0															

**RESULTS: SOUND LEVELS**

**Anaheim Ball**

<b>FCS</b>													15 June 2022																							
<b>Noah Tanski</b>													TNM 2.5																							
													Calculated with TNM 2.5																							
<b>RESULTS: SOUND LEVELS</b>																																				
<b>PROJECT/CONTRACT:</b>													Anaheim Ball																							
<b>RUN:</b>													Ball Rd W of Anaheim Blvd: AM Existing																							
<b>BARRIER DESIGN:</b>													INPUT HEIGHTS																							
													Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.																							
<b>ATMOSPHERICS:</b>													68 deg F, 50% RH																							
<b>Receiver</b>																																				
<b>Name</b>													<b>No.</b>		<b>#DUs</b>		<b>Existing</b>		<b>No Barrier</b>		<b>With Barrier</b>															
															LAeq1h		LAeq1h		Increase over existing		Type		Calculated		Noise Reduction											
																	Calculated		Crit'n		Calculated		Crit'n		Impact		LAeq1h		Calculated		Goal		Calculated			
																															minus		Goal			
															dBA		dBA		dBA		dB		dB				dBA		dB		dB		dB			
50ft north of centerline													1		1		0.0		67.5		66		67.5		10		Snd Lvl		67.5		0.0		8		-8.0	
50ft south of centerline													2		1		0.0		67.8		66		67.8		10		Snd Lvl		67.8		0.0		8		-8.0	
<b>Dwelling Units</b>															<b># DUs</b>		<b>Noise Reduction</b>																			
																	Min		Avg		Max															
															dB		dB		dB		dB															
All Selected															2		0.0		0.0		0.0															
All Impacted															2		0.0		0.0		0.0															
All that meet NR Goal															0		0.0		0.0		0.0															

**RESULTS: SOUND LEVELS**

**Anaheim Ball**

<b>FCS</b>													15 June 2022																							
<b>Noah Tanski</b>													TNM 2.5																							
													Calculated with TNM 2.5																							
<b>RESULTS: SOUND LEVELS</b>																																				
<b>PROJECT/CONTRACT:</b>													Anaheim Ball																							
<b>RUN:</b>													Ball Rd W of Anaheim Blvd: PM Existing +																							
<b>BARRIER DESIGN:</b>													INPUT HEIGHTS																							
													Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.																							
<b>ATMOSPHERICS:</b>													68 deg F, 50% RH																							
<b>Receiver</b>																																				
<b>Name</b>													<b>No.</b>		<b>#DUs</b>		<b>Existing</b>		<b>No Barrier</b>		<b>With Barrier</b>															
															LAeq1h		LAeq1h		Increase over existing		Type		Calculated		Noise Reduction											
																	Calculated		Crit'n		Calculated		Crit'n		Impact		LAeq1h		Calculated		Goal		Calculated			
																													minus		Goal					
															dBA		dBA		dBA		dB		dB				dBA		dB		dB		dB			
50ft north of centerline													1		1		0.0		70.2		66		70.2		10		Snd Lvl		70.2		0.0		8		-8.0	
50ft south of centerline													2		1		0.0		69.5		66		69.5		10		Snd Lvl		69.5		0.0		8		-8.0	
<b>Dwelling Units</b>															<b># DUs</b>		<b>Noise Reduction</b>																			
																	Min		Avg		Max															
															dB		dB		dB																	
All Selected															2		0.0		0.0		0.0															
All Impacted															2		0.0		0.0		0.0															
All that meet NR Goal															0		0.0		0.0		0.0															

**RESULTS: SOUND LEVELS**

**Anaheim Ball**

<b>FCS</b>													15 June 2022																							
<b>Noah Tanski</b>													TNM 2.5																							
													Calculated with TNM 2.5																							
<b>RESULTS: SOUND LEVELS</b>																																				
<b>PROJECT/CONTRACT:</b>													Anaheim Ball																							
<b>RUN:</b>													Ball Rd W of Anaheim Blvd: PM Existing																							
<b>BARRIER DESIGN:</b>													INPUT HEIGHTS																							
													Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.																							
<b>ATMOSPHERICS:</b>													68 deg F, 50% RH																							
<b>Receiver</b>																																				
<b>Name</b>													<b>No.</b>		<b>#DUs</b>		<b>Existing</b>		<b>No Barrier</b>		<b>With Barrier</b>															
															LAeq1h		LAeq1h		Increase over existing		Type		Calculated		Noise Reduction											
																	Calculated		Crit'n		Calculated		Crit'n		Impact		LAeq1h		Calculated		Goal		Calculated			
																															minus		Goal			
															dBA		dBA		dBA		dB		dB				dBA		dB		dB		dB			
50ft north of centerline													1		1		0.0		69.5		66		69.5		10		Snd Lvl		69.5		0.0		8		-8.0	
50ft south of centerline													2		1		0.0		68.6		66		68.6		10		Snd Lvl		68.6		0.0		8		-8.0	
<b>Dwelling Units</b>															<b># DUs</b>		<b>Noise Reduction</b>																			
																	Min		Avg		Max															
															dB		dB		dB		dB															
All Selected															2		0.0		0.0		0.0															
All Impacted															2		0.0		0.0		0.0															
All that meet NR Goal															0		0.0		0.0		0.0															

TABLE Existing-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/17/2022  
ROADWAY SEGMENT: Anaheim Boulevard - south of Ball Rd  
NOTES: Anaheim Ball Mixed Use Project - Existing

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 25100      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	97.5	198.4	421.7

TABLE Existing-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/17/2022  
ROADWAY SEGMENT: Ball Road - east of Anaheim Boulevard  
NOTES: Anaheim Ball Mixed Use Project - Existing

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 34700      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.79

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
74.2	144.3	303.1	649.3

TABLE Existing Plus Project-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/17/2022  
ROADWAY SEGMENT: Anaheim Boulevard - south of Ball Rd  
NOTES: Anaheim Ball Mixed Use Project - Existing Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 26000      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	99.5	202.9	431.7



TABLE Existing Plus Project-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/17/2022  
ROADWAY SEGMENT: Ball Road - east of Anaheim Boulevard  
NOTES: Anaheim Ball Mixed Use Project - Existing Plus Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 35700      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
75.3	146.9	308.8	661.7

TABLE Future No Project (Year 2035)-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/17/2022  
ROADWAY SEGMENT: Anaheim Boulevard - south of Ball Rd  
NOTES: Anaheim Ball Mixed Use Project - Future No Project (Year 2035)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 36500      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
64.9	121.7	252.9	540.4

TABLE Future No Project (Year 2035)-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/17/2022  
ROADWAY SEGMENT: Ball Road - east of Anaheim Boulevard  
NOTES: Anaheim Ball Mixed Use Project - Future No Project (Year 2035)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 38200      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
78.0	153.3	322.9	692.1

TABLE Future Plus Project (Year 2035)-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/17/2022

ROADWAY SEGMENT: Anaheim Boulevard - south of Ball Rd

NOTES: Anaheim Ball Mixed Use Project - Future Plus Project (Year 2035)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 35700      SPEED (MPH): 35      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.50

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
64.2	120.0	249.3	532.5

TABLE Future Plus Project (Year 2035)-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 06/17/2022  
ROADWAY SEGMENT: Ball Road - east of Anaheim Boulevard  
NOTES: Anaheim Ball Mixed Use Project - Future Plus Project (Year 2035)

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 38200      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
78.0	153.3	322.9	692.1

# Vibration Impact Analysis

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## Anaheim Ball: On-Site Construction Vibration - PPV (in/sec)

### *Unmitigated*

<u>Vibratory Roller</u>		
Equipment:	"Vibratory Roller"	
Equipment PPV (in/sec):	0.21	
Reference Distance (ft):	25	
"n" value	1.5	
Receptor	Distance (ft)	Vibration Level (in/sec PPV)
1303 S. Claudina Street (Commercial)	15	0.452
1315 S. Claudina Street (Commercial)	40	0.104

### *Mitigated*

<u>Vibratory Roller</u>		
Equipment:	"Vibratory Roller"	
Equipment PPV (in/sec):	0.21	
Reference Distance (ft):	25	
"n" value	1.5	
Receptor	Distance (ft)	Vibration Level (in/sec PPV)
1303 S. Claudina Street (Commercial)	25	0.210