# Appendix D

Noise Data

# Long-Term Noise Measurement Raw Data

**KEY:** Orange cells are for input.

| | |
|---|---|
| **Measurement Site:** | LT-1 |
| **Measurement Date:** | 5/12/2025-5/13/2025 |
| **Project Name:** | Roseville Environmental Utilities |

| Number | Start Date | Start Time | End Time | I | Meas Mo | Input Rar | Input Typ | SPL Time Weight | LN% Freq Weigh |
|---|---|---|---|---|---|---|---|---|---|
| 7 | 5/12/2025 | 1:00:00 PM | 2:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 8 | 5/12/2025 | 2:00:00 PM | 3:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 9 | 5/12/2025 | 3:00:00 PM | 4:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 10 | 5/12/2025 | 4:00:00 PM | 5:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 11 | 5/12/2025 | 5:00:00 PM | 6:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 12 | 5/12/2025 | 6:00:00 PM | 7:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 13 | 5/12/2025 | 7:00:00 PM | 8:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 14 | 5/12/2025 | 8:00:00 PM | 9:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 15 | 5/12/2025 | 9:00:00 PM | 10:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 16 | 5/12/2025 | 10:00:00 PM | 11:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 17 | 5/12/2025 | 11:00:00 PM | 12:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 18 | 5/13/2025 | 12:00:00 AM | 1:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 19 | 5/13/2025 | 1:00:00 AM | 2:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 20 | 5/13/2025 | 2:00:00 AM | 3:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 21 | 5/13/2025 | 3:00:00 AM | 4:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 22 | 5/13/2025 | 4:00:00 AM | 5:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 23 | 5/13/2025 | 5:00:00 AM | 6:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 24 | 5/13/2025 | 6:00:00 AM | 7:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 25 | 5/13/2025 | 7:00:00 AM | 8:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 26 | 5/13/2025 | 8:00:00 AM | 9:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 27 | 5/13/2025 | 9:00:00 AM | 10:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 28 | 5/13/2025 | 10:00:00 AM | 11:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 29 | 5/13/2025 | 11:00:00 AM | 12:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 30 | 5/13/2025 | 12:00:00 PM | 1:00:00 PM | | Auto | Low | Mic | Slow | dBA |

| Overload | UnderRange | Sensitivity | LZeq | LCeq | LAeq | LZSmax | LCSmax | LASmax | LZSmin | LCSmin | LASmin |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Yes | No | 17.41mV/Pa | 83.6 | 78 | 57.3 | 98.9 | 92.4 | 72.1 | 60.4 | 54.4 | 38.4 |
| Yes | No | 17.41mV/Pa | 81.4 | 75.9 | 55.2 | 97.3 | 90.6 | 71.4 | 59.3 | 54.5 | 39.3 |
| No | No | 17.41mV/Pa | 79.7 | 74.2 | 53.6 | 94.4 | 88.4 | 71 | 54 | 49.3 | 34.3 |
| No | No | 17.41mV/Pa | 78.9 | 73.4 | 54.2 | 95.2 | 89.9 | 73 | 52.4 | 47.9 | 36.8 |
| No | No | 17.41mV/Pa | 77.7 | 72.1 | 51.7 | 94.7 | 88.8 | 65.3 | 51 | 47.8 | 34 |
| No | No | 17.41mV/Pa | 77.9 | 72.5 | 51.8 | 91.2 | 85.5 | 65.7 | 53.4 | 47.5 | 37.4 |
| No | No | 17.41mV/Pa | 75.1 | 69.9 | 49.6 | 91.4 | 86.4 | 63.4 | 49.3 | 45.6 | 33 |
| No | No | 17.41mV/Pa | 68.4 | 63.8 | 48.1 | 85.2 | 82.5 | 71.9 | 47.1 | 44.6 | 31 |
| No | No | 17.41mV/Pa | 64.3 | 58.2 | 38.1 | 80.1 | 73 | 53.5 | 50 | 46.9 | 31 |
| No | Yes | 17.41mV/Pa | 62.1 | 56 | 36.7 | 79.9 | 72.3 | 58.8 | 46.2 | 43.6 | 29.9 |
| No | Yes | 17.41mV/Pa | 63.4 | 57.5 | 37.4 | 79.5 | 76.5 | 56.7 | 42.6 | 40.1 | 29.2 |
| No | Yes | 17.41mV/Pa | 63 | 55.5 | 36.3 | 80.3 | 73.1 | 53.1 | 40.8 | 38.3 | 29.7 |
| No | Yes | 17.41mV/Pa | 63.5 | 56 | 36.7 | 81.7 | 75.5 | 53.8 | 42.5 | 40.2 | 29.3 |
| No | Yes | 17.41mV/Pa | 58.7 | 51.6 | 41.5 | 76.2 | 68.3 | 55.1 | 43 | 39.9 | 29.2 |
| No | Yes | 17.41mV/Pa | 58.7 | 52.1 | 34.1 | 75.5 | 67.6 | 53.4 | 44.7 | 42 | 29.5 |
| No | Yes | 17.41mV/Pa | 50.5 | 48.1 | 38.2 | 67.3 | 58.3 | 49.1 | 42.9 | 40.1 | 29.4 |
| No | Yes | 17.41mV/Pa | 51.1 | 49.3 | 44.3 | 71 | 69.1 | 67 | 44.5 | 41.4 | 31.4 |
| No | No | 17.41mV/Pa | 64 | 63.3 | 50.1 | 88.7 | 88.5 | 74.2 | 46.3 | 41.8 | 34 |
| No | No | 17.41mV/Pa | 59 | 56.8 | 48.7 | 73.3 | 73.2 | 73 | 47.3 | 44.2 | 34.1 |
| No | No | 17.41mV/Pa | 56.6 | 55.2 | 47 | 74.3 | 74.2 | 73.6 | 45.8 | 42.8 | 32.1 |
| No | No | 17.41mV/Pa | 55 | 52 | 40.4 | 73.7 | 67.5 | 55.6 | 45.8 | 42.9 | 31.2 |
| No | Yes | 17.41mV/Pa | 64.9 | 62.3 | 49.6 | 85 | 84 | 72.2 | 46.2 | 42.8 | 30.3 |
| No | No | 17.41mV/Pa | 60.9 | 57 | 48 | 79.1 | 77 | 71.6 | 45.8 | 43.3 | 32.1 |
| Yes | No | 17.41mV/Pa | 67.2 | 64.4 | 57.9 | 87.7 | 87 | 85.9 | 43.7 | 40.8 | 31.4 |

| LZE | LCE | LAE | LZpk | LCpk | LApk | LAS1% | LAS2% | LAS5% | LAS8% | LAS10% | LAS25% | LAS50% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 119.2 | 113.6 | 92.9 | 114.9 | 107.8 | 91 | 66.4 | 64.7 | 62.8 | 61.7 | 61.1 | 57.7 | 54 |
| 117 | 111.5 | 90.8 | 110.6 | 104.5 | 86.7 | 64.5 | 63 | 61.1 | 59.6 | 58.9 | 55.4 | 51.5 |
| 115.3 | 109.8 | 89.2 | 107.7 | 103.5 | 86.2 | 62.3 | 61 | 59 | 57.9 | 57.3 | 54 | 50.2 |
| 114.5 | 109 | 89.8 | 109 | 103.9 | 86.1 | 65.4 | 62.8 | 59.5 | 57.8 | 56.7 | 52.6 | 48.5 |
| 113.3 | 107.7 | 87.3 | 109.5 | 104.5 | 85.3 | 60.8 | 59.6 | 57.3 | 56 | 55.3 | 52.2 | 48.8 |
| 113.5 | 108.1 | 87.4 | 108.5 | 103.8 | 93.7 | 61.3 | 60.2 | 58.1 | 56.4 | 55.6 | 51.9 | 48.1 |
| 110.7 | 105.5 | 85.2 | 106.3 | 103.2 | 81 | 59.2 | 57.8 | 55.4 | 54.1 | 53.4 | 49.8 | 45.8 |
| 104 | 99.4 | 83.7 | 97.5 | 98.2 | 94 | 62.9 | 54 | 49.4 | 47.6 | 46.7 | 42.3 | 38.4 |
| 99.9 | 93.8 | 73.7 | 95.9 | 89.1 | 73.9 | 48.8 | 46.4 | 43.3 | 41.4 | 40.5 | 36.5 | 34.4 |
| 97.7 | 91.6 | 72.3 | 93.9 | 86.6 | 77.2 | 42.6 | 40.3 | 39 | 38.3 | 37.8 | 35.4 | 33.4 |
| 99 | 93.1 | 73 | 91.9 | 85.3 | 72.9 | 50.3 | 46.6 | 38.9 | 36.9 | 36.2 | 33.6 | 32 |
| 98.6 | 91.1 | 71.9 | 94.1 | 86 | 74.2 | 43.5 | 41.6 | 39.8 | 39 | 38.5 | 36.5 | 34.7 |
| 99.1 | 91.6 | 72.3 | 96.3 | 90.1 | 79.6 | 43.2 | 41.9 | 40.3 | 39.5 | 39.1 | 37.3 | 35.4 |
| 94.3 | 87.2 | 77.1 | 89.6 | 87.2 | 86.9 | 46.8 | 45.8 | 44.8 | 44.4 | 44.2 | 43.2 | 41.2 |
| 94.3 | 87.7 | 69.7 | 88.4 | 87.1 | 88.3 | 41.3 | 39.8 | 38.3 | 37.5 | 37.1 | 34.4 | 31.9 |
| 86.1 | 83.7 | 73.8 | 78.9 | 71.2 | 67.5 | 47.1 | 46.4 | 44.2 | 42.4 | 41.5 | 38.5 | 35.3 |
| 86.7 | 84.9 | 79.9 | 86.3 | 85.8 | 83.6 | 53 | 51.2 | 48.1 | 46.9 | 46.3 | 43.8 | 40.8 |
| 99.6 | 98.9 | 85.7 | 97.7 | 97.7 | 85.2 | 61.5 | 58.7 | 53.1 | 50.8 | 49.6 | 45.2 | 41.2 |
| 94.6 | 92.4 | 84.3 | 91.6 | 91.4 | 92.5 | 61 | 57.8 | 53.7 | 50.9 | 49.6 | 45.3 | 42 |
| 92.2 | 90.8 | 82.6 | 86.7 | 86.1 | 85.9 | 60.5 | 56.4 | 49.6 | 46.9 | 45.7 | 42.1 | 39.5 |
| 90.6 | 87.6 | 76 | 89.2 | 80.3 | 73.3 | 49.4 | 48.2 | 45.8 | 44.4 | 43.7 | 40.4 | 37.3 |
| 100.5 | 97.9 | 85.2 | 95 | 93.8 | 89.8 | 62.4 | 58.8 | 49 | 45.4 | 44.2 | 40.2 | 37.7 |
| 96.5 | 92.6 | 83.6 | 91.7 | 89.6 | 85.6 | 56.9 | 54.8 | 50.1 | 48.2 | 47.3 | 43.4 | 40.2 |
| 102.8 | 100 | 93.5 | 112.6 | 112.5 | 113.9 | 70.7 | 64.9 | 55.2 | 50.3 | 48.6 | 41.9 | 38.6 |

# Long-Term Noise Measurement Calculations

**KEY:** Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

**Measurement Site:** LT-1
**Measurement Date:** 5/12/2025-5/13/2025
**Project Name:** Roseville Environmental Utilities

| Hour of Day 24-hr Format | $L_{dn}$ Start | $L_{dn}$ End | $C_{NEL}$ Start | $C_{NEL}$ End |
|---|---|---|---|---|
| Daytime | 7 | 22 | 7 | 19 |
| Evening | N/A | N/A | 19 | 22 |
| Nighttime | 22 | 7 | 22 | 7 |

| Hour of Day (24-hr Format) | Sound Levels Descriptors $L_{eq}$ | $L_{max}$ | $L_{50}$ | $L_{min}$ |
|---|---|---|---|---|
| 13:00 | 57 | 72 | 54 | 38 |
| 14:00 | 55 | 71 | 52 | 39 |
| 15:00 | 54 | 71 | 50 | 34 |
| 16:00 | 54 | 73 | 49 | 37 |
| 17:00 | 52 | 65 | 49 | 34 |
| 18:00 | 52 | 66 | 48 | 37 |
| 19:00 | 50 | 63 | 46 | 33 |
| 20:00 | 48 | 72 | 38 | 31 |
| 21:00 | 38 | 54 | 34 | 31 |
| 22:00 | 37 | 59 | 33 | 30 |
| 23:00 | 37 | 57 | 32 | 29 |
| 0:00 | 36 | 53 | 35 | 30 |
| 1:00 | 37 | 54 | 35 | 29 |
| 2:00 | 42 | 55 | 41 | 29 |
| 3:00 | 34 | 53 | 32 | 30 |
| 4:00 | 38 | 49 | 35 | 29 |
| 5:00 | 44 | 67 | 41 | 31 |
| 6:00 | 50 | 74 | 41 | 34 |
| 7:00 | 49 | 73 | 42 | 34 |
| 8:00 | 47 | 74 | 40 | 32 |
| 9:00 | 40 | 56 | 37 | 31 |
| 10:00 | 50 | 72 | 38 | 30 |
| 11:00 | 48 | 72 | 40 | 32 |
| 12:00 | 58 | 86 | 39 | 31 |

**Sound Power[1]**
$=10*\text{Log}(L_{eq,\ 1hr}/10)$

| Equivalent Noise Level ($L_{eq}$) Day | Night | Day | Evening | Night |
|---|---|---|---|---|
| 537031.7964 | | 537031.7964 | | |
| 331131.1215 | | 331131.1215 | | |
| 229086.7653 | | 229086.7653 | | |
| 263026.7992 | | 263026.7992 | | |
| 147910.8388 | | 147910.8388 | | |
| 151356.1248 | | 151356.1248 | | |
| 91201.08394 | | | 91201.08394 | |
| 64565.4229 | | | 64565.4229 | |
| 6456.54229 | | | 6456.54229 | |
| | 4677.351413 | | | 4677.351413 |
| | 5495.408739 | | | 5495.408739 |
| | 4265.795188 | | | 4265.795188 |
| | 4677.351413 | | | 4677.351413 |
| | 14125.37545 | | | 14125.37545 |
| | 2570.395783 | | | 2570.395783 |
| | 6606.93448 | | | 6606.93448 |
| | 26915.34804 | | | 26915.34804 |
| | 102329.2992 | | | 102329.2992 |
| 74131.02413 | | | | |
| 50118.72336 | | 50118.72336 | | |
| 10964.78196 | | 10964.78196 | | |
| 91201.08394 | | 91201.08394 | | |
| 63095.73445 | | 63095.73445 | | |
| 616595.0019 | | 616595.0019 | | |

| Day Night Average ($L_{dn}$)[2] Day | Night | Community Noise Equivalent Level (CNEL)[3] Day | Evening | Night |
|---|---|---|---|---|
| **Sum of Sound Power during Period w/o Penalty** | | | | |
| 2,727,873 | 171,663 | 2,491,519 | 162,223 | 171,663 |
| **Log Factor for CNEL Penalty (i.e., 10*log(x))[4]** | | | | |
| 1 | 10 | 1 | 3 | 10 |
| **Sound Power during Period with penalty** | | | | |
| 2,727,873 | 1,716,633 | 2,491,519 | 486,669 | 1,716,633 |
| **Number of Hours** | | | | |
| | | 24 | | |
| $L_{dn}$ | 52.7 | CNEL | 52.9 | |

Notes:
[1] Computation of Sound Power are based on equation 7-1 on pg. 7-9 of Caltrans 2013
[2] Computation of the $L_{dn}$ based on 1-hour $L_{eq}$ measurements for each hour of a day are based on equation 2-23 on pg. 2-52 of Caltrans 2013.
[3] Computation of the CNEL based on 1-hour $L_{eq}$ measurements for each hour of a day are based on equation 2-24 on pg. 2-53 of Caltrans 2013.
[4] Log factors for the $L_{dn}$ and CNEL penalties are provided in Table 2-11 on pg. 2-48 of Caltrans 2013.
[5] Average noise level descriptors were logarithmicly averaged over the total number of hours
Source:
California Department of Transportation (Caltrans), Division of Environmental Analysis. 2013 (September). *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. Sacramento, CA. Available: <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf>. Accessed Febuary 26, 2025.

**Sound Power[1]**
$=10*\text{Log}(L_{eq,\ 1hr}/10)$

| Hour of Day | Maximum Noise Levels ($L_{max}$) Day | Night | Day | Evening | Night | Sound Pressure Level Exceeded 50% of a Specific Time Period ($L_{50}$) Day | Night | Day | Evening | Night | Mininum Noise Levels ($L_{min}$) Day | Night | Day | Evening | Night |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:00 | 16218101 | | 16218100.97 | | | 251188.6432 | | 251188.6432 | | | 6918.309709 | | 6918.309709 | | |
| 14:00 | 13803843 | | 13803842.65 | | | 141253.7545 | | 141253.7545 | | | 8511.380382 | | 8511.380382 | | |
| 15:00 | 12589254 | | 12589254.12 | | | 104712.8548 | | 104712.8548 | | | 2691.534804 | | 2691.534804 | | |
| 16:00 | 19952623 | | 19952623.15 | | | 70794.57844 | | 70794.57844 | | | 4786.300923 | | 4786.300923 | | |
| 17:00 | 3388442 | | 3388441.561 | | | 75857.7575 | | 75857.7575 | | | 2511.886432 | | 2511.886432 | | |
| 18:00 | 3715352 | | 3715352.291 | | | 64565.4229 | | 64565.4229 | | | 5495.408739 | | 5495.408739 | | |
| 19:00 | 2187762 | | | 2187761.624 | | 38018.93963 | | | 38018.93963 | | 1995.262315 | | | 1995.262315 | |
| 20:00 | 15488166 | | | 15488166.19 | | 6918.309709 | | | 6918.309709 | | 1258.925412 | | | 1258.925412 | |
| 21:00 | 223872 | | | 223872.1139 | | 2754.228703 | | | 2754.228703 | | 1258.925412 | | | 1258.925412 | |
| 22:00 | | 758577.575 | | | 758577.575 | | 2187.761624 | | | 2187.761624 | | 977.237221 | | | 977.237221 |
| 23:00 | | 467735.1413 | | | 467735.1413 | | 1584.893192 | | | 1584.893192 | | 831.7637711 | | | 831.7637711 |
| 0:00 | | 204173.7945 | | | 204173.7945 | | 2951.209227 | | | 2951.209227 | | 933.2543008 | | | 933.2543008 |
| 1:00 | | 239883.2919 | | | 239883.2919 | | 3467.368505 | | | 3467.368505 | | 851.1380382 | | | 851.1380382 |
| 2:00 | | 323593.6569 | | | 323593.6569 | | 13182.56739 | | | 13182.56739 | | 831.7637711 | | | 831.7637711 |
| 3:00 | | 218776.1624 | | | 218776.1624 | | 1548.816619 | | | 1548.816619 | | 891.2509381 | | | 891.2509381 |
| 4:00 | | 81283.05162 | | | 81283.05162 | | 3388.441561 | | | 3388.441561 | | 870.96359 | | | 870.96359 |
| 5:00 | | 5011872.336 | | | 5011872.336 | | 12022.64435 | | | 12022.64435 | | 1380.384265 | | | 1380.384265 |
| 6:00 | | 26302679.92 | | | 26302679.92 | | 13182.56739 | | | 13182.56739 | | 2511.886432 | | | 2511.886432 |
| 7:00 | 19952623 | | 19952623.15 | | | 15848.93192 | | 15848.93192 | | | 2570.395783 | | 2570.395783 | | |
| 8:00 | 22908677 | | 22908676.53 | | | 8912.509381 | | 8912.509381 | | | 1621.810097 | | 1621.810097 | | |
| 9:00 | 363078 | | 363078.0548 | | | 5370.317964 | | 5370.317964 | | | 1318.256739 | | 1318.256739 | | |
| 10:00 | 16595869 | | 16595869.07 | | | 5888.436554 | | 5888.436554 | | | 1071.519305 | | 1071.519305 | | |
| 11:00 | 14454398 | | 14454397.71 | | | 10471.28548 | | 10471.28548 | | | 1621.810097 | | 1621.810097 | | |
| 12:00 | 389045145 | | 389045145 | | | 7244.359601 | | 7244.359601 | | | 1380.384265 | | 1380.384265 | | |

**Average Sound Level Descriptors[5]**

| $L_{eq}$ Day | Night | Day | Evening | Night | $L_{50}$ Day | Night | Day | Evening | Night |
|---|---|---|---|---|---|---|---|---|---|
| 53 | 43 | 54 | 47 | 43 | 47 | 38 | 48 | 42 | 38 |

| $L_{max}$ Day | Night | Day | Evening | Night | $L_{min}$ Day | Night | Day | Evening | Night |
|---|---|---|---|---|---|---|---|---|---|
| 76 | 66 | 76 | 68 | 66 | 35 | 30 | 35 | 32 | 30 |

## Long-Term Noise Measurement Summary

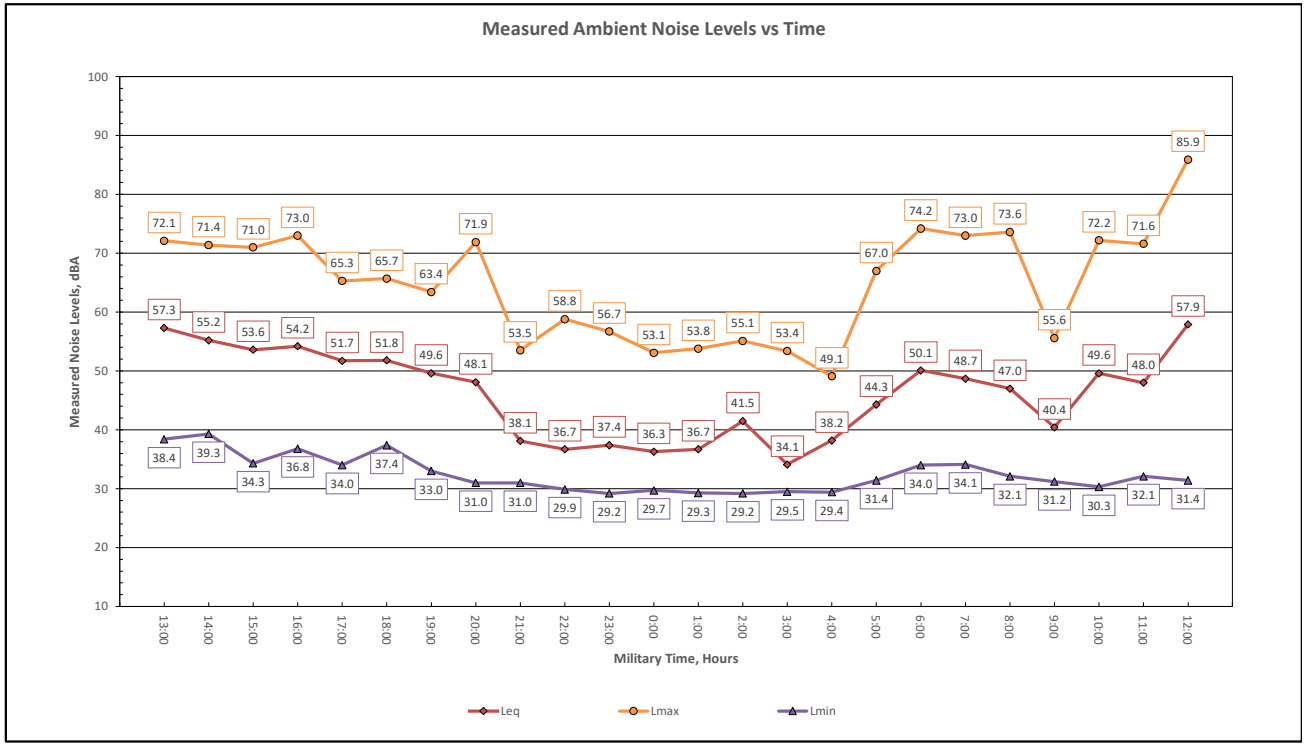
**KEY:** Orange cells are for input.

Green cells are data to present in a written analysis (output).

| | |
|---|---|
| **Measurement Site:** | LT-1 |
| **Measurement Date:** | 5/12/2025-5/13/2025 |
| **Project Name:** | Roseville Environmental Utilities |
| **Coordinates** | 38°48'7.76"N 121°23'58.88"W |

| Hour of Day (military time) | Measured Level, dBA $L_{eq}$ | $L_{max}$ | $L_{50}$ | $L_{min}$ |
|---|---|---|---|---|
| 13:00 | 57.3 | 72.1 | 54.0 | 38.4 |
| 14:00 | 55.2 | 71.4 | 51.5 | 39.3 |
| 15:00 | 53.6 | 71.0 | 50.2 | 34.3 |
| 16:00 | 54.2 | 73.0 | 48.5 | 36.8 |
| 17:00 | 51.7 | 65.3 | 48.8 | 34.0 |
| 18:00 | 51.8 | 65.7 | 48.1 | 37.4 |
| 19:00 | 49.6 | 63.4 | 45.8 | 33.0 |
| 20:00 | 48.1 | 71.9 | 38.4 | 31.0 |
| 21:00 | 38.1 | 53.5 | 34.4 | 31.0 |
| 22:00 | 36.7 | 58.8 | 33.4 | 29.9 |
| 23:00 | 37.4 | 56.7 | 32.0 | 29.2 |
| 0:00 | 36.3 | 53.1 | 34.7 | 29.7 |
| 1:00 | 36.7 | 53.8 | 35.4 | 29.3 |
| 2:00 | 41.5 | 55.1 | 41.2 | 29.2 |
| 3:00 | 34.1 | 53.4 | 31.9 | 29.5 |
| 4:00 | 38.2 | 49.1 | 35.3 | 29.4 |
| 5:00 | 44.3 | 67.0 | 40.8 | 31.4 |
| 6:00 | 50.1 | 74.2 | 41.2 | 34.0 |
| 7:00 | 48.7 | 73.0 | 42.0 | 34.1 |
| 8:00 | 47.0 | 73.6 | 39.5 | 32.1 |
| 9:00 | 40.4 | 55.6 | 37.3 | 31.2 |
| 10:00 | 49.6 | 72.2 | 37.7 | 30.3 |
| 11:00 | 48.0 | 71.6 | 40.2 | 32.1 |
| 12:00 | 57.9 | 85.9 | 38.6 | 31.4 |

| Metrics | $L_{eq}$ | $L_{max}$ | $L_{50}$ | $L_{min}$ |
|---|---|---|---|---|
| **Day Average** | 52.6 | 75.6 | 47.3 | 34.8 |
| **Night Average** | 42.8 | 65.7 | 37.7 | 30.5 |




| | |
|---|---|
| **Ldn** | 52.7 |
| **Day %** | 94.1% |
| **Night %** | 5.9% |

Notes: Primary noises include traffic noise originating from Phillip Road. Secondary noise sources include natural noises and the noise from an aircraft flying that was observed during measurement

# Long-Term Noise Measurement Raw Data

**KEY:** Orange cells are for input.

| | |
|---|---|
| **Measurement Site:** | LT-2 |
| **Measurement Date:** | 5/12/2025-5/13/2025 |
| **Project Name:** | Roseville Environmental Utilities |

| Number | Start Date | Start Time | End Time | I | Meas Mo | Input Rar | Input Typ | SPL Time Weight | LN% Freq Weigh |
|---|---|---|---|---|---|---|---|---|---|
| 74 | 5/12/2025 | 1:00:00 PM | 2:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 75 | 5/12/2025 | 2:00:00 PM | 3:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 76 | 5/12/2025 | 3:00:00 PM | 4:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 77 | 5/12/2025 | 4:00:00 PM | 5:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 78 | 5/12/2025 | 5:00:00 PM | 6:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 79 | 5/12/2025 | 6:00:00 PM | 7:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 80 | 5/12/2025 | 7:00:00 PM | 8:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 81 | 5/12/2025 | 8:00:00 PM | 9:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 82 | 5/12/2025 | 9:00:00 PM | 10:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 83 | 5/12/2025 | 10:00:00 PM | 11:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 84 | 5/12/2025 | 11:00:00 PM | 12:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 85 | 5/13/2025 | 12:00:00 AM | 1:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 86 | 5/13/2025 | 1:00:00 AM | 2:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 87 | 5/13/2025 | 2:00:00 AM | 3:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 88 | 5/13/2025 | 3:00:00 AM | 4:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 89 | 5/13/2025 | 4:00:00 AM | 5:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 90 | 5/13/2025 | 5:00:00 AM | 6:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 91 | 5/13/2025 | 6:00:00 AM | 7:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 92 | 5/13/2025 | 7:00:00 AM | 8:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 93 | 5/13/2025 | 8:00:00 AM | 9:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 94 | 5/13/2025 | 9:00:00 AM | 10:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 95 | 5/13/2025 | 10:00:00 AM | 11:00:00 AM | | Auto | Low | Mic | Slow | dBA |
| 96 | 5/13/2025 | 11:00:00 AM | 12:00:00 PM | | Auto | Low | Mic | Slow | dBA |
| 97 | 5/13/2025 | 12:00:00 PM | 1:00:00 PM | | Auto | Low | Mic | Slow | dBA |

| Overload | UnderRange | Sensitivity | LZeq | LCeq | LAeq | LZSmax | LCSmax | LASmax | LZSmin | LCSmin | LASmin |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Yes | No | 19.76mV/Pa | 90.4 | 84.5 | 61.1 | 102.4 | 96.3 | 75.7 | 64.3 | 57.3 | 38.8 |
| Yes | No | 19.76mV/Pa | 88.8 | 82.9 | 59.6 | 100.1 | 94.7 | 76.4 | 61.3 | 56.9 | 39.9 |
| Yes | No | 19.76mV/Pa | 87.7 | 81.7 | 57.7 | 102.3 | 96.5 | 72.8 | 62.6 | 56.1 | 36.1 |
| Yes | No | 19.76mV/Pa | 84.9 | 79 | 56.8 | 98.7 | 92.8 | 74.3 | 58.3 | 52.5 | 36.1 |
| Yes | No | 19.76mV/Pa | 86.1 | 80.2 | 56.1 | 97.7 | 92.6 | 68.1 | 61.6 | 54.8 | 35.4 |
| Yes | No | 19.76mV/Pa | 85.8 | 79.9 | 58.9 | 96.7 | 91.7 | 75.2 | 65.5 | 58.8 | 38 |
| No | No | 19.76mV/Pa | 82.6 | 76.6 | 52.6 | 94.7 | 89.2 | 64.4 | 50 | 46.8 | 34 |
| No | No | 19.76mV/Pa | 69.1 | 63.6 | 49.6 | 84.7 | 78.4 | 72.5 | 51.5 | 48.1 | 33.7 |
| No | No | 19.76mV/Pa | 64.1 | 58.5 | 41.2 | 79.9 | 73.6 | 62.4 | 50.9 | 48 | 34.3 |
| No | No | 19.76mV/Pa | 60.4 | 55.6 | 39.2 | 73.8 | 68.7 | 55.1 | 50.5 | 47.6 | 34.2 |
| No | No | 19.76mV/Pa | 62.4 | 57.8 | 42.1 | 81.4 | 78.3 | 63.5 | 49.6 | 46.4 | 32.9 |
| No | No | 19.76mV/Pa | 65.4 | 59.4 | 39.8 | 79.9 | 72.8 | 47.8 | 49.7 | 46 | 33.7 |
| No | No | 19.76mV/Pa | 66.2 | 60.1 | 39.8 | 80.5 | 74.4 | 48.6 | 51.4 | 48.7 | 34 |
| Yes | No | 19.76mV/Pa | 63.8 | 59 | 55.1 | 80.5 | 72.9 | 72.9 | 50 | 46.9 | 34.1 |
| No | No | 19.76mV/Pa | 58.1 | 53.8 | 45 | 72.4 | 68 | 68.3 | 51 | 48.4 | 33.8 |
| No | No | 19.76mV/Pa | 54.9 | 51.2 | 39.4 | 66.3 | 59.7 | 48.3 | 50 | 47.2 | 34.7 |
| No | No | 19.76mV/Pa | 54.6 | 52.3 | 46.4 | 68 | 66.9 | 68.5 | 49.7 | 47.2 | 34.7 |
| No | No | 19.76mV/Pa | 60.2 | 57.7 | 49 | 73.4 | 73.1 | 66.5 | 52 | 48.4 | 37.3 |
| No | No | 19.76mV/Pa | 63.3 | 58.8 | 48.3 | 77.7 | 71.4 | 72.9 | 52 | 49.6 | 38.3 |
| No | No | 19.76mV/Pa | 64.6 | 63.8 | 64.8 | 88.4 | 87.8 | 89.5 | 50 | 47.2 | 32.8 |
| No | No | 19.76mV/Pa | 67.3 | 66.3 | 67.6 | 88.8 | 88.3 | 90 | 48.7 | 46.2 | 32.4 |
| No | No | 19.76mV/Pa | 67.2 | 62 | 50.3 | 84.1 | 80.3 | 75.7 | 48.4 | 45.9 | 31.7 |
| No | No | 19.76mV/Pa | 70 | 63.7 | 46.3 | 83.1 | 76.9 | 65.5 | 47.3 | 44.7 | 31.8 |
| No | No | 19.76mV/Pa | 72.6 | 67.2 | 54.1 | 87.9 | 84.8 | 79.4 | 45.7 | 43.2 | 31.8 |

| LZE | LCE | LAE | LZpk | LCpk | LApk | LAS1% | LAS2% | LAS5% | LAS8% | LAS10% | LAS25% | LAS50% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 126 | 120.1 | 96.7 | 115.8 | 110.2 | 101.2 | 69.7 | 68.3 | 66.7 | 65.5 | 64.8 | 61.8 | 58 |
| 124.4 | 118.5 | 95.2 | 113.7 | 110.7 | 106 | 68.7 | 67.1 | 64.9 | 63.6 | 63.1 | 59.9 | 55.9 |
| 123.3 | 117.3 | 93.3 | 113.8 | 108.6 | 103.4 | 66 | 64.9 | 63.1 | 62.1 | 61.5 | 58.7 | 54.6 |
| 120.5 | 114.6 | 92.4 | 114.2 | 106.4 | 95.8 | 68 | 64.5 | 61.8 | 60.4 | 59.7 | 56.2 | 52 |
| 121.7 | 115.8 | 91.7 | 111.4 | 108 | 90.5 | 64.1 | 63 | 61.5 | 60.4 | 59.9 | 57.1 | 53.6 |
| 121.4 | 115.5 | 94.5 | 112.2 | 105.8 | 89.6 | 70.9 | 69 | 63.7 | 62 | 61.3 | 58.1 | 54.3 |
| 118.2 | 112.2 | 88.2 | 108 | 103.2 | 82.3 | 61.6 | 60.4 | 58.6 | 57.5 | 56.8 | 53.3 | 48.9 |
| 104.7 | 99.2 | 85.2 | 98.7 | 94.1 | 91.5 | 61.3 | 55.6 | 49.7 | 47.8 | 46.9 | 43.1 | 39.9 |
| 99.7 | 94.1 | 76.8 | 93.1 | 86.6 | 76.9 | 51.7 | 47.6 | 44.2 | 43 | 42.4 | 39.9 | 38.3 |
| 96 | 91.2 | 74.8 | 84.6 | 79.3 | 73.1 | 44.5 | 43.4 | 42 | 41.4 | 41.1 | 39.7 | 38.3 |
| 98 | 93.4 | 77.7 | 91.7 | 86.3 | 78.4 | 51 | 46.9 | 43 | 42 | 41.5 | 39.8 | 38.1 |
| 101 | 95 | 75.4 | 92.2 | 85.1 | 80 | 44.8 | 44.3 | 43.2 | 42.5 | 42.2 | 40.5 | 38.9 |
| 101.8 | 95.7 | 75.4 | 92.3 | 88.2 | 69.8 | 45.1 | 44.3 | 43.2 | 42.5 | 42.1 | 40.4 | 38.9 |
| 99.4 | 94.6 | 90.7 | 110.9 | 110.3 | 110.3 | 65.9 | 63.9 | 61.1 | 59.5 | 58.7 | 54.6 | 49.3 |
| 93.7 | 89.4 | 80.6 | 107.4 | 106.5 | 106.2 | 56.3 | 53.6 | 50.1 | 48 | 47 | 42.2 | 39 |
| 90.5 | 86.8 | 75 | 76.7 | 72 | 63.9 | 44.7 | 44 | 42.8 | 42.1 | 41.8 | 39.9 | 38.4 |
| 90.2 | 87.9 | 82 | 84.6 | 83.6 | 85.3 | 59.4 | 57.7 | 48.5 | 45.2 | 44.4 | 41.9 | 40.1 |
| 95.8 | 93.3 | 84.6 | 85.5 | 85.5 | 85.1 | 61 | 58.6 | 53.5 | 51.3 | 50.3 | 47.1 | 44.6 |
| 98.9 | 94.4 | 83.9 | 90.9 | 90 | 91.5 | 57.8 | 55.5 | 52.5 | 51.1 | 50.3 | 47.6 | 45.9 |
| 100.2 | 99.4 | 100.4 | 102.6 | 102 | 103.7 | 77.7 | 67.8 | 56.4 | 50.3 | 48.3 | 43.1 | 40.4 |
| 102.9 | 101.9 | 103.2 | 102.2 | 101.5 | 103.3 | 83.3 | 79.5 | 67.3 | 58.7 | 54 | 42.2 | 38.2 |
| 102.8 | 97.6 | 85.9 | 96.6 | 95.4 | 92.6 | 58.9 | 53.5 | 48.2 | 45.1 | 44.1 | 40.1 | 37 |
| 105.6 | 99.3 | 81.9 | 95.9 | 89.9 | 82.6 | 59 | 54.7 | 50.3 | 48.7 | 48.1 | 44 | 39.9 |
| 108.2 | 102.8 | 89.7 | 99.6 | 98.9 | 96.7 | 63.5 | 55.8 | 51.3 | 49.5 | 48.6 | 43.4 | 38.3 |

# Long-Term Noise Measurement Calculations

**KEY:** Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

**Measurement Site:** LT-2
**Measurement Date:** 5/12/2025-5/13/2025
**Project Name:** Roseville Environmental Utilities

| Hour of Day 24-hr Format | $L_{dn}$ Start | $L_{dn}$ End | $C_{NEL}$ Start | $C_{NEL}$ End |
|---|---|---|---|---|
| Daytime | 7 | 22 | 7 | 19 |
| Evening | N/A | N/A | 19 | 22 |
| Nighttime | 22 | 7 | 22 | 7 |

| Hour of Day (24-hr Format) | Sound Levels Descriptors $L_{eq}$ | $L_{max}$ | $L_{50}$ | $L_{min}$ |
|---|---|---|---|---|
| 13:00 | 61 | 76 | 58 | 39 |
| 14:00 | 60 | 76 | 56 | 40 |
| 15:00 | 58 | 73 | 55 | 36 |
| 16:00 | 57 | 74 | 52 | 36 |
| 17:00 | 56 | 68 | 54 | 35 |
| 18:00 | 59 | 75 | 54 | 38 |
| 19:00 | 53 | 64 | 49 | 34 |
| 20:00 | 50 | 73 | 40 | 34 |
| 21:00 | 41 | 62 | 38 | 34 |
| 22:00 | 39 | 55 | 38 | 34 |
| 23:00 | 42 | 64 | 38 | 33 |
| 0:00 | 40 | 48 | 39 | 34 |
| 1:00 | 40 | 49 | 39 | 34 |
| 2:00 | 55 | 73 | 49 | 34 |
| 3:00 | 45 | 68 | 39 | 34 |
| 4:00 | 39 | 48 | 38 | 35 |
| 5:00 | 46 | 69 | 40 | 35 |
| 6:00 | 49 | 67 | 45 | 37 |
| 7:00 | 48 | 73 | 46 | 38 |
| 8:00 | 65 | 90 | 40 | 33 |
| 9:00 | 68 | 90 | 38 | 32 |
| 10:00 | 50 | 76 | 37 | 32 |
| 11:00 | 46 | 66 | 40 | 32 |
| 12:00 | 54 | 79 | 38 | 32 |

**Sound Power[1]**
$=10*\text{Log}(L_{eq,\ 1hr}/10)$

| Equivalent Noise Level ($L_{eq}$) Day | Night | Day | Evening | Night |
|---|---|---|---|---|
| 1288249.552 | | 1288249.552 | | |
| 912010.8394 | | 912010.8394 | | |
| 588843.6554 | | 588843.6554 | | |
| 478630.0923 | | 478630.0923 | | |
| 407380.2778 | | 407380.2778 | | |
| 776247.1166 | | 776247.1166 | | |
| 181970.0859 | | | 181970.0859 | |
| 91201.08394 | | | 91201.08394 | |
| 13182.56739 | | | 13182.56739 | |
| | 8317.637711 | | | 8317.637711 |
| | 16218.10097 | | | 16218.10097 |
| | 9549.92586 | | | 9549.92586 |
| | 9549.92586 | | | 9549.92586 |
| | 323593.6569 | | | 323593.6569 |
| | 31622.7766 | | | 31622.7766 |
| | 8709.6359 | | | 8709.6359 |
| | 43651.58322 | | | 43651.58322 |
| | 79432.82347 | | | 79432.82347 |
| 67608.29754 | | | | |
| 3019951.72 | | 3019951.72 | | |
| 5754399.373 | | 5754399.373 | | |
| 107151.9305 | | 107151.9305 | | |
| 42657.95188 | | 42657.95188 | | |
| 257039.5783 | | 257039.5783 | | |

| Day Night Average ($L_{dn}$)[2] Day | Night | Community Noise Equivalent Level (CNEL)[3] Day | Evening | Night |
|---|---|---|---|---|
| **Sum of Sound Power during Period w/o Penalty** | | | | |
| 13,729,485 | 530,646 | 13,375,523 | 286,354 | 530,646 |
| **Log Factor for CNEL Penalty (i.e., 10*log(x))[4]** | | | | |
| 1 | 10 | 1 | 3 | 10 |
| **Sound Power during Period with penalty** | | | | |
| 13,729,485 | 5,306,461 | 13,375,523 | 859,061 | 5,306,461 |
| **Number of Hours** | | | | |
| | | 24 | | |
| $L_{dn}$ | 59.2 | CNEL | 59.3 | |

Notes:
[1] Computation of Sound Power are based on equation 7-1 on pg. 7-9 of Caltrans 2013
[2] Computation of the $L_{dn}$ based on 1-hour $L_{eq}$ measurements for each hour of a day are based on equation 2-23 on pg. 2-52 of Caltrans 2013.
[3] Computation of the CNEL based on 1-hour $L_{eq}$ measurements for each hour of a day are based on equation 2-24 on pg. 2-53 of Caltrans 2013.
[4] Log factors for the $L_{dn}$ and CNEL penalties are provided in Table 2-11 on pg. 2-48 of Caltrans 2013.
[5] Average noise level descriptors were logarithmicly averaged over the total number of hours
Source:
California Department of Transportation (Caltrans), Division of Environmental Analysis. 2013 (September). *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. Sacramento, CA. Available: <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf>. Accessed Febuary 26, 2025.

**Sound Power[1]**
$=10*\text{Log}(L_{eq,\ 1hr}/10)$

| Hour of Day | Maximum Noise Levels ($L_{max}$) Day | Night | Day | Evening | Night | Sound Pressure Level Exceeded 50% of a Specific Time Period ($L_{50}$) Day | Night | Day | Evening | Night | Mininum Noise Levels ($L_{min}$) Day | Night | Day | Evening | Night |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:00 | 37153523 | | 37153522.91 | | | 630957.3445 | | 630957.3445 | | | 7585.77575 | | 7585.77575 | | |
| 14:00 | 43651583 | | 43651583.22 | | | 389045.145 | | 389045.145 | | | 9772.37221 | | 9772.37221 | | |
| 15:00 | 19054607 | | 19054607.18 | | | 288403.1503 | | 288403.1503 | | | 4073.802778 | | 4073.802778 | | |
| 16:00 | 26915348 | | 26915348.04 | | | 158489.3192 | | 158489.3192 | | | 4073.802778 | | 4073.802778 | | |
| 17:00 | 6456542 | | 6456542.29 | | | 229086.7653 | | 229086.7653 | | | 3467.368505 | | 3467.368505 | | |
| 18:00 | 33113112 | | 33113112.15 | | | 269153.4804 | | 269153.4804 | | | 6309.573445 | | 6309.573445 | | |
| 19:00 | 2754229 | | | 2754228.703 | | 77624.71166 | | | 77624.71166 | | 2511.886432 | | | 2511.886432 | |
| 20:00 | 17782794 | | | 17782794.1 | | 9772.37221 | | | 9772.37221 | | 2344.228815 | | | 2344.228815 | |
| 21:00 | 1737801 | | | 1737800.829 | | 6760.829754 | | | 6760.829754 | | 2691.534804 | | | 2691.534804 | |
| 22:00 | | 323593.6569 | | | 323593.6569 | | 6760.829754 | | | 6760.829754 | | 2630.267992 | | | 2630.267992 |
| 23:00 | | 2238721.139 | | | 2238721.139 | | 6456.54229 | | | 6456.54229 | | 1949.8446 | | | 1949.8446 |
| 0:00 | | 60255.95861 | | | 60255.95861 | | 7762.471166 | | | 7762.471166 | | 2344.228815 | | | 2344.228815 |
| 1:00 | | 72443.59601 | | | 72443.59601 | | 7762.471166 | | | 7762.471166 | | 2511.886432 | | | 2511.886432 |
| 2:00 | | 19498446 | | | 19498446 | | 85113.80382 | | | 85113.80382 | | 2570.395783 | | | 2570.395783 |
| 3:00 | | 6760829.754 | | | 6760829.754 | | 7943.282347 | | | 7943.282347 | | 2398.832919 | | | 2398.832919 |
| 4:00 | | 67608.29754 | | | 67608.29754 | | 6918.309709 | | | 6918.309709 | | 2951.209227 | | | 2951.209227 |
| 5:00 | | 7079457.844 | | | 7079457.844 | | 10232.92992 | | | 10232.92992 | | 2951.209227 | | | 2951.209227 |
| 6:00 | | 4466835.922 | | | 4466835.922 | | 28840.31503 | | | 28840.31503 | | 5370.317964 | | | 5370.317964 |
| 7:00 | 19498446 | | 19498446 | | | 38904.5145 | | 38904.5145 | | | 6760.829754 | | 6760.829754 | | |
| 8:00 | 891250938 | | 891250938.1 | | | 10964.78196 | | 10964.78196 | | | 1905.460718 | | 1905.460718 | | |
| 9:00 | 1000000000 | | 1000000000 | | | 6606.93448 | | 6606.93448 | | | 1737.800829 | | 1737.800829 | | |
| 10:00 | 37153523 | | 37153522.91 | | | 5011.872336 | | 5011.872336 | | | 1479.108388 | | 1479.108388 | | |
| 11:00 | 3548134 | | 3548133.892 | | | 9772.37221 | | 9772.37221 | | | 1513.561248 | | 1513.561248 | | |
| 12:00 | 87096359 | | 87096359 | | | 6760.829754 | | 6760.829754 | | | 1513.561248 | | 1513.561248 | | |

**Average Sound Level Descriptors[5]**

| $L_{eq}$ Day | Night | Day | Evening | Night | $L_{50}$ Day | Night | Day | Evening | Night |
|---|---|---|---|---|---|---|---|---|---|
| 60 | 48 | 61 | 50 | 48 | 52 | 43 | 53 | 45 | 43 |

| $L_{max}$ Day | Night | Day | Evening | Night | $L_{min}$ Day | Night | Day | Evening | Night |
|---|---|---|---|---|---|---|---|---|---|
| 82 | 67 | 83 | 69 | 67 | 36 | 35 | 36 | 34 | 35 |

## Long-Term Noise Measurement Summary

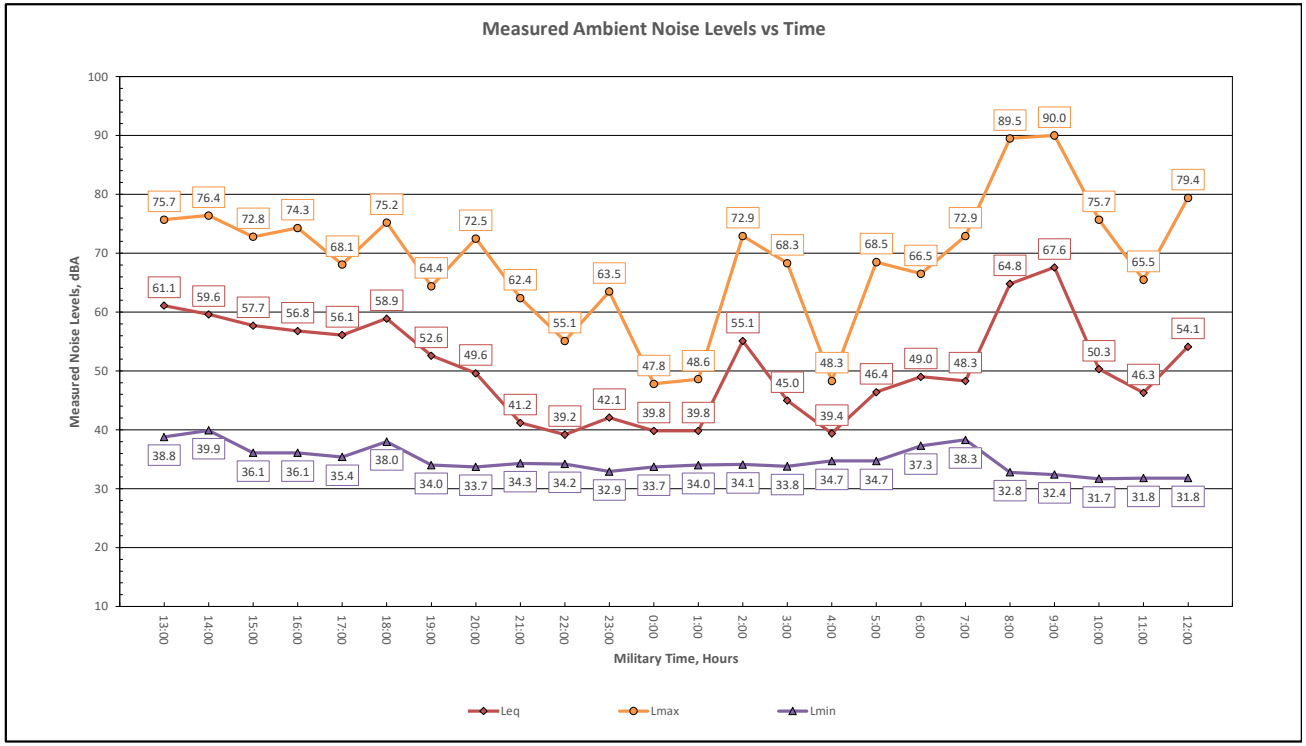
**KEY:** Orange cells are for input.

Green cells are data to present in a written analysis (output).

| | |
|---|---|
| **Measurement Site:** | LT-2 |
| **Measurement Date:** | 5/12/2025-5/13/2025 |
| **Project Name:** | Roseville Environmental Utilities |
| **Coordinates** | 38°47'48.02"N 121°23'35.91"W |

| Hour of Day (military time) | Measured Level, dBA $L_{eq}$ | $L_{max}$ | $L_{50}$ | $L_{min}$ |
|---|---|---|---|---|
| 13:00 | 61.1 | 75.7 | 58.0 | 38.8 |
| 14:00 | 59.6 | 76.4 | 55.9 | 39.9 |
| 15:00 | 57.7 | 72.8 | 54.6 | 36.1 |
| 16:00 | 56.8 | 74.3 | 52.0 | 36.1 |
| 17:00 | 56.1 | 68.1 | 53.6 | 35.4 |
| 18:00 | 58.9 | 75.2 | 54.3 | 38.0 |
| 19:00 | 52.6 | 64.4 | 48.9 | 34.0 |
| 20:00 | 49.6 | 72.5 | 39.9 | 33.7 |
| 21:00 | 41.2 | 62.4 | 38.3 | 34.3 |
| 22:00 | 39.2 | 55.1 | 38.3 | 34.2 |
| 23:00 | 42.1 | 63.5 | 38.1 | 32.9 |
| 0:00 | 39.8 | 47.8 | 38.9 | 33.7 |
| 1:00 | 39.8 | 48.6 | 38.9 | 34.0 |
| 2:00 | 55.1 | 72.9 | 49.3 | 34.1 |
| 3:00 | 45.0 | 68.3 | 39.0 | 33.8 |
| 4:00 | 39.4 | 48.3 | 38.4 | 34.7 |
| 5:00 | 46.4 | 68.5 | 40.1 | 34.7 |
| 6:00 | 49.0 | 66.5 | 44.6 | 37.3 |
| 7:00 | 48.3 | 72.9 | 45.9 | 38.3 |
| 8:00 | 64.8 | 89.5 | 40.4 | 32.8 |
| 9:00 | 67.6 | 90.0 | 38.2 | 32.4 |
| 10:00 | 50.3 | 75.7 | 37.0 | 31.7 |
| 11:00 | 46.3 | 65.5 | 39.9 | 31.8 |
| 12:00 | 54.1 | 79.4 | 38.3 | 31.8 |

| Metrics | $L_{eq}$ | $L_{max}$ | $L_{50}$ | $L_{min}$ |
|---|---|---|---|---|
| **Day Average** | 60 | 82 | 52 | 36 |
| **Night Average** | 48 | 67 | 43 | 35 |




| | |
|---|---|
| **Ldn** | 59.2 |
| **Day %** | 96.3% |
| **Night %** | 3.7% |

Notes: Primary noises includes traffic noise originating from Phillip Road

## Short-Term Noise Measurements Summary

**KEY:** Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

**Measurement Date:** 5/12/25 - 5/13/2025
**Project Name:** City of Roseville Environmental Utilities

| Metrics | Coordinates | Measurement Data | Start Time | Run Time | Leq | Lmax | L50 | L90 |
|---|---|---|---|---|---|---|---|---|
| **ST-1** | 38°48'11.38"N, 121°26'13.43"W | 5/13/2025 | 12:38:50 PM | 15 Minutes | 48.7 | 61.1 | 46.4 | 44.8 |
| **ST-2** | 38°48'9.26"N 121°23'59.66"W | 5/13/2025 | 12:18:54 PM | 15 Minutes | 48.7 | 66.0 | 42.4 | 37.6 |
| **ST-3** | 38°47'36.31"N 121°23'35.62"W | 5/13/2025 | 1:52:46 PM | 15 Minutes | 40.6 | 58.5 | 35.6 | 32.9 |
| **ST-4** | 38°48'11.28"N, 121°23'36.42"W | 5/12/2025 | 1:18:26 PM | 15 Minutes | 43.8 | 56.9 | 41.7 | 38.7 |

Notes:
Computation of the CNEL based on 1-hour Leq measurements for each hour of a day are based on equation 2-27 on pg. 2-57 of Caltrans 2009.
Computation of the Ldn based on 1-hour Leq measurements for each hour of a day are based on equation 2-26 on pg. 2-56 of Caltrans 2009.
Log factors for the Ldn and CNEL penalties are provided in Table 2-12 on pg. 2-52 of Caltrans 2009.
Source:
California Department of Transportation (Caltrans), Division of Environmental Analysis. 2009 (November). 2009 Technical Noise Supplement. Sacramento, CA. Available: <http://www.dot.ca.gov/hq/env/noise/>. Accessed September 24, 2010.

# Construction Equipment Average Noise Levels

**Project Name:** Roseville Environmental Utilities

**KEY:** Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

| Location | Distance to Nearest Receptor in feet | Combined Predicted Noise Level (dBA $L_{eq}$) |
|---|---|---|
| Thresholds | | |
| Daytime Standard | 835 | 50.0 |
| Sensitive Receptors | | |
| Nearest Property Line | 650 | 52.9 |

| Equipment[1] | Reference Emission Noise Levels (dBA $L_{max}$) at 50 feet[2] | Usage Factor[2] |
|---|---|---|
| Grader | 85 | 0.4 |
| Compactor (ground) | 83 | 0.2 |

| | |
|---|---|
| **Ground Type** | Soft |
| **Source Height** | 8 |
| **Receiver Height** | 5 |
| **Ground Factor[3]** | 0.63 |

| Predicted Noise Level [4] | dBA $L_{eq}$ at 50 feet[4] |
|---|---|
| **Grader** | 81.0 |
| **Compactor (ground)** | 76.0 |

| Combined Predicted Noise Level (dBA $L_{eq}$ at 50 feet) |
|---|
| 82.2 |

Sources:

[1] Where measured values are not available, noise levels based on the Construction Noise Control Specifiction 721.560 were used.

[2] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[3] Based on Figure 4-26 from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 86).

[4] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 177).

$L_{eq}$(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2018: pg 86); and

D = Distance from source to receiver.

# Construction Equipment Average Noise Levels

**Project Name:** Roseville Environmental Utilities

**KEY:** Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

| Location | Distance to Nearest Receptor in feet | Combined Predicted Noise Level (dBA $L_{eq}$) |
|---|---|---|
| Thresholds | | |
| Nighttime Standard | 912 | 45.0 |
| Sensitive Receptors | | |
| Nearest Property Line | 650 | 48.8 |

| Equipment[1] | Reference Emission Noise Levels (dBA $L_{max}$) at 50 feet[2] | Usage Factor[2] |
|---|---|---|
| Concrete Mixer Truck | 79 | 0.4 |
| Concrete Pump Truck | 81 | 0.2 |

| | |
|---|---|
| Ground Type | Soft |
| Source Height | 5 |
| Receiver Height | 5 |
| Ground Factor[3] | 0.58 |

| Predicted Noise Level [4] | dBA $L_{eq}$ at 50 feet[4] |
|---|---|
| Concrete Mixer Truck | 75.0 |
| Concrete Pump Truck | 74.0 |

| Combined Predicted Noise Level (dBA $L_{eq}$ at 50 feet) |
|---|
| 77.6 |

Sources:

[1] Where measured values are not available, noise levels based on the Construction Noise Control Specifiction 721.560 were used.

[2] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[3] Based on Figure 4-26 from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 86).

[4] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 177).

$L_{eq}$(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2018: pg 86); and

D = Distance from source to receiver.

# Construction Equipment Maximum Noise Levels

**Project Name:** Roseville Environmental Utilities

**KEY:** Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

| Location | Distance to Nearest Receptor in feet | Combined Predicted Noise Level (dBA $L_{max}$) |
|---|---|---|
| Thresholds | | |
| Nighttime Standard | 153 | 75.0 |
| Sensitive Receptors | | |
| Nearest Property Line | 650 | 58.4 |

| Equipment[1] | Reference Emission Noise Levels (dBA $L_{max}$) at 50 feet[2] |
|---|---|
| Grader | 85 |
| Compactor (ground) | 83 |

| | |
|---|---|
| **Ground Type** | Soft |
| **Source Height** | 5 |
| **Receiver Height** | 5 |
| **Ground Factor[3]** | 0.58 |

| Predicted Noise Level [3] | dBA $L_{max}$ at 50 feet[3] |
|---|---|
| **Grader** | 85.0 |
| **Compactor (ground)** | 83.0 |

| Combined Predicted Noise Level (dBA $L_{max}$ at 50 feet) |
|---|
| 87.1 |

Sources:

[1] Where measured values are not available, noise levels based on the Construction Noise Control Specifiction 721.560 were used.

[2] Based on Figure 4-26 from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 86).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 177).

$L_{eq}$(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor, assumed to be 1 for the purposes of the calculation of maximum noise levels;

G = Constant that accounts for topography and ground effects (FTA 2018: pg 86); and

D = Distance from source to receiver.

# Construction Equipment Maximum Noise Levels

**Project Name:** Roseville Environmental Utilities

**KEY:** Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

| Location | Distance to Nearest Receptor in feet | Combined Predicted Noise Level (dBA $L_{max}$) |
|---|---|---|
| Thresholds | | |
| Nighttime Standard | 265 | 65.0 |
| Sensitive Receptors | | |
| Nearest Property Line | 650 | 54.4 |

| Equipment[1] | Reference Emission Noise Levels (dBA $L_{max}$) at 50 feet[2] |
|---|---|
| Concrete Mixer Truck | 79 |
| Concrete Pump Truck | 81 |

| | |
|---|---|
| Ground Type | Soft |
| Source Height | 5 |
| Receiver Height | 5 |
| Ground Factor[3] | 0.58 |

| Predicted Noise Level [3] | dBA $L_{max}$ at 50 feet[3] |
|---|---|
| Concrete Mixer Truck | 79.0 |
| Concrete Pump Truck | 81.0 |

| Combined Predicted Noise Level (dBA $L_{max}$ at 50 feet) |
|---|
| 83.1 |

Sources:

[1]Where measured values are not available, noise levels based on the Construction Noise Control Specifiction 721.560 were used.

[2] Based on Figure 4-26 from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 86).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 177).

$L_{eq}$(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor, assumed to be 1 for the purposes of the calculation of maximum noise levels;

G = Constant that accounts for topography and ground effects (FTA 2018: pg 86); and

D = Distance from source to receiver.

| Equipment Description | Acoustical Usage Factor (%) | Spec 721.560 Lmax @ 50ft (dBA slow) | Actual Measured Lmax @ 50ft (dBA slow) | No. of Actual Data Samples (count) | Spec 721.560 LmaxCalc | Spec 721.560 Leq | Distance | Actual Measured LmaxCalc | Actual Measured Leq |
|---|---|---|---|---|---|---|---|---|---|
| Auger Drill Rig | 20 | 85 | 84 | 36 | 79.0 | 72.0 | 100 | 78.0 | 71.0 |
| Backhoe | 40 | 80 | 78 | 372 | 74.0 | 70.0 | 100 | 72.0 | 68.0 |
| Bar Bender | 20 | 80 | 80 | 0 | 74.0 | 67.0 | 100 | | |
| Blasting | 100 | 94 | 94 | 0 | 88.0 | | 100 | | |
| Boring Jack Power Unit | 50 | 80 | 83 | 1 | 74.0 | 71.0 | 100 | 77.0 | 74.0 |
| Chain Saw | 20 | 85 | 84 | 46 | 79.0 | 72.0 | 100 | 78.0 | 71.0 |
| Clam Shovel (dropping) | 20 | 93 | 87 | 4 | 87.0 | 80.0 | 100 | 81.0 | 74.0 |
| Compactor (ground) | 20 | 80 | 83 | 57 | 74.0 | 67.0 | 100 | 77.0 | 70.0 |
| Compressor (air) | 40 | 80 | 78 | 18 | 74.0 | 70.0 | 100 | 72.0 | 68.0 |
| Concrete Batch Plant | 15 | 83 | 83 | 0 | 77.0 | 68.7 | 100 | | |
| Concrete Mixer Truck | 40 | 85 | 79 | 40 | 79.0 | 75.0 | 100 | 73.0 | 69.0 |
| Concrete Pump Truck | 20 | 82 | 81 | 30 | 76.0 | 69.0 | 100 | 75.0 | 68.0 |
| Concrete Saw | 20 | 90 | 90 | 55 | 84.0 | 77.0 | 100 | 84.0 | 77.0 |
| Crane | 16 | 85 | 81 | 405 | 79.0 | 71.0 | 100 | 75.0 | 67.0 |
| Dozer | 40 | 85 | 82 | 55 | 79.0 | 75.0 | 100 | 76.0 | 72.0 |
| Drill Rig Truck | 20 | 84 | 79 | 22 | 78.0 | 71.0 | 100 | 73.0 | 66.0 |
| Drum Mixer | 50 | 80 | 80 | 1 | 74.0 | 71.0 | 100 | 74.0 | 71.0 |
| Dump Truck | 40 | 84 | 76 | 31 | 78.0 | 74.0 | 100 | 70.0 | 66.0 |
| Excavator | 40 | 85 | 81 | 170 | 79.0 | 75.0 | 100 | 75.0 | 71.0 |
| Flat Bed Truck | 40 | 84 | 74 | 4 | 78.0 | 74.0 | 100 | 68.0 | 64.0 |
| Front End Loader | 40 | 80 | 79 | 96 | 74.0 | 70.0 | 100 | 73.0 | 69.0 |
| Generator | 50 | 82 | 81 | 19 | 76.0 | 73.0 | 100 | 75.0 | 72.0 |
| Generator (<25KVA, VMS signs) | 50 | 70 | 73 | 74 | 64.0 | 61.0 | 100 | 67.0 | 64.0 |
| Gradall | 40 | 85 | 83 | 70 | 79.0 | 75.0 | 100 | 77.0 | 73.0 |
| Grader | 40 | 85 | 85 | 0 | 79.0 | 75.0 | 100 | | |
| Grapple (on Backhoe) | 40 | 85 | 87 | 1 | 79.0 | 75.0 | 100 | 81.0 | 77.0 |
| Horizontal Boring Hydr. Jack | 25 | 80 | 82 | 6 | 74.0 | 68.0 | 100 | 76.0 | 70.0 |
| Hydra Break Ram | 10 | 90 | 90 | 0 | 84.0 | 74.0 | 100 | | |
| Impact Pile Driver | 20 | 95 | 101 | 11 | 89.0 | 82.0 | 100 | 95.0 | 88.0 |
| Jackhammer | 20 | 85 | 89 | 133 | 79.0 | 72.0 | 100 | 83.0 | 76.0 |
| Man Lift | 20 | 85 | 75 | 23 | 79.0 | 72.0 | 100 | 69.0 | 62.0 |
| Mounted Impact Hammer (hoe ram) | 20 | 90 | 90 | 212 | 84.0 | 77.0 | 100 | 84.0 | 77.0 |
| Pavement Scarafier | 20 | 85 | 90 | 2 | 79.0 | 72.0 | 100 | 84.0 | 77.0 |
| Paver | 50 | 85 | 77 | 9 | 79.0 | 76.0 | 100 | 71.0 | 68.0 |
| Pickup Truck | 40 | 55 | 75 | 1 | 49.0 | 45.0 | 100 | 69.0 | 65.0 |
| Pneumatic Tools | 50 | 85 | 85 | 90 | 79.0 | 76.0 | 100 | 79.0 | 76.0 |
| Pumps | 50 | 77 | 81 | 17 | 71.0 | 68.0 | 100 | 75.0 | 72.0 |
| Refrigerator Unit | 100 | 82 | 73 | 3 | 76.0 | 76.0 | 100 | 67.0 | 67.0 |
| Rivit Buster/chipping gun | 20 | 85 | 79 | 19 | 79.0 | 72.0 | 100 | 73.0 | 66.0 |
| Rock Drill | 20 | 85 | 81 | 3 | 79.0 | 72.0 | 100 | 75.0 | 68.0 |
| Roller | 20 | 85 | 80 | 16 | 79.0 | 72.0 | 100 | 74.0 | 67.0 |
| Sand Blasting (Single Nozzle) | 20 | 85 | 96 | 9 | 79.0 | 72.0 | 100 | 90.0 | 83.0 |
| Scraper | 40 | 85 | 84 | 12 | 79.0 | 75.0 | 100 | 78.0 | 74.0 |
| Shears (on backhoe) | 40 | 85 | 96 | 5 | 79.0 | 75.0 | 100 | 90.0 | 86.0 |
| Slurry Plant | 100 | 78 | 78 | 1 | 72.0 | 72.0 | 100 | 72.0 | 72.0 |
| Slurry Trenching Machine | 50 | 82 | 80 | 75 | 76.0 | 73.0 | 100 | 74.0 | 71.0 |
| Soil Mix Drill Rig | 50 | 80 | 80 | 0 | 74.0 | 71.0 | 100 | | |
| Tractor | 40 | 84 | 84 | 0 | 78.0 | 74.0 | 100 | | |
| Vacuum Excavator (Vac-truck) | 40 | 85 | 85 | 149 | 79.0 | 75.0 | 100 | 79.0 | 75.0 |
| Vacuum Street Sweeper | 10 | 80 | 82 | 19 | 74.0 | 64.0 | 100 | 76.0 | 66.0 |
| Ventilation Fan | 100 | 85 | 79 | 13 | 79.0 | 79.0 | 100 | 73.0 | 73.0 |
| Vibrating Hopper | 50 | 85 | 87 | 1 | 79.0 | 76.0 | 100 | 81.0 | 78.0 |
| Vibratory Concrete Mixer | 20 | 80 | 80 | 1 | 74.0 | 67.0 | 100 | 74.0 | 67.0 |
| Vibratory Pile Driver | 20 | 95 | 101 | 44 | 89.0 | 82.0 | 100 | 95.0 | 88.0 |
| Warning Horn | 5 | 85 | 83 | 12 | 79.0 | 66.0 | 100 | 77.0 | 64.0 |
| Welder / Torch | 40 | 73 | 74 | 5 | 67.0 | 63.0 | 100 | 68.0 | 64.0 |

## Traffic Noise Spreadsheet Calculator

**Project:** Roseville Environmental Utilities

| Number | Name | Segment Description and Location From | To | Opening Year Conditions | Opening Year + Project Conditions | Δ Opening Year – Opening Year + Project | Cumulative Conditions | Cumulative + Project Conditions | Δ Cumulative – Cumulative + Project |
|---|---|---|---|---|---|---|---|---|---|
| Summary of Net Changes | | | | | | | | | |
| 1 | Westbrook Blvd | Blue Oaks Blvd | Ongoing | 61.7 | 61.7 | 0.0 | 70.0 | 70.0 | 0.0 |
| 2 | Philips Road | Westbrook Blvd | Project Site | 68.7 | 69.1 | 0.4 | 71.1 | 71.4 | 0.3 |
| 3 | Blue Oaks Blvd | Westbrook Blvd | Hayden Pkwy | 68.4 | 68.6 | 0.2 | 71.8 | 71.9 | 0.2 |
| 4 | Westbrook Blvd | Blue Oaks Blvd | Brookstone Dr | 66.8 | 66.9 | 0.1 | 71.3 | 71.4 | 0.0 |
| 5 | Hayden Pkwy | Blue Oaks Blvd | Crawford Pkwy | 63.4 | 63.4 | 0.0 | 64.3 | 64.3 | 0.0 |
| 6 | Hayden Pkwy | Blue Oaks Blvd | Fiddyment Blvd | 63.1 | 63.1 | 0.0 | 63.3 | 63.3 | 0.0 |
| 7 | Blue Oaks Blvd | Hayden Pkwy | Fiddyment Blvd | 68.9 | 69.1 | 0.2 | 71.8 | 71.9 | 0.2 |
| 8 | Fiddyment Rd | Blue Oaks Blvd | Old Coach Dr | 70.5 | 70.5 | 0.0 | 72.4 | 72.5 | 0.0 |
| 9 | Fiddyment Rd | Blue Oaks Blvd | Hayden Pkwy | 70.9 | 70.9 | 0.0 | 72.8 | 72.8 | 0.0 |
| 10 | Blue Oaks Blvd | Fiddyment Rd | Del Webb Blvd | 71.3 | 71.4 | 0.1 | 72.6 | 72.7 | 0.1 |
| 11 | Diamond Creek Blvd | Blue Oaks Blvd | City Boundary | 63.1 | 63.1 | 0.0 | 65.1 | 65.1 | 0.0 |
| 12 | Praire Wood Way | Blue Oaks Blvd | City Boundary | 59.8 | 59.8 | 0.0 | 59.3 | 59.3 | 0.0 |
| 13 | Blue Oaks Blvd | D.Creek Blvd/ P. Woods Wy | Woodcreek Oaks Blvd | 72.6 | 72.7 | 0.1 | 74.2 | 74.2 | 0.1 |
| 14 | Woodcreek Oaks Blvd | Blue Oaks Blvd | City Boundary | 64.9 | 64.9 | 0.0 | 69.5 | 69.5 | 0.0 |
| 15 | Woodcreek Oaks Blvd | Blue Oaks Blvd | Pleasant Grove Blvd | 68.4 | 68.4 | 0.0 | 71.5 | 71.5 | 0.0 |
| 16 | Blue Oaks Blvd | Woodcreek Oaks Blvd | Roseville Pkwy | 72.7 | 72.8 | 0.1 | 74.7 | 74.7 | 0.0 |
| 17 | Roseville Pkwy | Blue Oaks Blvd | Foothill Blvd | 60.7 | 60.7 | 0.0 | 59.7 | 59.7 | 0.0 |
| 18 | Blue Oaks Blvd | Roseville Pkwy | New Meadow Dr | 72.9 | 73.0 | 0.1 | 74.7 | 74.7 | 0.0 |
| 19 | New Meadow Dr | Blue Oaks Blvd | End | 63.2 | 63.2 | 0.0 | 62.1 | 62.1 | 0.0 |
| 20 | Blue Oaks Blvd | New Meadow Dr | Foothill Blvd | 73.4 | 73.4 | 0.1 | 74.8 | 74.9 | 0.0 |
| 21 | Foothill Blvd | Foothill Blvd | City Boundary | 65.7 | 65.7 | 0.0 | 72.0 | 72.0 | 0.0 |
| 22 | Foothill Blvd | Blue Oaks Blvd | Roseville Pkwy | 69.7 | 69.7 | 0.0 | 73.3 | 73.3 | 0.0 |
| 23 | Blue Oaks Blvd | Foothill Blvd | Fidelity Wy | 73.8 | 73.8 | 0.0 | 75.5 | 75.5 | 0.0 |
| 24 | Blue Oaks Blvd | Fidelity Wy | Washington Blvd | 73.1 | 73.1 | 0.1 | 74.2 | 74.2 | 0.0 |
| 25 | Washington Blvd | Blue Oaks Blvd | Transition to SR 65 | 69.6 | 69.6 | 0.0 | 71.1 | 71.1 | 0.0 |
| 26 | Washington Blvd | Blue Oaks Blvd | Pleasant Grove Blvd | 70.8 | 70.8 | 0.0 | 72.4 | 72.4 | 0.0 |
| 27 | Blue Oaks Blvd | Washington Blvd | City Boundary | 73.1 | 73.2 | 0.1 | 74.8 | 74.9 | 0.0 |
| 28 | Santucci Blvd | Pleasant Grove Blvd | Baseline Rd | 46.5 | 46.5 | 0.0 | 70.7 | 70.9 | 0.1 |
| 29 | Pleasant Grove Blvd | Santucci Blvd | Westbrook Blvd | 48.2 | 48.2 | 0.0 | 68.8 | 68.8 | 0.0 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 30 | Westbrook Blvd | Pleasant Grove Blvd | Brookstone Dr | 66.8 | 66.9 | 0.1 | 71.4 | 71.5 | 0.0 |
| 31 | Westbrook Blvd | Pleasant Grove Blvd | Baseline Rd | 65.1 | 65.2 | 0.1 | 70.8 | 70.8 | 0.0 |
| 32 | Pleasant Grove Blvd | Westbrook Blvd | Village Green Dr | 69.2 | 69.3 | 0.0 | 71.8 | 71.9 | 0.1 |
| 33 | Market St | Pleasant Grove Blvd | City Boundary | 62.4 | 62.4 | 0.0 | 64.7 | 64.7 | 0.0 |
| 34 | Westbrook Blvd | Pleasant Grove Blvd | Baseline Rd | 65.1 | 65.2 | 0.1 | 70.8 | 70.8 | 0.0 |
| 35 | Pleasant Grove Blvd | Village Green Dr | Fiddyment Blvd | 70.6 | 70.6 | 0.0 | 72.2 | 72.3 | 0.1 |
| 36 | Fiddyment Rd | Del Webb Blvd | Pleasant Grove Blvd | 70.6 | 70.6 | 0.0 | 72.6 | 72.6 | 0.0 |
| 37 | Fiddyment Rd | Pleasant Grove Blvd | Baseline Rd | 73.9 | 73.9 | 0.0 | 76.2 | 76.2 | 0.0 |
| 38 | Pleasant Grove Blvd | Fiddyment Rd | Woodcreek Oaks Blvd | 71.7 | 71.8 | 0.0 | 73.8 | 73.9 | 0.0 |
| 39 | Woodcreek Oaks Blvd | Pleasant Grove Blvd | Baseline Rd | 68.1 | 68.1 | 0.0 | 70.3 | 70.3 | 0.0 |
| 40 | Pleasant Grove Blvd | Woodcreek Oaks Blvd | Country Club Dr | 72.9 | 72.9 | 0.0 | 74.7 | 74.7 | 0.0 |
| 41 | Country Club Dr | Pleasant Grove Blvd | Baseline Rd | 61.3 | 61.3 | 0.0 | 64.1 | 64.1 | 0.0 |
| 42 | Pleasant Grove Blvd | Country Club Dr | Foothills Blvd | 73.1 | 73.2 | 0.0 | 74.7 | 74.7 | 0.0 |
| 43 | Foothill Blvd | Pleasant Grove Blvd | Main Road | 72.5 | 72.5 | 0.0 | 73.6 | 73.6 | 0.0 |
| 44 | Pleasant Grove Blvd | Foothill Blvd | Washington Blvd | 74.5 | 74.5 | 0.0 | 75.1 | 75.2 | 0.0 |
| 45 | Washington Blvd | Pleasant Grove Blvd | Railroad | 71.1 | 71.1 | 0.0 | 72.4 | 72.4 | 0.0 |
| 46 | Pleasant Grove Blvd | Washington Blvd | Gold Coast Dr | 74.0 | 74.0 | 0.0 | 74.7 | 74.8 | 0.0 |
| 47 | Hallissy Dr/Gold Coast Dr | Pleasant Grove Blvd | Washington Blvd | 58.0 | 58.0 | 0.0 | 59.6 | 59.6 | 0.0 |
| 48 | Pleasant Grove Blvd | Hallissy Dr | Roseville Pkwy | 74.2 | 74.2 | 0.0 | 74.7 | 74.8 | 0.0 |
| 49 | Pleasant Grove Blvd | Pleasant Grove Blvd | Washington Blvd | 73.9 | 73.9 | 0.0 | 75.0 | 75.0 | 0.0 |
| 50 | Pleasant Grove Blvd | Pleasant Grove Blvd | End | 74.2 | 74.2 | 0.0 | 74.8 | 74.8 | 0.0 |
| 51 | Roseville Pkwy | Pleasant Grove Blvd | Highland Pointe Dr | 71.6 | 71.6 | 0.0 | 73.3 | 73.4 | 0.0 |
| 52 | Pleasant Grove Blvd | Highland Pointe Dr | SR 65 Exchange | 73.7 | 73.7 | 0.0 | 74.9 | 74.9 | 0.0 |
| 53 | Baseline Rd | Santucci Blvd | City Boundary | 68.4 | 68.4 | 0.0 | 73.9 | 73.9 | 0.0 |
| 54 | Baseline Rd | Santucci Blvd | Westbrook Blvd | 70.0 | 70.0 | 0.0 | 73.5 | 73.6 | 0.0 |
| 55 | Watt Ave | Santucci Blvd | City Boundary | 64.5 | 64.6 | 0.1 | 69.5 | 69.6 | 0.1 |
| 56 | Baseline Rd | Westbrook Blvd | Market St. | 69.6 | 69.6 | 0.0 | 73.3 | 73.3 | 0.0 |
| 57 | Market St/Stargazer Dr | Baseline Rd | Pleasant Grove Blvd | 61.1 | 61.1 | 0.0 | 62.5 | 62.5 | 0.0 |
| 58 | Baseline Rd | Market St | Fiddyment Blvd | 69.4 | 69.4 | 0.0 | 73.3 | 73.4 | 0.0 |
| 59 | Fiddyment Rd | Baseline Rd | Pleasant Grove Blvd | 73.9 | 73.9 | 0.0 | 75.3 | 75.3 | 0.0 |
| 60 | Fiddyment Rd | Baseline Rd | City Boundary | 72.9 | 72.9 | 0.0 | 74.1 | 74.1 | 0.0 |
| 61 | Baseline Rd | Fiddyment Rd | Woodcreek Oaks Blvd | 69.2 | 69.2 | 0.0 | 72.3 | 72.3 | 0.0 |
| 62 | Woodcreek Oaks Blvd/Cook Rio | Baseline Rd | Pleasant Grove Blvd | 64.8 | 64.8 | 0.0 | 67.7 | 67.7 | 0.0 |
| 63 | Woodcreek Oaks Blvd/Cook Rio | Baseline Rd | Ongoing | 62.1 | 62.1 | 0.0 | 66.1 | 66.1 | 0.0 |
| 64 | Baseline Rd | Woodcreek Oaks Blvd | Country Club Dr | 69.0 | 69.0 | 0.0 | 70.8 | 70.8 | 0.0 |
| 65 | Baseline Rd/Main St | Foothill Blvd | Country Club Dr | 68.9 | 68.9 | 0.0 | 70.3 | 70.4 | 0.0 |
| 66 | Baseline Rd/Main St | Foothill Blvd | Ongoing | 63.7 | 63.7 | 0.0 | 64.8 | 64.9 | 0.1 |
| 67 | Foothills Blvd | Main Street | Pleasant Grove Blvd | 72.5 | 72.5 | 0.0 | 73.6 | 73.6 | 0.0 |
| 68 | Foothills Blvd | Main Street | Ongoing | 73.4 | 73.4 | 0.0 | 74.5 | 74.5 | 0.0 |

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

## Traffic Noise Spreadsheet Calculator

**Project:** Roseville Environmental Utilities

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

| | | Segment Description and Location | | | Input | | | | | | | | | | | Output | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Distance to Directional Centerline, (feet)[4] | | Traffic Distribution Characteristics | | | | | | | | Distance to Contour, (feet)[3] | | | |
| Number | Intersec | Name | From | To | ADT | Speed (mph) | Near | Far | % Auto | % Medium | % Heavy | % Day | % Eve | % Night | Ldn, (dBA)[5,6,7] | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
| **Opening Year Conditions** | | | | | | | | | | | | | | | | | | | | |
| 1 | 1N | Westbrook Blvd | Blue Oaks Blvd | Ongoing | 3,720 | 40 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 61.7 | 14 | 43 | 136 | 430 |
| 2 | 1W | Philips Road | Westbrook Blvd | Project Site | 11,995 | 45 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 68.7 | 55 | 175 | 553 | 1750 |
| 3 | 1E | Blue Oaks Blvd | Westbrook Blvd | Hayden Pkwy | 14,505 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 68.4 | 68 | 216 | 682 | 2155 |
| 4 | 1S | Westbrook Blvd | Blue Oaks Blvd | Brookstone Dr | 11,990 | 40 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 66.8 | 44 | 139 | 439 | 1387 |
| 5 | 2N | Hayden Pkwy | Blue Oaks Blvd | Crawford Pkwy | 6,560 | 35 | 70 | 95 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 63.4 | 18 | 57 | 180 | 569 |
| 6 | 2S | Hayden Pkwy | Blue Oaks Blvd | Fiddyment Blvd | 6,075 | 35 | 70 | 95 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 63.1 | 17 | 53 | 167 | 527 |
| 7 | 2E | Blue Oaks Blvd | Hayden Pkwy | Fiddyment Blvd | 16,355 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 68.9 | 77 | 243 | 769 | 2430 |
| 8 | 3N | Fiddyment Rd | Blue Oaks Blvd | Old Coach Dr | 19,340 | 45 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.5 | 90 | 284 | 897 | 2838 |
| 9 | 3S | Fiddyment Rd | Blue Oaks Blvd | Hayden Pkwy | 21,200 | 45 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.9 | 98 | 311 | 984 | 3111 |
| 10 | 3E | Blue Oaks Blvd | Fiddyment Rd | Del Webb Blvd | 28,175 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.3 | 132 | 419 | 1324 | 4187 |
| 11 | 4N | Diamond Creek Blvd | Blue Oaks Blvd | City Boundary | 5,845 | 35 | 60 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 63.1 | 17 | 52 | 166 | 524 |
| 12 | 4S | Praire Wood Way | Blue Oaks Blvd | City Boundary | 3,360 | 30 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 59.8 | 7 | 23 | 72 | 227 |
| 13 | 4E | Blue Oaks Blvd | D.Creek Blvd/ P. Woods Wy | Woodcreek Oaks Blvd | 38,230 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.6 | 180 | 568 | 1796 | 5681 |
| 14 | 5N | Woodcreek Oaks Blvd | Blue Oaks Blvd | City Boundary | 7,575 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 64.9 | 27 | 87 | 274 | 867 |
| 15 | 5S | Woodcreek Oaks Blvd | Blue Oaks Blvd | Pleasant Grove Blvd | 12,815 | 45 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 68.4 | 61 | 191 | 605 | 1914 |
| 16 | 5E | Blue Oaks Blvd | Woodcreek Oaks Blvd | Roseville Pkwy | 38,730 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.7 | 182 | 576 | 1820 | 5755 |
| 17 | 6S | Roseville Pkwy | Blue Oaks Blvd | Foothill Blvd | 5,080 | 35 | 90 | 170 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 60.7 | 14 | 46 | 145 | 458 |
| 18 | 6E | Blue Oaks Blvd | Roseville Pkwy | New Meadow Dr | 40,835 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.9 | 192 | 607 | 1919 | 6068 |
| 19 | 7N | New Meadow Dr | Blue Oaks Blvd | End | 5,715 | 35 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 63.2 | 16 | 49 | 155 | 491 |
| 20 | 7E | Blue Oaks Blvd | New Meadow Dr | Foothill Blvd | 45,315 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.4 | 213 | 673 | 2129 | 6734 |
| 21 | 8N | Foothill Blvd | Foothill Blvd | City Boundary | 7,520 | 40 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 65.7 | 28 | 88 | 277 | 877 |
| 22 | 8S | Foothill Blvd | Blue Oaks Blvd | Roseville Pkwy | 14,255 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.7 | 69 | 217 | 686 | 2169 |
| 23 | 8E | Blue Oaks Blvd | Foothill Blvd | Fidelity Wy | 49,820 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.8 | 234 | 740 | 2341 | 7403 |
| 24 | 9E | Blue Oaks Blvd | Fidelity Wy | Washington Blvd | 42,330 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.1 | 199 | 629 | 1989 | 6290 |
| 25 | 10N | Washington Blvd | Blue Oaks Blvd | Transition to SR 65 | 11,505 | 50 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.6 | 69 | 217 | 687 | 2172 |
| 26 | 10S | Washington Blvd | Blue Oaks Blvd | Pleasant Grove Blvd | 19,425 | 45 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.8 | 90 | 283 | 896 | 2835 |
| 27 | 10E | Blue Oaks Blvd | Washington Blvd | City Boundary | 42,995 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.1 | 202 | 639 | 2020 | 6389 |
| 28 | 11S | Santucci Blvd | Pleasant Grove Blvd | Baseline Rd | 95 | 45 | 70 | 160 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 46.5 | | 2 | 5 | 15 |
| 29 | 11E | Pleasant Grove Blvd | Santucci Blvd | Westbrook Blvd | 95 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 48.2 | | 1 | 5 | 15 |
| 30 | 12N | Westbrook Blvd | Pleasant Grove Blvd | Brookstone Dr | 12,100 | 40 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 66.8 | 44 | 140 | 443 | 1400 |
| 31 | 12S | Westbrook Blvd | Pleasant Grove Blvd | Baseline Rd | 6,240 | 45 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 65.1 | 30 | 94 | 298 | 942 |
| 32 | 12E | Pleasant Grove Blvd | Westbrook Blvd | Village Green Dr | 12,115 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.2 | 59 | 187 | 592 | 1871 |
| 33 | 13N | Market St | Pleasant Grove Blvd | City Boundary | 5,040 | 35 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 62.4 | 14 | 44 | 138 | 436 |
| 34 | 12S | Westbrook Blvd | Pleasant Grove Blvd | Baseline Rd | 6,240 | 45 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 65.1 | 30 | 94 | 298 | 942 |
| 35 | 13E | Pleasant Grove Blvd | Village Green Dr | Fiddyment Blvd | 16,460 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.6 | 80 | 254 | 804 | 2542 |
| 36 | 14N | Fiddyment Rd | Del Webb Blvd | Pleasant Grove Blvd | 19,830 | 45 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.6 | 92 | 291 | 920 | 2910 |
| 37 | 14S | Fiddyment Rd | Pleasant Grove Blvd | Baseline Rd | 32,600 | 50 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.9 | 196 | 619 | 1957 | 6190 |
| 38 | 14E | Pleasant Grove Blvd | Fiddyment Rd | Woodcreek Oaks Blvd | 21,635 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.7 | 106 | 334 | 1057 | 3341 |
| 39 | 15S | Woodcreek Oaks Blvd | Pleasant Grove Blvd | Baseline Rd | 15,740 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 68.1 | 57 | 180 | 570 | 1802 |
| 40 | 15E | Pleasant Grove Blvd | Woodcreek Oaks Blvd | Country Club Dr | 28,275 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.9 | 138 | 437 | 1381 | 4366 |
| 41 | 16S | Country Club Dr | Pleasant Grove Blvd | Baseline Rd | 3,245 | 35 | 60 | 70 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 61.3 | 9 | 28 | 88 | 279 |
| 42 | 16E | Pleasant Grove Blvd | Country Club Dr | Foothills Blvd | 29,855 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.1 | 146 | 461 | 1458 | 4610 |
| 43 | 17S | Foothill Blvd | Pleasant Grove Blvd | Main Road | 27,670 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.5 | 133 | 421 | 1331 | 4210 |
| 44 | 17E | Pleasant Grove Blvd | Foothill Blvd | Washington Blvd | 40,730 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.5 | 199 | 629 | 1989 | 6290 |
| 45 | 18S | Washington Blvd | Pleasant Grove Blvd | Railroad | 20,825 | 45 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.1 | 96 | 304 | 961 | 3039 |
| 46 | 18E | Pleasant Grove Blvd | Washington Blvd | Gold Coast Dr | 36,600 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.0 | 179 | 565 | 1787 | 5652 |
| 47 | 19N | Hallissy Dr/Gold Coast Dr | Pleasant Grove Blvd | Washington Blvd | 2,625 | 25 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 58.0 | 5 | 15 | 47 | 149 |
| 48 | 19E | Pleasant Grove Blvd | Hallissy Dr | Roseville Pkwy | 37,995 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.2 | 186 | 587 | 1855 | 5867 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 49 | 20N | Pleasant Grove Blvd | Pleasant Grove Blvd | Washington Blvd | 35,310 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.9 | 172 | 545 | 1724 | 5453 |
| 50 | 20S | Pleasant Grove Blvd | Pleasant Grove Blvd | End | 37,690 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.2 | 184 | 582 | 1841 | 5820 |
| 51 | 20E | Roseville Pkwy | Pleasant Grove Blvd | Highland Pointe Dr | 37,025 | 45 | 90 | 170 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.6 | 179 | 567 | 1792 | 5666 |
| 52 | 21S | Pleasant Grove Blvd | Highland Pointe Dr | SR 65 Exchange | 33,560 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.7 | 164 | 518 | 1639 | 5183 |
| 53 | 24W | Baseline Rd | Santucci Blvd | City Boundary | 12,250 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 68.4 | 74 | 235 | 742 | 2347 |
| 54 | 24E | Baseline Rd | Santucci Blvd | Westbrook Blvd | 17,870 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.0 | 108 | 342 | 1083 | 3424 |
| 55 | 24S | Watt Ave | Santucci Blvd | City Boundary | 9,315 | 50 | 190 | 200 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 64.5 | 56 | 176 | 555 | 1755 |
| 56 | 25E | Baseline Rd | Westbrook Blvd | Market St. | 16,150 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.6 | 98 | 309 | 978 | 3094 |
| 57 | 26N | Market St/Stargazer Dr | Baseline Rd | Pleasant Grove Blvd | 3,780 | 35 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 61.1 | 10 | 33 | 103 | 327 |
| 58 | 26E | Baseline Rd | Market St | Fiddyment Blvd | 15,560 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.4 | 94 | 298 | 943 | 2981 |
| 59 | 27N | Fiddyment Rd | Baseline Rd | Pleasant Grove Blvd | 32,280 | 50 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.9 | 194 | 613 | 1938 | 6129 |
| 60 | 27S | Fiddyment Rd | Baseline Rd | City Boundary | 25,910 | 50 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.9 | 156 | 492 | 1556 | 4920 |
| 61 | 27E | Baseline Rd | Fiddyment Rd | Woodcreek Oaks Blvd | 19,235 | 45 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.2 | 90 | 285 | 901 | 2848 |
| 62 | 28N | Woodcreek Oaks Blvd/Cook R | Baseline Rd | Pleasant Grove Blvd | 7,365 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 64.8 | 27 | 84 | 267 | 843 |
| 63 | 28S | Woodcreek Oaks Blvd/Cook R | Baseline Rd | Ongoing | 3,955 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 62.1 | 14 | 45 | 143 | 453 |
| 64 | 28E | Baseline Rd | Woodcreek Oaks Blvd | Country Club Dr | 18,290 | 45 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.0 | 86 | 271 | 856 | 2708 |
| 65 | 29W | Baseline Rd/Main St | Foothill Blvd | Country Club Dr | 17,945 | 45 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 68.9 | 84 | 266 | 840 | 2657 |
| 66 | 29E | Baseline Rd/Main St | Foothill Blvd | Ongoing | 9,175 | 35 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 63.7 | 25 | 80 | 253 | 800 |
| 67 | 29N | Foothills Blvd | Main Street | Pleasant Grove Blvd | 27,250 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.5 | 131 | 415 | 1311 | 4146 |
| 68 | 29S | Foothills Blvd | Main Street | Ongoing | 33,710 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.4 | 162 | 513 | 1622 | 5129 |

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

## Traffic Noise Spreadsheet Calculator

**Project:** Roseville Environmental Utilities

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

| | Segment Description and Location | | | Input | | | | | | | | | | | Output | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Distance to Directional Centerline, (feet)[4] | | Traffic Distribution Characteristics | | | | | | | Distance to Contour, (feet)[3] | | | | |
| Number | Name | From | To | ADT | Speed (mph) | Near | Far | % Auto | % Medium | % Heavy | % Day | % Eve | % Night | Ldn, $(dBA)_{5,6,7}$ | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
| | **Opening Year + Project Conditions** | | | | | | | | | | | | | | | | | |
| 1 | Westbrook Blvd | Blue Oaks Blvd | Ongoing | 3,720 | 40 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 61.7 | 14 | 43 | 136 | 430 |
| 2 | Philips Road | Westbrook Blvd | Project Site | 13,155 | 45 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.1 | 61 | 192 | 607 | 1920 |
| 3 | Blue Oaks Blvd | Westbrook Blvd | Hayden Pkwy | 15,275 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 68.6 | 72 | 227 | 718 | 2270 |
| 4 | Westbrook Blvd | Blue Oaks Blvd | Brookstone Dr | 12,380 | 40 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 66.9 | 45 | 143 | 453 | 1432 |
| 5 | Hayden Pkwy | Blue Oaks Blvd | Crawford Pkwy | 6,560 | 35 | 70 | 95 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 63.4 | 18 | 57 | 180 | 569 |
| 6 | Hayden Pkwy | Blue Oaks Blvd | Fiddyment Blvd | 6,075 | 35 | 70 | 95 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 63.1 | 17 | 53 | 167 | 527 |
| 7 | Blue Oaks Blvd | Hayden Pkwy | Fiddyment Blvd | 17,125 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.1 | 80 | 254 | 805 | 2545 |
| 8 | Fiddyment Rd | Blue Oaks Blvd | Old Coach Dr | 19,400 | 45 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.5 | 90 | 285 | 900 | 2847 |
| 9 | Fiddyment Rd | Blue Oaks Blvd | Hayden Pkwy | 21,260 | 45 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.9 | 99 | 312 | 987 | 3120 |
| 10 | Blue Oaks Blvd | Fiddyment Rd | Del Webb Blvd | 28,825 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.4 | 135 | 428 | 1355 | 4283 |
| 11 | Diamond Creek Blvd | Blue Oaks Blvd | City Boundary | 5,845 | 35 | 60 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 63.1 | 17 | 52 | 166 | 524 |
| 12 | Praire Wood Way | Blue Oaks Blvd | City Boundary | 3,360 | 30 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 59.8 | 7 | 23 | 72 | 227 |
| 13 | Blue Oaks Blvd | D.Creek Blvd/ P. Woods Wy | Woodcreek Oaks Blvd | 38,880 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.7 | 183 | 578 | 1827 | 5777 |
| 14 | Woodcreek Oaks Blvd | Blue Oaks Blvd | City Boundary | 7,575 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 64.9 | 27 | 87 | 274 | 867 |
| 15 | Woodcreek Oaks Blvd | Blue Oaks Blvd | Pleasant Grove Blvd | 12,875 | 45 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 68.4 | 61 | 192 | 608 | 1923 |
| 16 | Blue Oaks Blvd | Woodcreek Oaks Blvd | Roseville Pkwy | 39,310 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.8 | 185 | 584 | 1847 | 5841 |
| 17 | Roseville Pkwy | Blue Oaks Blvd | Foothill Blvd | 5,080 | 35 | 90 | 170 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 60.7 | 14 | 46 | 145 | 458 |
| 18 | Blue Oaks Blvd | Roseville Pkwy | New Meadow Dr | 41,415 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.0 | 195 | 615 | 1946 | 6154 |
| 19 | New Meadow Dr | Blue Oaks Blvd | End | 5,715 | 35 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 63.2 | 16 | 49 | 155 | 491 |
| 20 | Blue Oaks Blvd | New Meadow Dr | Foothill Blvd | 45,895 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.4 | 216 | 682 | 2157 | 6820 |
| 21 | Foothill Blvd | Foothill Blvd | City Boundary | 7,520 | 40 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 65.7 | 28 | 88 | 277 | 877 |
| 22 | Foothill Blvd | Blue Oaks Blvd | Roseville Pkwy | 14,315 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.7 | 69 | 218 | 689 | 2178 |
| 23 | Blue Oaks Blvd | Foothill Blvd | Fidelity Wy | 50,335 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.8 | 237 | 748 | 2365 | 7480 |
| 24 | Blue Oaks Blvd | Fidelity Wy | Washington Blvd | 42,845 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.1 | 201 | 637 | 2013 | 6367 |
| 25 | Washington Blvd | Blue Oaks Blvd | Transition to SR 65 | 11,505 | 50 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.6 | 69 | 217 | 687 | 2172 |
| 26 | Washington Blvd | Blue Oaks Blvd | Pleasant Grove Blvd | 19,425 | 45 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.8 | 90 | 283 | 896 | 2835 |
| 27 | Blue Oaks Blvd | Washington Blvd | City Boundary | 43,510 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.2 | 204 | 647 | 2045 | 6466 |
| 28 | Santucci Blvd | Pleasant Grove Blvd | Baseline Rd | 95 | 45 | 70 | 160 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 46.5 | | 2 | 5 | 15 |
| 29 | Pleasant Grove Blvd | Santucci Blvd | Westbrook Blvd | 95 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 48.2 | | 1 | 5 | 15 |
| 30 | Westbrook Blvd | Pleasant Grove Blvd | Brookstone Dr | 12,400 | 40 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 66.9 | 45 | 143 | 454 | 1434 |
| 31 | Westbrook Blvd | Pleasant Grove Blvd | Baseline Rd | 6,405 | 45 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 65.2 | 31 | 97 | 306 | 967 |
| 32 | Pleasant Grove Blvd | Westbrook Blvd | Village Green Dr | 12,250 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.3 | 60 | 189 | 598 | 1892 |
| 33 | Market St | Pleasant Grove Blvd | City Boundary | 5,040 | 35 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 62.4 | 14 | 44 | 138 | 436 |
| 34 | Westbrook Blvd | Pleasant Grove Blvd | Baseline Rd | 6,405 | 45 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 65.2 | 31 | 97 | 306 | 967 |
| 35 | Pleasant Grove Blvd | Village Green Dr | Fiddyment Blvd | 16,595 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.6 | 81 | 256 | 810 | 2563 |
| 36 | Fiddyment Rd | Del Webb Blvd | Pleasant Grove Blvd | 19,830 | 45 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.6 | 92 | 291 | 920 | 2910 |
| 37 | Fiddyment Rd | Pleasant Grove Blvd | Baseline Rd | 32,600 | 50 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.9 | 196 | 619 | 1957 | 6190 |
| 38 | Pleasant Grove Blvd | Fiddyment Rd | Woodcreek Oaks Blvd | 21,770 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.8 | 106 | 336 | 1063 | 3362 |
| 39 | Woodcreek Oaks Blvd | Pleasant Grove Blvd | Baseline Rd | 15,740 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 68.1 | 57 | 180 | 570 | 1802 |
| 40 | Pleasant Grove Blvd | Woodcreek Oaks Blvd | Country Club Dr | 28,410 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.9 | 139 | 439 | 1387 | 4387 |
| 41 | Country Club Dr | Pleasant Grove Blvd | Baseline Rd | 3,245 | 35 | 60 | 70 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 61.3 | 9 | 28 | 88 | 279 |
| 42 | Pleasant Grove Blvd | Country Club Dr | Foothills Blvd | 29,990 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.2 | 146 | 463 | 1465 | 4631 |
| 43 | Foothill Blvd | Pleasant Grove Blvd | Main Road | 27,670 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.5 | 133 | 421 | 1331 | 4210 |
| 44 | Pleasant Grove Blvd | Foothill Blvd | Washington Blvd | 40,865 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.5 | 200 | 631 | 1996 | 6311 |
| 45 | Washington Blvd | Pleasant Grove Blvd | Railroad | 20,825 | 45 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.1 | 96 | 304 | 961 | 3039 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 | Pleasant Grove Blvd | Washington Blvd | Gold Coast Dr | 36,735 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.0 | 179 | 567 | 1794 | 5673 |
| 47 | Hallissy Dr/Gold Coast Dr | Pleasant Grove Blvd | Washington Blvd | 2,625 | 25 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 58.0 | 5 | 15 | 47 | 149 |
| 48 | Pleasant Grove Blvd | Hallissy Dr | Roseville Pkwy | 38,130 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.2 | 186 | 589 | 1862 | 5888 |
| 49 | Pleasant Grove Blvd | Pleasant Grove Blvd | Washington Blvd | 35,370 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.9 | 173 | 546 | 1727 | 5462 |
| 50 | Pleasant Grove Blvd | Pleasant Grove Blvd | End | 37,810 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.2 | 185 | 584 | 1846 | 5839 |
| 51 | Roseville Pkwy | Pleasant Grove Blvd | Highland Pointe Dr | 37,085 | 45 | 90 | 170 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.6 | 179 | 567 | 1795 | 5675 |
| 52 | Pleasant Grove Blvd | Highland Pointe Dr | SR 65 Exchange | 33,620 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.7 | 164 | 519 | 1642 | 5192 |
| 53 | Baseline Rd | Santucci Blvd | City Boundary | 12,250 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 68.4 | 74 | 235 | 742 | 2347 |
| 54 | Baseline Rd | Santucci Blvd | Westbrook Blvd | 18,005 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.0 | 109 | 345 | 1091 | 3450 |
| 55 | Watt Ave | Santucci Blvd | City Boundary | 9,450 | 50 | 190 | 200 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 64.6 | 56 | 178 | 563 | 1781 |
| 56 | Baseline Rd | Westbrook Blvd | Market St. | 16,285 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.6 | 99 | 312 | 987 | 3120 |
| 57 | Market St/Stargazer Dr | Baseline Rd | Pleasant Grove Blvd | 3,780 | 35 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 61.1 | 10 | 33 | 103 | 327 |
| 58 | Baseline Rd | Market St | Fiddyment Blvd | 15,695 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.4 | 95 | 301 | 951 | 3007 |
| 59 | Fiddyment Rd | Baseline Rd | Pleasant Grove Blvd | 32,280 | 50 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.9 | 194 | 613 | 1938 | 6129 |
| 60 | Fiddyment Rd | Baseline Rd | City Boundary | 25,970 | 50 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.9 | 156 | 493 | 1559 | 4931 |
| 61 | Baseline Rd | Fiddyment Rd | Woodcreek Oaks Blvd | 19,295 | 45 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.2 | 90 | 286 | 903 | 2857 |
| 62 | Woodcreek Oaks Blvd/Cook Ri | Baseline Rd | Pleasant Grove Blvd | 7,365 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 64.8 | 27 | 84 | 267 | 843 |
| 63 | Woodcreek Oaks Blvd/Cook Ri | Baseline Rd | Ongoing | 3,955 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 62.1 | 14 | 45 | 143 | 453 |
| 64 | Baseline Rd | Woodcreek Oaks Blvd | Country Club Dr | 18,350 | 45 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.0 | 86 | 272 | 859 | 2717 |
| 65 | Baseline Rd/Main St | Foothill Blvd | Country Club Dr | 18,005 | 45 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 68.9 | 84 | 267 | 843 | 2666 |
| 66 | Baseline Rd/Main St | Foothill Blvd | Ongoing | 9,235 | 35 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 63.7 | 25 | 81 | 255 | 805 |
| 67 | Foothills Blvd | Main Street | Pleasant Grove Blvd | 27,250 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.5 | 131 | 415 | 1311 | 4146 |
| 68 | Foothills Blvd | Main Street | Ongoing | 33,710 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.4 | 162 | 513 | 1622 | 5129 |

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

## Traffic Noise Spreadsheet Calculator

**Project:** Roseville Environmental Utilities

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

| | Segment Description and Location | | | Input | | | | | | | | | | Output | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Distance to Directional Centerline, (feet)[4] | | Traffic Distribution Characteristics | | | | | | Ldn, | Distance to Contour, (feet)[3] | | | |
| Number | Name | From | To | ADT | Speed (mph) | Near | Far | % Auto | % Medium | % Heavy | % Day | % Eve | % Night | (dBA)[5,6,7] | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
| | **Cumulative Conditions** | | | | | | | | | | | | | | | | | |
| 1 | Westbrook Blvd | Blue Oaks Blvd | Ongoing | 24,855 | 40 | 70 | 120 | 88% | 2% | 10% | 80% | 15% | 5% | 70.0 | 91 | 288 | 909 | 2875 |
| 2 | Philips Road | Westbrook Blvd | Project Site | 21,040 | 45 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.1 | 97 | 307 | 971 | 3070 |
| 3 | Blue Oaks Blvd | Westbrook Blvd | Hayden Pkwy | 31,420 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.8 | 148 | 467 | 1476 | 4669 |
| 4 | Westbrook Blvd | Blue Oaks Blvd | Brookstone Dr | 34,005 | 40 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.3 | 124 | 393 | 1244 | 3934 |
| 5 | Hayden Pkwy | Blue Oaks Blvd | Crawford Pkwy | 7,930 | 35 | 70 | 95 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 64.3 | 22 | 69 | 218 | 688 |
| 6 | Hayden Pkwy | Blue Oaks Blvd | Fiddyment Blvd | 6,310 | 35 | 70 | 95 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 63.3 | 17 | 55 | 173 | 547 |
| 7 | Blue Oaks Blvd | Hayden Pkwy | Fiddyment Blvd | 31,505 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.8 | 148 | 468 | 1480 | 4682 |
| 8 | Fiddyment Rd | Blue Oaks Blvd | Old Coach Dr | 29,925 | 45 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.4 | 139 | 439 | 1389 | 4391 |
| 9 | Fiddyment Rd | Blue Oaks Blvd | Hayden Pkwy | 32,530 | 45 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.8 | 151 | 477 | 1510 | 4774 |
| 10 | Blue Oaks Blvd | Fiddyment Rd | Del Webb Blvd | 38,205 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.6 | 180 | 568 | 1795 | 5677 |
| 11 | Diamond Creek Blvd | Blue Oaks Blvd | City Boundary | 9,315 | 35 | 60 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 65.1 | 26 | 84 | 264 | 836 |
| 12 | Praire Wood Way | Blue Oaks Blvd | City Boundary | 2,975 | 30 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 59.3 | 6 | 20 | 64 | 201 |
| 13 | Blue Oaks Blvd | D.Creek Blvd/ P. Woods Wy | Woodcreek Oaks Blvd | 54,540 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.2 | 256 | 810 | 2563 | 8105 |
| 14 | Woodcreek Oaks Blvd | Blue Oaks Blvd | City Boundary | 21,790 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.5 | 79 | 249 | 789 | 2494 |
| 15 | Woodcreek Oaks Blvd | Blue Oaks Blvd | Pleasant Grove Blvd | 26,140 | 45 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.5 | 123 | 390 | 1234 | 3903 |
| 16 | Blue Oaks Blvd | Woodcreek Oaks Blvd | Roseville Pkwy | 61,085 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.7 | 287 | 908 | 2870 | 9077 |
| 17 | Roseville Pkwy | Blue Oaks Blvd | Foothill Blvd | 4,095 | 35 | 90 | 170 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 59.7 | 12 | 37 | 117 | 369 |
| 18 | Blue Oaks Blvd | Roseville Pkwy | New Meadow Dr | 61,185 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.7 | 288 | 909 | 2875 | 9092 |
| 19 | New Meadow Dr | Blue Oaks Blvd | End | 4,425 | 35 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 62.1 | 12 | 38 | 120 | 380 |
| 20 | Blue Oaks Blvd | New Meadow Dr | Foothill Blvd | 63,190 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.8 | 297 | 939 | 2969 | 9390 |
| 21 | Foothill Blvd | Foothill Blvd | City Boundary | 31,670 | 40 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.0 | 117 | 369 | 1168 | 3693 |
| 22 | Foothill Blvd | Blue Oaks Blvd | Roseville Pkwy | 32,640 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.3 | 157 | 497 | 1570 | 4966 |
| 23 | Blue Oaks Blvd | Foothill Blvd | Fidelity Wy | 73,660 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 75.5 | 346 | 1095 | 3461 | 10946 |
| 24 | Blue Oaks Blvd | Fidelity Wy | Washington Blvd | 54,255 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.2 | 255 | 806 | 2549 | 8062 |
| 25 | Washington Blvd | Blue Oaks Blvd | Transition to SR 65 | 16,190 | 50 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.1 | 97 | 306 | 967 | 3057 |
| 26 | Washington Blvd | Blue Oaks Blvd | Pleasant Grove Blvd | 28,295 | 45 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.4 | 131 | 413 | 1306 | 4129 |
| 27 | Blue Oaks Blvd | Washington Blvd | City Boundary | 63,480 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.8 | 298 | 943 | 2983 | 9433 |
| 28 | Santucci Blvd | Pleasant Grove Blvd | Baseline Rd | 25,025 | 45 | 70 | 160 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.7 | 125 | 396 | 1252 | 3959 |
| 29 | Pleasant Grove Blvd | Santucci Blvd | Westbrook Blvd | 10,895 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 68.8 | 53 | 168 | 532 | 1682 |
| 30 | Westbrook Blvd | Pleasant Grove Blvd | Brookstone Dr | 34,940 | 40 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.4 | 128 | 404 | 1278 | 4042 |
| 31 | Westbrook Blvd | Pleasant Grove Blvd | Baseline Rd | 23,115 | 45 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.8 | 110 | 349 | 1103 | 3488 |
| 32 | Pleasant Grove Blvd | Westbrook Blvd | Village Green Dr | 21,950 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 71.8 | 107 | 339 | 1072 | 3390 |
| 33 | Market St | Pleasant Grove Blvd | City Boundary | 8,640 | 35 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 64.7 | 24 | 75 | 236 | 747 |
| 34 | Westbrook Blvd | Pleasant Grove Blvd | Baseline Rd | 23,115 | 45 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.8 | 110 | 349 | 1103 | 3488 |
| 35 | Pleasant Grove Blvd | Village Green Dr | Fiddyment Blvd | 24,005 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.2 | 117 | 371 | 1172 | 3707 |
| 36 | Fiddyment Rd | Del Webb Blvd | Pleasant Grove Blvd | 31,005 | 45 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.6 | 144 | 455 | 1439 | 4550 |
| 37 | Fiddyment Rd | Pleasant Grove Blvd | Baseline Rd | 55,220 | 50 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 76.2 | 332 | 1049 | 3316 | 10485 |
| 38 | Pleasant Grove Blvd | Fiddyment Rd | Woodcreek Oaks Blvd | 34,900 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.8 | 170 | 539 | 1704 | 5390 |
| 39 | Woodcreek Oaks Blvd | Pleasant Grove Blvd | Baseline Rd | 25,760 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.3 | 93 | 295 | 932 | 2949 |
| 40 | Pleasant Grove Blvd | Woodcreek Oaks Blvd | Country Club Dr | 42,390 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.7 | 207 | 655 | 2070 | 6546 |
| 41 | Country Club Dr | Pleasant Grove Blvd | Baseline Rd | 6,110 | 35 | 60 | 70 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 64.1 | 17 | 53 | 166 | 525 |
| 42 | Pleasant Grove Blvd | Country Club Dr | Foothills Blvd | 42,360 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.7 | 207 | 654 | 2069 | 6542 |
| 43 | Foothill Blvd | Pleasant Grove Blvd | Main Road | 35,400 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.6 | 170 | 539 | 1703 | 5386 |
| 44 | Pleasant Grove Blvd | Foothill Blvd | Washington Blvd | 47,050 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 75.1 | 230 | 727 | 2298 | 7266 |
| 45 | Washington Blvd | Pleasant Grove Blvd | Railroad | 28,375 | 45 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.4 | 131 | 414 | 1309 | 4140 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 | Pleasant Grove Blvd | Washington Blvd | Gold Coast Dr | 43,030 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.7 | 210 | 665 | 2101 | 6645 |
| 47 | Hallissy Dr/Gold Coast Dr | Pleasant Grove Blvd | Washington Blvd | 3,770 | 25 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 59.6 | 7 | 21 | 68 | 214 |
| 48 | Pleasant Grove Blvd | Hallissy Dr | Roseville Pkwy | 42,995 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.7 | 210 | 664 | 2100 | 6640 |
| 49 | Pleasant Grove Blvd | Pleasant Grove Blvd | Washington Blvd | 45,525 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 75.0 | 222 | 703 | 2223 | 7030 |
| 50 | Pleasant Grove Blvd | Pleasant Grove Blvd | End | 43,385 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.8 | 212 | 670 | 2119 | 6700 |
| 51 | Roseville Pkwy | Pleasant Grove Blvd | Highland Pointe Dr | 55,265 | 45 | 90 | 170 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.3 | 267 | 846 | 2674 | 8457 |
| 52 | Pleasant Grove Blvd | Highland Pointe Dr | SR 65 Exchange | 44,975 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.9 | 220 | 695 | 2196 | 6945 |
| 53 | Baseline Rd | Santucci Blvd | City Boundary | 43,700 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.9 | 265 | 837 | 2648 | 8372 |
| 54 | Baseline Rd | Santucci Blvd | Westbrook Blvd | 40,365 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.5 | 245 | 773 | 2446 | 7733 |
| 55 | Watt Ave | Santucci Blvd | City Boundary | 29,145 | 50 | 190 | 200 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.5 | 174 | 549 | 1737 | 5493 |
| 56 | Baseline Rd | Westbrook Blvd | Market St. | 37,960 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.3 | 230 | 727 | 2300 | 7273 |
| 57 | Market St/Stargazer Dr | Baseline Rd | Pleasant Grove Blvd | 5,145 | 35 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 62.5 | 14 | 44 | 141 | 445 |
| 58 | Baseline Rd | Market St | Fiddyment Blvd | 38,385 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.3 | 233 | 735 | 2326 | 7354 |
| 59 | Fiddyment Rd | Baseline Rd | Pleasant Grove Blvd | 44,795 | 50 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 75.3 | 269 | 851 | 2690 | 8506 |
| 60 | Fiddyment Rd | Baseline Rd | City Boundary | 34,080 | 50 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.1 | 205 | 647 | 2046 | 6471 |
| 61 | Baseline Rd | Fiddyment Rd | Woodcreek Oaks Blvd | 38,855 | 45 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.3 | 182 | 575 | 1819 | 5753 |
| 62 | Woodcreek Oaks Blvd/Cook Ri | Baseline Rd | Pleasant Grove Blvd | 14,370 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 67.7 | 52 | 164 | 520 | 1645 |
| 63 | Woodcreek Oaks Blvd/Cook Ri | Baseline Rd | Ongoing | 9,785 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 66.1 | 35 | 112 | 354 | 1120 |
| 64 | Baseline Rd | Woodcreek Oaks Blvd | Country Club Dr | 27,890 | 45 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.8 | 131 | 413 | 1306 | 4129 |
| 65 | Baseline Rd/Main St | Foothill Blvd | Country Club Dr | 24,940 | 45 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.3 | 117 | 369 | 1168 | 3693 |
| 66 | Baseline Rd/Main St | Foothill Blvd | Ongoing | 11,805 | 35 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 64.8 | 33 | 103 | 326 | 1029 |
| 67 | Foothills Blvd | Main Street | Pleasant Grove Blvd | 35,470 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.6 | 171 | 540 | 1707 | 5397 |
| 68 | Foothills Blvd | Main Street | Ongoing | 43,485 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.5 | 209 | 662 | 2092 | 6616 |

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

## Traffic Noise Spreadsheet Calculator

**Project:** Roseville Environmental Utilities

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

| | Segment Description and Location | | | Input | | | | | | | | | | | Output | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Distance to Directional Centerline, (feet)[4] | | Traffic Distribution Characteristics | | | | | | | Ldn, | Distance to Contour, (feet)[3] | | | |
| Number | Name | From | To | ADT | Speed (mph) | Near | Far | % Auto | % Medium | % Heavy | % Day | % Eve | % Night | | (dBA)[5,6,7] | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
| | **Cumulative + Project Conditions** | | | | | | | | | | | | | | | | | | |
| 1 | Westbrook Blvd | Blue Oaks Blvd | Ongoing | 24,855 | 40 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 70.0 | 91 | 288 | 909 | 2875 |
| 2 | Philips Road | Westbrook Blvd | Project Site | 22,585 | 45 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 71.4 | 104 | 330 | 1042 | 3296 |
| 3 | Blue Oaks Blvd | Westbrook Blvd | Hayden Pkwy | 32,580 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 71.9 | 153 | 484 | 1531 | 4841 |
| 4 | Westbrook Blvd | Blue Oaks Blvd | Brookstone Dr | 34,390 | 40 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 71.4 | 126 | 398 | 1258 | 3978 |
| 5 | Hayden Pkwy | Blue Oaks Blvd | Crawford Pkwy | 7,930 | 35 | 70 | 95 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 64.3 | 22 | 69 | 218 | 688 |
| 6 | Hayden Pkwy | Blue Oaks Blvd | Fiddyment Blvd | 6,310 | 35 | 70 | 95 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 63.3 | 17 | 55 | 173 | 547 |
| 7 | Blue Oaks Blvd | Hayden Pkwy | Fiddyment Blvd | 32,665 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 71.9 | 153 | 485 | 1535 | 4854 |
| 8 | Fiddyment Rd | Blue Oaks Blvd | Old Coach Dr | 30,115 | 45 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 72.5 | 140 | 442 | 1397 | 4419 |
| 9 | Fiddyment Rd | Blue Oaks Blvd | Hayden Pkwy | 32,720 | 45 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 72.8 | 152 | 480 | 1518 | 4802 |
| 10 | Blue Oaks Blvd | Fiddyment Rd | Del Webb Blvd | 38,980 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 72.7 | 183 | 579 | 1832 | 5792 |
| 11 | Diamond Creek Blvd | Blue Oaks Blvd | City Boundary | 9,315 | 35 | 60 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 65.1 | 26 | 84 | 264 | 836 |
| 12 | Praire Wood Way | Blue Oaks Blvd | City Boundary | 2,975 | 30 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 59.3 | 6 | 20 | 64 | 201 |
| 13 | Blue Oaks Blvd | D.Creek Blvd/ P. Woods Wy | Woodcreek Oaks Blvd | 55,315 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 74.2 | 260 | 822 | 2599 | 8220 |
| 14 | Woodcreek Oaks Blvd | Blue Oaks Blvd | City Boundary | 21,790 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 69.5 | 79 | 249 | 789 | 2494 |
| 15 | Woodcreek Oaks Blvd | Blue Oaks Blvd | Pleasant Grove Blvd | 26,330 | 45 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 71.5 | 124 | 393 | 1243 | 3932 |
| 16 | Blue Oaks Blvd | Woodcreek Oaks Blvd | Roseville Pkwy | 61,660 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 74.7 | 290 | 916 | 2897 | 9163 |
| 17 | Roseville Pkwy | Blue Oaks Blvd | Foothill Blvd | 4,095 | 35 | 90 | 170 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 59.7 | 12 | 37 | 117 | 369 |
| 18 | Blue Oaks Blvd | Roseville Pkwy | New Meadow Dr | 61,760 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 74.7 | 290 | 918 | 2902 | 9177 |
| 19 | New Meadow Dr | Blue Oaks Blvd | End | 4,425 | 35 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 62.1 | 12 | 38 | 120 | 380 |
| 20 | Blue Oaks Blvd | New Meadow Dr | Foothill Blvd | 63,765 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 74.9 | 300 | 948 | 2996 | 9475 |
| 21 | Foothill Blvd | Foothill Blvd | City Boundary | 31,670 | 40 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 72.0 | 117 | 369 | 1168 | 3693 |
| 22 | Foothill Blvd | Blue Oaks Blvd | Roseville Pkwy | 32,830 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 73.3 | 158 | 500 | 1580 | 4995 |
| 23 | Blue Oaks Blvd | Foothill Blvd | Fidelity Wy | 74,045 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 75.5 | 348 | 1100 | 3479 | 11003 |
| 24 | Blue Oaks Blvd | Fidelity Wy | Washington Blvd | 54,640 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 74.2 | 257 | 812 | 2568 | 8119 |
| 25 | Washington Blvd | Blue Oaks Blvd | Transition to SR 65 | 16,190 | 50 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 71.1 | 97 | 306 | 967 | 3057 |
| 26 | Washington Blvd | Blue Oaks Blvd | Pleasant Grove Blvd | 28,295 | 45 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 72.4 | 131 | 413 | 1306 | 4129 |
| 27 | Blue Oaks Blvd | Washington Blvd | City Boundary | 63,865 | 45 | 80 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 74.9 | 300 | 949 | 3001 | 9490 |
| 28 | Santucci Blvd | Pleasant Grove Blvd | Baseline Rd | 25,800 | 45 | 70 | 160 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 70.9 | 129 | 408 | 1291 | 4082 |
| 29 | Pleasant Grove Blvd | Santucci Blvd | Westbrook Blvd | 10,895 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 68.8 | 53 | 168 | 532 | 1682 |
| 30 | Westbrook Blvd | Pleasant Grove Blvd | Brookstone Dr | 35,325 | 40 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 71.5 | 129 | 409 | 1292 | 4086 |
| 31 | Westbrook Blvd | Pleasant Grove Blvd | Baseline Rd | 23,115 | 45 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 70.8 | 110 | 349 | 1103 | 3488 |
| 32 | Pleasant Grove Blvd | Westbrook Blvd | Village Green Dr | 22,335 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 71.9 | 109 | 345 | 1091 | 3449 |
| 33 | Market St | Pleasant Grove Blvd | City Boundary | 8,640 | 35 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 64.7 | 24 | 75 | 236 | 747 |
| 34 | Westbrook Blvd | Pleasant Grove Blvd | Baseline Rd | 23,115 | 45 | 70 | 120 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 70.8 | 110 | 349 | 1103 | 3488 |
| 35 | Pleasant Grove Blvd | Village Green Dr | Fiddyment Blvd | 24,390 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 72.3 | 119 | 377 | 1191 | 3766 |
| 36 | Fiddyment Rd | Del Webb Blvd | Pleasant Grove Blvd | 31,005 | 45 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 72.6 | 144 | 455 | 1439 | 4550 |
| 37 | Fiddyment Rd | Pleasant Grove Blvd | Baseline Rd | 55,220 | 50 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 76.2 | 332 | 1049 | 3316 | 10485 |
| 38 | Pleasant Grove Blvd | Fiddyment Rd | Woodcreek Oaks Blvd | 35,285 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 73.9 | 172 | 545 | 1723 | 5449 |
| 39 | Woodcreek Oaks Blvd | Pleasant Grove Blvd | Baseline Rd | 25,760 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 70.3 | 93 | 295 | 932 | 2949 |
| 40 | Pleasant Grove Blvd | Woodcreek Oaks Blvd | Country Club Dr | 42,775 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 74.7 | 209 | 661 | 2089 | 6606 |
| 41 | Country Club Dr | Pleasant Grove Blvd | Baseline Rd | 6,110 | 35 | 60 | 70 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 64.1 | 17 | 53 | 166 | 525 |
| 42 | Pleasant Grove Blvd | Country Club Dr | Foothills Blvd | 42,745 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 74.7 | 209 | 660 | 2087 | 6601 |
| 43 | Foothill Blvd | Pleasant Grove Blvd | Main Road | 35,400 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 73.6 | 170 | 539 | 1703 | 5386 |
| 44 | Pleasant Grove Blvd | Foothill Blvd | Washington Blvd | 47,435 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 75.2 | 232 | 733 | 2316 | 7325 |
| 45 | Washington Blvd | Pleasant Grove Blvd | Railroad | 28,375 | 45 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | | 72.4 | 131 | 414 | 1309 | 4140 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 | Pleasant Grove Blvd | Washington Blvd | Gold Coast Dr | 43,415 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.8 | 212 | 670 | 2120 | 6704 |
| 47 | Hallissy Dr/Gold Coast Dr | Pleasant Grove Blvd | Washington Blvd | 3,770 | 25 | 70 | 80 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 59.6 | 7 | 21 | 68 | 214 |
| 48 | Pleasant Grove Blvd | Hallissy Dr | Roseville Pkwy | 43,380 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.8 | 212 | 670 | 2118 | 6699 |
| 49 | Pleasant Grove Blvd | Pleasant Grove Blvd | Washington Blvd | 45,715 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 75.0 | 223 | 706 | 2232 | 7060 |
| 50 | Pleasant Grove Blvd | Pleasant Grove Blvd | End | 43,765 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.8 | 214 | 676 | 2137 | 6759 |
| 51 | Roseville Pkwy | Pleasant Grove Blvd | Highland Pointe Dr | 55,455 | 45 | 90 | 170 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.4 | 268 | 849 | 2683 | 8486 |
| 52 | Pleasant Grove Blvd | Highland Pointe Dr | SR 65 Exchange | 45,165 | 45 | 50 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.9 | 221 | 697 | 2206 | 6975 |
| 53 | Baseline Rd | Santucci Blvd | City Boundary | 43,700 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.9 | 265 | 837 | 2648 | 8372 |
| 54 | Baseline Rd | Santucci Blvd | Westbrook Blvd | 40,750 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.6 | 247 | 781 | 2469 | 7807 |
| 55 | Watt Ave | Santucci Blvd | City Boundary | 29,530 | 50 | 190 | 200 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 69.6 | 176 | 557 | 1760 | 5565 |
| 56 | Baseline Rd | Westbrook Blvd | Market St. | 38,345 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.3 | 232 | 735 | 2323 | 7346 |
| 57 | Market St/Stargazer Dr | Baseline Rd | Pleasant Grove Blvd | 5,145 | 35 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 62.5 | 14 | 44 | 141 | 445 |
| 58 | Baseline Rd | Market St | Fiddyment Blvd | 38,770 | 50 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.4 | 235 | 743 | 2349 | 7428 |
| 59 | Fiddyment Rd | Baseline Rd | Pleasant Grove Blvd | 44,795 | 50 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 75.3 | 269 | 851 | 2690 | 8506 |
| 60 | Fiddyment Rd | Baseline Rd | City Boundary | 34,270 | 50 | 70 | 90 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.1 | 206 | 651 | 2058 | 6507 |
| 61 | Baseline Rd | Fiddyment Rd | Woodcreek Oaks Blvd | 39,045 | 45 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 72.3 | 183 | 578 | 1828 | 5781 |
| 62 | Woodcreek Oaks Blvd/Cook Ri | Baseline Rd | Pleasant Grove Blvd | 14,370 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 67.7 | 52 | 164 | 520 | 1645 |
| 63 | Woodcreek Oaks Blvd/Cook Ri | Baseline Rd | Ongoing | 9,785 | 40 | 70 | 110 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 66.1 | 35 | 112 | 354 | 1120 |
| 64 | Baseline Rd | Woodcreek Oaks Blvd | Country Club Dr | 28,080 | 45 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.8 | 131 | 416 | 1315 | 4158 |
| 65 | Baseline Rd/Main St | Foothill Blvd | Country Club Dr | 25,130 | 45 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 70.4 | 118 | 372 | 1177 | 3721 |
| 66 | Baseline Rd/Main St | Foothill Blvd | Ongoing | 11,995 | 35 | 90 | 130 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 64.9 | 33 | 105 | 331 | 1046 |
| 67 | Foothills Blvd | Main Street | Pleasant Grove Blvd | 35,470 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 73.6 | 171 | 540 | 1707 | 5397 |
| 68 | Foothills Blvd | Main Street | Ongoing | 43,485 | 45 | 55 | 100 | 88.0% | 2.0% | 10.0% | 80.0% | 15.0% | 5.0% | 74.5 | 209 | 662 | 2092 | 6616 |
| 69 | Philip Road | Project Driveway | Nearest Sensitive Receptor | | | | | | | | | | | | | | | |
| 70 | 0 | 0 | 0 | | | | | | | | | | | | | | | |
| 71 | 0 | 0 | 0 | | | | | | | | | | | | | | | |
| 72 | 0 | 0 | 0 | | | | | | | | | | | | | | | |
| 73 | 0 | 0 | 0 | | | | | | | | | | | | | | | |
| 74 | 0 | 0 | 0 | | | | | | | | | | | | | | | |
| 75 | 0 | 0 | 0 | | | | | | | | | | | | | | | |

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

| Citation # | Citations | |
|---|---|---|
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| 2 | Caltrans Technical Noise Supplement. 2009 (November). Equation (5-26), Pg 5-60. | Caltrans Technical Noise Supplement. 2013 (September). Equation (4-5), Pg 4-17. |
| 3 | Caltrans Technical Noise Supplement. 2009 (November). Equation (2-16), Pg 2-32. | FHWA 2004 TNM Version 2.5 |
| 4 | Caltrans Technical Noise Supplement. 2009 (November). Equation (5-11), Pg 5-47, 48. | FHWA 2004 TNM Version 2.5 |
| 5 | Caltrans Technical Noise Supplement. 2009 (November). Equation (2-26), Pg 2-55, 56. | Caltrans Technical Noise Supplement. 2013 (September). Equation (2-23), Pg 2-51, 52. |
| 6 | Caltrans Technical Noise Supplement. 2009 (November). Equation (2-27), Pg 2-57. | Caltrans Technical Noise Supplement. 2013 (September). Equation (2-24), Pg 2-53. |
| 7 | Caltrans Technical Noise Supplement. 2009 (November). Pg 2-53. | Caltrans Technical Noise Supplement. 2013 (September). Pg 2-57. |
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| 9 | Caltrans Technical Noise Supplement. 2009 (November). Equation (5-8), Pg 5-45. | FHWA 2004 TNM Version 2.5 |
| 10 | Caltrans Technical Noise Supplement. 2009 (November). Equation (5-9), Pg 5-45. | FHWA 2004 TNM Version 2.5 |
| 11 | Caltrans Technical Noise Supplement. 2009 (November). Equation (5-13), Pg 5-49. | FHWA 2004 TNM Version 2.5 |
| 12 | Caltrans Technical Noise Supplement. 2009 (November). Equation (5-14), Pg 5-49. | FHWA 2004 TNM Version 2.5 |
| 13 | Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (16), Pg 67 | |
| 14 | Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (20), Pg 69 | |
| 15 | Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (18), Pg 69 | |

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California Department of Transportation (Caltrans). 2009 (November). Technical Noise Supplement. Available: http://www.dot.ca.gov/hq/env/noise/pub/tens_complete.pdf. Accessed August 17, 2017.

California Department of Transportation (Caltrans). 2013 (September). Technical Noise Supplement. Available: http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013A.pdf. Accessed August 17, 2017.

Federal Highway Administration. 2004. Traffic Noise Model Version 2.5. Available: https://www.fhwa.dot.gov/environment/noise/traffic_noise_model/tnm_v25/. Accessed August 17, 2017.

## Attenuation Calculations for Stationary Noise Sources

**KEY:** Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

**Project Name:** Roseville Environmental Utilities

**STEP 1: Identify the noise source and enter the reference noise level (dBA and distance).**

**STEP 2: Select the ground type (hard or soft), and enter the source and receiver heights.**

**STEP 3: Select the distance to the receiver.**

| Noise Source/ID | Descriptor | Reference Noise Level | | | Attenuation Characteristics | | | | Attenuated Noise Level at Receptor | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | noise level (dBA) | @ | distance (ft) | Ground Type (soft/hard) | Source Height (ft) | Receiver Height (ft) | Ground Factor | noise level (dBA) | @ | distance (ft) |
| Loading Dock Activities (Off Loading Trucks Plus Forklifts) | $L_{max}$ | 86.5 | @ | 50 | soft | 5 | 5 | 0.58 | 55.7 | @ | 780 |
| Mechanical Equipment | $L_{max}$ | 78.0 | @ | 3 | soft | 5 | 5 | 0.58 | 18.6 | @ | 600 |
| Equipment Maintenance Facilities (i.e. Air Compressors, Impact Wrenches, etc) | $L_{max}$ | 100.0 | @ | 3 | soft | 5 | 5 | 0.58 | 36.1 | @ | 900 |
| Diesel Generators (Threshold of Absolute Noise Levels Exceedance - Nighttime) | $L_{max}$ | 82.0 | @ | 50 | soft | 5 | 5 | 0.58 | 70.0 | @ | 146 |
| Diesel Generators (Threshold of Absolute Noise Levels Exceedance - Daytime) | $L_{max}$ | 82.0 | @ | 50 | soft | 5 | 5 | 0.58 | 51.2 | @ | 780 |
| Interior MRF Mechanical Equipment Phase 1 | $L_{max}$ | 76.0 | @ | 140 | soft | 5 | 5 | 0.58 | 57.4 | @ | 735 |
| Diesel Generators ( Mitigation Measure Buffer Distance ) | $L_{max}$ | 82.0 | @ | 50 | soft | 5 | 5 | 0.58 | 45.0 | @ | 1356 |
| Diesel Generators (Mitigation Measure Acoustic Enclosure + Buffer) | $L_{max}$ | 72.0 | @ | 50 | soft | 5 | 5 | 0.58 | 45.0 | @ | 556 |
| Loading Dock Activities (Off Loading Trucks Plus Forklifts) | $L_{eq}$ | 74.5 | @ | 50 | soft | 5 | 5 | 0.58 | 43.7 | @ | 780 |
| Mechanical Equipment | $L_{eq}$ | 75.0 | @ | 3 | soft | 5 | 5 | 0.58 | 15.6 | @ | 600 |
| Equipment Maintenance Facilities (i.e. Air Compressors, Impact Wrenches, etc) | $L_{eq}$ | 97.0 | @ | 3 | soft | 5 | 5 | 0.58 | 33.1 | @ | 900 |
| Diesel Generators (Threshold of Increase Exceedance - Daytime) | $L_{eq}$ | 82.0 | @ | 50 | soft | 5 | 5 | 0.58 | 50.0 | @ | 868 |
| Diesel Generators (Threshold of Increase Exceedance - Nighttime) | $L_{eq}$ | 82.0 | @ | 50 | soft | 5 | 5 | 0.58 | 45.0 | @ | 1356 |
| Diesel Generators (Threshold of Absolute Noise Levels Exceedance - Daytime) | $L_{eq}$ | 82.0 | @ | 50 | soft | 5 | 5 | 0.58 | 50.0 | @ | 868 |
| Diesel Generators (Threshold of Absolute Noise Levels Exceedance - Nighttime) | $L_{eq}$ | 82.0 | @ | 50 | soft | 5 | 5 | 0.58 | 45.0 | @ | 1356 |
| Interior MRF Mechanical Equipment Phase 1 | $L_{eq}$ | 73.0 | @ | 140 | soft | 5 | 5 | 0.58 | 54.4 | @ | 735 |
| Diesel Generators ( Mitigation Measure Buffer Distance ) | $L_{eq}$ | 82.0 | @ | 50 | soft | 5 | 5 | 0.58 | 45.0 | @ | 1356 |
| Diesel Generators (Mitigation Measure Acoustic Enclosure) | $L_{eq}$ | 72.0 | @ | 50 | soft | 5 | 5 | 0.58 | 45.0 | @ | 556 |

Notes:

Estimates of attenuated noise levels do not account for reductions from intervening barriers, including walls, trees, vegetation, or structures of any type.
Computation of the attenuated noise level is based on the equation presented on pg. 176 and 177 of FTA 2018.

Computation of the ground factor is based on the equation presentd in Table 4-26 on pg. 86 of FTA 2018, where the distance of the reference noise leve can be adjusted and the usage factor is not applied (i.e., the usage factor is equal to 1).

Sources:

Federal Transit Association (FTA). 2018 (September). Transit Noise and Vibration Impact Assessment. Washington, D.C. Available: <http://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf>Accessed: March 5, 2020.

## Attenuation Calculations for Stationary Noise Sources

**KEY:** Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

**Project Name:** Roseville Environmental Utilities

**STEP 1: Identify the noise source and enter the reference noise level (dBA and distance).**

**STEP 2: Select the ground type (hard or soft), and enter the source and receiver heights.**

**STEP 3: Select the distance to the receiver.**

| Noise Source/ID | Descriptor | Reference Noise Level | | | Attenuation Characteristics | | | | Attenuated Noise Level at Receptor | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | noise level (dBA) | @ | distance (ft) | Ground Type (soft/hard) | Source Height (ft) | Receiver Height (ft) | Ground Factor | noise level (dBA) | @ | distance (ft) |
| Loading Dock Activities (Off Loading Trucks Plus Forklifts) | $L_{max}$ | 86.0 | @ | 50 | hard | 5 | 5 | 0.00 | 62.1 | @ | 780 |
| Loading Dock Activities (Off Loading Trucks Plus Forklifts) | $L_{eq}$ | 65.1 | @ | 50 | hard | 5 | 5 | 0.00 | 41.2 | @ | 780 |
| HVAC Equipment | $L_{max}$ | 78.0 | @ | 3 | hard | 5 | 5 | 0.00 | 32.0 | @ | 600 |
| HVAC Equipment | $L_{eq}$ | 75.0 | @ | 3 | hard | 5 | 5 | 0.00 | 29.0 | @ | 600 |
| MRF Equipment | $L_{max}$ | 76.0 | @ | 140 | hard | 5 | 5 | 0.00 | 61.6 | @ | 735 |
| MRF Equipment | $L_{eq}$ | 73.0 | @ | 140 | hard | 5 | 5 | 0.00 | 58.6 | @ | 735 |
| Equipment Maintenance Facilities (i.e. Air Compressors, Impact Wrenches, etc) | $L_{max}$ | 100.0 | @ | 3 | hard | 5 | 5 | 0.00 | 50.5 | @ | 900 |
| Equipment Maintenance Facilities (i.e. Air Compressors, Impact Wrenches, etc) | $L_{eq}$ | 97.0 | @ | 3 | hard | 5 | 5 | 0.00 | 47.5 | @ | 900 |
| Diesel Generators (Threshold of Absolute Noise Levels Exceedance - Daytime) | $L_{max}$ | 82.0 | @ | 50 | hard | 5 | 5 | 0.00 | 70.0 | @ | 199 |
| Diesel Generators (Threshold of Absolute Noise Levels Exceedance - Nighttime) | $L_{max}$ | 82.0 | @ | 50 | hard | 5 | 5 | 0.00 | 65.0 | @ | 354 |
| Diesel Generators (Threshold of Absolute Noise Levels Exceedance - Daytime) | $L_{eq}$ | 82.0 | @ | 50 | hard | 5 | 5 | 0.00 | 50.0 | @ | 1991 |
| Diesel Generators (Threshold of Absolute Noise Levels Exceedance - Nighttime) | $L_{eq}$ | 82.0 | @ | 50 | hard | 5 | 5 | 0.00 | 45.0 | @ | 3540 |
| Diesel Generators (Threshold of Increase Exceedance - Daytime) | $L_{eq}$ | 82.0 | @ | 50 | hard | 5 | 5 | 0.00 | 52.0 | @ | 1572 |
| Diesel Generators (Threshold of Increase Exceedance - Nighttime) | $L_{eq}$ | 82.0 | @ | 50 | hard | 5 | 5 | 0.00 | 46.1 | @ | 3101 |

Notes:

Estimates of attenuated noise levels do not account for reductions from intervening barriers, including walls, trees, vegetation, or structures of any type.

Computation of the attenuated noise level is based on the equation presented on pg. 176 and 177 of FTA 2018.

Computation of the ground factor is based on the equation presentd in Table 4-26 on pg. 86 of FTA 2018, where the distance of the reference noise leve can be adjusted and the usage factor is not applied (i.e., the usage factor is equal to 1).

Sources:

Federal Transit Association (FTA). 2018 (September). Transit Noise and Vibration Impact Assessment. Washington, D.C. Available: <http://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf>Accessed: March 5, 2020.

## Attenuation Calculations for Stationary Noise Sources

| | |
|---|---|
| **KEY:** | Orange cells are for input. |
| | Grey cells are intermediate calculations performed by the model. |
| | Green cells are data to present in a written analysis (output). |
| **Project Name:** | Roseville Environmental Utilities |

**STEP 1: Identify the noise source and enter the reference noise level (dBA and distance).**

**STEP 2: Select the ground type (hard or soft), and enter the source and receiver heights.**

**STEP 3: Select the distance to the receiver.**

| Noise Source/ID | Descriptor | Reference Noise Level | | | Attenuation Characteristics | | | | Attenuated Noise Level at Receptor | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | noise level (dBA) | @ | distance (ft) | Ground Type (soft/hard) | Source Height (ft) | Receiver Height (ft) | Ground Factor | noise level (dBA) | @ | distance (ft) | |
| Diesel Generators ( Mitigation Measure Buffer Distance ) | $L_{eq}$ | 82.0 | @ | 50 | hard | 5 | 5 | 0.00 | 45.0 | @ | 3540 | |
| Diesel Generators ( Mitigation Measure Buffer Distance ) | $L_{max}$ | 82.0 | @ | 50 | hard | 5 | 5 | 0.00 | 45.0 | @ | 3540 | |
| Diesel Generators (Mitigation Measure Acoustic Enclosure) | $L_{eq}$ | 72.0 | @ | 50 | hard | 5 | 5 | 0.00 | 45.0 | @ | 1119 | |
| Diesel Generators (Mitigation Measure Acoustic Enclosure + Buffer) | $L_{max}$ | 72.0 | @ | 50 | hard | 5 | 5 | 0.00 | 45.0 | @ | 1119 | |
| MRF Equipment (w/ 14 dB interior-to-exterior noise attenuation) | $L_{max}$ | 62.0 | @ | 140 | hard | 5 | 5 | 0.00 | 47.6 | @ | 735 | |
| MRF Equipment (w/ 14 dB interior-to-exterior noise attenuation) | $L_{eq}$ | 59.0 | @ | 140 | hard | 5 | 5 | 0.00 | 44.6 | @ | 735 | |

Notes:

Estimates of attenuated noise levels do not account for reductions from intervening barriers, including walls, trees, vegetation, or structures of any type.

Computation of the attenuated noise level is based on the equation presented on pg. 176 and 177 of FTA 2018.

Computation of the ground factor is based on the equation presentd in Table 4-26 on pg. 86 of FTA 2018, where the distance of the reference noise leve can be adjusted and the usage factor is not applied (i.e., the usage factor is equal to 1).

Sources:

Federal Transit Association (FTA). 2018 (September). Transit Noise and Vibration Impact Assessment. Washington, D.C. Available: <http://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf>Accessed: March 5, 2020.

# Parking Lot Noise Calculation

**KEY:** Orange cells are for input.

Green cells are data to present in a written analysis (output).

| | Phase 1 | Phase 2 |
|---|---|---|
| Number of automobiles per hour | 109 | 340 |
| Number of heavy trucks per hour | 24 | 59 |
| Distance from RRTO to NSR (ft) | 620 | 620 |
| Distance from Corporation Yard to NSR (ft) | 890 | 890 |

| | Sound Level | | | | | |
|---|---|---|---|---|---|---|
| | dBA, $L_{eq}$ | dBA, $L_{max}$ | dBA, $L_{eq}$ | dBA, $L_{max}$ | @ | Distance |
| Reference Level (Employee Trips Only) | 52.8 | 55.8 | 57.7 | 60.7 | @ | 50 |
| RRTO Employee Parking | **30.9** | **33.9** | **35.8** | **38.8** | @ | 620 |
| Reference Level (Truck Trips Only) | 65.4 | 68.4 | 69.3 | 72.3 | @ | 50 |
| Corporation Yard Parking | **40.4** | **43.4** | **44.3** | **47.3** | @ | 890 |

Source

Federal Transit Administration. 2018 (September). Transit Noise and Vibration Impact Assessment. Washington, D.C. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed February 4, 2019. See pages 45–47, including Equation 4-14.

# Truck Passbys Single Exposure Level (SEL)

**KEY:** Orange cells are for input.

Green cells are data to present in a written analysis (output).

| | Low | High |
|---|---|---|
| Reference Heavy Truck Passby SEL | 82 | 82 |
| Speed (mph) | 25 | 50 |
| Distance to receptor | 70 | 70 |

Range of Single Exposure Level of Truck Passbys

| Range | SEL (dBA) | @ | Distance (feet) |
|---|---|---|---|
| Low | **74.9** | @ | 70.0 |
| High | **77.9** | @ | 70.0 |

Source

Federal Transit Administration. 2018 (September). Transit Noise and Vibration Impact Assessment. Washington, D.C. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed February 4, 2019. See pages 231, including Equation F-1.