

Noise Study Reports

Please provide any available information (e.g. the date, time, location, etc.) for the detailed 24-hour noise study reports that are available on sound studies done on homes backing onto Baseline Road or Clover Bar Road from Craigavon and Heritage Hills neighbourhoods dating back to when these were first started in the county.

Noise study data exists in the Craigavon and Heritage Hills neighbourhoods from 1992 through to 2021. Due to equipment limitations, studies undertaken between 1992 to 2016 were only one (1) hour in duration and have mathematically derived Leq(24) noise levels. The County acquired new equipment in 2017, which can now run for the full 24-hour period resulting in an actual Leq(24) value being determined as the arithmetic mean of the 24 individual 1-hour Leq(1hr) noise levels.

Studies within the subject neighbourhoods:

Location	Year	Date	Leq(24) Noise Level in dBA	Study Type
27 Courtenay Court	1992	9/29/1992	51.0 *	PM peak
14 Carmel Court	1996	10/31/1996	56.6 *	AM peak
6 Highcliff Road	1996	5/23/1996	51.6 *	PM peak
30 Harmony Place	1999	8/3/1999	51.4 *	PM peak
15 Carmel Place	2001	9/27/2001	59.0 *	AM peak
15 Carmel Place	2001	10/4/2001	57.8 *	PM peak
80 Heritage Lake Way	2001	8/7/2001	47.3 *	PM peak
15 Courtenay Place	2002	6/25/2002	57.8 *	PM peak
15 Carmel Place	2004	6/22/2004	46.0 *	PM peak
20 Carmel Court	2004	9/22/2004	57.4 *	PM peak
10 Carmel Court	2011	7/21/2011	58.8 *	PM peak
10 Carmel Court	2011	7/21/2011	55.8 *	AM peak
55 Carmel Road	2011	7/28/2011	53.7 *	PM peak
55 Carmel Road	2011	7/28/2011	54.5 *	AM peak
10 Carmel Court	2013	6/24/2013	60.0 *	PM peak
14 Carmel Court	2013	6/17/2013	61.7 *	AM peak
22 Carmel Court	2013	6/24/2013	60.0 *	PM peak
24 Harmony Place	2013	6/21/2013	54.5 *	PM peak
24 Harmony Place	2013	6/21/2013	52.7 *	AM peak
55 Carmel Road	2013	6/17/2013	54.5 *	AM peak
17 Carmel Place	2017	8/1/2017	57.3	24 hour
10 Carmel Wynd	2018	10/4/2018	60.8	24 hour
20 Carmel Court	2021	6/2/2021	61.5 * ²	24 hour
8 Carmel Wynd	2021	6/11/2021	60.8	24 hour

* Denotes a derived noise level using the Traffic Noise procedure of $\text{Leq}(24\text{hr}) = 85\% \text{ of the peak hour } \text{Leq}(1\text{hr}) + 6\text{dBA}$.

*² denotes a weekend count (Friday-Saturday) as opposed to a standard weekday count (either Tuesday-Wednesday or Wednesday-Thursday).

Detailed reports only exist for the four 24-hour counts subsequent to 2017, which are provided below with commentary as to how to interpret the data.

17 Carmel Place

Date	Start Time	Run Time	Leq(1hr) dBA	L(max) dBA	Ln1 dBA	Ln1 Percent	Ln2 dBA	Ln2 Percent	Ln3 dBA	Ln3 Percent	Ln4 dBA	Ln4 Percent	Ln5 dBA	Ln5 Percent
01/08/2017	16:00	01:00:02	60.40	74.30	65.90	1.00	63.40	10.00	59.50	50.00	53.70	90.00	51.60	95.00
01/08/2017	17:00	01:00:01	60.60	81.70	65.50	1.00	63.00	10.00	59.40	50.00	54.40	90.00	52.80	95.00
01/08/2017	18:00	01:00:01	59.40	78.80	65.50	1.00	62.30	10.00	58.00	50.00	52.30	90.00	50.20	95.00
01/08/2017	19:00	01:00:08	58.50	76.80	64.90	1.00	61.70	10.00	56.90	50.00	50.40	90.00	47.80	95.00
01/08/2017	20:00	01:00:04	58.60	80.80	65.10	1.00	61.30	10.00	56.80	50.00	48.80	90.00	46.20	95.00
01/08/2017	21:00	01:00:01	58.00	77.60	64.70	1.00	61.20	10.00	55.40	50.00	47.00	90.00	44.30	95.00
01/08/2017	22:00	01:00:01	57.00	76.40	64.80	1.00	60.80	10.00	54.30	50.00	44.20	90.00	41.10	95.00
01/08/2017	23:00	01:00:02	54.20	68.90	62.00	1.00	58.20	10.00	51.20	50.00	37.30	90.00	34.40	95.00
02/08/2017	00:00	01:00:02	49.90	66.80	59.70	1.00	54.60	10.00	40.90	50.00	31.20	90.00	30.20	95.00
02/08/2017	01:00	01:00:04	50.00	74.00	60.30	1.00	53.30	10.00	35.00	50.00	28.70	90.00	28.00	95.00
02/08/2017	02:00	01:00:00	43.20	59.60	56.60	1.00	44.30	10.00	31.50	50.00	27.70	90.00	27.30	95.00
02/08/2017	03:00	01:00:00	43.50	60.40	55.50	1.00	47.40	10.00	30.20	50.00	27.00	90.00	26.80	95.00
02/08/2017	04:00	00:59:59	48.60	72.50	59.10	1.00	52.70	10.00	36.50	50.00	29.70	90.00	28.80	95.00
02/08/2017	05:00	01:00:00	54.30	67.90	62.10	1.00	58.20	10.00	51.10	50.00	41.10	90.00	39.10	95.00
02/08/2017	06:00	01:00:04	57.60	72.20	65.10	1.00	61.10	10.00	55.70	50.00	48.80	90.00	46.70	95.00
02/08/2017	07:00	01:00:04	59.00	78.60	65.20	1.00	61.90	10.00	57.40	50.00	51.60	90.00	50.10	95.00
02/08/2017	08:00	01:00:00	57.70	71.90	64.30	1.00	61.00	10.00	56.30	50.00	50.00	90.00	48.50	95.00
02/08/2017	09:00	01:00:06	57.10	67.30	63.20	1.00	60.50	10.00	55.80	50.00	48.00	90.00	45.40	95.00
02/08/2017	10:00	01:00:02	57.40	69.90	64.10	1.00	60.70	10.00	56.10	50.00	48.40	90.00	46.00	95.00
02/08/2017	11:00	01:00:01	57.50	73.50	64.30	1.00	60.50	10.00	56.10	50.00	48.20	90.00	45.50	95.00
02/08/2017	12:00	01:00:01	58.20	71.00	65.10	1.00	61.30	10.00	57.00	50.00	51.10	90.00	49.10	95.00
02/08/2017	13:00	01:00:02	57.70	73.90	64.80	1.00	60.60	10.00	56.50	50.00	50.20	90.00	48.30	95.00
02/08/2017	14:00	00:59:59	58.50	73.50	66.80	1.00	61.70	10.00	56.60	50.00	49.80	90.00	47.50	95.00
02/08/2017	15:00	01:00:05	59.00	72.90	66.70	1.00	62.40	10.00	57.30	50.00	50.20	90.00	47.90	95.00
		Total Run Time	Leq(24hr) dBA	Highest L(max) dBA										
		24:00:49	57.29	81.70										

Key:

The **Leq(24)** noise level value is the arithmetic mean of the 24 individual Leq(1hr) noise level values.

The **Highest L(max)** noise level value is an instantaneous noise level reading.

The **Ln1** noise level value represents the noise level at which 1% (36 seconds), as Ln1 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln2** noise level value represents the noise level at which 10% (6 minutes), as Ln2 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln3** noise level value represents the noise level at which 50% (30 minutes), as Ln3 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln4** noise level value represents the noise level at which 90% (54 minutes), as Ln4 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln5** noise level value represents the noise level at which 95% (57 minutes), as Ln5 Percent, of the 1 hour exceeds the listed dBA level.

Thus, for the highest Leq(1hr) of 60.60dBA from 5pm to 6pm, with the highest instantaneous noise level of 81.70dBA, the following data is evident: only 36 seconds of sound exceeded 65.50dBA, 6 minutes of sound exceeded 63.00dBA, 30 minutes exceeded 59.40dBA, 54 minutes exceeded 54.40dBA, and 57 minutes exceeded 52.80dBA.

Conversely, the quietest Leq(1hr) of 43.20dBA from 2am to 3am, with the highest instantaneous noise level of 59.60dBA, the following data is evident: only 36 seconds of sound exceeded 56.60dBA, 6 minutes of sound exceeded 43.30dBA, 30 minutes exceeded 31.50dBA, 54 minutes exceeded 27.70dBA, and 57 minutes exceeded 27.30dBA.

10 Carmel Wynd

Date	Start Time	Run Time	Leq(1hr) dBA	L(max) dBA	Ln1 dBA	Ln1 Percent	Ln2 dBA	Ln2 Percent	Ln3 dBA	Ln3 Percent	Ln4 dBA	Ln4 Percent	Ln5 dBA	Ln5 Percent
04/10/2018	16:00	01:00:01	61.50	69.60	66.40	1.00	64.30	10.00	61.00	50.00	54.20	90.00	52.20	95.00
04/10/2018	17:00	01:00:03	62.10	71.60	66.70	1.00	64.80	10.00	61.80	50.00	56.50	90.00	54.40	95.00
04/10/2018	18:00	01:00:00	61.60	73.90	66.70	1.00	64.40	10.00	60.90	50.00	55.30	90.00	53.50	95.00
04/10/2018	19:00	01:00:01	61.10	77.10	67.50	1.00	64.10	10.00	59.90	50.00	54.10	90.00	52.60	95.00
04/10/2018	20:00	01:00:02	60.20	72.00	66.00	1.00	63.40	10.00	59.00	50.00	51.90	90.00	50.10	95.00
04/10/2018	21:00	01:00:02	58.80	69.10	65.00	1.00	62.20	10.00	57.40	50.00	49.90	90.00	47.60	95.00
04/10/2018	22:00	01:00:01	57.50	75.80	64.40	1.00	61.10	10.00	54.50	50.00	47.00	90.00	45.30	95.00
04/10/2018	23:00	01:00:02	54.50	71.50	62.70	1.00	58.80	10.00	49.90	50.00	42.40	90.00	41.40	95.00
05/10/2018	00:00	01:00:01	54.40	79.30	62.80	1.00	57.20	10.00	48.20	50.00	41.70	90.00	40.80	95.00
05/10/2018	01:00	01:00:03	50.10	68.20	61.20	1.00	52.50	10.00	43.40	50.00	40.50	90.00	40.10	95.00
05/10/2018	02:00	01:00:03	50.70	76.70	61.10	1.00	50.70	10.00	43.70	50.00	40.90	90.00	40.40	95.00
05/10/2018	03:00	01:00:01	49.60	68.10	59.90	1.00	51.90	10.00	45.30	50.00	42.80	90.00	42.30	95.00
05/10/2018	04:00	01:00:00	51.40	66.20	61.80	1.00	54.30	10.00	46.90	50.00	41.00	90.00	40.00	95.00
05/10/2018	05:00	01:00:04	57.30	70.00	65.10	1.00	60.70	10.00	55.20	50.00	47.30	90.00	45.10	95.00
05/10/2018	06:00	01:00:01	61.50	71.30	67.30	1.00	64.50	10.00	60.40	50.00	55.50	90.00	53.40	95.00
05/10/2018	07:00	01:00:03	63.90	74.50	68.80	1.00	66.10	10.00	63.50	50.00	59.80	90.00	58.60	95.00
05/10/2018	08:00	01:00:02	63.50	71.90	67.90	1.00	65.70	10.00	63.00	50.00	59.30	90.00	58.10	95.00
05/10/2018	09:00	01:00:04	62.50	76.80	67.40	1.00	65.30	10.00	61.50	50.00	56.60	90.00	54.90	95.00
05/10/2018	10:00	01:00:02	62.80	74.00	68.20	1.00	65.50	10.00	62.10	50.00	56.20	90.00	54.50	95.00
05/10/2018	11:00	01:00:01	62.30	77.70	67.50	1.00	65.30	10.00	61.40	50.00	54.20	90.00	52.20	95.00
05/10/2018	12:00	01:00:02	62.90	73.90	68.30	1.00	65.60	10.00	62.20	50.00	55.70	90.00	53.00	95.00
05/10/2018	13:00	01:00:03	61.90	70.20	66.60	1.00	64.80	10.00	61.40	50.00	55.70	90.00	53.70	95.00
05/10/2018	14:00	01:00:04	62.50	75.30	67.80	1.00	65.50	10.00	61.60	50.00	55.60	90.00	53.90	95.00
05/10/2018	15:00	01:00:07	63.50	87.10	68.70	1.00	65.60	10.00	62.50	50.00	56.60	90.00	54.50	95.00
		Total Run Time	Leq(24hr) dBA	Highest L(max) dBA										
		24:00:53	60.77	87.10										

Key:

The **Leq(24)** noise level value is the arithmetic mean of the 24 individual Leq(1hr) noise level values.

The **Highest L(max)** noise level value is an instantaneous noise level reading.

The **Ln1** noise level value represents the noise level at which 1% (36 seconds), as Ln1 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln2** noise level value represents the noise level at which 10% (6 minutes), as Ln2 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln3** noise level value represents the noise level at which 50% (30 minutes), as Ln3 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln4** noise level value represents the noise level at which 90% (54 minutes), as Ln4 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln5** noise level value represents the noise level at which 95% (57 minutes), as Ln5 Percent, of the 1 hour exceeds the listed dBA level.

Thus, for the highest Leq(1hr) of 63.90dBA from 7am to 8am, with the highest instantaneous noise level of 74.50dBA, the following data is evident: only 36 seconds of sound exceeded 68.80dBA, 6 minutes of sound exceeded 66.10dBA, 30 minutes exceeded 63.50dBA, 54 minutes exceeded 59.80dBA, and 57 minutes exceeded 58.60dBA.

Conversely, the quietest Leq(1hr) of 49.60dBA from 3am to 4am, with the highest instantaneous noise level of 59.90dBA, the following data is evident: only 36 seconds of sound exceeded 59.90dBA, 6 minutes of sound exceeded 51.90dBA, 30 minutes exceeded 45.30dBA, 54 minutes exceeded 42.80dBA, and 57 minutes exceeded 42.30dBA.

20 Carmel Court

Date	Start Time	Run Time	Leq(1hr) dBA	L(max) dBA	Ln1 dBA	Ln1 Percent	Ln2 dBA	Ln2 Percent	Ln3 dBA	Ln3 Percent	Ln4 dBA	Ln4 Percent	Ln5 dBA	Ln5 Percent
11/06/2021	11:00	01:00:07	62.50	77.50	69.30	1.00	64.50	10.00	59.90	50.00	55.90	90.00	55.40	95.00
11/06/2021	12:00	01:00:03	62.70	80.50	69.30	1.00	64.60	10.00	59.70	50.00	56.10	90.00	55.50	95.00
11/06/2021	13:00	01:00:02	62.30	75.40	68.70	1.00	64.30	10.00	59.90	50.00	55.90	90.00	55.20	95.00
11/06/2021	14:00	01:00:04	62.80	77.40	69.30	1.00	64.70	10.00	60.40	50.00	56.30	90.00	55.50	95.00
11/06/2021	15:00	01:00:03	64.10	80.00	71.80	1.00	65.60	10.00	61.50	50.00	57.10	90.00	56.30	95.00
11/06/2021	16:00	01:00:04	64.40	85.40	70.90	1.00	65.60	10.00	61.50	50.00	56.70	90.00	55.90	95.00
11/06/2021	17:00	01:00:03	64.30	84.30	72.00	1.00	65.70	10.00	61.20	50.00	56.70	90.00	56.00	95.00
11/06/2021	18:00	01:00:03	63.00	82.70	70.70	1.00	65.00	10.00	59.90	50.00	55.60	90.00	55.10	95.00
11/06/2021	19:00	01:00:04	62.90	85.80	70.10	1.00	64.50	10.00	59.60	50.00	55.60	90.00	55.00	95.00
11/06/2021	20:00	01:00:06	61.90	80.50	69.60	1.00	63.80	10.00	58.90	50.00	55.10	90.00	54.60	95.00
11/06/2021	21:00	01:00:01	62.30	87.00	70.00	1.00	63.70	10.00	58.00	50.00	54.70	90.00	54.30	95.00
11/06/2021	22:00	01:00:08	60.90	82.60	68.90	1.00	62.30	10.00	57.10	50.00	54.30	90.00	54.10	95.00
11/06/2021	23:00	01:00:05	60.00	81.00	68.20	1.00	61.50	10.00	56.00	50.00	54.00	90.00	53.90	95.00
12/06/2021	00:00	01:00:04	57.70	76.20	65.00	1.00	58.90	10.00	54.40	50.00	53.80	90.00	53.70	95.00
12/06/2021	01:00	01:00:03	56.60	72.60	63.70	1.00	57.60	10.00	54.00	50.00	53.60	90.00	53.50	95.00
12/06/2021	02:00	01:00:04	58.10	67.00	60.80	1.00	55.60	10.00	53.70	50.00	53.50	90.00	53.40	95.00
12/06/2021	03:00	01:00:01	57.80	70.60	59.60	1.00	54.40	10.00	53.60	50.00	53.40	90.00	53.40	95.00
12/06/2021	04:00	01:00:03	57.80	64.30	59.80	1.00	55.00	10.00	53.70	50.00	53.40	90.00	53.40	95.00
12/06/2021	05:00	01:00:00	58.70	75.40	60.70	1.00	56.80	10.00	53.90	50.00	53.50	90.00	53.50	95.00
12/06/2021	06:00	01:00:02	58.20	79.80	65.70	1.00	58.80	10.00	54.20	50.00	53.70	90.00	53.60	95.00
12/06/2021	07:00	01:00:01	57.70	72.10	64.90	1.00	59.40	10.00	54.80	50.00	53.70	90.00	53.60	95.00
12/06/2021	08:00	01:00:04	59.80	76.70	66.80	1.00	61.60	10.00	57.00	50.00	54.20	90.00	54.00	95.00
12/06/2021	09:00	01:00:03	61.70	78.50	69.30	1.00	63.40	10.00	58.70	50.00	54.80	90.00	54.30	95.00
12/06/2021	10:00	01:00:02	62.10	85.30	68.80	1.00	64.00	10.00	58.90	50.00	55.10	90.00	54.60	95.00
		Total Run Time	Leq(24hr) dBA	Highest L(max) dBA										
		24:01:20	61.46	87.00										

Key:

The **Leq(24)** noise level value is the arithmetic mean of the 24 individual Leq(1hr) noise level values.

The **Highest L(max)** noise level value is an instantaneous noise level reading.

The **Ln1** noise level value represents the noise level at which 1% (36 seconds), as Ln1 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln2** noise level value represents the noise level at which 10% (6 minutes), as Ln2 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln3** noise level value represents the noise level at which 50% (30 minutes), as Ln3 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln4** noise level value represents the noise level at which 90% (54 minutes), as Ln4 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln5** noise level value represents the noise level at which 95% (57 minutes), as Ln5 Percent, of the 1 hour exceeds the listed dBA level.

Thus, for the highest Leq(1hr) of 64.40dBA from 4pm to 5pm, with the highest instantaneous noise level of 85.40dBA, the following data is evident: only 36 seconds of sound exceeded 70.90dBA, 6 minutes of sound exceeded 65.60dBA, 30 minutes exceeded 61.50dBA, 54 minutes exceeded 56.70dBA, and 57 minutes exceeded 55.90dBA.

Conversely, the quietest Leq(1hr) of 56.60dBA from 1am to 2am, with the highest instantaneous noise level of 72.60dBA, the following data is evident: only 36 seconds of sound exceeded 63.70dBA, 6 minutes of sound exceeded 57.60dBA, 30 minutes exceeded 54.00dBA, 54 minutes exceeded 53.60dBA, and 57 minutes exceeded 53.50dBA.

8 Carmel Wynd

Date	Start Time	Run Time	Leq(1hr) dBA	L(max) dBA	Ln1 dBA	Ln1 Percent	Ln2 dBA	Ln2 Percent	Ln3 dBA	Ln3 Percent	Ln4 dBA	Ln4 Percent	Ln5 dBA	Ln5 Percent
02/06/2021	13:00	01:00:03	62.90	88.10	65.80	1.00	62.70	10.00	59.90	50.00	56.60	90.00	55.60	95.00
02/06/2021	14:00	01:00:02	62.50	82.40	68.60	1.00	63.10	10.00	60.40	50.00	56.20	90.00	55.40	95.00
02/06/2021	15:00	01:00:02	62.20	75.30	66.50	1.00	63.20	10.00	60.10	50.00	56.10	90.00	55.20	95.00
02/06/2021	16:00	01:00:03	62.60	73.70	67.40	1.00	63.50	10.00	60.70	50.00	56.80	90.00	55.90	95.00
02/06/2021	17:00	01:00:02	63.50	80.00	70.40	1.00	63.90	10.00	60.50	50.00	56.80	90.00	56.10	95.00
02/06/2021	18:00	01:00:05	62.60	73.00	65.80	1.00	62.80	10.00	60.10	50.00	56.60	90.00	56.00	95.00
02/06/2021	19:00	01:00:04	61.90	78.60	68.10	1.00	62.50	10.00	58.80	50.00	55.50	90.00	55.10	95.00
02/06/2021	20:00	01:00:01	61.40	83.00	68.00	1.00	61.90	10.00	58.30	50.00	54.80	90.00	54.40	95.00
02/06/2021	21:00	01:00:02	59.90	78.50	66.60	1.00	60.70	10.00	56.90	50.00	54.00	90.00	53.80	95.00
02/06/2021	22:00	01:00:06	58.00	71.70	63.20	1.00	59.00	10.00	55.40	50.00	53.60	90.00	53.50	95.00
02/06/2021	23:00	01:00:01	59.50	71.50	61.80	1.00	57.30	10.00	53.60	50.00	53.30	90.00	53.30	95.00
03/06/2021	00:00	01:00:00	58.20	65.60	59.30	1.00	55.50	10.00	53.30	50.00	53.20	90.00	53.20	95.00
03/06/2021	01:00	01:00:00	57.60	64.00	58.40	1.00	54.00	10.00	53.30	50.00	53.20	90.00	53.20	95.00
03/06/2021	02:00	01:00:02	58.20	75.70	59.00	1.00	54.40	10.00	53.30	50.00	53.20	90.00	53.20	95.00
03/06/2021	03:00	01:00:03	57.50	63.70	57.40	1.00	54.10	10.00	53.30	50.00	53.20	90.00	53.20	95.00
03/06/2021	04:00	01:00:04	57.80	64.80	58.90	1.00	55.20	10.00	53.30	50.00	53.20	90.00	53.20	95.00
03/06/2021	05:00	01:00:05	57.10	68.90	62.00	1.00	58.50	10.00	54.80	50.00	53.30	90.00	53.30	95.00
03/06/2021	06:00	01:00:03	59.40	68.70	64.10	1.00	61.10	10.00	57.40	50.00	54.50	90.00	54.00	95.00
03/06/2021	07:00	01:00:03	60.40	70.80	64.80	1.00	62.00	10.00	58.70	50.00	55.30	90.00	54.80	95.00
03/06/2021	08:00	01:00:04	61.00	68.50	64.60	1.00	62.30	10.00	59.70	50.00	56.50	90.00	55.80	95.00
03/06/2021	09:00	01:00:06	60.00	68.50	63.70	1.00	61.40	10.00	58.50	50.00	55.10	90.00	54.40	95.00
03/06/2021	10:00	01:00:06	60.80	69.40	65.10	1.00	62.40	10.00	59.20	50.00	55.40	90.00	54.70	95.00
03/06/2021	11:00	01:00:02	61.80	71.70	65.50	1.00	63.40	10.00	60.40	50.00	56.80	90.00	56.00	95.00
03/06/2021	12:00	01:00:02	62.70	69.30	66.10	1.00	64.40	10.00	61.30	50.00	57.40	90.00	56.20	95.00
		Total Run Time	Leq(24hr) dBA	Highest L(max) dBA										
		24:01:11	60.83	88.1										

Key:

The **Leq(24)** noise level value is the arithmetic mean of the 24 individual Leq(1hr) noise level values.

The **Highest L(max)** noise level value is an instantaneous noise level reading.

The **Ln1** noise level value represents the noise level at which 1% (36 seconds), as Ln1 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln2** noise level value represents the noise level at which 10% (6 minutes), as Ln2 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln3** noise level value represents the noise level at which 50% (30 minutes), as Ln3 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln4** noise level value represents the noise level at which 90% (54 minutes), as Ln4 Percent, of the 1 hour exceeds the listed dBA level.

The **Ln5** noise level value represents the noise level at which 95% (57 minutes), as Ln5 Percent, of the 1 hour exceeds the listed dBA level.

Thus, for the highest Leq(1hr) of 62.90dBA from 1pm to 2pm, with the highest instantaneous noise level of 88.10dBA, the following data is evident: only 36 seconds of sound exceeded 65.80dBA, 6 minutes of sound exceeded 62.70dBA, 30 minutes exceeded 59.90dBA, 54 minutes exceeded 56.60dBA, and 57 minutes exceeded 55.60dBA.

Conversely, the quietest Leq(1hr) of 57.10dBA from 5am to 6am, with the highest instantaneous noise level of 68.90dBA, the following data is evident: only 36 seconds of sound exceeded 62.00dBA, 6 minutes of sound exceeded 58.50dBA, 30 minutes exceeded 54.80dBA, 54 minutes exceeded 53.30dBA, and 57 minutes exceeded 53.30dBA.

The use of Leq(24) is the industry standard for noise measurement / modelling and municipal policies relative to residential noise attenuation. Strathcona County's Traffic Noise Policy SER-027-009 and accompanying Procedure document lists two scenarios and noise levels:

- A. Attenuation of Traffic Noise for New Developments at Leq(24) 55.0dBA with discretion of up to 60.0dBA
- B. Attenuation of Traffic Noise for Existing Residential Developments at Leq(24hr) 65.0dBA

Policy: <https://www.strathcona.ca/files/files/lis-ser-009-027-traffic-noise.pdf>

Procedure: <https://www.strathcona.ca/files/files/lis-ser-009-027p-traffic-noise-procedure.pdf>

What is not well described within the Policy is that new Residential Developments are designed to Leq(24) 55.0dBA via a noise prediction model, and that ALL residential lots are in fact Existing Residential Developments from the moment they are first occupied. The real-world limit of Leq(24) 65.0dBA is data that is measured and quantifiable vs. theoretical. The 10dBA differential between the theoretical model vs. real-world measured data was designed to provide a "factor of safety" to the community in case future traffic patterns increase compared to the modeled levels. All residential lots are treated equally and equitably.

Instantaneous noise levels have a variety of sources, ranging from the microphone's foam cover being touched, wind gusts, rain, nearby conversations, activities within the landowner's or neighbours' backyards, bird calls, emergency services response vehicles, and general traffic. To the best of our abilities, studies are scheduled to avoid inclement weather conditions (wind and rain) but unexpected weather patterns cannot always be avoided. The RCMP and Enforcement Services' Project Tensor East was initiated to target noisy vehicles and specific attention has been directed towards the Clover Bar Road / Baseline Road intersection and area.

In the above noted results, there are no Leq(24) noise levels in excess of the Policy trigger of 65.0dBA and therefore no triggers for the County to undertake any further work per the Procedure document. TPE will continue to make available the option of a 24-hour noise studies to keep track of resident concerns at this time until the Leq(24) 65.0dBA levels are reached, at which time more detailed analysis of traffic noise will be conducted.