Tucker Recreation Center Pickle Ball Courts

Noise Impact Assessment

For

Department of Recreation

City of Tucker, GA

December 5, 2024

Kenneth A. Cunefare, Ph. D.

Arpeggio

1947 Aspen Dr NE, Atlanta, GA 30345
(404) 216-7714

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December 5, 2024

Mr. Rip Robertson
Director, Parks and Recreation
City of Tucker, Georgia

RE: Noise impact assessment, Tucker Recreation Center Pickle Ball Courts

Dear Mr. Robertson:

This report presents the assessment of potential noise impacts related to the operation of pickle ball courts at the Tucker Recreation Center located at 4898 Lavista Road in Tucker, Georgia. It is our understanding that the notional operation hours for the pickle ball courts would be from 8 AM to 9 PM, seven days a week.

Briefly, the objectives of the assessment were:

1. Measure and characterize the ambient noise levels currently impacting properties on the north side of the of Tucker Recreational Center playing field (11/13-11/18/2024).
2. Assess the potential noise impact of recreational play on the proposed pickle ball courts on the properties to the north.
3. Recommend attenuation measures as may be appropriate to reduced potential noise impacts.

It is our opinion that simultaneous play on up to 12 courts, absent a noise barrier, would produce audible noise levels approximately equivalent to the ambient noise levels as existed over the duration of the sound measurements documented here (11/13-11/18/2024).

To mitigate the noise impacts, we recommend that the proposed perimeter fence around the courts be treated with a suitable barrier material (e.g., Acousticblok) to a height of 10' above local grade. With a noise barrier in place, the sounds of play should typically be below the ambient levels, but would probably still be audible to a greater or lesser degree depending on the environmental noise at any given moment. It would be best if the courts' southern fence be left untreated, as otherwise there is the likelihood that sounds will reflect back and forth between opposed parallel fences, partially defeating the effectiveness of the barrier at distance.

In the following, we first present the study area, discuss the instrumentation and methods used for the study, and then present the results of the measurements performed in the course of this study. We conclude with a brief review of noise annoyance factors. Acoustic metrics as used within this report are defined in Appendix A.

Study Area

The land lot for the Tucker Recreation Center, depicted in Figure 1, is located at 4898 Lavista Road. Figure 2 depicts the zoning for the Rec Center as well as parcels in the vicinity; parcels to the east and south are classed as commercial. Parcels to the north are residential.

The current site plan is depicted in Figure 3; the pickle ball courts are proposed to occupy the area now used as a recreation field on the east side of the existing Rec Center building. The proposed pickle ball court layout on the former recreation field is depicted in Figure 4. Figure 5 depicts a recent aerial image of the Rec Center and its immediate vicinity with the proposed court

facility superimposed. The recreation center and the associated field area is immediately to the north of Lavista Road, and west of Chamblee Tucker road. Both of these roads carry significant vehicular traffic through the day.

Figure 1 – Parcel map depicting Tucker Recreation Center parcel boundaries. Base map from "Tucker Open Data" website.

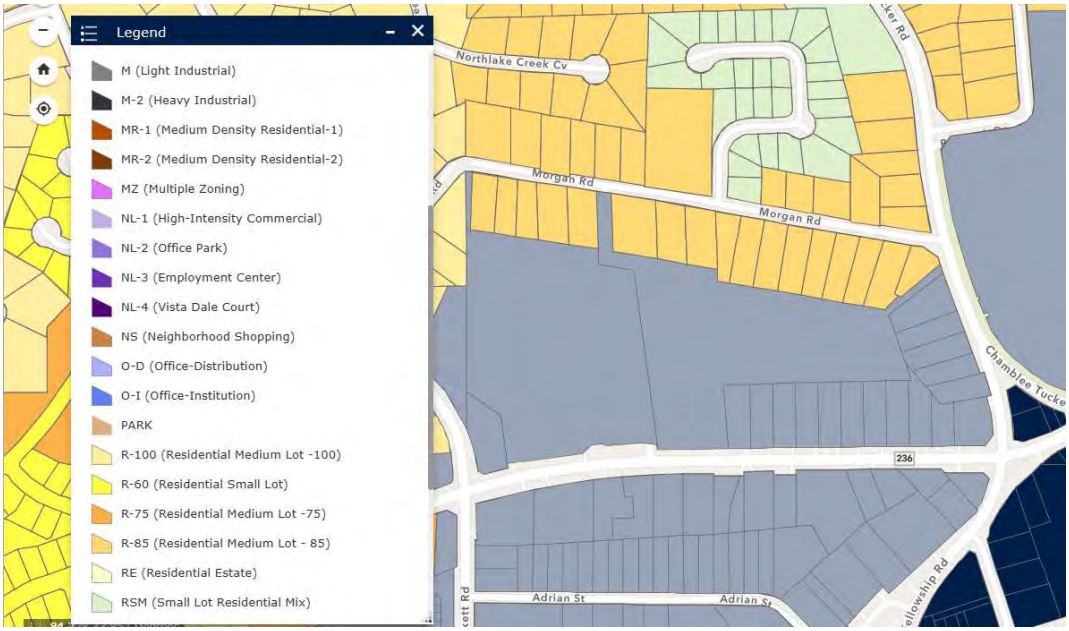


Figure 2 – Zoning map depicting Tucker Recreation Center and adjacent parcels. Map from "tucker-ga.maps.arcgis.com/" website.

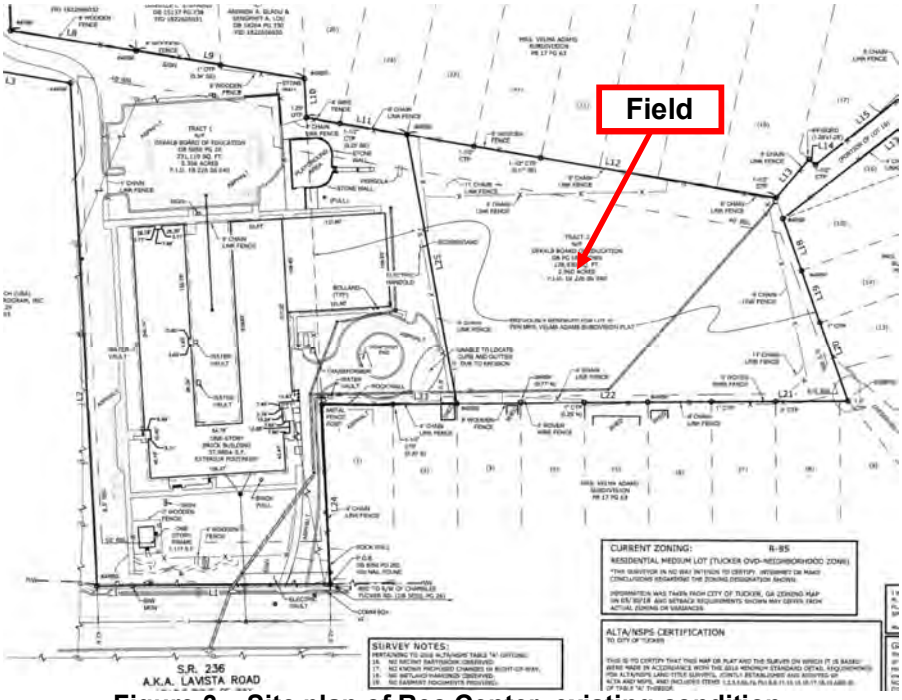


Figure 3 – Site plan of Rec Center, existing condition.

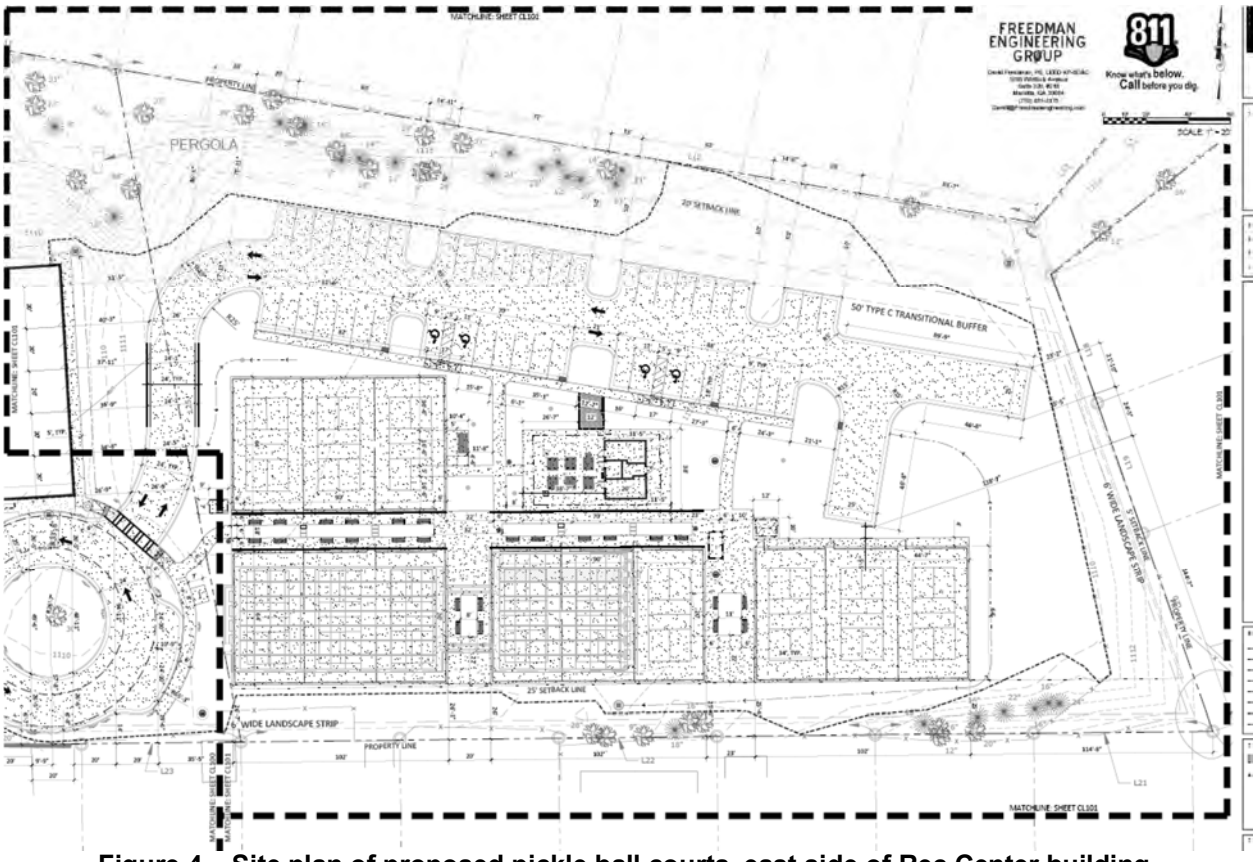


Figure 4 – Site plan of proposed pickle ball courts, east side of Rec Center building.

Figure 5 – Aerial image of Rec Center and immediate vicinity with proposed pickle ball courts approximately registered on the site.

Environmental Noise sources impacting area

Noise sources that impact the area include:

1. Trains are required to sound their horns when approaching at-grade road crossings, such as at Tucker Main St to the east, and Brockett Rd to the west. Train horns are likely one of the loudest noise sources impacting the site. The most recent Federal Rail Administration (FRA) rail crossing inventory reports for the rail crossings at Tucker Main St and Brockett Rd indicate 4 through trains per day and 4 switching trains per day (the FRA inventory reports are in Appendix B to this report).
2. The site lies to the northwest of the intersection of Lavista Rd and Chamblee Tucker Rd. Lavista is a 4-lane road with center turn lane. Traffic volume statics obtained from the Georgia DOT's Traffic Analysis and Data Application website indicates that Lavista had a 2023 Annual Average Daily Traffic (AADT) volume of 25,400 vehicles at the traffic reporting station to the west of Brockett Rd. Per the station data, traffic typically builds up before 8 AM, falls briefly, and then gradually rises until 6 PM, after which it falls off to relatively low volumes from 10 PM to 5 AM. Chamblee Tucker Rd is a 4-lane road, with a 2023 AADT of 18,000 vehicles, with a similar temporal traffic pattern to that on Lavista Rd. The traffic volumes on these roads, and the temporal pattern, is such that traffic-related noise will be a significant contributor to the noise environment on the site over the notional operating hours of the pickle ball courts (GDOT traffic station data for Lavista Rd and Chamblee Tucker Rd is in Appendix B to this report).
3. Aircraft overflights, at various altitudes, including propeller-driven aircraft, jet aircraft of various classes, and helicopters.
4. Lawn maintenance sounds, including mowers and leaf blowers.
5. Wildlife sounds, including insects, tree frogs, birds, and dogs.

6. Weather can be a noise generator, through the sounds of rain, thunder, and wind.
7. Recreation activities on the Rec Center parcel, as well as those from the out-schooling area at the northwest corner of field.
8. The particular mix of environmental sounds may be expected by time of day, day of week, and time of year.

Instrumentation and methods

Long-term multi-day measurements were acquired at the north edge of the field, while short-term measurements were acquired proximate to an active pickle ball court. We used two Larson Davis model 831 sound level meters for the short-term measurements. The meters were calibrated before and after use and were found to be operating properly. The meters were configured to continuously log a number of acoustic parameters at 20 millisecond (ms) intervals. Logged parameters included LA_{eq}, LN statistics, and 1/3-octave levels.

For the long-term measurements, we used two Larson Davis SoundTrack LxTs, SN 2175 and 2176. The locations of these meters on-site are depicted in Figure 6. Given that it is anticipated that road traffic noise will be significant, the distance from each meter to Lavista Rd and Chamblee Tucker Rd is annotated on the figure. Appendix C contains a number of photographs of the LxT sound level meters as deployed.

Figure 6 – Locations of LxT meters for on-field measurements, 11/13-11/18/24.

Both meters were configured to continuously log a number of acoustic parameters at 5-second intervals throughout the duration of the measurement program. Both LxT meters were deployed on 11/13/24. The meters were retrieved on 11/18/24. Both meters were calibrated prior to deployment and upon retrieval, and both were found to be operating properly in each instance.

Extended Duration Measurement Results, 11/13/24-11/18/24

Table 1 and Table 2 present the daily metrics of the A-weighted (dBA) sound levels logged for each day and overall at each meter site over the entire course of the measurement program. L50 is commonly used to indicate the steady "ambient" level.

Table 1 – Daily sound metrics, A-weighted slow (dBA), 2175 LxT meter, west.

Date	LASeq	Lday	Lnight	LDN	Min	L99	L90	L50	L10	L1	Max
11/13/24*	54.5	55.3	48.9	57.0	43.3	45.1	47.5	50.7	58.7	63.5	73.1
11/14/24**	53.4	53.4	53.5	59.9	39.6	42.0	45.1	50.1	56.8	62.4	74.4
11/15/24	51.3	52.8	46.6	54.6	37.2	39.3	42.0	48.2	52.9	61.7	74.8
11/16/24	52.1	52.1	52.1	58.5	41.7	43.7	45.6	49.2	53.1	60.8	78.6
11/17/24	52.6	52.8	52.3	58.8	40.0	41.5	44.1	47.9	52.0	62.5	81.0
11/18/24	52.4	52.4	52.4	58.8	36.6	39.9	43.4	49.8	54.4	59.5	78.3
Total>	*52.8*	*53.3*	*51.5*	*58.2*	*36.6*	*40.4*	*44.4*	*49.1*	*54.5*	*62.3*	*81.0*

*Partial day **Rain during some hours

Table 2 – Daily sound metrics, A-weighted slow (dBA), 2176 LxT meter, east.

Date	LASeq	Lday	Lnight	LDN	Min	L99	L90	L50	L10	L1	Max
11/13/24*	54.9	55.6	51.1	58.5	43.0	44.8	47.8	51.0	59.0	64.0	75.2
11/14/24**	58.1	57.2	59.4	65.5	39.7	42.6	46.6	51.5	62.9	67.1	80.7
11/15/24	53.1	54.6	48.0	56.2	38.4	41.2	43.9	49.7	54.2	63.9	78.2
11/16/24	53.0	53.2	52.5	59.1	41.2	43.6	45.9	50.1	53.6	60.6	79.5
11/17/24	52.8	53.3	51.8	58.5	40.7	42.2	45.1	48.9	52.9	63.0	80.6
11/18/24*	53.7	53.9	53.4	59.9	37.1	40.5	44.1	50.7	55.6	61.8	81.9
Total>	*54.8*	*54.9*	*54.3*	*60.8*	*37.1*	*41.7*	*45.4*	*50.1*	*56.4*	*65.5*	*75.2*

*Partial day **Rain during some hours

Table 3 and Table 4 present the daily metrics of the unweighted peak (dBZpk) sound levels logged for each day and overall at each meter site over the entire course of the measurement program.

Table 3 – Daily sound metrics, unweighted peak (dBZ) 2175 LxT meter, west.

Date	LZeq	Min	L99	L90	L50	L10	L1	Max
11/13/24*	82.2	71.1	72.5	74.3	78.0	86.4	91.8	99.9
11/14/24**	81.2	68.3	70.3	72.8	77.9	83.3	92.4	97.9
11/15/24	79.8	66.8	68.4	70.5	75.7	80.8	92.1	97.4
11/16/24	78.5	69.9	70.9	72.2	75.2	80.7	88.3	100.1
11/17/24	77.7	67.7	69.0	70.4	73.5	79.7	88.6	98.0
11/18/24*	80.3	65.6	67.6	69.6	77.9	82.8	90.3	98.7
Total>	*80.2*	*65.6*	*68.6*	*71.2*	*76.0*	*82.2*	*90.8*	*100.1*

*Partial day **Rain during some hours

Table 4 – Daily sound metrics, unweighted peak (dBZ) 2176 LxT meter, east.

Date	LZeq	Min	L99	L90	L50	L10	L1	Max
11/13/24*	82.0	70.7	72.0	74.0	77.9	85.7	91.7	100.7
11/14/24**	83.3	67.9	70.0	73.2	78.7	86.2	94.0	110.2
11/15/24	82.0	67.6	69.1	71.3	76.8	82.8	94.1	108.3
11/16/24	79.6	69.2	70.8	72.4	75.8	80.5	87.2	114.1
11/17/24	77.6	67.7	69.2	70.8	74.0	79.5	88.6	98.3
11/18/24*	80.6	66.2	67.8	70.1	78.3	82.4	89.4	109.2
Total>	*81.2*	*66.2*	*69.0*	*71.6*	*76.7*	*83.1*	*91.6*	*98.3*

*Partial day **Rain during some hours

Table 5 and Table 6 present the metrics of the A-weighted (dBA) sound levels logged from 8 AM to 9 PM on each day and overall over this time interval at each meter site over the entire course of the measurement program. The time period 8 AM to 9 PM is the notional operating hours for the pickle ball courts.

Table 5 – 8AM to 9PM sound metrics, A-weighted slow (dBA), 2175 LxT meter, west.

Date	LASeq	Min	L99	L90	L50	L10	L1	Max
11/13/24*	55.6	45.9	47.9	49.3	51.5	60.5	63.8	73.1
11/14/24**	53.4	42.7	44.8	47.0	50.3	55.8	62.9	73.2
11/15/24	53.0	42.3	45.0	46.8	49.4	55.2	62.7	74.8
11/16/24	52.1	42.5	44.6	46.9	50.2	53.7	60.7	72.1
11/17/24	53.0	40.3	43.0	45.7	48.9	52.5	62.7	81.0
11/18/24*	51.9	42.8	45.3	47.4	50.4	53.5	59.1	72.3
Total>	*53.3*	*40.3*	*44.4*	*46.8*	*50.0*	*54.6*	*62.7*	*81.0*

*Partial day **Rain during some hours

Table 6 – 8AM to 9PM sound metrics, A-weighted slow (dBA), 2176 LxT meter, east.

Date	LASeq	Min	L99	L90	L50	L10	L1	Max
11/13/24*	56.0	46.0	47.9	49.5	51.6	60.9	64.3	75.2
11/14/24**	56.6	43.9	46.6	48.5	51.4	60.1	65.5	80.7
11/15/24	54.9	44.3	46.9	48.5	50.8	56.4	64.8	78.2
11/16/24	52.9	44.6	46.2	48.3	51.0	54.0	60.6	74.5
11/17/24	53.4	42.2	44.5	47.1	50.0	53.4	63.3	80.6
11/18/24*	53.1	44.0	46.6	48.5	51.2	54.8	61.9	71.3
Total>	*54.7*	*42.2*	*45.9*	*48.3*	*50.9*	*56.1*	*64.4*	*80.7*

*Partial day **Rain during some hours

Table 7 and Table 8 present the metrics of the unweighted peak (dBZpk) sound levels logged from 8 AM to 9 PM on each day and overall over this time interval at each meter site over the entire course of the measurement program. The time period 8 AM to 9 PM is the notional operating hours for the pickle ball courts.

Table 7 – 8AM to 9PM sound metrics, unweighted peak (dBZ) 2175 LxT meter, west.

Date	LZeq	Min	L99	L90	L50	L10	L1	Max
11/13/24*	83.5	73.3	74.5	76.4	79.1	88.1	92.3	99.9
11/14/24**	81.7	71.2	73.3	75.0	78.0	82.5	93.9	97.9
11/15/24	81.9	70.8	72.8	74.7	77.4	83.6	93.4	97.4
11/16/24	79.8	70.7	72.2	73.8	76.5	82.4	89.3	100.1
11/17/24	79.1	69.2	71.1	72.4	74.9	81.4	89.7	98.0
11/18/24*	81.9	72.7	74.6	76.4	79.0	84.4	91.3	98.7
Total>	*81.6*	*69.2*	*71.8*	*73.9*	*77.5*	*83.4*	*92.3*	*100.1*

*Partial day **Rain during some hours

Table 8 – 8AM to 9PM sound metrics, unweighted peak (dBZ) 2176 LxT meter, east.

Date	LZeq	Min	L99	L90	L50	L10	L1	Max
11/13/24*	83.2	72.3	74.2	76.1	78.8	88.0	92.1	100.7
11/14/24**	83.8	72.5	74.2	75.8	78.8	85.2	95.8	110.2
11/15/24	84.2	71.9	73.6	75.6	78.6	86.5	95.5	108.3
11/16/24	79.5	71.0	73.0	74.4	77.1	81.7	88.1	102.5
11/17/24	79.0	70.0	71.4	72.9	75.5	80.8	90.0	98.3
11/18/24*	81.4	73.1	74.8	76.7	79.3	83.3	90.5	99.1
Total>	*82.3*	*70.0*	*72.3*	*74.6*	*78.1*	*83.9*	*93.2*	*110.2*

*Partial day **Rain during some hours

Figure 7 and Figure 8 present plots of the LASeq(1m) levels over the entire survey. Note that the plotted level data in these figures is a 1-minute equivalent (energy average) level. Longer duration, higher-energy events will stand out as “spikes” in the plots; such events include train passages, leaf blowers, aircraft, etc. The data in these figures spans from Wednesday, 11/13/24 in the early afternoon through Monday, 11/18/24 in the early evening. The data at both meter locations exhibits the temporal pattern of a typical traffic-noise, human-activity-noise dominated noise environment. The noise levels are highest when traffic and human activity is highest, and lowest when traffic and human activity is lowest. Further, consider the daily levels in the tables, the LDN at both meter locations was ~60 dB, with daytime average LASeq levels in the low-50’s (total 53.3 dBA).

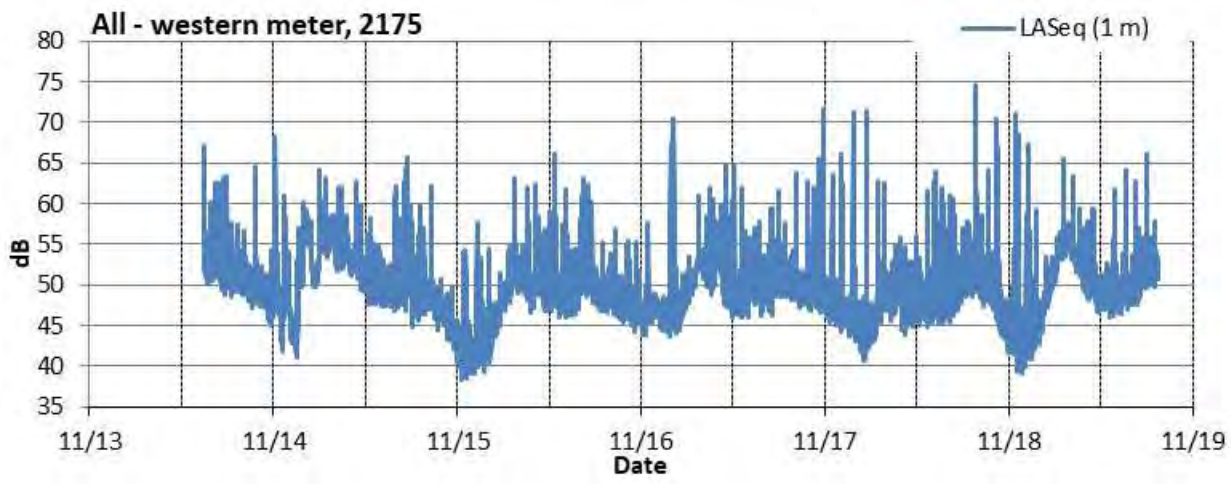


Figure 7 – LAS_{eq}(1m) at west field meter site, 11/13-11/18/24.

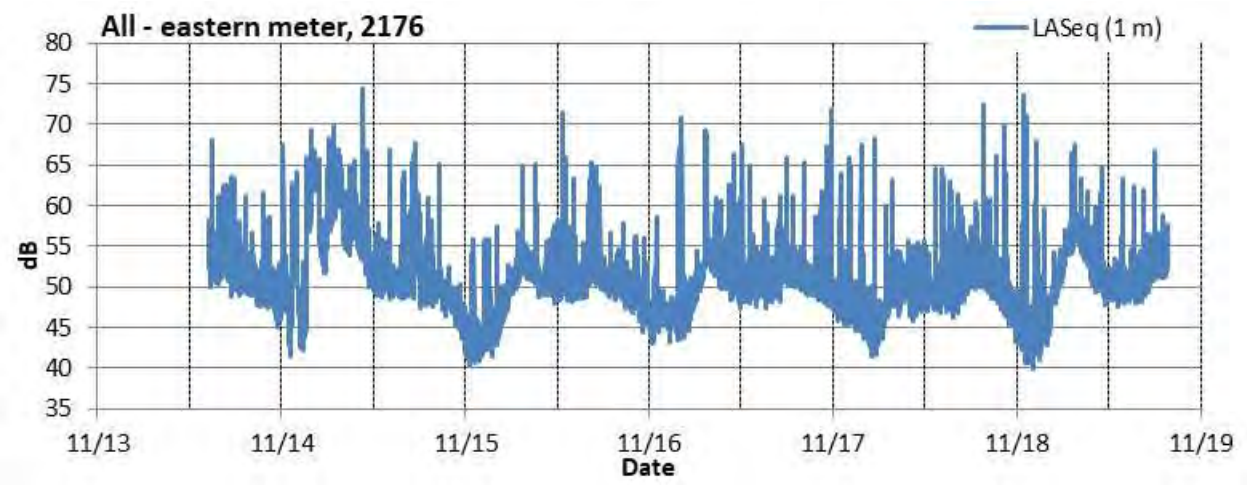


Figure 8 – LAS_{eq}(1m) at east field meter site, 11/13-11/18/24.

Further, the data and figures indicate that the noise levels at the eastern meter site are incrementally higher than those at the western. This is likely due to the closer proximity of the eastern meter to Chamblee Tucker Rd.

Potential Impact of noise from proposed Pickle Ball Courts

To estimate the noise levels from the operation of we used data obtained from real pickle ball games, and applied adjustments to account for the distance from the courts to the northern property line, as well as to account for the number of courts that may be active.

We acquired data at 40' from the center of a pickle ball court, on axis with the long dimension of the court. We acquired data over 6 games of doubles (4 players). The style of play of pickle ball is such that the players converge on the net, such that the center of the net is a valid reference point, particularly for locations at greater distances from a court.

We used the inverse square law of free-field acoustic propagation to account for the attenuation with distance to estimate the noise levels that would be observed at greater distances. We consider both A-weighted noise levels (dBA) and peak-unweighted noise levels (dBZpk). The A-weighted levels are a measure of how player vocal sounds would be perceived, while the unweighted peak levels are appropriate to estimate the impact of the paddle-ball "pop" sound. Per the site plan of the proposed facility, the center of the closest pickle ball court to the northern property line is ~160 ft from that property line. Relative to noise levels measured at 40 ft, the inverse square law indicates that the noise levels will attenuate by 12 dB.

To account for multiple courts in simultaneous operation, we applied the principle of superposition of non-correlated noise sources, yielding an increment of 11 dB assuming 12 courts in simultaneous operation. Note that this represents a non-conservative estimate of the noise levels to metrics other than the *Leq,* as such, this approach represents a "worst case" model. We expect that the actual noise levels will fall between those for the 1 court and 12 courts cases.

Finally, we consider the presence of a 10' noise barrier, as may be obtained by installation on the courts' perimeter fences of a purposed-design noise barrier material (e.g., Acousticblok, https://acoustiblok.com/pickleblok-quiets-pickleball-noise/). Such a barrier would provide 10 dB of noise attenuation in the 500 Hz octave band, increasing to 20 dB in the 8 kHz band and above.

This frequency range covers much of the range of speech as well as that of the sound from pickle ball racquets and balls.

Figure 9 presents the statistics for the daily and total levels (LAeq) at each mete over the duration of the survey for 8 AM to 9 PM on each day, and overall for each of these periods over the entire measurement program. The figure indicates that at the north property line:

1. The wide span of the logged noise level data at both meters, both daily and in total, is a consequence of high-energy events such as trains, sirens, aircraft, leaf blowers, etc. relative to other noise sources of lower power. Relatively continuous sources, such as traffic on adjacent roads, set the middle and low end of the distribution of levels (though individual loud vehicles may contribute to the upper levels, as well).
2. The average level (LAeq) for a single court at 160' (shortest distance from the center of a court to the northern part of the field, ~the property line distance) would be ~8 dB below the average daytime level; this does not mean the sounds of play would be inaudible, because transient levels (as due to loud player vocalizations) might exceed the ambient level at the moment.
3. With a 10' noise barrier, the average level of a single court at 160' would be ~18 dB below the average daytime level; again, this does not mean the sounds of play would be inaudible at all times, because transient levels (as due to loud player vocalizations) might exceed the ambient level at the moment, though the probability of such condition would be less and the perceived loudness of play-related sounds would be lower relative to the no-barrier condition.
4. Absent a barrier, simultaneous play on 12 courts at 160' would have approximately the same noise levels as a single court at 40'. This is a worst-case estimate, and assumes all courts are simultaneously producing noise; while such is possible, it is more likely that activity will vary across the courts, and the average impact, even with all courts active, would fall between those of the 12 court case and the 1 court case.
5. With a 10' noise barrier, simultaneous play on 12 courts at 160' would ~8 dB below the average daytime level; this does not mean the sounds of play would be inaudible, because transient levels (as due to loud player vocalizations) might exceed the ambient level at the moment, though the probability of such condition would be less and the perceived loudness of play-related sounds would be lower relative to the no-barrier condition.

Figure 10 presents the results for a similar analysis applied to the unweighted peak levels, with modeled noise impacts from pickle ball as described above. The implications of the figure are in line with those considered above for the total levels, and provide additional support for recommending that the courts' perimeter fences be treated with an acoustic barrier material.

Note that it would be best if the courts' southern fence be left untreated, as otherwise there is the likelihood that sounds will reflect back and forth between opposed parallel fences, partially defeating the effectiveness of the barrier at distance.

Even with a barrier in place, it is likely that the noise of play on the pickle ball courts, including the paddle-ball strike sound, may be audible, dependent on the ambient noise environment at a given time. However, the use of an effective barrier will reduce the noise levels, including that of the paddle-ball strike, by 10 dB or more, such that the levels would typically be below those levels that currently exist in the environment. Note that environmental factors (e.g., winter vs summer) will alter the environmental levels, such that the noise levels due to play may be more or less audible than as indicated in Figure 9 and Figure 10.

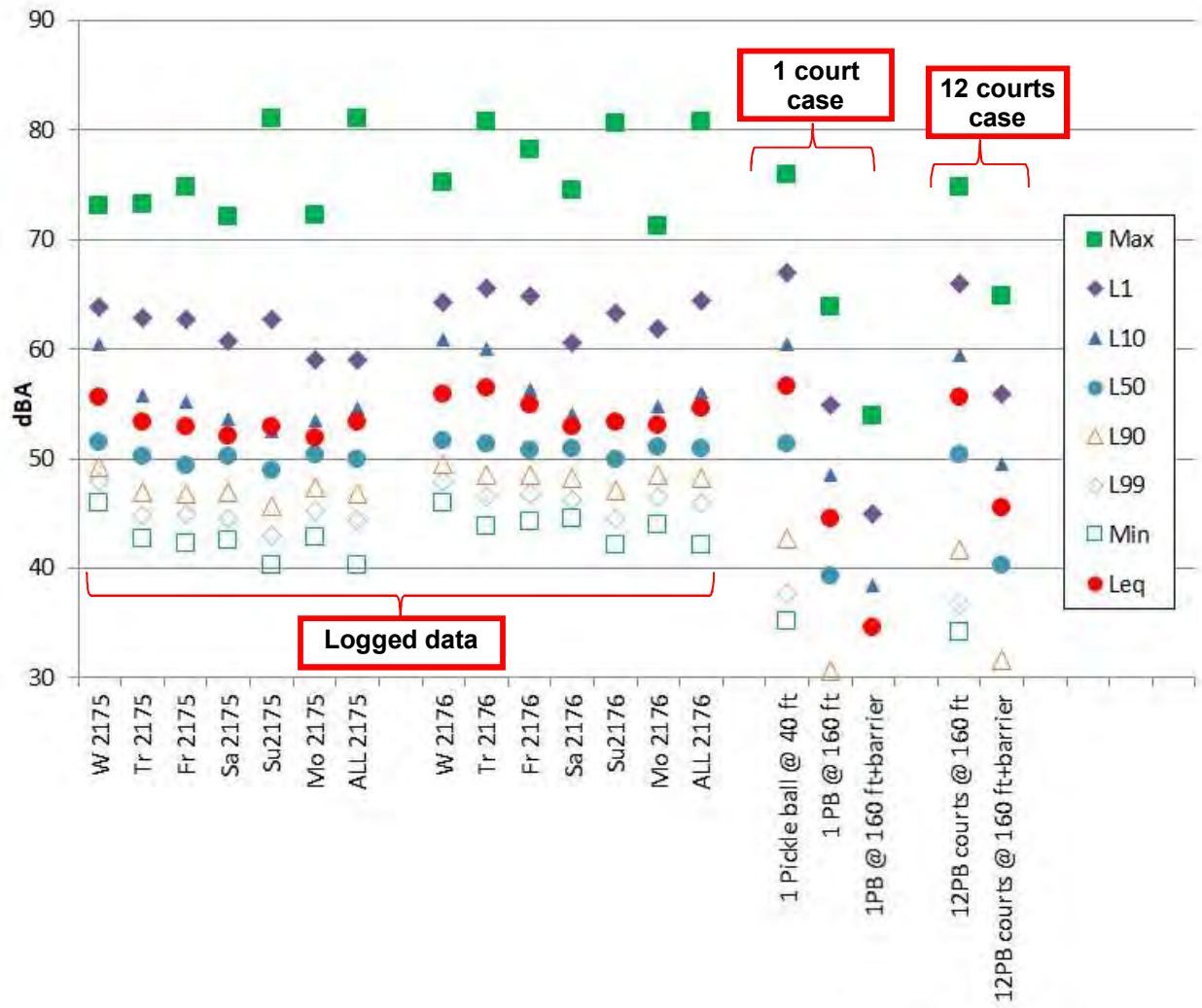


Figure 9 – LAS_{eq} statistics at north edge of field relative to predicted pickle ball noise statistics.

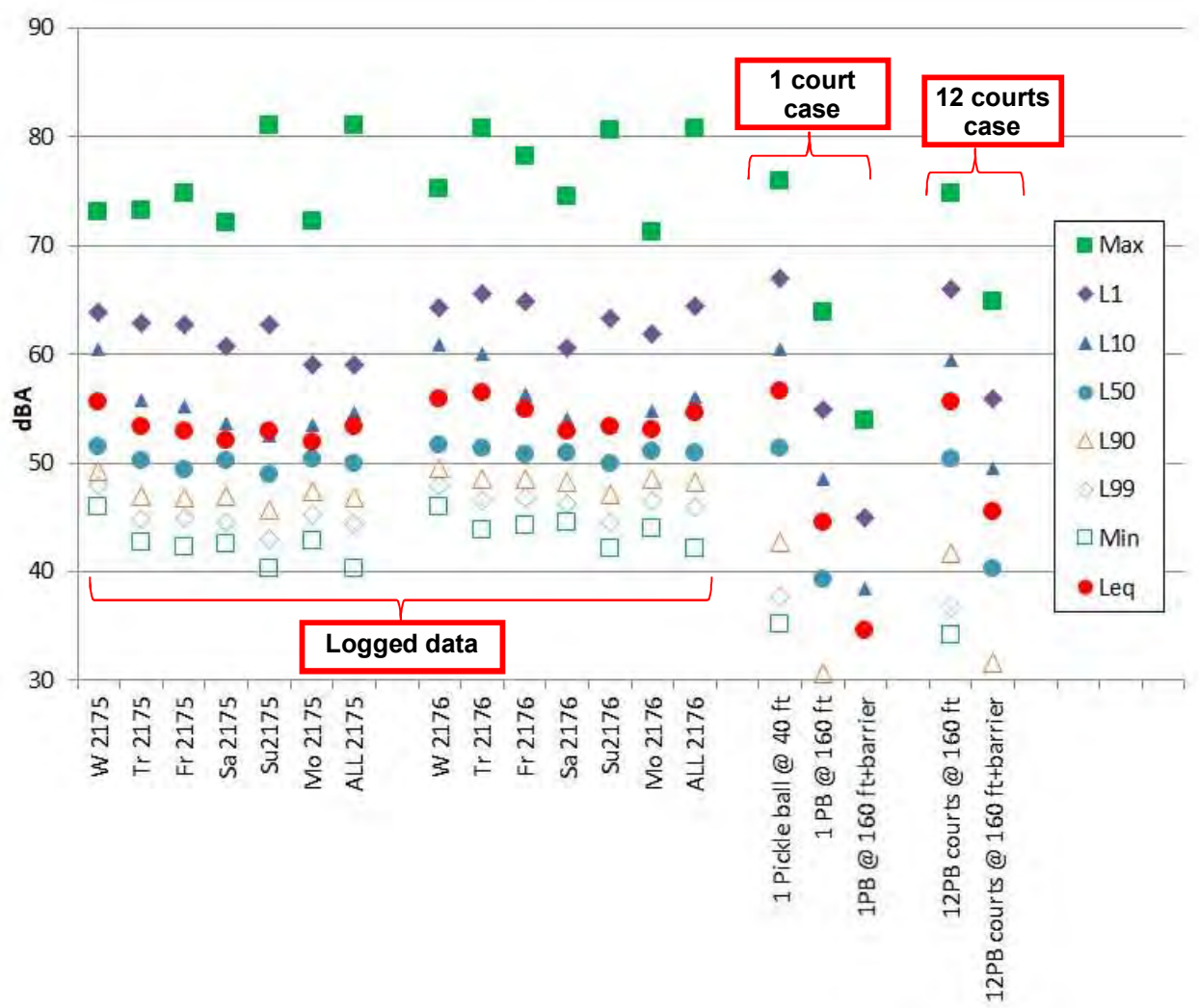


Figure 10 – LZpk statistics at north edge of field relative to predicted pickle ball noise statistics.

A Brief Note on Noise Annoyance

Context and character broadly describe factors that are relevant in assessing the potential for a given noise source to be considered an annoyance. Context refers to local environment and expectations of those impacted by a noise, while character refers to the nature of the sound.

Factors that impact the context of a noise include:

1. Time of day and duration that the noise is experienced, where noises that start early in the day, extend late in the day, and are present for extended periods having the greatest potential for being perceived as annoying.
2. Day of the week that the noise is experienced, with noise sources active on weekends having greatest potential for being perceived as an annoyance.
3. Expectation of quiet, with noises that impact residential land uses having the greatest potential for being perceived as annoying.
4. Whether the noise is long-term vs. short-term.

In terms of the character of the noise being a factor in noise annoyance, factors include the level relative to the local environment, whether a sound is continuous are strongly time-varying (e.g.,

rapidly rising and falling over time). Sounds that vary quickly are generally perceived to be more annoying. Other character factors include:

1. Impact of the noise level relative to the environment without the noise; the greater the difference between the level with the noise present as compared to the level without the noise, the greater the potential for the noise to be perceived as an annoyance.
2. Impact sounds, such as produced by dropping objects onto hard surfaces, slamming of doors, dropping roll-up doors, dropping of palettes, hammering or banging, etc.
3. Presence of tones, e.g., from vehicle alarms.
4. Presence of low-frequency droning sounds.

Respectfully submitted,

Kenneth A. Cunefare, Ph.D.
Principal, Arpeggio

Appendix A – Definitions

This appendix presents the definitions of a number of the acoustic metrics and descriptors used in this report.

dB – decibel. Sound level meters typically produce readings of noise levels in terms of dB. The decibel is a logarithmic measure of sound level. Sound pressure level in dB is defined as

$$L, dB = 10\log\left(\frac{p_{rms}^2}{p_{ref}^2}\right) \quad (1)$$

where p_{rms} is the root-mean-square of the acoustic pressure, and p_{ref} is the reference acoustic pressure, defined by standard as 20x10^{-6} Pascals. In terms of human hearing, a 3 dB change in sound level is barely perceptible, a 5 dB change is clearly perceptible, and a 10 dB change is perceived as a change by a factor of 2 in the loudness of a sound.

L_{eq} – Equivalent level. A dB level equivalent to the energy-averaged level over a specified time interval, defined as

$$L_{eq} = 10\log\left(\frac{1}{T \times p_{ref}^2}\int_0^T p_{rms}^2(t)\,dt\right) \quad (2)$$

Since L_{eq} depends on the time interval over which it is measured, the time interval is usually specified, e.g., a series of 15-second A-weighted LA_{eq} values are the average levels for the sound for each 15 second interval during the course of the measurement, and would be labeled as LA_{eq}(15s).

LDN – Level Day–Night. The 24-hour equivalent level where the levels from midnight to 7 AM and 10 PM to midnight on the same day have been penalized with a 10 dB increment. LDN is a common metric for assessing potential for community noise annoyance.

$Lday$ – Level Day The equivalent level from 7 AM and 10 PM.

$Lnight$ – Level Night. The equivalent level where the levels from midnight to 7 AM and 10 PM to midnight on the same day.

LN – Exceedance level. The sound pressure level that is exceeded N percent of the time. LN levels are used to statistically characterize environmental noise variation over a specific time interval. For example, an $LN10$(1 hr) of 70 dBA indicates that over a one hour period, the sound level exceeded 70 dBA 10% of the time.

1. $L99$ is the noise level exceeded 99% of the time.
2. $L90$ is the noise level exceeded 90% of the time, and may be used as an estimate of the quietest moments.
3. *L50* is a common metric for an estimate the ambient noise level.
4. $L10$ is the noise level exceeded 10% of the time.
5. $L1$ is the noise level exceeded 1% of the time, and may be used as an estimate of the quietest moments.
6. Min is the single lowest noise level logged over an entire measurement interval.
7. Max is the single highest noise level logged over an entire measurement interval.

When there is a wide range of values between these statistical metrics, it indicates the presence of transient, dynamic noise levels, with intermittent high levels relative to low levels.

Time Weighting – Characteristic averaging time (exponential), or time constant, implemented in a sound level meter.

Slow: Time constant 1 second (1000 ms).
Fast: Time constant 1/8 second (125 ms).
Impulse: Time constant 35ms for the rise and 1.5 seconds (1500 ms) for the decay. The difference in time constants for the rise vs the decay is to allow a very short signal to be captured and displayed.
Peak: No time constant; value is the peak detected pressure without time weighting.

Measures of sound referenced in this report include the equivalent A-weighted level, LA_{eq}. These are L_{eq} measures where the A-weighting has been applied.

A-weight – A frequency weighting filter that is applied to the frequency spectrum to approximately represent the frequency response sensitivity of human hearing. The A-weighting filter attenuates low frequency sounds (below 1000 Hz) and high frequency sounds (above 6300 Hz), and slightly accentuates sounds in the mid-frequency range (between 1000 and 6300 Hz).

Unweighted dB levels may be labelled dBZ or LZ_{eq}.

The frequency content of a sound may be analyzed in bands, such octave and 1/3 octave, with any of the weightings and time constants as may be applied.

Appendix B

Federal Rail Administration Crossing Inventory Reports

Georgia DOT Traffic Data

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY)	B. Reporting Agency	C. Reason for Update (Select only one)	D. DOT Crossing Inventory Number
11 / 06 / 2024	☐ Railroad ☐ Transit ☒ State ☐ Other	☒ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction	639798G

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
CSX Transportation [CSX]	GEORGIA	DE KALB

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☒ In ☐ Near TUCKER	MAIN STREET (Street/Road Name) | * (Block Number)	CR5183

7. Do Other Railroads Operate a Separate Track at Crossing?	8. Do Other Railroads Operate Over Your Track at Crossing?
☐ Yes ☒ No If Yes, Specify RR	☐ Yes ☒ No If Yes, Specify RR

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None ATLANTA	☐ None ABBEVILLE	☒ None	SG | 0560.620 | (prefix) | (nnnn.nnn) | (suffix)

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR (if applicable)	16. Crossing Owner (if applicable)
907780	TUCKER	☒ N/A	☒ N/A

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access (if Private Crossing)	21. Type of Train		22. Average Passenger Train Count Per Day
☒ Public ☐ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☒ At Grade ☐ RR Under ☐ RR Over	☐ Yes ☐ No	☒ Freight ☐ Intercity Passenger ☐ Commuter	☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use
☐ Open Space ☐ Farm ☐ Residential ☒ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone (FRA provided)
☐ Yes ☒ No If Yes, Provide Crossing Number	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	(WGS84 std: nn.nnnnnnn) 33.8524200	(WGS84 std: -nnn.nnnnnnn) -84.2140430	☒ Actual ☐ Estimated

30.A. Railroad Use *	31.A. State Use *
30.B. Railroad Use *	31.B. State Use *
30.C. Railroad Use *	31.C. State Use *
30.D. Railroad Use *	31.D. State Use *
32.A. Narrative (Railroad Use) *	32.B. Narrative (State Use) *

33. Emergency Notification Telephone No. (posted)	34. Railroad Contact (Telephone No.)	35. State Contact (Telephone No.)
800-232-0144	904-366-3051	404-631-1375

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains (6 AM to 6 PM)	1.B. Total Night Thru Trains (6 PM to 6 AM)	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day ☐ How many trains per week?
2	2	4	0	

2. Year of Train Count Data (YYYY)	3. Speed of Train at Crossing
2023	3.A. Maximum Timetable Speed (mph) 40 3.B. Typical Speed Range Over Crossing (mph) From 40 to 40

4. Type and Count of Tracks
Main 1 Siding 0 Yard 0 Transit 0 Industry 0

5. Train Detection (Main Track only)
☐ Constant Warning Time ☒ Motion Detection ☐ AFO ☐ PTC ☐ DC ☐ Other ☐ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☒ Yes ☐ No	☐ Yes ☒ No	☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
11/06/2024		639798G

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☐ None
0	0	0	☒ W10-1 2 ☐ W10-3 ☐ W10-11 ☐ W10-2 ☐ W10-4 ☐ W10-12

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count)* ☒ No	☒ Stop Lines ☐ Dynamic Envelope ☒ RR Xing Symbols ☐ None	☐ All Approaches ☐ Median ☐ One Approach ☒ None	☐ Yes ☒ No	☒ Yes ☐ No

2.J. Other MUTCD Signs ☒ Yes ☐ No	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
Specify Type W10-15P Count 1 Specify Type Count Specify Type Count	☐ Yes ☐ No	

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 2	3.E. Total Count of Flashing Light Pairs
Roadway 2 Pedestrian 0	☒ 2 Quad ☐ Full *(Barrier)* Resistance ☐ 3 Quad ☐ 4 Quad ☐ Median Gates	Over Traffic Lane 2 ☒ Incandescent Not Over Traffic Lane 0 ☐ LED	☒ Incandescent ☐ LED ☒ Back Lights Included ☒ Side Lights Included	7

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
☒ Not Required	☐ Yes Installed on *(MM/YYYY)* ☒ No	☐ Yes ☒ No	2

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☒ None	Count 0 Specify type

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☐ Yes ☒ No	☒ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * Stop Line Distance *	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☒ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☒ Two-way Traffic ☐ Divided Traffic Number of Lanes 4	☒ Yes ☐ No	☐ Yes ☒ No	☒ Yes ☐ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* Width * Length *
☐ 1 Timber ☐ 2 Asphalt ☒ 3 Asphalt and Timber ☐ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)*

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☒ Yes ☐ No If Yes, Approximate Distance *(feet)*	☐ 0° – 29° ☐ 30° – 59° ☒ 60° - 90°	☒ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☐ (03) Federal AID, Not NHS ☒ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☐ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☒ (7) Local	☐ Yes ☒ No	25 MPH ☒ Posted ☐ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 2014 AADT 2000	15 %	☒ Yes ☐ No Average Number per Day 0	☐ Yes ☒ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by Organization Phone Date

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY)	B. Reporting Agency	C. Reason for Update (Select only one)	D. DOT Crossing Inventory Number
11 / 06 / 2024	☐ Railroad ☐ Transit ☒ State ☐ Other	☒ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction	639800F

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
CSX Transportation [CSX]	GEORGIA	DE KALB

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☒ In ☐ Near TUCKER	BROCKETT ROAD | (Street/Road Name) | * (Block Number)	CR5152

7. Do Other Railroads Operate a Separate Track at Crossing? ☐ Yes ☒ No	8. Do Other Railroads Operate Over Your Track at Crossing? ☐ Yes ☒ No
If Yes, Specify RR	If Yes, Specify RR

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None ATLANTA	☐ None ATLANTA TERMINAL	☒ None	SG | 0561.190 | (prefix) | (nnnn.nnn) | (suffix)

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR (if applicable)	16. Crossing Owner (if applicable)
907780	TUCKER	☒ N/A	☒ N/A

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access (if Private Crossing)	21. Type of Train		22. Average Passenger Train Count Per Day
☒ Public ☐ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☒ At Grade ☐ RR Under ☐ RR Over	☐ Yes ☐ No	☒ Freight ☐ Intercity Passenger ☐ Commuter	☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use
☐ Open Space ☐ Farm ☐ Residential ☒ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone (FRA provided)
☐ Yes ☒ No If Yes, Provide Crossing Number	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	(WGS84 std: nn.nnnnnnn) 33.8499130	(WGS84 std: -nnn.nnnnnnn) -84.2231630	☒ Actual ☐ Estimated

30.A. Railroad Use *	31.A. State Use *
30.B. Railroad Use *	31.B. State Use *
30.C. Railroad Use *	31.C. State Use *
30.D. Railroad Use *	31.D. State Use *
32.A. Narrative (Railroad Use) *	32.B. Narrative (State Use) *

33. Emergency Notification Telephone No. (posted)	34. Railroad Contact (Telephone No.)	35. State Contact (Telephone No.)
800-232-0144	904-366-3051	404-631-1375

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains (6 AM to 6 PM)	1.B. Total Night Thru Trains (6 PM to 6 AM)	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day ☐ How many trains per week?
2	2	4	0	

2. Year of Train Count Data (YYYY)	3. Speed of Train at Crossing
2023	3.A. Maximum Timetable Speed (mph) 45 3.B. Typical Speed Range Over Crossing (mph) From 25 to 45

4. Type and Count of Tracks
Main 1 Siding 1 Yard 0 Transit 0 Industry 0

5. Train Detection (Main Track only)
☐ Constant Warning Time ☒ Motion Detection ☐ AFO ☐ PTC ☐ DC ☐ Other ☐ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☒ Yes ☐ No	☐ Yes ☒ No	☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
11/06/2024		639800F

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☒ None
0	0	0	☐ W10-1 _____ ☐ W10-3 _____ ☐ W10-11 _____ ☐ W10-2 _____ ☐ W10-4 _____ ☐ W10-12 _____

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count_____)* ☒ No	☐ Stop Lines ☐ Dynamic Envelope ☐ RR Xing Symbols ☒ None	☐ All Approaches ☐ Median ☐ One Approach ☒ None	☐ Yes ☐ No	☒ Yes ☐ No

2.J. Other MUTCD Signs ☐ Yes ☒ No
Specify Type _____ Count _____
Specify Type _____ Count _____
Specify Type _____ Count _____

2.K. Private Crossing Signs *(if private)* ☐ Yes ☐ No

2.L. LED Enhanced Signs *(List types)*

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 2	3.E. Total Count of Flashing Light Pairs
Roadway 2 Pedestrian 0	☒ 2 Quad ☐ 3 Quad ☐ 4 Quad ☐ Full *(Barrier)* Resistance ☐ Median Gates	Over Traffic Lane 2 ☒ Incandescent Not Over Traffic Lane 0 ☐ LED	☒ Incandescent ☐ LED ☒ Back Lights Included ☒ Side Lights Included	8

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☒ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☒ No	☐ Yes ☒ No	2

3.J. Non-Train Active Warning
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☒ None

3.K. Other Flashing Lights or Warning Devices
Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☒ Yes ☐ No	☐ Not Interconnected ☒ For Traffic Signals ☐ For Warning Signs	☒ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * _____ Stop Line Distance * _____	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☒ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☒ Two-way Traffic ☐ Divided Traffic Number of Lanes 5	☒ Yes ☐ No	☐ Yes ☒ No	☒ Yes ☐ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * _____
☐ 1 Timber ☐ 2 Asphalt ☒ 3 Asphalt and Timber ☐ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☒ Yes ☐ No If Yes, Approximate Distance *(feet)* _____	☐ 0° – 29° ☐ 30° – 59° ☒ 60° - 90°	☒ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☒ (03) Federal AID, Not NHS ☐ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☒ (5) Major Collector ☐ (2) Other Freeways and Expressways ☐ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☐ (7) Local	☐ Yes ☒ No	35 MPH ☒ Posted ☐ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

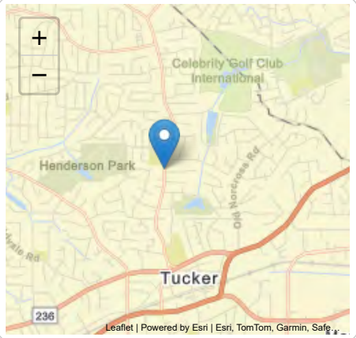
7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 2014 AADT 5780	09 %	☒ Yes ☐ No Average Number per Day 0	☒ Yes ☐ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

0000089_3641 - 089-3641 - Chamblee Tuckr Rd S of Pleasntdale Rd
City: Tucker **County:** DeKalb
Route number: 00518200
LRS section: 0893518200
Functional class: 4U - Minor Arterial (Urban)
Coordinates: 33.86662, -84.218058

Site Data

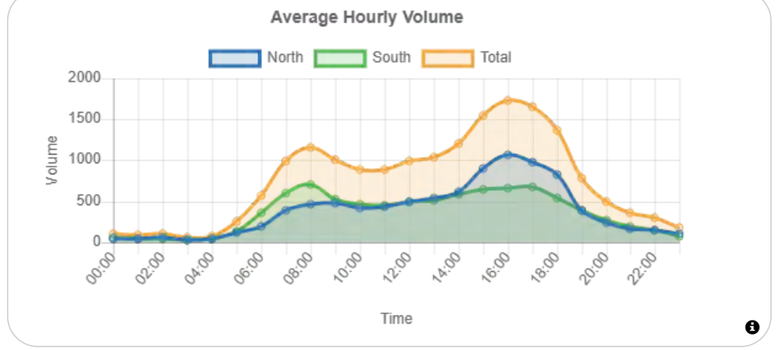


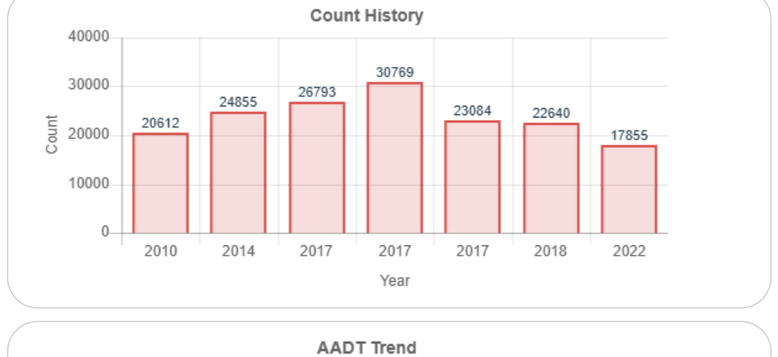
Count History

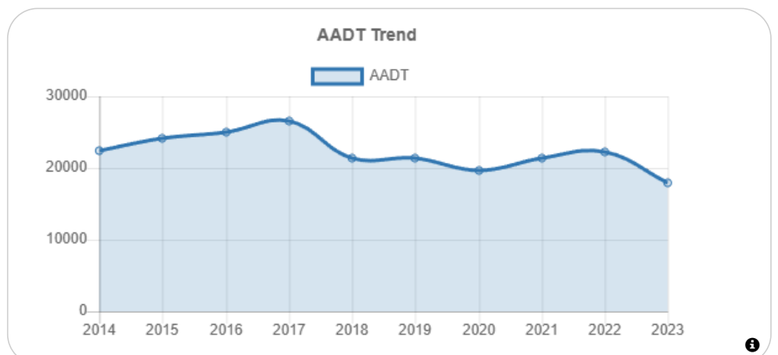
Year	Month	Count type	Duration	Count
2022	December	Class	48 hours	17,855
2018	February	Class	48 hours	22,640
2017	June	Volume	48 hours	23,084
2017	May	Volume	48 hours	30,769
2017	April	Volume	48 hours	26,793
2014	March	Volume	48 hours	24,855
2010	March	Volume	48 hours	20,612

Annual Statistics

Data Item	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Statistics type	-	Estimated	Estimated	Estimated	Actual	Estimated	Estimated	Estimated	Estimated	**Actual**
AADT	22,500	24,200	25,000	26,500	21,300	21,400	19,700	21,300	22,200	**18,000**
K-Factor	0.122	0.122	0.122	-	0.129	0.129	0.129	0.129	0.129	**0.098**
D-Factor	0.600	0.600	0.600	-	0.610	0.610	0.610	0.610	0.610	**0.630**
Future AADT	-	-	31,200	41,700	42,500	39,500	39,500	39,000	28,000	**22,700**





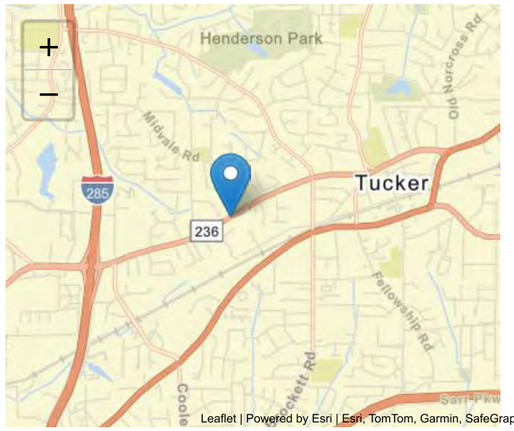


Vehicle Classification 2022

1. Motorcycles 2 axles, 2 or 3 wheels.	**0.11%**
2. Passenger cars 2 axles. Can have 1- or 2-axle trailers.	**79.88%**
3. Pickups, panels, vans 2-axle, 4-tire single units. Can have 1- or 2-axle trailers.	**15.33%**
4. Buses 2- or 3-axle, full length.	**1.02%**
5. Single-unit trucks 2-axle, 6-tire, (dual rear tires), single-unit trucks.	**2.83%**
6. Single-unit trucks 3-axle, single-unit trucks.	**0.37%**
7. Single-unit trucks 4 or more axle, single-unit trucks.	**0.02%**
8. Single-trailer trucks 3- or 4-axle, single-trailer trucks.	**0.19%**
9. Single-trailer trucks 5-axle, single-trailer trucks.	**0.24%**
10. Single-trailer trucks 6 or more axle, single-trailer trucks.	**0.01%**
11. Multi-trailer trucks 5 or less axle, multi-trailer trucks.	**0%**
12. Multi-trailer trucks 6-axle, multi-trailer trucks.	**0%**
13. Multi-trailer trucks 7 or more axle, multi-trailer trucks.	**0.00%**

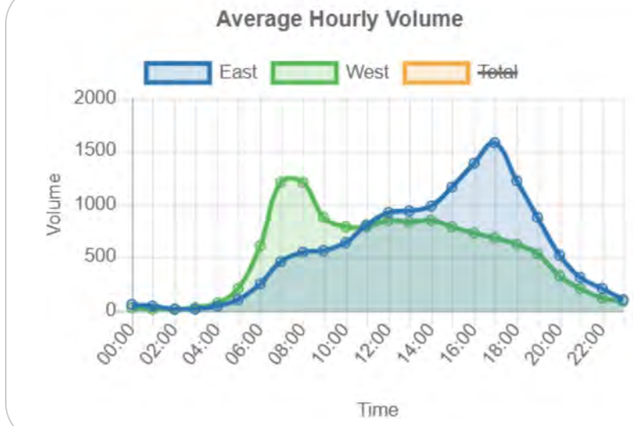
0000089_3269 - 089-3269 - SR236/Lavista Rd E of Briarcliff Rd
County: DeKalb
Route number: 00000236
LRS section: 0891023600
Functional class: 4U - Minor Arterial (Urban)
Coordinates: 33.850916, -84.232121

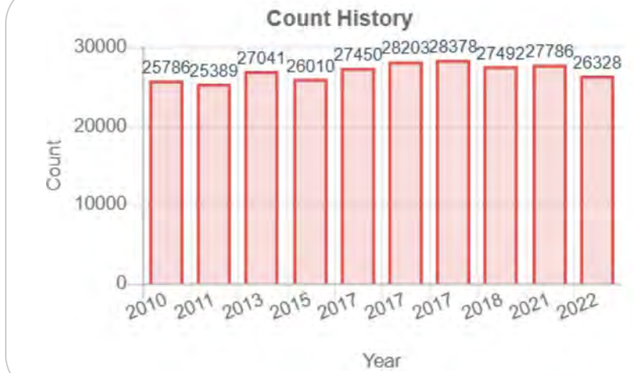
Site Data



Count History

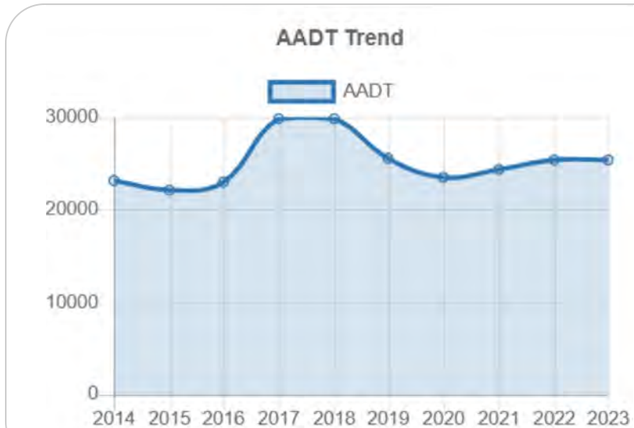
Year	Month	Count type	Duration	Count
2022	November	Volume	48 hours	26,328
2021	October	Class	48 hours	27,786
2018	November	Volume	48 hours	27,492
2017	June	Volume	48 hours	28,378
2017	May	Volume	48 hours	28,203
2017	January	Class	48 hours	27,450
2015	June	Volume	48 hours	26,010





Annual Statistics

Data Item	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Statistics type	-	Actual	Estimated	Actual	Estimated	Actual	Estimated	Actual	Estimated	**Actual**
AADT	23,200	22,200	22,900	29,800	29,800	25,500	23,500	24,400	25,400	**25,400**
K-Factor	0.090	0.097	0.097	0.081	0.081	0.082	0.082	0.095	0.095	**0.095**
D-Factor	0.700	0.600	0.600	0.620	0.620	0.620	0.620	0.620	0.620	**0.740**
Future AADT	-	-	27,400	37,500	37,500	40,300	40,300	47,100	37,400	**32,100**



Appendix C – Photographs

Figure C.1 – East meter, SLM 2176, 11/13/24. Looking north.

Appendix C – Photographs

Figure C.2 – East meter, SLM 2176, 11/13/24. Looking south.

Appendix C – Photographs

Figure C.3 – East meter, SLM 2176, 11/13/24. Looking east.

Appendix C – Photographs

Figure C.4 – East meter, SLM 2176, 11/13/24. Looking west.

Appendix C – Photographs

Figure C.5 – West meter, SLM 2175, 11/13/24. Looking north.

Figure C.6 – West meter, SLM 2175, 11/13/24. Looking south.

Appendix C – Photographs

Figure C.7 – West meter, SLM 2175, 11/13/24. Looking east.

Appendix C – Photographs

Figure C.8 – West meter, SLM 2175, 11/13/24. Looking west.

Appendix C – Photographs

Figure C.9 – Looking north from south side of field, both meters in field of view, 11/13/24.