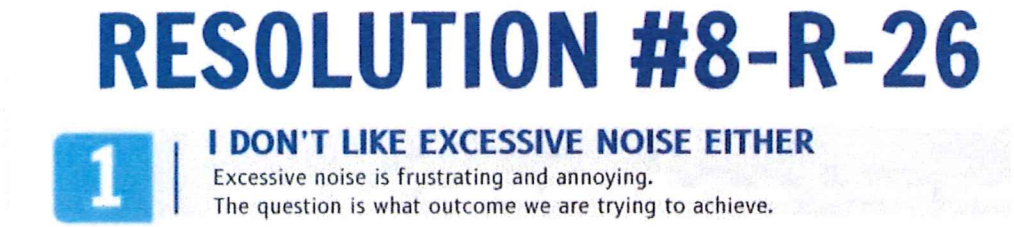
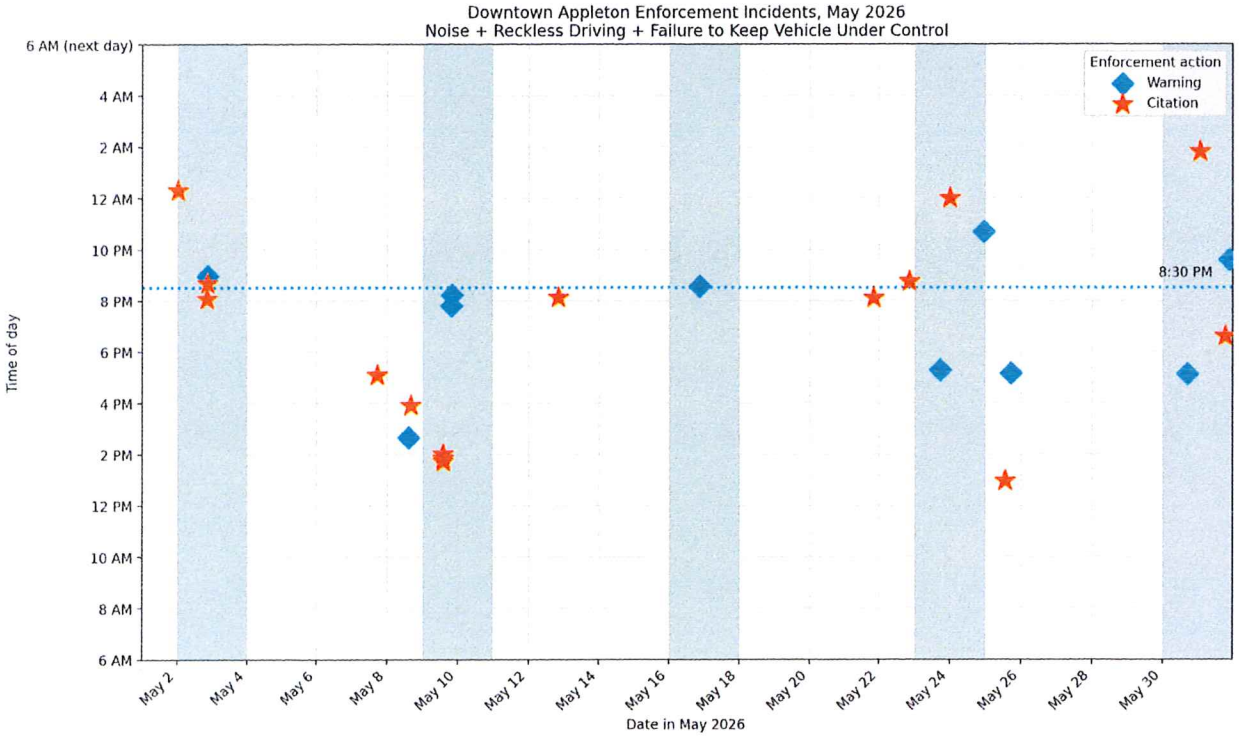
Images and Graphs Associated with Noise Presentation
Martyn Smith, Alderperson District 4
August 26, 2026

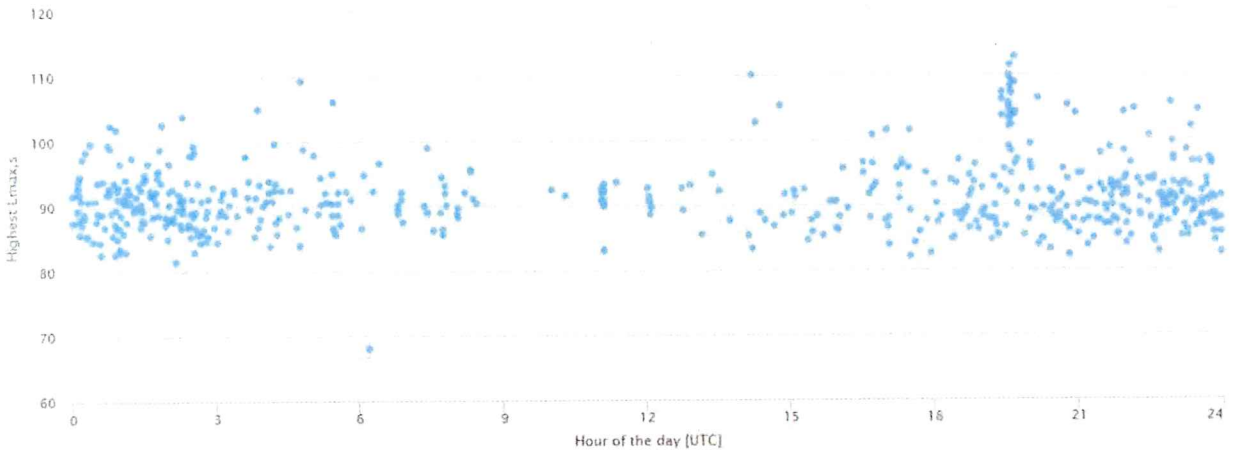
1. Beyond "annoyance"



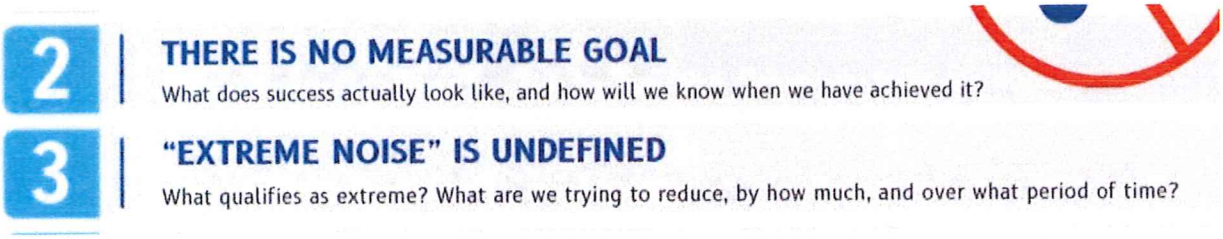
2. Graph of Speed Enforcement in Downtown Corridor of Appleton, May 2026



3. Noise Data from Knoxville, TN



4. The issue of a measurable goal



5. Knoxville, TN account of data first approach

https://www.knoxvilletn.gov/archived_news_stories/2022/noise-_monitoring_camera_being_tested_downtown

Noise-Monitoring Camera Being Tested Downtown

Posted: 02/14/2022

Noise complaints are up: Downtown residents and business owners are tired of motorists with illegally modified vehicles, or those who choose to loudly rev their engines.

So the City is taking the next step to remedy the problem by installing and trying out a mobile camera that captures data associated with distinct violations of the City's vehicle noise ordinances.

This week, the camera – on loan from the manufacturer, at no cost to the City – is scheduled to be installed at the intersection of Gay Street and Clinch Avenue. Data that will be collected includes the time and date of a noise violation, the vehicle type and a photo of the vehicle's license plate.

While the camera footage alone cannot be used as the basis for issuing any noise violation citations, warnings may be issued, and the trends that are verified by the data can lead to more effective enforcement.

"Right now, the City is limited to anecdotal complaints from residents and what patrol officers witness," said Carter Hall, the City's Policy and Business Innovation Manager. "This camera, on loan from UK-based 24 Acoustics Ltd., is a promising new tool that can help cities address noise as a quality-of-life issue. We want to conduct a short-term demonstration project to track the frequency and source of the worst noise issues."

The camera isn't always recording, but a short recording window is triggered by a loud vehicle.

The current City ordinance mandates that all vehicles have a muffler in good working order, and it bans muffler cutouts or bypasses. On streets with a speed limit of 35 mph or lower, the maximum noise allowed for most vehicles is 82 dBA. (The dBA scale factors in sensitivity of the human ear to various sound frequencies.)

Examples of noises at the 80 dBA level that sometimes are cited by noise experts include a garbage disposal or a food blender, or, according to OSHA, standing 100 feet away from a moving freight train.

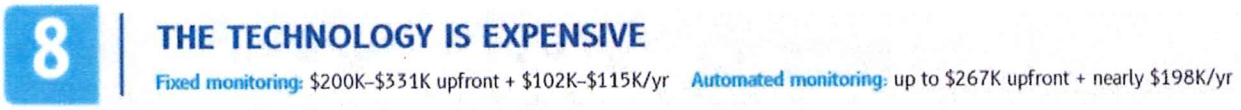
A 100 dBA measurement denotes a noise level comparable, according to OSHA, with being on a construction site. Other sources say a 100 dBA measurement denotes noise comparable to a jackhammer.

"Although the demonstration project will focus on downtown, testing this tool as a strategy for enforcement will benefit other neighborhoods as well," said Deputy to the Mayor Erin Gill, the City's Chief Policy Officer.

"Excessive noise is more than an inconvenience. It keeps residents awake and disrupts workers, and chronic noise pollution creates a risk of negative health effects, both physical and mental."

Once the noise-camera demonstration project ends, the City will evaluate the camera's performance and the data generated before deciding whether such a tool could be beneficial to effective enforcement of the City's noise-restriction ordinance going forward.

6. Cost is NOT prohibitive



Fully integrated into the urban landscape

The TA120 is **very easy to install** on street lights, marquees, billboards, shelters, kiosks and advertising posts and requires minimum annual maintenance.

The TA120 is powered through the mains, POE, 12 VDC voltage or through the urban lightning network with battery backup. The **BA120 optional battery** guarantees the sufficient duration and charging time to complete annual cycles.

Sample Output:
Friday, 11:42:17 p.m.
LAeq,1s: 91.3 dBA
LAFmax: 98.7 dBA
LCmax: 103.2 dBC
Duration above 85 dBA: 4 seconds
Frequency spectrum: retained
Audio: none
One unit costs $2249

One unit costs $2249 (cost depends on overall configuration, so this will vary)

Units	Sensor cost
3	$6,747
5	$11,245
6	$13,494
8	$17,992
10	$22,490

My Recommendation is to start with 5 of these CESVA TA120 units
3 for fixed locations on College Ave
2 moved every couple of weeks to build a noise portrait of the city

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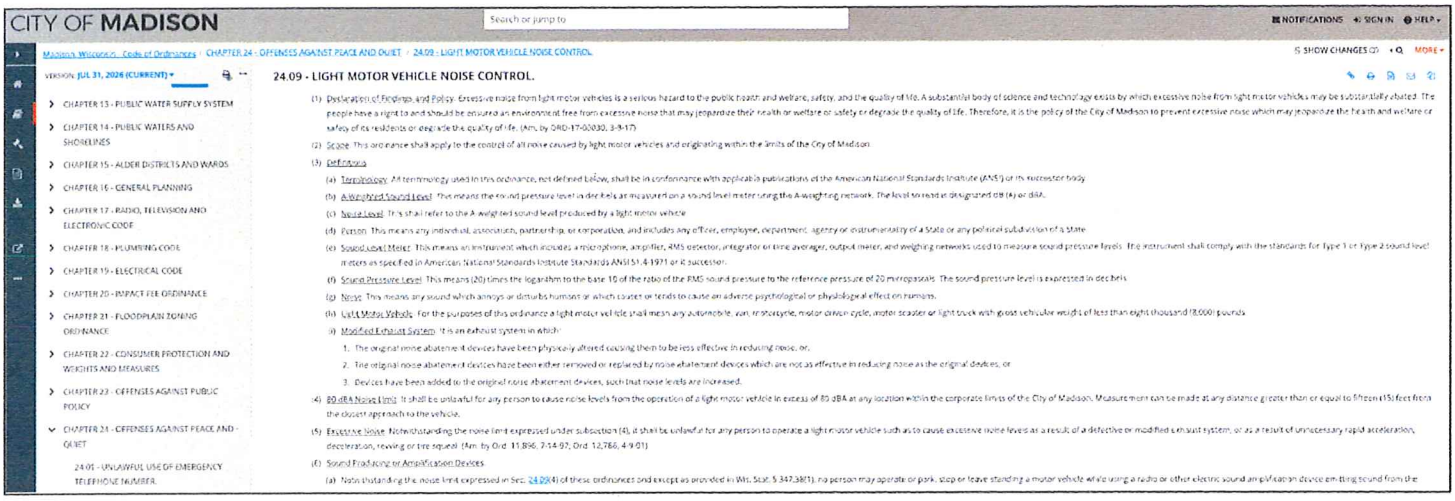
7. From APD mid year budget report: technology interest

Strategic initiatives in 2026 include a continued investment in technology to improve the Department's technology resources and capabilities. In addition to facilitating the upgrade in police mobile radios, the Department was awarded the Interoperable Radio Grant through the Wisconsin Department of Military Affairs Office of Emergency Communication to upgrade radios for special teams. Also awarded was the Community Oriented Policing Services (COPS) Technology and Equipment Program (TEP) for robotic equipment to create a safer environment when responding to high-risk calls for service. Technology upgrades and enhancements not only improve operational efficiencies but improve the safety of officers and the public. This is a long-term initiative as technology continues to improve and transform the focus of public safety.

8. Central Finding of Memo – need better clarity on noise

Central Finding of This Memo

Before evaluating any data collection method, the City must address a legal constraint that fundamentally limits what acoustic monitoring can achieve. Under Wisconsin state law (§ 349.03), vehicular noise from an unmodified exhaust system is lawful at any decibel level and cannot be regulated by local ordinance. Measuring sound levels alone, without determining whether a vehicle's configuration was lawful or unlawful, does not produce data that is relevant or actionable for the problem this resolution seeks to address. The 2026 Brief already provides a clear picture of the city's noise landscape, making the necessity of a new data collection program questionable. That program would also be cost-prohibitive, representing up to 30% of the Health Department's General Fund Budget, which exceeds what the Department spends on any other single health issue. Additionally, both the Appleton and Tri-County Community Health Assessments identified mental health and access to basic needs as the community's highest health priorities. Given the legal and scientific limitations of acoustic monitoring in the proposed context, its disproportionate cost, and not being a chief health priority identified by the community, the Appleton Department of Public Health cannot recommend adopting Resolution #8-R-2026 in its current form.



(4) 80 dBA Noise Limit. It shall be unlawful for any person to cause noise levels from the operation of a light motor vehicle in excess of 80 dBA at any location within the corporate limits of the City of Madison. Measurement can be made at any distance greater than or equal to fifteen (15) feet from the closest approach to the vehicle.

(5) Excessive Noise. Notwithstanding the noise limit expressed under subsection (4), it shall be unlawful for any person to operate a light motor vehicle such as to cause excessive noise levels as a result of a defective or modified exhaust system, or as a result of unnecessary rapid acceleration, deceleration, revving or tire squeal. (Am. by Ord. 11,896, 7-14-97; Ord. 12,786, 4-9-01)

Menomonee Falls, WI

Municode Codification

Sec. 106-234. - dBA noise limit.

It shall be unlawful for any person to cause noise levels from the operation of a light motor vehicle in excess of 80 dBA at any location within the corporate limits of the village. Measurement can be made at any distance greater than or equal to 15 feet from the closest approach to the vehicle.

(Code 1963, § 6.60(3))

Sec. 106-235. - Excessive noise.

It shall be unlawful for any person to operate a light motor vehicle such as to cause excessive noise levels as a result of a defective or modified exhaust system, or as a result of unnecessary rapid acceleration, deceleration, revving or tire squeal, or as the result of the operation of audio devices such as, but not limited to, radios, phonographs and tape players.

(Code 1963, § 6.60(4))

State Law reference— Mufflers, Wis. Stats. § 347.39.

We need to update city ordinances to better reflect a true upper limit on light vehicle noise