

Some Cities and Communities with Boom Car Ordinances

Some of these communities have fines that reach \$1000

CITY	STATE	DISTANCE	HOURS
Hoover	AL	50	
San Diego	CA	50	10 to 8
San Francisco	CA	50	10 to 7
Huntington Beach	CA	50	10 to 7
Riverside	CA	50	10 to 7
San Luis Obispo	CA	50	10 to 7
Walnut Creek	CA	50	
Aurora	CO	25	
Pitkin County	CO	25	
Glenwood Springs	CO	25	
Hartford	CT	100	
Newark	DE	50	
Tavares	FL	50	11 to 7
Statewide	FL	100	
Miami	FL	100	
Gainesville	FL	200	
Coral Springs	FL	50	10 to 7
Hernando County	FL	100	
Atlanta	GA	50	
Pooler	GA	50	7 to 7
Ada County	IA	100	10 to 7
Boise	ID	100	10 to 7
Des Moines	ID	50	
Indianapolis	IN	50	11 to 7
Goshen	IN	50	
New Orleans	LA	50	
Boston	MA	100	
Plymouth	MI	50	
State Model	MI	50	day
		25	night
St. Paul	MN	50	10 to 7
Albany	MN	50	
St. Cloud	MN	50	

CITY	STATE	DISTANCE	HOURS
Kansas City	MO	50	
Springfield	MO	50	
St. Louis	MO	100	
Raleigh	NC	50	
Kitty Hawk	NC	50	12 to 7
State Model	NJ	50	day
			property line night
Albuquerque	NM	in a house	10 to 7
Yonkers	NY	50	
Mason	OH	50	
Cleveland	OH	out of car	
Cincinnati	OH	50	
Fairfax	OH	50	
Massillon	OH	50	
Oklahoma City	OK	50	
Portland	OR	50	10 to 7
Aumsville	OR	100	
Statewide	OR	50	
Tualatin	OR	50	
Wilkes-Barre	PA	50	11 to 7
Chester	SC	50	
Sioux Falls	SD	50	10 to 7
Nashville	TN	50	
Salt Lake County	UT	50	after 10
West Valley	UT	50	
Blacksburg	VA	50	
Staunton	VA	50	
Pulaski County	VA	50	10 to 7
Bedford	VA	50	9 to 7
Rutland	VT	50	
Newport	VT	50	
Johnson	VT	out of car	
Carnation	WA	50	

BOOM CARS BY THE NUMBERS

Turning the volume all the way up in a car with its original stereo might produce 100 dB, but mostly you'll hear a lot of distortion. A typical stationary or slow-moving car with the radio turned off has an interior sound pressure level of 50-60 dB (all measures presented here are with windows shut). Driving the car on the street or highway gives about 60-70 dB — mostly wind, tire and engine noise — inside the car. Drivers generally set their stereo to 6-10 dB over interior noise levels. Therefore, typical interior levels with the stereo playing are 60-80 dB.

Most of the noise of an original stereo system is trapped inside the car, especially when the windows are shut. Sound pressure levels for a typical car are about 40 dB less 50 feet from the car than they are inside the car (measured to the side of the car with speakers in the door). So if you listen to your radio at 70 dB, the outside level is about 30 dB. The noise from the car traveling at 30 mph at 50 feet is about 60 dB, so the resulting stereo levels outside are lost in the background noise.

A boom car, however, really stands out. Boom cars have been measured at sound pressure levels in excess of 170 dB. It is not uncommon for interior levels to exceed 110 dB. In car stereo competitions, loudness points are awarded up to 130 dB. Often these cars are parked in a public area with the doors and trunk open and a party going on nearby. A moving boom car can be heard coming and going for blocks from the listener.

Just as a typical car traps most of the noise from standard sound systems inside the car, most of the outside noises cannot be heard inside a car. The background levels inside the car are already quite high (50-70 dB, possibly 80 dB with

a fan and stereo going) and the typical car attenuates or reduces outside noises by about 30 dB.

The only outside sounds people need to hear in their car are police, ambulance and emergency sirens as well as horns honked in emergencies. Typical interior sound pressure levels from sirens and horns peak at about 75 dB. At interior car stereo sound pressure levels much greater than 80 dB, emergency warning devices are masked by the sound system. Drivers do not have time to safely react to emergency warnings.

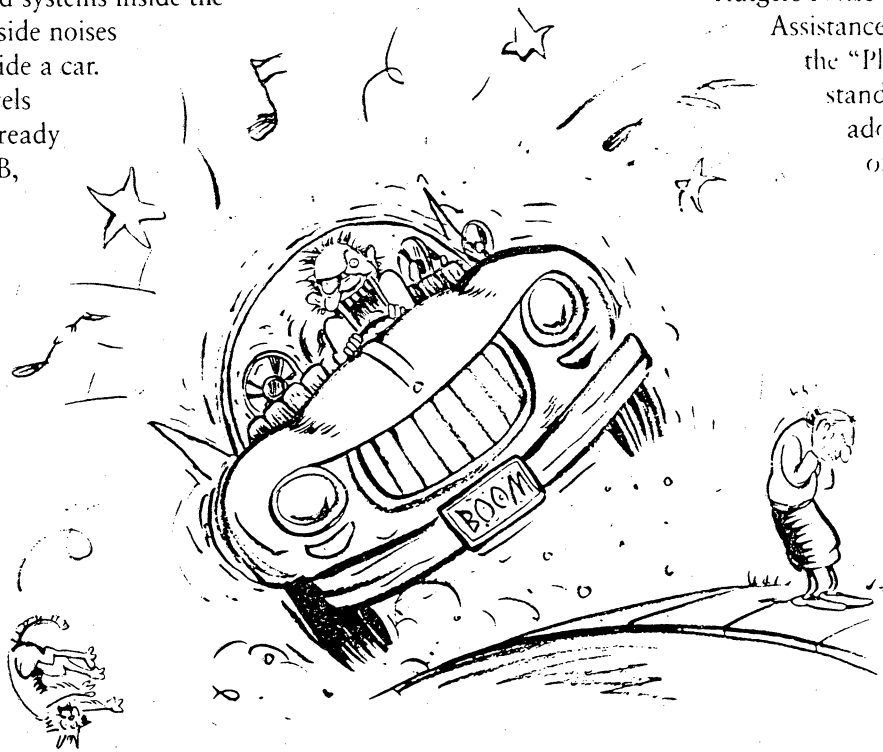
REGULATING BOOM CARS

Controlling the noise from boom cars, therefore, is not just an effort to increase community peace and quality of life, but also an effort to enhance public safety and the safety of emergency and rescue personnel. If you can hear a boom car as it passes by at 50 feet, not only is the car disturbing the neighbors and deafening the occupants but it is also masking emergency warning signals.

Typical sound-pressure-level-based noise ordinances are ineffective against boom cars, because the cars are mobile. By the time the police officer goes back to the police station, gets the meter, calibrates it, and takes a measurement, the violator is miles away. In addition, low-frequency noise—the boom of boom cars—is not picked up by sound level meters that are set on the "A" scale, which is used in many communities. There is, however, a simple solution that has been adopted by hundreds of communities that is easy to enforce. In the accompanying article on page 7, Eric Zwerling of the

Rutgers Noise Technical

Assistance Center describes the "Plainly Audible" standard that has been adopted by hundreds of communities.



Boom Car and Boom Box Code Drafting

Enforcement of a performance (decibel denominated) standard is difficult with boom cars and boom boxes, as the sound is transient and the source is mobile. While some jurisdictions enforce a curblineline sound level limit, the enforcement agency must set up in advance in the location at which they suspect a violation may occur. While enforcement and deterrence is extremely effective during the operation of such an enforcement action, it is only effective at the time and in the place this action occurs. Outside of these parameters, deterrence is minimal.

An alternative enforcement standard is required to address this specific sound source, if enforcement is to be regular and predictable, thus providing the desired deterrence. When the deterrent is not successful, the enforcement standard must lead to successful prosecution. After a careful review of precedents and challenges in other jurisdictions, it was clear that any successful standard would have to be objective, specific and easily understood. A "plainly audible" standard has been applied in numerous jurisdictions across the United States, and this standard has been held to be neither vague nor overbroad (*State v. Ewing*, 914 P.2d 549, Haw. 1996). It is also clearly understandable to those it is intended to regulate. Using this standard, subjective value judgments associated with ordinances that rely on finding a noise "disturbing" or "loud and raucous" are avoided.

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CODE PROVISIONS

Definition

"Plainly audible" means any sound that can be detected by a person using his or her unaided hearing faculties. As an example, if the sound source under investigation is a portable or personal vehicular sound amplification or reproduction device, the enforcement officer need not determine the title of a song, specific words, or the artist performing the song. The detection of the rhythmic bass component of the music is sufficient to constitute a plainly audible sound.

Restricted Uses And Activities

- (1) Personal or commercial music amplification or reproduction equipment shall not be operated in such a manner that it is plainly audible at a distance of 50 feet in any direction from the operator between the hours of 8:00 a.m. and 10:00 p.m. Between the hours of 10:00 p.m. and 8:00 a.m., sound from such equipment shall not be plainly audible at a distance of 25 feet in any direction from the operator.
- (2) Self-contained, portable, hand-held music or sound amplification or reproduction equipment shall not be operated on a public space or public right-of-way in such a manner as to be plainly audible at a distance of 50 feet in any direction from the operator between the hours of 8:00 a.m. and 10:00 p.m. Between the hours of 10:00 p.m. and 8:00 a.m., sound from such equipment shall not be plainly audible by any person other than the operator.

These code recommendations come from Eric Zwerling, President of the Noise Consultancy, which specializes in helping communities write enforceable noise ordinances. For a full discussion of this topic, see the paper "Regulation of Amplified Sound Sources" which originally appeared in the Proceedings of Noise-Con 2000. For a copy contact the Noise Pollution Clearinghouse.



Boom Car Basics:

*What you and city officials
need to know*

What is a boom car? Basically, a boom car is any vehicle with a loud stereo system, which almost always requires some modification to the original stereo. More and bigger speakers, capable of playing at much louder volumes, are added to the car. These boom cars are a health and safety risk to the occupants, other drivers, neighbors, and city emergency and rescue personnel.

Most of the generic stereo systems delivered in new cars have radios (with CD players and/or tape players) capable of putting out about a total of 25 watts of power into two pair of little speakers, usually 4 to 6 inches in diameter. These speakers are used to play all the frequencies of the music.

THE MAKING OF A BOOM CAR

Making a car louder can be cheap and easy, requiring only a hundred-watt stereo amplifier and a couple of efficient low-frequency speakers. Installing the new parts is easy and can require little or no modification to the car. The addition of several speakers and several hundred watts of power may require installation by a specialist and is quite expensive.

In modifying a stereo system, people often start by adding a bass speaker (bass driver) to emphasize the low-frequency notes from the bass and drums in music. They'll add a crossover, a device which filters signals based on frequency, to separate the low notes from the rest of the music, and an amplifier to drive the added speaker.

After the bass drivers have been added the original speakers are often changed, and more power added, so that what are now the mid-range speakers will play louder. Separate tweeters may also be added, with their own amplifiers and crossovers, to get the high frequencies to play at the same sound pressure levels as the rest of the system. A big system can have multiple bass drivers, and several mid-range drivers and four or more tweeters.

After all the amplifiers and speakers have been added to a boom car, a car alarm is often added to safeguard the stereo system that is often worth more than the car.



City of Cambridge

O-10

IN CITY COUNCIL

April 22, 2002

VICE MAYOR DAVIS
 COUNCILLOR DECKER
 COUNCILLOR GALLUCCIO
 COUNCILLOR MAHER
 COUNCILLOR MURPHY
 COUNCILLOR REEVES
 COUNCILLOR SIMMONS
 MAYOR SULLIVAN
 COUNCILLOR TOOMEY

WHEREAS: Reducing level of noise adds to the quality of life that residents of Cambridge enjoy; and

WHEREAS: "Boom cars" add to noise on our streets and in our neighborhoods, often reaching decibel levels at which they pose risks to the driver, by drowning out sirens from emergency vehicles, and imposing significant noise on residential neighborhoods (see attached description of boom car technology); now therefore be it

ORDERED: That the City Manager review the current ordinance as it pertains to noise and report back to the City Council on whether the city ordinance adequately addresses boom cars; and be it further

ORDERED: That the City Manager be and hereby is requested to report back to the City Council on the matter by May 6, 2002.

In City Council April 22, 2002.
 Adopted by the affirmative vote of nine members.
 Attest:- D. Margaret Drury, City Clerk.

A true copy;

ATTEST:- *D. Margaret Drury*

D. Margaret Drury
 City Clerk

CM-87

ORDER #10

City Manager is requested to review the current ordinance as it pertains to noise and report to the City Council on whether city ordinances adequately addresses boom cars.

Vice Mayor Davis

In City Council April 22, 2002

ORDER ADOPTED.