



Traffic Guidelines Manual

ORIGINATOR State Traffic Engineer		2-2-30
CHAPTER 2	Signing	
SECTION 2	Regulatory Signs	
SUBJECT 30	Engine Brake Signing	

A. Purpose

One method of slowing the motion of a vehicle is to use the compression of the engine as part of vehicle braking. This method is often referred to as compression braking or exhaust braking. Engine braking can produce excessive, undesirable noise when muffler systems are not functioning as designed or are otherwise inadequate.

Noise from engine braking in vehicles with inadequate muffler systems has led some communities to take actions to restrict the noise. Compression braking is typically an unavoidable result of operating a vehicle that the driver cannot prevent or fully disengage. However, for some vehicles there are driver choices as to whether or when engine compression braking is used. Objectionable noise levels *may* be produced by any car or truck when using compression braking and often are related to equipment failure or aftermarket modifications.

There are several advantages to compression braking on vehicles and especially on large trucks. In addition to assisting deceleration, when a truck engine brake system is engaged, it helps prevent the conventional truck air brakes from overheating, thus saving on the normal wearing life of the truck air brakes. This is especially true on roadways with steep downgrades with long distances, where the safety of the truck can be enhanced by the use of engine brakes.

Communities have installed or requested signing on state highways to address noise concerns associated with use of compression braking. The Department controls traffic signs on highways maintained by the state. Local governments do not have the authority to erect signs on those highways except when written permission is provided by the Department.

The Department supports efforts to deal with excessive noise from all vehicles and encourages enforcement of laws requiring effective mufflers (for example, State Statute section 347.39). The use of signs specific to engine or compression braking has become popular among many communities, although it is unclear whether those signs are effective or necessary. Generally, the Department does not allow installation of traffic signs on state highways that have not been shown to be necessary or effective.

In the case of engine braking, the Department has chosen to work with communities and allow limited use of these signs on state highways under certain conditions, despite the lack of evidence that they are effective in reducing noise problems.

B. Policy

The Department *may* permit local governments to place signs on highways under WisDOT jurisdiction subject to the requirements included here:

1. A permit will be issued only when the local government has in place a noise ordinance that provides a basis for enforcing the sign(s). The noise parameters listed in [Wisconsin Administrative Code - Chapter TRANS 405](#) *may* be used to help set noise level criteria.
2. Requests for a permit to allow these signs must be in writing to the WisDOT Regional Office and *should* contain the following information:
 - locations where signs are to be installed, including State highway route number and distance to the nearest public roadway intersection
 - sign offset (distance from edge of travel lane) and type of post to be used
 - assurance that sign will be free standing (not attached to other signs)
 - copy of local government noise ordinance
3. The local government **shall** be responsible for supplying, installing, and maintaining the signs in conformance with the permit. The local government **shall** furnish their identification sticker on the sign.
4. The local government must be committed to actively enforce the requirements of the signs with local law enforcement personnel.
5. Only the standard NO ENGINE BRAKING EXCEPT IN EMERGENCY sign (R10-64) *may* be used on highways under State maintenance responsibility and those signs *may* be installed only on conventional highways at or near the corporate limits of the community (See Figure 1). This sign **shall not** be used on freeways, expressways, interchange ramps, or site specific locations on conventional highways.
 - a. The optional WITHIN CITY OR VILLAGE LIMITS plaque (R10-64F) *may* be used to supplement the R10-64 sign when there are persistent or perceived problems with enforcement of engine braking on the roadway throughout the community (see Figure 2).
 - b. For freeway locations going through communities, Engine Brake signs *may* be permitted on conventional state highways after the entry point to the conventional highway from the freeway, provided signs are already approved at the city/village limits.
 - c. Engine Brake signs *may* be allowed for urbanized townships provided they have an ordinance and the means to enforce it. Documentation **shall** be provided by the Local Law Enforcement indicating that the ordinance will be enforced throughout the township. Urbanized townships are defined by having

at least two of the following features:

- Township population of at least 5000
- Urban cross section
- Residential development abutting the highway that meets the definition of “Semiurban District” as defined in Wisconsin State Statutes 346.57(b).
- Reduced speed zone
- Qualify for an unincorporated community sign

For qualifying urbanized townships, only 1 sign is allowed in each direction on any given state highway. The signs **shall** be installed at the township limits.

- d. Due to potential concerns for the safety of truckers and other motorists, the signs **shall not** be used for steep downgrades that meet the following conditions:
- 5% grade and more than 3,000 feet long
 - 6% grade and more than 2,000 feet long
 - 7% grade and more than 1,000 feet long
 - 8% grade and more than 750 feet long
 - 9% grade and more than 500 feet long
 - Any grade steeper than 9%, regardless of length
- e. The local government must obtain the approval of the appropriate Regional office for the location(s) of the sign(s). The sign language **shall** meet the requirements of the WisDOT R10-64 and R10-64F sign plates as described in item 4.
- f. Any other signs related to use of engine braking installed on highways under WisDOT jurisdiction within or for the local government that do not meet the requirements of this policy **shall** be changed by the local government to comply with this policy or be removed.

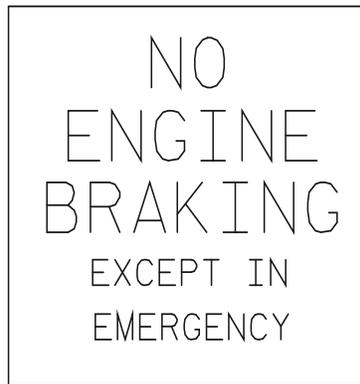


Figure 1
(R10-64 Sign)

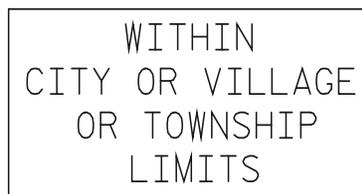
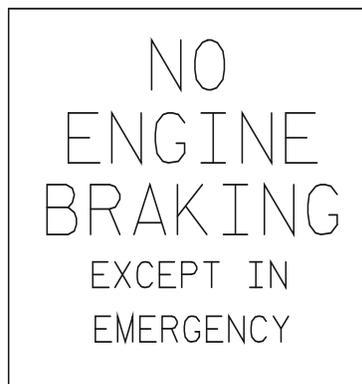


Figure 2
(R10-64 Sign with R10-64F Supplemental Plaque)