

# Vehicle Noise Rules

Tiffany Lester, WSP

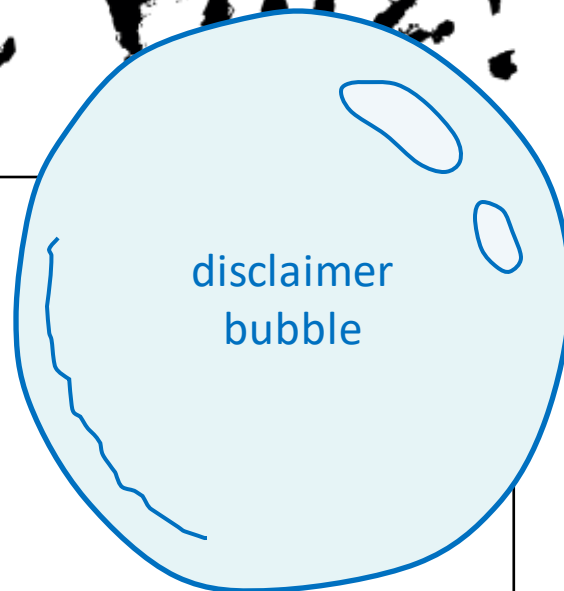




# Vehicle noise rules!



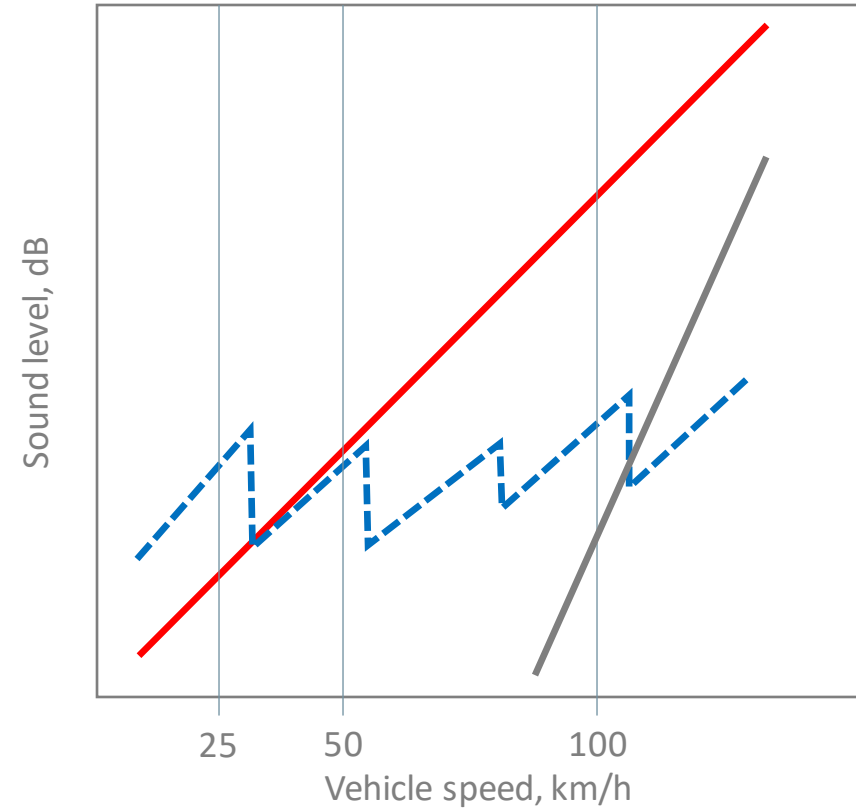
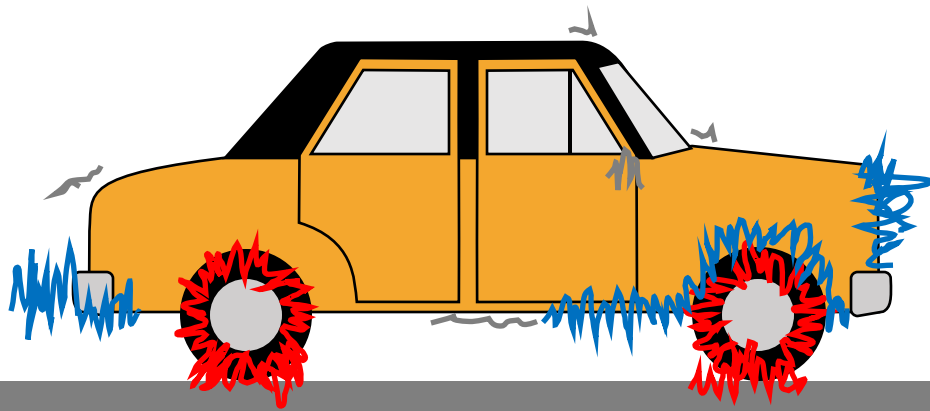
## Vehicle Noise Rules



disclaimer  
bubble

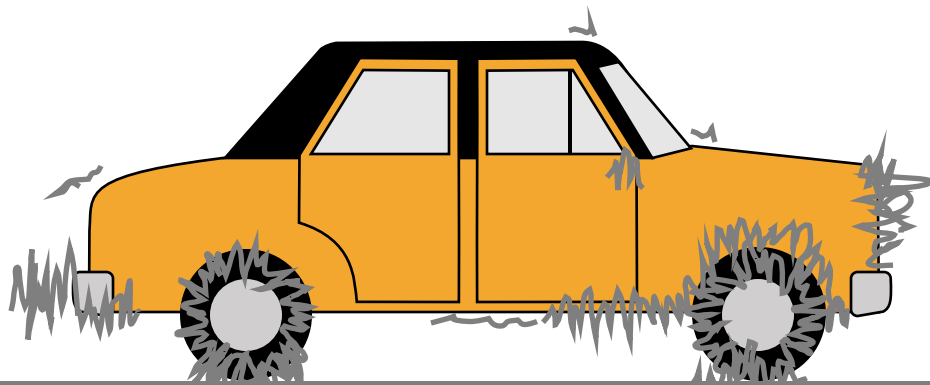
## Vehicle noise, very briefly

- Powertrain noise including exhaust noise
- Tyre-road noise
- Aerodynamic noise
- Stereos, horns, burnouts...



## Drive-by noise

- Powertrain noise including exhaust noise
- Tyre-road noise
- Aerodynamic noise



## Drive-by noise

- Powertrain noise including exhaust noise
- Tyre-road noise
- Aerodynamic noise

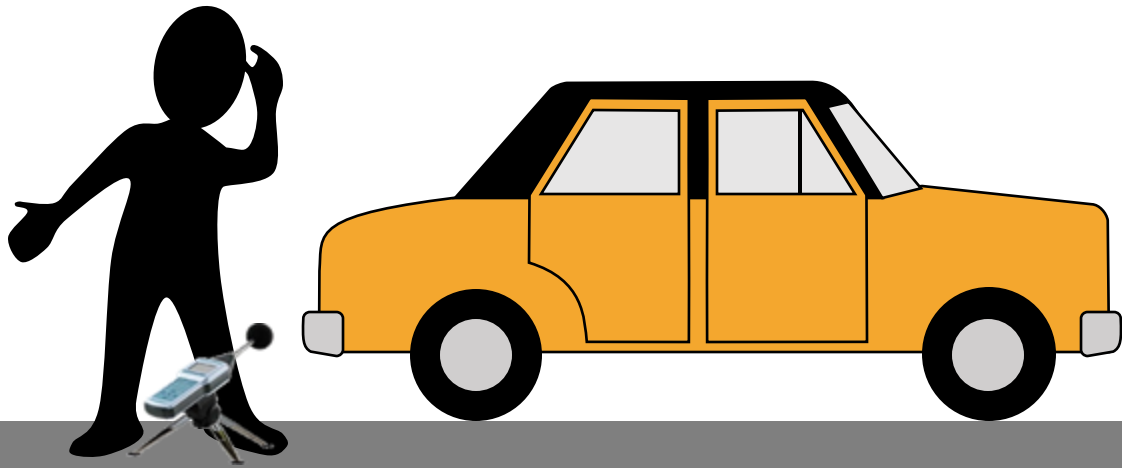
Reference surface

Sound level meter



## Vehicle Equipment Rule

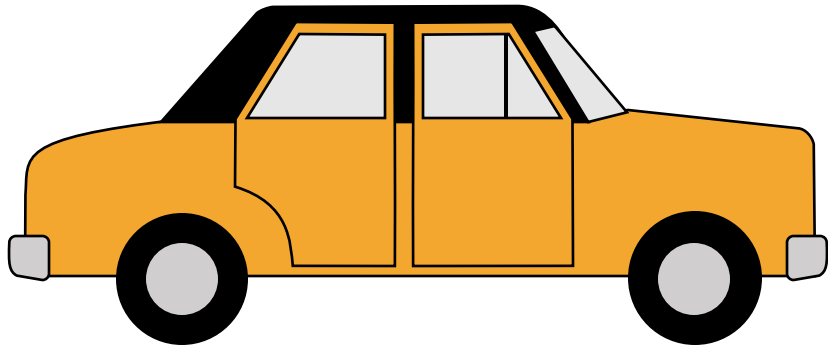
- Drive-by noise limits for vehicles entering the fleet
- Exhaust noise limits for vehicles operating in the fleet
  - Subjective noise test
  - Objective noise test



Sound level meter

## Vehicle Equipment Rule

- Drive-by noise limits for vehicles entering the fleet
- Exhaust noise limits for vehicles operating in the fleet
- Noise limits set high, to target only the noisiest vehicles

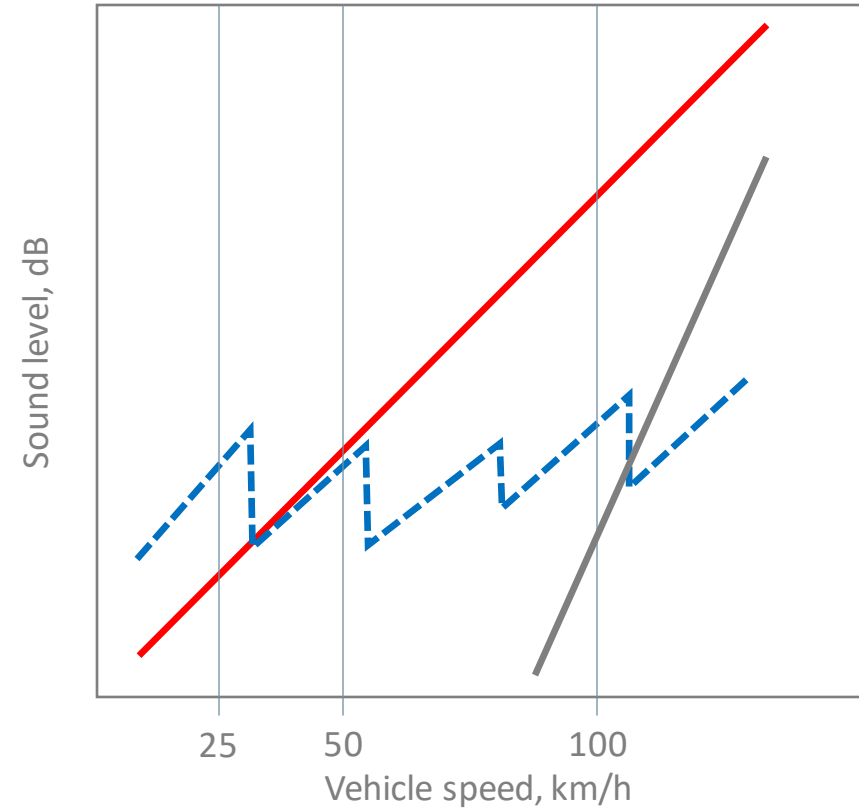
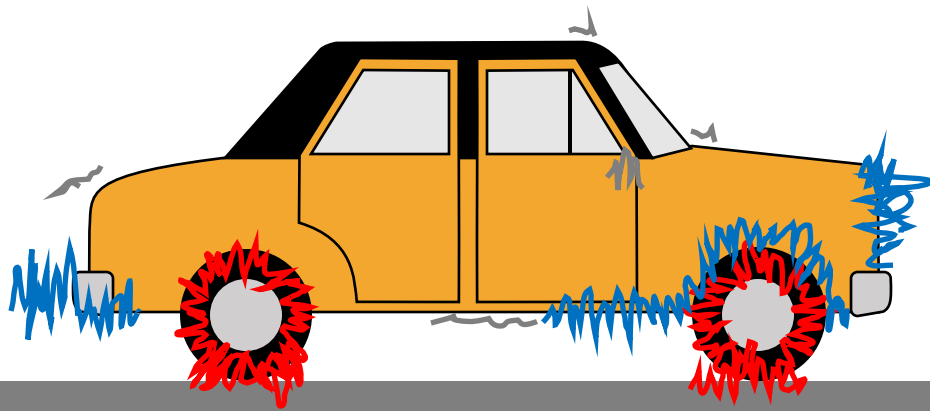


### United Nations vehicle noise emission regulations

- Drive-by noise limits for vehicle types entering production
- Target all vehicles over time, for improvement of the road-traffic noise environment

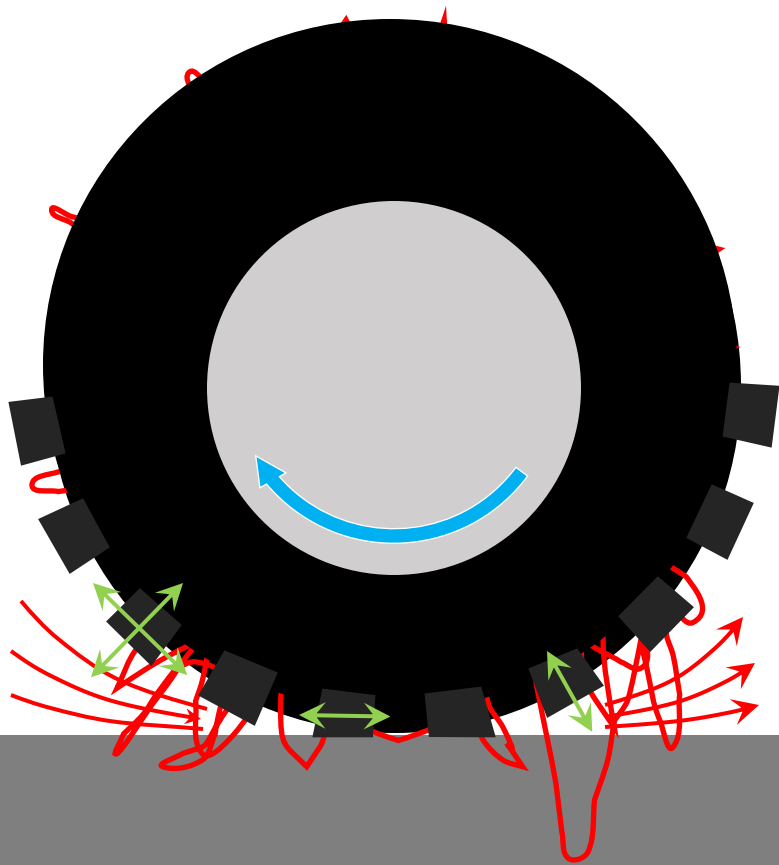
# Vehicle noise

- Powertrain noise including exhaust noise
- Tyre-road noise
- Aerodynamic noise
- Stereos, horns, burnouts...





## Road-tyre noise



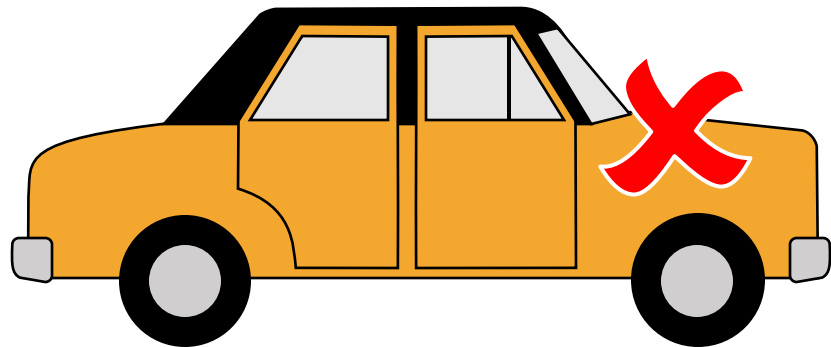
# Coast-by noise



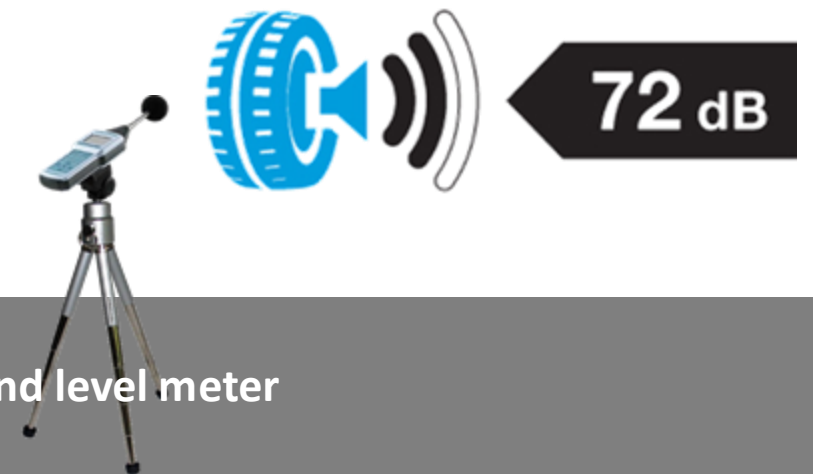
Reference surface

Sound level meter

## Coast-by noise



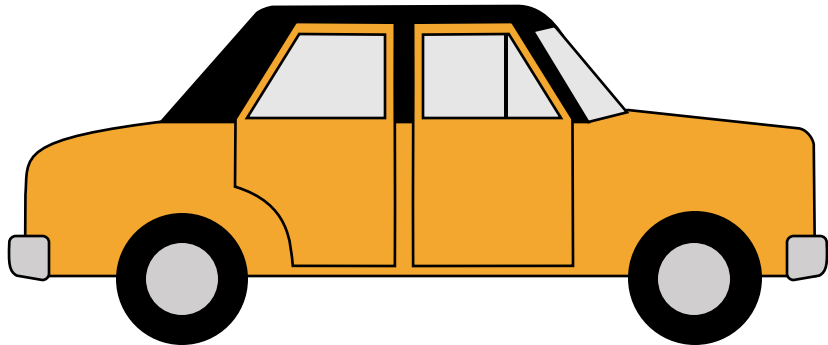
Reference surface



Sound level meter

## Vehicle noise

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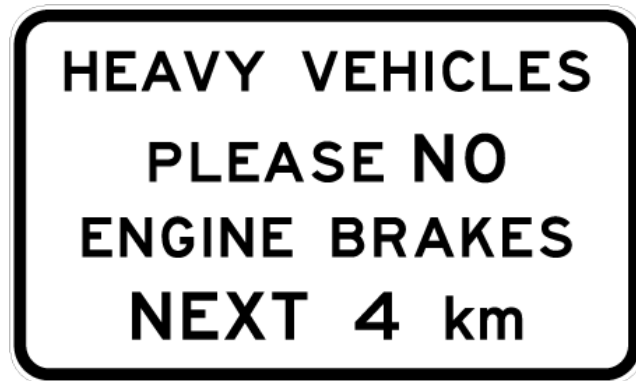
## Road User Rule

### 7.4 Noise

- (1) A driver must not operate a vehicle that creates noise that, having regard to all the circumstances, is excessive.
- (2) A person must not create by any means (for example, a car stereo) within or on a vehicle any noise that, having regard to all the circumstances, is excessive.
- (3) In determining whether any noise is excessive, regard may be had, in addition to all other relevant matters, to—
  - (a) the manner of operation of the vehicle:
  - (b) the condition of the vehicle:
  - (c) the time of the day when the noise is created:
  - (d) the locality where the noise is created:
  - (e) the likelihood of annoyance to any person:
  - (f) any relevant standard or specification that applies under the Act.

**SUBJECTIVE**

## Compression release braking noise = Engine braking noise



### Land Transport Act

Bylaws can be made to prohibit engine braking in an area where the speed limit is 70 km/h or less

### Road User Rule

Noise from a vehicle must not be excessive, having regard to all circumstances



Specialist mufflers

# Vehicle Noise Rules

- **Vehicle Equipment Rule**
  - Drive-by noise limits for vehicles entering the fleet
  - Exhaust noise limits for vehicles operating in the fleet
- **Road User Rule**
  - Noise from a vehicle must not be excessive, having regard to all the circumstances
- **Land Transport Act**
  - Bylaws can be made to prohibit engine braking in nominated areas