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Comments on Specific Aspects of the Acoustic Vehicle Alerting Sound (AVAS) in Addendum 137 to Regulation No. 138

Submitted by the World Blind Union

The World Blind Union appreciates the opportunity to provide feedback on the most recent comments for draft Addendum 137 to Regulation No. 138. In general, we are pleased with the work of the Quiet Road Transport Vehicle (QRTV) subgroup and have found four areas for comment regarding the acoustic vehicle alerting sound (AVAS): AVAS pause switch, AVAS sound pressure levels, maximum AVAS pressure level, AVAS sound at stationary.

AVAS Pause Switch

In paragraph 6.2.7., any pause function for the AVAS is prohibited. We support this requirement in the regulation and we appreciate the QRTV working group's position on this topic.

AVAS Sound Pressure Levels

We appreciate the QRTV working group's commitment to maintain the current sound pressure levels for minimum sound. We also support the idea of a frequency shift mentioned in paragraph 6.2.3. to signify acceleration and deceleration.

Maximum AVAS Sound Pressure Level

In paragraph 6.2.8., a "maximum sound pressure level" is discussed. We do not believe that it is appropriate to discuss a maximum sound pressure level within the confines of a safety regulation that is seeking to establish a minimum sound pressure level and parameters at which that minimum sound must occur. We believe that this requirement would be better suited in a separate regulation.

AVAS Sound at Stationary

In paragraph 6.2.4., the regulation currently reads, “When stationary the vehicle may emit an AVAS sound only whenever the vehicle’s propulsion system is activated” and provides separate scenarios for both automatic and manual transmission vehicles. Whether traveling with cane or dog, sound is essential as a blind person evaluates whether to walk or wait. In addition, sound offers directional cues ensuring that a blind person remains correctly aligned in getting to the other side of the street. The advent of complicated crossings in which different lanes may be following different rules increases the role of detectable sound cues exponentially. An AVAS sound when a vehicle is stationary is a critical safety feature and should not be merely optional, as explained in the following examples pertaining to blind and low-vision pedestrians.

There are three key scenarios where the stationary sound of vehicles is essential for the safety of blind and low vision pedestrians. The first two scenarios are also applicable to all pedestrians, especially pedestrians who might be distracted with other activities.

Scenario 1: Crossing intersections with little traffic or a stop sign

When blind pedestrians approach an intersection with little traffic or a stop sign, they are typically listening for any sound from a vehicle. If there is no sound to indicate the presence of a vehicle, the blind pedestrian will typically cross the intersection. When there is very low ambient sound, the blind person may or may not pause on the side of the road assuming that if a vehicle was present, they would be able to hear it. If there is a silent stationary vehicle at the intersection, the blind pedestrian might step out in front of the vehicle just as the vehicle begins to move resulting in an accident. Conversely, if the stationary vehicle is detectable as a result of a stationary sound, the blind pedestrian will pause to determine when it is safe to cross the street. The stationary sound will also help the blind pedestrian determine if the intersection is a two-way or four-way stop. Without the stationary sound, the blind pedestrian will not be able to correctly determine the traffic pattern and is therefore more likely to cross in front of a moving vehicle.

Scenario 2: Driveways and parking lots

Many suburban areas contain sidewalks that traverse driveways. When a blind or low vision pedestrian walks along these sidewalks, they are listening for stationary vehicles that might be about to move across the sidewalk. In many cases the sidewalk crossing of the driveway is the same texture and gradient of the driveway, meaning the blind pedestrian might not even realize they are crossing a driveway. As a result, it is essential that a stationary vehicle that is potentially about to move makes a stationary sound so the blind pedestrian can pause to determine if it safe to cross the driveway. These same principles apply when a blind person is walking along a line of parked vehicles in a parking lot.

Scenario 3: Crossing an intersection with a traffic light

When blind pedestrians cross an intersection with a traffic light, they typically listen for the traffic in one direction to stop and the traffic in the other direction to begin moving. As an example, if one was walking north on the east side of a street and reached an

intersection with the east and west bound traffic moving, the blind pedestrian would stop and listen for the east-west traffic to stop and the north-south traffic to begin moving. It is essential that both elements are detected for a safe crossing. That is, the sound of the north-south-bound traffic moving (also referred to as the parallel traffic) and the stationary sound of the east-west-bound traffic (also referred to as the perpendicular traffic). Once this determination is made, the blind pedestrian can use the sound of the stationary vehicles to help ensure that they cross the street without veering too far right or left. Without the stationary sound, the blind pedestrian could accidentally veer into the moving parallel traffic. This is especially true when crossing a multilane road, or when the parallel traffic is intermittent.

There has been some discussion about potential confusion caused by ambient sound. When the ambient sound pressure levels are high, the blind and low-vision pedestrian will likely be aware of this situation and take the appropriate action. For example, if there is a temporary loud sound, such as a nearby garbage truck, the blind person could wait for it to stop. In other cases when the loud ambient sound is likely to continue, such as a roadwork crew using loud tools, the blind pedestrian could move to another intersection where the ambient sound level is lower.

Once again, we appreciate the opportunity to comment on this critical regulation, and we look forward to working with both the GRBP and the QRTV working group in the future. In the meantime, if there are any questions or concerns, we are happy to address them.