

Date of Hearing: April 24, 2017

ASSEMBLY COMMITTEE ON TRANSPORTATION

Jim Frazier, Chair

AB 1421 (Dababneh) – As Amended March 22, 2017

**SUBJECT:** Railroads: noise and vibration levels

**SUMMARY:** Requires the Department of Public Health (DPH) to conduct a study to determine the noise and vibration levels associated with all railroad lines in the vicinity of residential areas and schools. Specifically, **this bill:**

- 1) Requires DPH to conduct a study to determine the noise and vibration levels associated with all railroad lines in the vicinity of residential areas or schools.
- 2) Requires that the study include a finding as to how many miles of railroad lines in the state have an average day-night sound level in excess of 60 decibels (dB).
- 3) Authorizes DPH to use statistical sampling techniques to determine those noise and vibration levels.

**EXISTING LAW** creates DPH and imposes various functions and duties on the department with respect to the administration and oversight of various health programs and facilities relating to the prevention of disease and the promotion of health.

**FISCAL EFFECT:** Unknown

**COMMENTS:** According to the author, this bill will ensure that the public knows whether their homes and schools are in areas with dangerous noise and vibration levels so they can take appropriate precautionary measures. This bill will also ensure the Legislature better understands the extent and breadth of dangerous noise and vibration levels caused by railroads in the vicinity of schools and residences throughout the entire state. The author believes that ample studies exist to show that certain noise levels can cause long term harm to people.

Noise is defined as unwanted sound. Environmental noise is noise derived from outside sources such as noise generated by roads, rails and air traffic; or machines being utilized outside such as construction equipment. Noise is measured in dBs and is used to gauge noise in a particular location. The human ear is less sensitive to higher and lower frequencies than it is to mid-range frequencies. The A-weighting system is most commonly used, which measures what humans hear in a more meaningful way because it reduces the sound levels of higher and lower frequency sounds—similar to what humans hear. Measurements taken with this A-weighted filter are referred to as dBA readings. For example, a jack hammer registers roughly 90 dBA, freeway traffic registers between 70-80 dBA, a lawn mower registers roughly 70 dBA, and a commercial air conditioner registers at about 60 dBA.

A World Health Organization (WHO) study “*Guidelines for Community Noise*,” 1999, outlined some of the impacts of excessive environmental noise including hearing impairment, speech communication, disturbance of rest and sleep, mental health performance effects, effects on residential behavior and annoyance, and interference with activities. As part of the Guidelines, the WHO included suggested levels of sound that could be harmful for all of these categories.

For example, the risk for hearing impairment was negligible for sounds 70 dB but noise exposure should never exceed 140dB in adults or 120 dB in children.

Noise from transportation sources, specifically railroads and transit systems, is regulated by a combination of federal and state law. Some railroad noise and vibration is regulated at the day-to-day operational level, such as federal noise standards for rail equipment, like locomotives or train cars. However, this does not address the overall noise level created by a moving train. In fact, Federal Railroad Administration (FRA) has a fairly high ceiling for acceptable noise, such as a limit of 96 dB at 30 meters for a moving locomotive.

However, most railroad noise and vibration impacts are studied and potentially mitigated as part of the environmental review process, under either the National Environmental Policy Act (NEPA) or the California Environmental Quality Act (CEQA), requiring new rail projects to assess and mitigate excess noise and vibration at the time of project initiation.

Under federal law, railroad noise is regulated by the Environmental Protection Agency (EPA) and the United States Department of Transportation (USDOT), who are responsible for the development and enforcement of federal noise standards. USDOT enforces EPA noise standards through the Federal Railroad Administration (FRA). The FRA oversees freight rail and intercity passenger rail (Amtrak). FRA also authorizes the use of Quiet Zones, under specific circumstances, where locomotives are not required to sound their horns at a roadway crossing.

Additionally, it is important to note that federal jurisdiction preempts state and local regulation whenever such regulation would have the effect of managing or impeding rail transportation over the national rail system. As such, state and local governments have limited authority to regulate things such as noise from freight and intercity passenger rail. For local transit systems, federal rules can also apply through requirements imposed by the Federal Transit Administration (FTA). FTA provides grants for local transit projects, and local transit agencies must agree to federal regulation in return for access to those funds.

At the state level, there are no specific entities that regulate noise levels for railroads and transit. However noise is studied and considered from a variety of different angles, including land use decision-making and the environmental process.

California law requires local governments to include a noise element in their General Plans. The Governor's Office of Planning and Research (OPR) provides guidance for preparing the noise element. In developing the noise element, a city or county must identify local noise sources, analyze and quantify current and projected noise levels for various sources, including highways and freeways; passenger and freight railroad operations; ground rapid transit systems; aviation and airport operations; and other ground stationary noise sources. They can do this through actual measurement or the use of noise modeling. The data must be used to develop noise control policies and programs that "minimize the exposure of community residents to excessive noise." Further, the noise element must be used to guide land use decisions.

California law also requires all transportation projects complete a thorough review under CEQA. Additionally, if a project is funded by federal funds, a NEPA review must also be completed. In fact, most transit projects are funded through a combination of federal, state and local monies and therefore must complete both a NEPA and CEQA review process. It is through this process that community impacts are assessed and mitigations are developed, if needed, including noise.

However, both NEPA and CEQA allow for the exclusion of certain transit and rail projects from full environmental review. Generally speaking, projects in the existing right-of-way are exempted from impact assessments and subsequent mitigation requirements, whether or not the projects involve tangible impacts to the surrounding area. Specifically, CEQA provides a categorical exemption for, “a project for the institution or increase of passenger or commuter services on rail or highway rights-of-way already in use, including modernization of existing stations and parking facilities.”

In writing in support of this bill, the California Academy of Audiology states that sound levels from railroad operations can be high enough to violate most federal, state, and community ordinances. Further it asserts that the challenge lies in identifying effective means of regulating these levels to protect the members of a given community from the potentially detrimental effects of excessive noise.

*Committee Concerns:* There is no question that environmental noise exists in California and can be potentially harmful to people. Additionally, it is well documented that transportation systems, roads, airports, and rail lines create environmental noise and those impacts are measurable and regulated. This bill calls for the DPH to conduct a study to determine the noise and vibration levels associated with all railroad lines in the vicinity of residential areas and schools. There is a concern that the requirements of the study are overly vague and may not be implementable. According to the California Public Utilities Commission (CPUC), who oversees railroad safety issues, there are roughly 9,000 miles of rail lines in the state. It is unclear how DPH would identify the specific lines in the vicinity, which is not defined, of residential areas and schools. Generally, testing for noise and vibration is taken roughly ½ mile from the centerline of track.

Additionally, testing for sound is quite involved and depending on the areas identified could have a high cost. Specifically, testing requires the identification of corridor and existing land uses; frequency of train service; and the distance from the rail line for the screening equipment. To perform the screening tests, a measurement is taken of ambient noise levels and then when trains are passing. This bill allows for statistical sampling for the testing, but it is unclear how many physical readings would need to be taken in various areas throughout the state and how the statistical sampling could be used.

Finally, if the testing required by this bill is complete, it is unclear what the path forward would be for DPH and the Legislature. Although noise and vibration are regulated, most mitigation of impacts on communities is dealt with as part of the environmental review process on a specific project. There is no obvious funding source for mitigating existing rail lines for excessive noise and vibration. Additionally, both NEPA and CEQA contain exemptions for certain rail and transit projects in the existing rights-of-way, such as increasing train frequencies. The Legislature could consider changing the current CEQA requirements for expanding rail and transit service; however, the ramifications of that change would be beyond the purview of this committee. Also, if impacts are found to be caused by freight or inter-city passenger rail traffic, CEQA would not apply and the state and local jurisdictions do not have authority to otherwise regulate these entities.

*Previous legislation:* AB 2355 (Dababneh) of 2016 would have required The Department of Transportation to develop a program for the reasonable mitigation of noise and vibration levels in residential neighborhoods along railroad lines where it contracts for state-funded intercity rail

passenger service. AB 2355 was referred to this committee and returned to the Chief Clerk without being heard.

**REGISTERED SUPPORT / OPPOSITION:**

**Support**

American Academy of Pediatrics, California  
California Academy of Audiology

**Opposition**

None on file

**Analysis Prepared by:** Melissa White / TRANS. /