

March 6, 2023

Eric E. Eby, P.E.  
Department of Public Works  
City of Portsmouth  
680 Peverly Hill Road  
Portsmouth, NH 03801

SUBJECT: New Franklin School – Baseline Traffic Noise Monitoring

Dear Eric,

At your request, I conducted traffic noise monitoring at New Franklin School over the winter recess between February 27 and March 5. The purpose of these measurements was to assess existing traffic noise from Interstate 95 both outside and inside the school building ahead of changes in traffic flow that will occur this spring.

Sound monitors were placed in the cafeteria near the outside wall and on the loading dock outside of the building. The cafeteria was chosen because it is the only room with windows facing the interstate. The loading dock location is representative of both the noise levels incident on the building façade and the levels experienced at the playground.

Figure 1, attached, presents the 1-hour A-weighted equivalent sound pressure levels (LAeq-1hr). A weighting compensates for human hearing acuity across the audible frequency spectrum. The equivalent sound level is the energy-average level over the measurement period (one hour in this case). LAeq-1hr is commonly used for traffic noise impact studies and has been shown to correlate well with annoyance in dose-response studies.

In general, outdoor noise levels are in the 60 to 70-dBA range during school hours. Several notes are provided explaining unusual sound levels. Events such as snow removal and dumpster pickup are very close to the microphone and should be ignored. The levels measured are high enough to interfere with speech communication outdoors, for example on the playground.

Indoor noise levels are a function of the HVAC system cycling and do not appear to be influenced by highway noise. It is unlikely that a noise barrier or other means of noise control would have a meaningful impact on interior noise levels.

In addition to the data plotted, 1-second intervals were measured in 1/3 octaves. These data will be saved for future reference and forwarded at your request.

Please feel free to call or email with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric Reuter", with a long horizontal flourish extending to the right.

Eric L. Reuter, FASA, INCE Bd. Cert.  
*Principal*

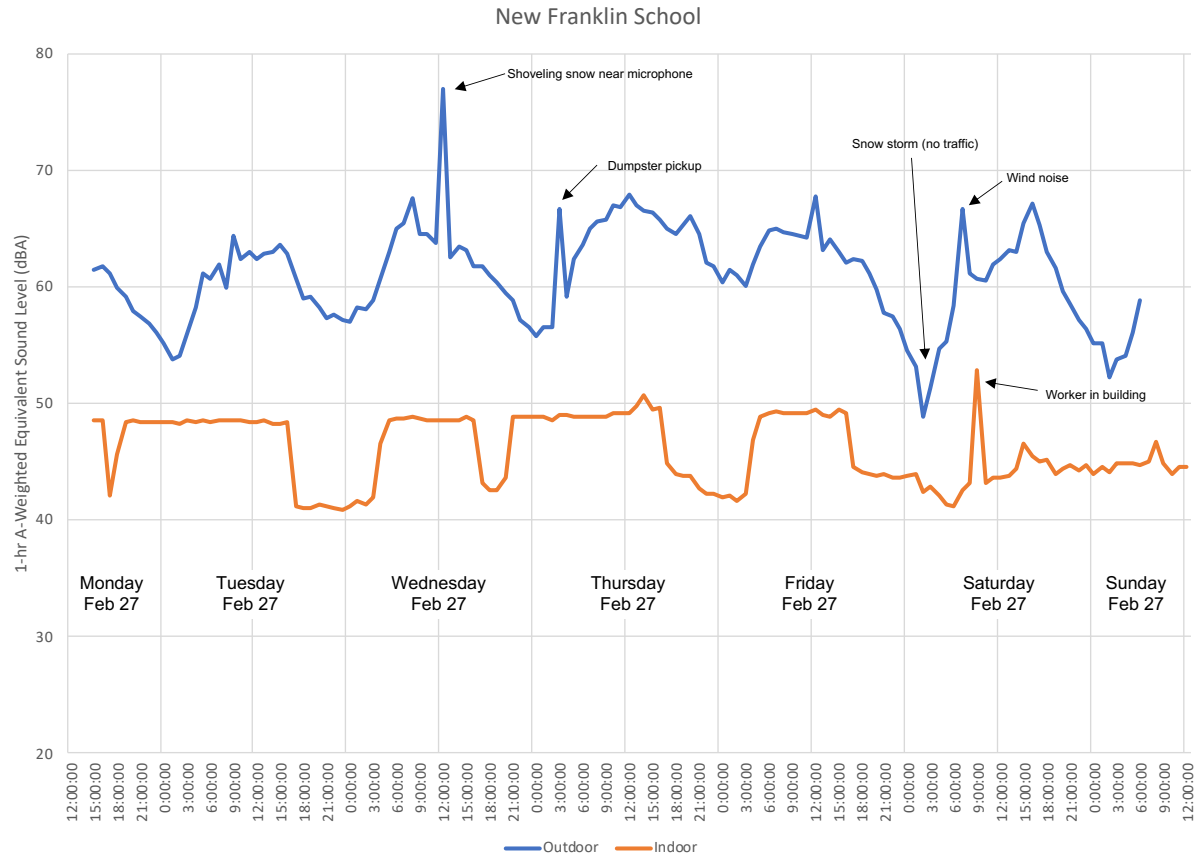


Figure 1 – Monitor Data