

**SUMMARY OF NOISE ABATEMENT PRESENTATION  
BY THE MARYLAND TRANSIT ADMINISTRATION  
TO TOWN OF CHEVY CHASE RESIDENTS  
FEBRUARY 27, 2013  
7 P.M.**

The Town's Purple Line Mitigation Advisory Group (MAG) has worked with Maryland State Transit Administration engineers since December 2011 to lessen the negative impacts of the proposed Purple Line on the Town if the light-rail project is built. Mitigating noise, visual impacts and safety concerns have been MAG's top priorities in working with MTA.

At MAG's request, on February 27 MTA engineers presented to Town residents a "Sounds of Transit" demonstration they had given MAG earlier. The demonstration summarized findings of the noise study MTA conducted in nine back yards along the Purple Line right-of-way to determine existing sound levels and to project how the proposed transit project would impact current sound levels, before and after mitigation. MAG chair Mary Anne Hoffman noted that while many people may not agree with the Federal government's methodology for determining sound impact – the Federal Transit Administration uses algorithms of cumulative noise exposure to produce a 24-hour average – this is, in fact, how Federal transit projects are planned, evaluated and funded.

The presentation by MTA noise consultant Dr. Ahmed El Assaar showed (1) existing 24-hour average sound levels at nine locations along the Purple Line route (2) sound levels the Purple Line project is expected to generate without mitigation (3) project-generated sound levels with mitigation and (4) predicted sound levels at the nine locations along the Purple Line route once the mitigated train sounds have been added to existing sound levels.

The MTA presentation showed that after doing its analysis of the Town's current noise levels and projected Purple Line noise levels (requested by the Town after the MTA's first noise analysis was challenged by the Town) most of the residences that were measured had moderate noise impacts per the Federal Transit Administration (FTA) noise guidelines. (Results are shown on the "Sound Levels" chart below). Projected noise levels in the moderate impact range require consideration and adoption of mitigation measures when it is considered reasonable.

## Sound Levels

Location ID	Existing Sound Levels (dBA)	Project Generated Levels w/o Mitigation (dBA)	Project Generated Levels w/Mitigation (dBA)	Predicted Levels w/ Mitigation (dBA)
M-1 (4509 Elm)	58	61	49	59
M-2 (4505 Elm)	57	59	47	57
M-3 (4502 Elm)	56	53	41	56
M-4 (4407 Elm)	57	57	45	57
M-5 (4305 Elm)	55	58	46	56
M-6 (Family Academy)	59	61	53	60
M-7 (4219 Oakridge Lane)	56	58	46	56
M-8 (7602 Lynn)	56	62	50	57
M-8A (Lynn Dr)	56	65	53	58

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Town residents learned that the following sound mitigation actions have been designed and committed to for the Purple Line project in the Town:

- Bodyside skirts on the vehicles – 8 dBA reduction from noise skirts (system wide)
- Noise panels along the full length of the Town adjacent to the Purple Line – 4 dBA reduction from noise panels
  - a minimum of 4’ high along the south side of the transitway
  - a minimum of 4’ high and retaining walls along the north side of the Trail adjacent to residential properties

The result, MTA concluded, is that it will mitigate the noise along the Town border for a total reduction of 12 dBA and that this mitigation more than meets the FTA criteria. Note that the attached chart shows that the predicted noise levels with mitigation at the homes included in the noise study is about 1dBA above the existing sound levels. Again, it is important to remember that the Federal government’s methodology for determining sound impact –

algorithms of cumulative noise exposure to produce a 24-hour average –is how Federal transit projects are planned, evaluated and funded.

Mayor Pat Burda then opened the floor to questions from residents and responses from MTA:

**Q.** What about squeaky older trains? Will the noise created by the trains increase as the trains age, maintenance is deferred and the tracks begin to wear?

**A.** The Siemens trains used in Charlotte (and to be used here) are very quiet. The state and county require routine maintenance, and maintenance performance measures will be part of the Purple Line operation.

**Q.** Will there be monitors placed along the system to measure when maintenance is needed in future?

**A.** Monitors are not required, so nothing of that sort is planned at this time. MTA will look into this and come back with a more definitive answer.

**Q.** Are there any studies on the psychological or health impacts on people living near the tracks given the noise level and frequency of trains passing?

**A.** MTA has talked to residents living along the Baltimore light rail system, and they have not reported any long-term impacts because of noise. In fact, most say they “get used to it.” “Human sensitivity” is “built in” to the noise analysis through the 10 Db penalty for noise at night and early morning.

**Q.** Why aren’t rubber wheels being used? Wouldn’t that result in less noise?

**A.** Rubber wheels were researched and considered and were determined to not be a viable option for this system because of the many different surfaces these trains will travel over 16 miles. Of the one or two systems in the U.S. that use rubber wheels, all run within the state-owned right-of-way.

**Q.** When were the baseline ambient noise measurements taken? The ambient noise levels seem much too high for the Town.

**A.** Measurements were taken at representative locations weekdays in May. This is an improvement from the earlier measurements taken on East West Highway and reported in the Draft Environmental Impact Statement. The more recent measurements showed lower ambient levels for the Town than the East West Highway measurements had shown. The methodology

used was careful not to capture “unusual” events. For example, monitors avoiding location where tree cutting was underway.

**Q.** Isn’t there a different ambient noise level at 1 p.m. and 1 a.m. (when sleeping)? Residents want to hear a demonstration of what the actual train sound will be at 1 a.m., not a 24-hour average.

**A.** FTA says it is cost-prohibitive to design for maximum sound levels which happen for only a few seconds. Hence, the ambient measurements are a 24-hour average, and don’t reflect actual maximum noise levels. MTA is not required to design for maximum sound levels, but a 10 Db penalty for nighttime noise is part of 24-hour average figures used.

**Q.** Were the noise measurements that went into the averages taken at 100 feet from trains?

**A.** Noise study measurements were taken at representative locations in backyards – corresponding to what will be heard on a back porch.

**Q.** Do measurements reflect actual train noise with trains coming and going?

**A.** Yes, the analysis considered trains coming and going.

**Q.** How do the acoustics in Town Hall room compare to conditions in backyards?

**A.** Measurements are relative and comparable – ambient noise in room was 57 Db.

**Q.** The noise study shows noise levels during operation of trains. Were there any studies of expected noise during construction?

**A.** MTA is required to mitigate construction noise, and its plans for doing so will be included in the Final Environmental Impact Statement, when the final design is completed. There are maximum allowable noise levels during construction

**Q.** MTA is proposing 4-foot walls and skirts on the trains. Are there any other real-time, non-passive noise dampening mechanisms being considered?

**A.** No. Noise barriers are the most effective mitigation. They comply with federal standards to calculate noise levels, so no “real time” noise mitigation is planned.

**Q.** Can trees or shrubs absorb noise?

**A.** No, this is a common misperception. Trees have no impact on sound unless you live adjacent to a dense forest. However, studies show that if you can't see the source of the noise, it may not bother you as much. While MTA does not view trees and landscaping as noise mitigators, Mr. Madden said MTA is willing to work with MAG on landscaping (with ideas to suggest based on past experience).

**Q.** Thanks for the presentation. Can and will MTA do more to mitigate the noise created by Purple Line trains? Or do we have to accept this or move?

**A.** MTA is already going beyond what is required. Although noise walls are not required by the results of the Town noise study, MTA is proposing 4-foot walls – the only stretch of the entire 16-mile project where noise walls will be built.

**Q.** According to the study, isn't the Town on the border between severe and high- moderate impact? What kinds of mitigation would be required for severe impact?

**A.** No, the results of the Town study did not show near-severe impact for any location in the Town, so there is no need for severe-impact mitigation.

**Q.** How far away from the right-of-way can you hear the noise of the trains?

**A.** Measurements in study were taken for adjacent sites. As you move away from the noise source, the sound is reduced (sound samples were provided). At higher elevations in Town, train noise will be more easily heard. But train noise is different from highway noise; trains produce one sound, while various sizes of cars, large trucks and other vehicles produce a wider sound range.

**Q.** What about the impacts of vibration from the trains?

**A.** A vibration study was conducted and will be part of the Final Environmental Impact Statement. MTA will provide results of the study to the Mitigation Advisory Group, but Mr. Madden stated he doesn't believe any homes in the Town will have vibration issues.

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