The Board of County Commissioners of Indian River County, Florida

Comments on Final Environmental Impact Statement and Section 4(f) Evaluation for the All Aboard Florida, Orlando to Miami, Florida Intercity Passenger Rail Project

Indian River County (the "County") has reviewed the Final Environmental Impact Statement ("FEIS") and Section 4(f) Determination with respect to the All Aboard Florida Project (the "Project") issued by the Federal Railroad Administration ("FRA") in August 2015. The County was disappointed to see that many of the flaws that it, and other commenters, pointed out with respect to the draft EIS were not corrected in the FEIS, and to learn that FRA has now submitted to the Florida State Historic Preservation Office ("SHPO") a Determination of Effects under Section 106 of the National Historic Preservation Act (the "Section 106 Determination") without first satisfying the procedural and substantive requirements of that statute.

As discussed in detail below, the FEIS does not provide the legal basis required for the issuance of a proper Record of Decision by FRA or any other federal agency. The assessment of noise and vibration impacts did not follow FRA's own guidance, and the FEIS failed to identify severe, permanent noise impacts by assuming in the impacts analysis the implementation of mitigation (way-side horns) that may or may not be put into place, and by failing to disclose impacts at locations proximate to any wayside horns that may be installed. Instead of analyzing the fundamental issue of public safety, the FEIS claims that public safety is not within NEPA's purview and relies almost entirely on AAF's assurances of future action to conclude that the Project would not cause safety hazards. In addition, the cumulative effects of noise, vibration and public safety impacts caused by the Project on neighborhood character in the downtown areas bordering the Florida East Coast ("FEC") corridor were overlooked entirely.

Moreover, the FEIS contains little to correct the deficiencies in FRA's examination of cultural resources, and as a result of those deficiencies the Section 106 Determination and the Section 4(f) Determination fail to satisfy the requirements of either the National Historic Preservation Act ("NHPA") or the Department of Transportation Act. Finally, the document overlooks the secondary and cumulative impacts that will ensue from the Project, combined with other actions of the Project sponsor and separate parties. For these reasons, the County respectfully reiterates its prior request that FRA prepare a supplemental EIS, coordinated with a properly conducted historic review.[1/]

1/ In its DEIS comments, the County pointed out the document's deficiencies in addressing reasonable alternatives to the Project, and in assessing the impacts of the Project in other areas of environmental concern. Generally, those comments apply with equal force to the FEIS, and will not be repeated here.

Table of Contents

Page

I. The Noise and Vibration Impacts of the Project were Not Properly Identified in the FEIS.

The results of the noise and vibration assessment presented in the FEIS are based upon an analysis prepared by a consultant identified as AMEC, which apparently was retained by All Aboard Florida ("AAF"). Although that document is cited throughout the FEIS as "AMEC. 2013c. Technical Memorandum No. 5, Noise and Vibration for the All Aboard Florida Passenger Rail Project from Orlando to Miami, Florida. July 2013, Report," (the "AMEC Report") only a two page excerpt from that report is attached as an appendix to the FEIS. The County has repeatedly requested FRA to provide it with a copy of the technical report in its entirety, but thus far the agency has neither released the document for public review nor explained why it is declining to do so. As a result, the County and other members of the public have been left in the dark about the details of the noise and vibration analysis, and have been deprived of a meaningful opportunity to participate in the public review of that analysis.

From the limited information provided in the FEIS, it is apparent that the noise and vibration assessment failed to adhere to fundamental principles established by guidance issued by FRA and the Federal Transit Administration ("FTA") for the thorough examination of noise and vibration impacts associated with rail projects. For this reason, and because the analysis overlooks critical aspects of the Project, the FEIS does not accurately or adequately characterize the noise and vibration impacts the Project is likely to cause, and does not identify the mitigation necessary to address such impacts. The mitigation it does identify is so vaguely described as to be virtually meaningless. Some of the more glaring deviations from standard methodologies, as well as certain of the document's other deficiencies and omissions, are discussed below. These and a number of additional technical issues also are addressed in comments prepared by Acentech dated September 22, 2015, attached hereto as Exhibit A.

A. *The assessment did not adhere to NEPA guidelines.*

Technical guidance for the preparation of noise and vibration assessments has been published by FRA in a manual entitled "High-Speed Ground Transportation Noise and Vibration Impact Assessment" dated September 2012)(the "FRA Manual")[2] and by FTA in a document entitled "Transit Noise and Vibration Impact Assessment" dated May 2006 (the "FTA Manual"). The FEIS states that it follows these guidance documents in analyzing noise and vibration impacts that may be caused by the Project. FEIS at S-12. But under both of the referenced guidance documents, noise and vibration assessments are supposed to follow three basic steps. First, a preliminary screening analysis is to be performed to determine whether there is a need for further analysis, given the nature of the project and the overall character of the area that would be affected. Next, a "general assessment" is to be conducted at an early stage of project planning, where existing and projected conditions are estimated based upon broad assumptions regarding nearby noise sources, the general characteristics of the area, noise-generating characteristics of project equipment and facilities, and computer modeling. As a result of this general assessment, "the location and estimated severity of noise and vibration impacts" are determined. FTA Manual at 1-4. According to the FTA Manual, a general assessment may be all that is needed for "smaller projects". *Id.* For significant high speed rail projects, however, a third-level, detailed analysis "is appropriate for assessing noise impacts … after the preferred alignment and candidate high-speed train technologies have been selected ..." FRA Manual at 5-1. This detailed

[2] As indicated by its title, the FRA Manual is for "high-speed" trains with speeds of 90 to 250 miles per hour. FRA Manual at 1-1.

assessment "quantifies impacts through an in-depth analysis" that "delineates site-specific impacts and mitigation measures" for major projects, once the design details needed for that analysis become available. FTA Manual at 1-4. FRA has routinely followed this three-step approach in the NEPA review of high-speed rail projects across the nation.

As the County pointed out in its comments on the DEIS, the Project has progressed well beyond the point where the information needed for a detailed noise and vibration analysis is readily available. Nevertheless, the FEIS presents nothing more than the results of a "general assessment", which amount to rough estimates of the effects of the Project on noise and vibration in the surrounding areas. With respect to noise, sensitive receptors along the rail corridor are not identified; existing noise conditions in the vicinity of those receptors are not measured; and locations where train operations would generate particularly high noise levels (such as where trains would accelerate or decelerate, or special track work locations with switches and crossovers) are not identified or analyzed. Moreover, the modeling performed in the analysis is based on generic assumptions, like average train speeds across entire counties. Instead of considering whether intervening structures would or would not shield receptors from Project-related noise, census tract-level population data are used as a surrogate for a built-environment inventory. Not surprisingly, the result of this ten thousand foot analysis is of little use in determining with accuracy the effects of the Project at critical locations. For example, the FEIS indicates that high speed rail operations would result in incremental daytime noise levels of 63.5 dBA Leq at 50 feet from the rail corridor across *all of Indian River County*, except at the 32 grade crossings, where incremental noise levels of 63.9 dBA would be experienced at 50 feet in every case. Similarly uniform noise impacts are projected for each of the other counties affected by the Project.

Likewise, ground-borne vibration impacts were estimated with a very broad brush. That analysis was "based on the FTA generalized curve", FEIS at 5-50, so soil conditions and depth to water table information – which are critical to the accurate assessment of vibration impacts – were simply not considered. The reported results of the vibration impacts analysis could not have been more sketchy: instead of disclosing the vibration levels that were derived from the calculation, the text of the document simply indicates the number of properties estimated to experience impacts.

Attached to the FEIS is Appendix 5.2.2-A2, which consists of high-altitude aerial photographs marked up with calculated noise and vibration contours. These figures are of no value in illustrating where any impacts would be experienced, because of their large scale and low resolution and because the aerial photographs do not identify landmarks such as towns and street names. Thus, the FEIS ignores the guidance in the FRA Manual, which notes at page 11-2 that "[i]t is important to illustrate noise and vibration impacts on base maps at a scale sufficient to provide location reference for the reader."

The failure of the FEIS to include an analysis going beyond rough estimation has particularly significant consequences for ground-borne noise and vibration, because even with the deficiencies stemming from the generalized nature of the analysis the document predicts that there will be impacts at *almost 4,000 locations* along the North/South corridor, including 3317 residences, 513 unidentified "institutional receptors" and 18 "other vibration-sensitive land uses (TV studios, recording studios, auditoriums and theaters)". FEIS at 5-61. The federal guidance is crystal clear that under such circumstances a detailed analysis is to be performed. FRA Manual at 9-3 ("In locations where General Assessment indicates impacts, the more refined techniques of Detailed Assessment should be employed.") One of the primary reasons for this guidance is that the "[s]pecification of mitigation measures requires more detailed information and more refined impact criteria than what were used in the General Assessment." *Id* at 8-4. Ignoring this guidance, the FEIS makes no serious effort to

identify enforceable and effective mitigation for the thousands of impacted properties. Instead, it simply characterizes the vibration impacts in passing as "minor", although there is nothing in the document to indicate why that is so, and there is nothing in the FRA or FTA criteria creating a category of "minor impacts."

Potentially significant consequences also ensue from the lack of a detailed noise analysis in the FEIS. Although the text of the document makes it seem as if no noise impacts would result from the Project, it appears from one table, and the aerial photographs noted above, that this is not really the case. Thus, the text of the FEIS states that "no receptors along the N-S corridor would experience noise levels that exceed the impact criteria." FEIS at 5-56. Table 5.2.2-13 is to the same effect, showing "0" impacts along the corridor. But the numbers in Table 5.2.2-9 tell a different story with respect to daytime impacts at non-residential receptors (such as parks, nature preserves, concert halls and schools). According to that table "Impact Criteria (moderate)" are exceeded along the entire mainline in 5 of the 6 counties along the North/South corridor.

According to the FRA Manual, a moderate impact "is noticeable to most people, but it may not be sufficient to cause strong, adverse reactions from the community. In this transitional area, other project-specific factors must be considered to determine the magnitude of the impact and the need for mitigation, such as the predicted level of increase over existing noise levels and the types and numbers of noise-sensitive land uses affected." FRA Manual at 3-6. The information necessary for such an analysis was not provided in the FEIS, because a detailed assessment was not performed.

The deficiencies of the FEIS with respect to the mainline noise is compounded by the fact that the analysis did not even conform to the guidance for a *general assessment*. The FRA Manual recognizes that where such an assessment is performed available information "is not sufficient to predict noise levels at all locations along the right of way, but by using conservative estimates (for example, maximum design speeds and operations at design capacities) it is sufficient to estimate worst-case noise impacts." FRA Manual at 4-5, 4-8. But the FEIS general assessment did not employ such conservative assumptions. Rather, it assumed "average" speeds in the analysis, and there is not the slightest indication that train operations were assumed to be running at "design capacities." Similarly, while the County has not been able to review the assumptions built into the AMEC Report, it appears that the assessment may have assumed that optimized rail and wheel conditions would be maintained for the life of the Project, without any details about how such maintenance would be achieved. Thus, the generic county-wide results appearing in the FEIS indicating "moderate impacts" across five counties could well be underestimated. The FEIS is bereft of the information needed to determine whether that is or is not the case.

B. *The analyses omitted critical aspects of the Project.*

The noise and vibration levels generated by the Project – both along the mainline and at grade crossings – have been underestimated for another important reason: they do not account for any changes to freight operations that will result from the Project. The FEIS indicates that Project improvements will allow freight train speeds to increase in many places, by up to 25, 30 and even 45 miles per hour. *See* FEIS Appendix 3.3.3-A4 pg 7,11, 15, 18, 20, 21, 24, 25, and 27. The increases in freight train average operating speeds and maximum operating speeds as a direct result of the Project can be expected to increase noise and vibration. In addition, adding a second track will have the effect of moving some freight train operations closer to adjacent receptors. None of these Project effects were taken into account in the general assessment.

C. *The temporal impacts of the Project are not disclosed*

The project would affect the temporal distribution of noise from passing trains in two significant ways. First, the Project would add 30 high-speed trains during daytime hours, not across the 24 hour period used for averaging impacts [FEIS Table 5.2.2-10]. This quadrupling of trains during the daytime hours, which could have very significant impacts on sensitive receptors such as schools, houses of worship, and outdoor recreational areas, is not identified or analyzed in the noise and vibration assessment.

Increasing daytime trains by more than four times also is likely to shift freight trains to nighttime hours due to scheduling conflicts with the proposed daytime passenger trains. While the FEIS acknowledges this issue was raised in comments received on the DEIS, it makes no attempt to address it or explain why it would not occur. As a result, the general noise and vibration impact assessment presented in the FEIS fails to identify and disclose the true daytime or nighttime impacts of the Project or identify the mitigation that should be implemented to address these impacts.

D. *The assessment of impacts at grade crossings improperly assumed mitigation that is not certain to occur.*

The FEIS downplays the extent of the noise impacts the Project would cause at grade crossings along the North/South corridor, in that it does not clearly identify those locations where severe impacts would occur in the absence of mitigation. Instead, it assumes for purposes of the impacts discussion that certain mitigation (i.e., the replacement of train-mounted horns with wayside horns) would be put into place and thereby avoid impacts altogether. Thus, the document does not make the straightforward disclosure that severe noise impacts are predicted to occur at 117 grade crossings, and that mitigation would be required to address such impacts. Instead, it states that "AAF has committed to installing stationary wayside horns at each of the 117 grade crossings between Cocoa and West Palm Beach where severe, unmitigated impacts would occur using locomotive-mounted horns" so that "the Project would have no permanent noise impacts along the N-S Corridor due to the use of wayside horns." FEIS at 1-21.

The problem with this conclusion is that there can be no assurance that train-mounted horns will no longer need to sound at the identified locations, since wayside horns may not replace train-mounted horns without agency coordination and government approval, and without the installation of "traffic operations system[s] … to secure railroad-highway crossings for the purpose of preventing vehicles from going around, under or through lowered railroad gates." Fla. Stat. § 351.03(3).[3/]

The FEIS does not specify the agency approvals needed to implement the wayside horn mitigation, nor does it discuss any problems that may be encountered in securing those approvals. Moreover, the document is unclear as to whether AAF has committed to installing – and maintaining in perpetuity -- the grade crossing improvements needed under Florida law to "secure railroad-highway crossings for the purpose of preventing vehicles" from circumventing down-gates. On the one hand, it indicates that "AAF will incorporate all of the Sealed Corridor design treatments identified in the Grade Crossing Diagnostic Evaluation, where applicable, along the entire AAF service route." FEIS at 1-23. At the same time, it indicates that "municipalities are typically responsible for funding all

3/ The statute also requires the enactment of a local or county ordinance unconditionally prohibiting "the sounding of "train horns and whistles during the hours of 10 p.m. and 6 a.m…." *Id.* § 351.03(4)(a)(2). Indian River County has enacted the ordinance required by the statute, but the FEIS does not indicate whether other affected jurisdictions have also done so.

improvements and equipment maintenance associated with Quiet Zones within their jurisdictions."[4/] FEIS at 5-149. It would be wholly improper for the FEIS to give the impression that a severe noise impact would be avoided by a Project component such as wayside horns unless the Project Sponsor is assuming the ongoing expense of both the operation and maintenance of the equipment required for the measures that are credited as avoiding such impacts.

Finally, the wayside horns themselves will sound more than 50 times a day at 117 grade crossings, and can be expected to cause noise impacts on proximate sensitive receptors such as nearby residences and houses of worship. Yet the impacts on those receptors were not identified or analyzed for significance.

II. The FEIS fails to adequately consider noise and vibration mitigation for impacts resulting from mainline operations.

The FEIS includes a vaguely worded commitment that "AAF will implement mitigation measures as part of the Project design to reduce noise and vibration impacts from passenger train operations", but includes no discussion as to what those design measures might be. FEIS at 7-7. This empty statement is yet another departure from FRA guidance, which provides that "[i]ncorporating noise control features during the specification and design of the vehicle is among the most effective noise mitigation treatments. The development and enforcement of stringent but achievable noise specifications by the project sponsor is a major step in controlling noise everywhere on the system. It is important to ensure that noise levels quoted in the specifications are achievable with the application of best available technology during the development of the vehicle and reasonable in light of the noise reduction benefits and costs. Effective enforcement includes imposing significant penalties for noncompliance with the specifications." FRA Manual at 5-37.

The only other mitigation measure specifically mentioned in the document is the wheel and rail maintenance program discussed above. As previously noted, without reviewing the assumptions in the AMEC Report it is not possible to discern whether the noise and vibration analysis was based on the assumption that such a program would be implemented (in which case the thousands of vibration impacts would occur even with such a program.) In any event, the FEIS does not provide detailed information about when, where, and how an effective maintenance program would be conducted, and makes no commitment that adequate rail condition and wheel condition monitoring systems would be installed. It is also unclear if freight trains would also be subject to the same requirements and if not, how the operation of freight trains on the tracks would degrade the rail surface causing additional noise and vibration from Project trains.

As noted above, the FRA Manual calls for a detailed ground borne vibration analysis and the identification of specific mitigation measures when a general assessment reveals the potential for impacts. Rather than following that explicit guidance and designing into the Project the specific vibration-reducing measures needed to address the thousands of impacts identified in the general assessment (i.e, track support systems such as floating slabs and ballast mats), the document provides one more vaguely worded assurance. It states that "AAF will conduct soil characterization and pre-construction soil analysis to determine if additional mitigation measures are warranted, such as in areas that may be subject to liquefaction or are otherwise vulnerable to vibration." FEIS at 7-8. But such undefined assurances of future action – to be taken at the discretion of the Project sponsor -- are no substitute for the particularized mitigation analysis and specific, enforceable commitments that the

4/ The County understands that some of the capital improvement work required for "sealed corridors" involves much of the same work as is required for the establishment of quiet zones.

FEIS should have included, under both the guidance in the FRA Manual and the requirements of NEPA.

III. The FEIS Fails to Properly Assess or Mitigate the Impacts of the Project on Public Safety.

Municipal and county governments are on the front lines in protecting public safety because it is their personnel who must respond in the first instance to vehicle/train collisions, derailments and other accidents that may occur within their jurisdictions. For this reason, local entities have a fundamental interest in assuring that projects within their boundaries are designed, constructed and operated to be as safe as possible. However, their ability to protect such interests through the imposition of safety requirements is limited by principles of federal preemption with respect to railroad projects, since under federal law the power to regulate railroad safety is wielded primarily by FRA. Under such circumstances, it is critical that local governments be provided with the detailed information they need for effective participation in the public review process afforded under NEPA. It is only with such information that they have the opportunity to provide their input on safety-related issues to FRA and other federal agencies in an effective and meaningful way. Without it, they can only sit on the sidelines and hope that the necessary safeguards will be put into place by federal authorities.

The FEIS includes no detailed analysis of the potential safety risks associated with the Project, or how such risks would be avoided or minimized. There is no substantive discussion of safety concerns that may be posed by the operation of 110 mph passenger trains along a right of way that is unfenced in many areas, and runs close by densely developed urban areas. Nor is there substantive discussion of risks that may be associated with running such high-speed passenger trains on an operational freight line, where one train is likely to pass behind a slower train several times a day. The FEIS is devoid of any detail on the risks posed to pedestrians crossing the right of way at both formal and informal grade crossings, even though one FRA official has reported that "[t]respassing is an epidemic along this corridor." *See* On Site Engineering Field Report-Part 1, All Aboard Florida dated March 20, 2014 (the "Field Engineering Report"), at p. 3. Indeed, one would not even know, reading the FEIS that 160 people have been killed on the FEC freight line over the last 10 years.

The FEIS avoids presenting a detailed discussion of public safety concerns by asserting that it is a topic that need not be assessed under NEPA, and is to be addressed by FRA outside of the public eye. Thus, the document states that "[c]onsistent with FRA safety requirements, which are not part of the NEPA process, AAF will develop a Hazard Analysis and System Safety [study] prior to the start of operations … The Hazard Analysis that AAF is developing in advance of the start of train service … will make an assessment of the potential frequency and severity of [ ] incidents. This is not a NEPA requirement." FEIS at 1-23; *see also* FEIS at 5-161. This statement reveals a profound misunderstanding of the obligations of a federal agency under NEPA. Where, as here, a project has the potential to result in significant impacts to public safety, such impacts must be thoroughly discussed and publicly aired in an EIS, so that the lead agency, informed by public comment, may identify alternatives, design elements and operational measures that would mitigate those risks. *See* 40 C.F.R. § 1508.27(b)(2) (requiring consideration in an EIS of "[t]he degree to which the proposed action affects public health or safety").

By shunting such a critical issue off to side-bar negotiations between AAF and FRA officials, the agency is denying the County and municipal entities the opportunity to provide input into federal decisions of profound local importance. It is also frustrating one of the primary purposes of NEPA: to inform agency decision-making with meaningful public comment.

Compounding these problems is the fact that AAF apparently believes that the measures necessary to minimize the risks to public safety posed by this high speed rail project are not even a matter of federal regulation. According to one FRA official assigned to identify grade crossings where upgraded technology is needed to protect public safety, Project representatives in the first instance rejected his recommendations, reportedly indicating that "these are 'guidelines, not regulations,' … in which they are not obligated to incorporate any of the described crossing treatments." Field Engineering Report at p. 2. It appears from the FEIS that AAF now has agreed to incorporate the recommended grade crossing improvements under certain circumstances. Notwithstanding that apparent commitment, the FEIS is written to support AAF's position that it is under no regulatory obligation to do so. Thus, the document states that "AAF has *voluntarily agreed*" to implement such measures. FEIS at 3-22. However, there is a catch to that commitment: according to the FEIS, AAF will incorporate the recommended safety measures at vehicular crossings, but only *"in conjunction with County and municipal execution of amendments to existing license agreements*…." (emphasis added) FEIS at 3-45. The document does not elaborate on the nature or purpose of the amendments AAF is demanding.

Moreover, there is a *caveat* to AAF's commitment to install the gates required to keep pedestrians from entering grade crossings when a high speed train approaches: such safety devices will be installed only where "municipalities [have agreed] to maintain such gates" after they are installed. FEIS at 1-23. Thus, it appears from the FEIS that AAF views the measures identified by FRA as necessary to protect the public from the dangers created by high speed rail operations at grade crossings not as mitigation required under NEPA, but as purely voluntary Project benefits that it may either provide or withhold, depending upon whether localities accede to its contractual demands. Such a perspective is directly contrary to FRA's policy that "pedestrian treatments at vehicular crossings … are an essential safety element" because "high-speed passenger trains are difficult to detect visually and can be virtually silent until their arrival at any given location." FEIS App. 5.4.4 at 13.

AAF's perspective on safety-related mitigation at crossings is not just evident in the language of the FEIS; it is also apparent from the work produced subsequent to the issuance of that document. Recently, after completing his review of the 90 percent drawings prepared by AAF for Martin County, FRA's safety engineer concluded: "*In summary, unfortunately AAF failed to meet bare minimum safety requirements*." *See* Frank Frey, Gen. Engineer-HSR, FRA, email to Terry Rauth, Deputy County Engineer, Martin County, sent August 28, 2015 (attached as Exhibit B).

With respect to areas outside of the formal grade crossings, the FEIS includes the general assurance that "the corridor will be fenced in locations where an FRA hazard analysis review determines that fencing is required for safety; this will be in populated areas where restricting access to the rail corridor is necessary for safety." FEIS at 3-44. The document also indicates that "AAF will conduct ROW [right of way] field surveys to observe, document and provide recommendations to minimize trespassing by employing fencing, warning signage, public outreach/information and other appropriate measures as required." *Id.* at 1-23. But no information is provided with respect to where fences would be installed; how and by whom such fencing decisions are to be made; whether municipal authorities and the public would have a voice in such decision-making; whether the fencing would be tamper resistant and designed to be consistent with community character; whether video monitoring also is to be deployed in high-traffic areas; or what other measures – like above-grade pedestrian walkways where necessary to maintain neighborhood continuity – would be put into place.

The FEIS waves away the serious concerns discussed above by stating that "[t]he Project would comply with all relevant health and safety regulations and would not adversely impact the public's

health and safety." FEIS at 5-157. But unsupported generalities regarding regulatory compliance and future planning are no substitute for the careful analysis and public airing of potential impacts that NEPA demands. The FEIS is deficient because it does not identify and analyze potentially significant risks to public safety, and does not propose for public scrutiny a specific program of measures to minimize those risks.

IV. The FEIS Neglected the Impacts of the Project on the Community Character of Vero Beach and Sebastian

If the Project is constructed as proposed, 32 new high-speed passenger trains will barrel through Indian River County each day. Those trains will travel at speeds averaging 106 mph through two developed downtown areas, crossing heavily trafficked roads and passing by commercial and residential buildings in close proximity to the right of way. In addition, freight operations can be anticipated to intensify with the Project, and the speed of freight trains will increase to up to 70 mph. As discussed above, the noise and vibration analyses conducted for the FEIS failed to adhere to the most basic protocols in the FRA Manual, and scant attention was paid in the FEIS to the significant public safety risks posed by the Project. Such impacts are serious enough on their own. But when they are considered together it is clear that they could cause significant impacts to the overall quality of life for the residents of those cities and result in a substantial alteration of the character of the communities in which they live.

The FEIS downplays the effects of the Project on adjacent communities by observing that they have "supported freight and/or passenger service on a continuous basis for more than 100 years," and "have largely developed around these conditions." FEIS at 5-138. Such statements overlook the fact that the 110 mph, non-stop rail operations resulting from the Project would differ markedly from historic passenger rail service, which operated at conventional speeds and actually *served* the affected communities with stops and stations along the way. Indeed, the conclusion in the FEIS that "[t]he Project would have an indirect beneficial effect to communities," because it would "improve accessibility and mobility between Orlando and Miami," *id.*, may be accurate for the few cities where stations would be located, but could not be less true for the affected communities in Indian River County. The FEIS is deficient in that it failed to consider the overall negative community character impacts the Project would have in the urban areas that would take the brunt of the noise, vibration, public safety and fragmentation impacts of the Project in order to benefit the few cities it would serve.

V. FRA Failed to Follow Required Procedures in Assessing the Effects of the Project on Cultural Resources.

Under Section 106 of the NHPA, federal agencies must take into account the effect of their undertakings on historic resources that are either listed or eligible for listing on the National Register of Historic Places (the "National Register"). The agency must do so in accordance with procedures adopted by the Advisory Council on Historic Preservation (the "Advisory Council") appearing at 36 C.F.R. Part 800 (the "NHPA Regulations"), unless the agency substitutes the NEPA procedures for those required under the NHPA. *See* 36 C.F.R. § 800.8(c). Here, FRA elected not to substitute NEPA procedures for those of the Advisory Council. *See* DEIS, App. 4.4.5.A.2, ("M. Hassell stated that FRA has decided not to use the 'substitution approach' for streamlining the NEPA and NHPA Section 106 consultation process.").

The NHPA Regulations provide that "[a] representative of a local government with jurisdiction over [an] area in which the effects of an undertaking may occur *is entitled to participate as a consulting party*." 36 C.F.R. § 800.2(3) (emphasis added). Accordingly, under the regulations "[t]he [federal] agency [ ] *shall* invite any local governments …" to join in the consultation. *Id.* 800.3(f)(1) (emphasis added). The regulations further require that consulting parties be provided the opportunity to participate in the process from its *inception,* and at each step of way thereafter. 36 C.F.R. §§ 800.3(f), 800.4(a)(3), 800.4(d)(2), 800.5(a), 800.6(a) and 800.6(b)(1)(i).

Reading the FEIS, one would believe that the historic review conducted with respect to the Project adhered to these requirements and was completed in close consultation with all appropriate parties. Thus, the document indicates that "consultation with the tribes and other [ ] consulting parties was discussed" and that "FRA agreed that the public outreach required in NEPA would fulfill the public involvement requirements of the NHPA" as allowed by 36 C.F.R. § 800.2(4)(d)(3).[5] FEIS 4-127. The FEIS further indicates that during the NEPA process, AAF met with "numerous public … entities," including the County, to "discuss concerns related to historic properties" and to gather information concerning "the location, significance, and integrity of potential historic properties, which helped inform the assessment of effects to historic properties within the APE." FEIS at 4-128. The FEIS further reports that at the conclusion of the process, FRA's Section 106 findings were "circulated, in draft form, to all local governments along the Project corridor," giving those entities the opportunity to comment and to "become consulting parties under Section 106." FEIS at 5-166. According to the FEIS, "FRA incorporated comments, as appropriate, into the report and provided the document to the SHPO," which "concurred with FRA's Determination of Effect." *Id.*

Unfortunately, the process actually followed in the historic review bears little resemblance to the one portrayed in the FEIS. At the outset of the process, FRA decided *not* to invite the participation of the County and scores of other affected local governments. *See* DEIS at 4-124 ("SHPO concurred with FRA's determination *that consultation with local entities was not required for Phase II*" of the Proposed Project. (emphasis added)). Only after the County objected in its comments on the DEIS to being excluded from the consultation – and sought the intervention of the Advisory Council – did FRA reach out at the end of the process to solicit its views. In fact, it was not until May 19, 2015 – just as the historic and environmental review processes were drawing to a close – that FRA first invited the County to become a consulting party and provide comments on a draft Determination of Effects (the "DOE") that had already been written. Although the County responded to the FRA letter pointing out some of the more glaring deficiencies in the DOE, it made clear that in responding it was "in no way waiving its objection to FRA's defective process for the cultural resource review of the Proposed Project ...." Shortly thereafter, FRA notified the County that "[w]e do not believe that what was submitted necessitates substantial revisions to the DOE." *See* letter dated July 28, 2015 from David Valenstein to Dylan Reingold.

5/ The DEIS stated on page 4-124 that "FRA is *coordinating* compliance with Section 106 with preparations of the DEIS" (emphasis added). Under the NHPA Regulations, "coordination" is distinct from "substitution." When the historic review is coordinated with the NEPA review, the Part 800 NHPA procedural requirements must be satisfied, along with those under NEPA. When the federal agency seeks to streamline its review by *substituting* NEPA procedures, it must do so in compliance with standards specified in 36 C.F.R. § 800.8(c)(1). Those standards assure that proper consultation is conducted with all appropriate parties. Moreover, 36 C.F.R. § 800.2(4)(d)(3), the provision cited in the FEIS with respect to the substitution of NEPA procedures for those under the NHPA, applies only to *public outreach* (i.e., public notice and comment) procedures, not to consultation.

The process followed by FRA – where consulting parties were excluded from the consultation until a draft decision document had been prepared, and where comments were requested at the last minute and then summarily rejected – complies with neither the letter nor the spirit of the NHPA Regulations. Indeed, the County understands that on July 30, 2015 – six days *after* FRA submitted the Final Determination of Effects (the "Final Determination") to the Florida State Historic Preservation Office ("FSHPO") and just days before the FEIS was released, a telephone conference was convened between the Advisory Council and FRA to "clarify how FRA *will coordinate* with the consulting parties to *identify and evaluate historic properties* and to assess the effects of the AAF project on historic properties." *See* letter dated August 11, 2015 from Charlene Vaughn to Michael Johnsen (emphasis added). Certainly, the issuance of an FEIS and final determinations under Section 106 and Section 4(f) are wholly improper before consultation aimed at identifying historic resources, and assessing the impacts of the Project on those resources, had been completed.[6]

VI. The FEIS Failed to Properly Consider the Effects of the Project on Historic Resources

One consequence of FRA's failure to consult with knowledgeable local entities is that it failed to identify historic and archaeological resources within the Area of Potential Effects ("APE") for the Project. A few of those omissions were corrected in the FEIS, but the document remains deficient not only in identifying potential resources, but in evaluating the effects that the Project will have on both known and potential resources, and in developing appropriate mitigation. Some examples of those deficiencies are discussed below.

A. *The Vero Man Site*

As discussed in detail in the County's comments on the DEIS, artifacts dating back 12,000-14,000 years – to the earliest period of human habitation in North America – have been uncovered during excavations at the Vero Man Site. The FEIS (unlike the DEIS) now identifies this site as a significant historic resource, and (unlike the DOE) properly notes that portions of the site lie beneath the proposed Project corridor. Nevertheless, the FEIS finds that construction of the Project will not have adverse effects on this significant resource, for reasons that are contradicted by the document itself. For example, in the impacts analysis the FEIS describes the Vero Man Site as having a "deeply buried fossil bed." FEIS at 5-171. It notes that construction work planned for the area includes "shallow excavation (approximately five feet deep)" and installation of "24-inch square concrete pilings, driven to approximately 50-feet in depth." *Id.* According to the FEIS, because any potential archaeological resource associated with the site would lie too far beneath the surface to be affected by the shallow excavation "[t]here would be no temporary or permanent effects to the archaeological site caused by the Project." *Id.* However, the description of the Vero Man Site in the "affected environment" chapter of the FEIS makes clear that this conclusion is in error. That section of the FEIS notes that according to the Florida Master Site File ("FMSF") "known site areas" at the Vero Man Site "are … under *3 to 10 feet* of fill," FEIS at 4-138, and they are thus squarely within the range of the anticipated "shallow excavation," which according to the FEIS entails digging down for a depth of approximately five feet. Moreover, driving piles down for 50 feet through the fossil bed has the obvious potential to destroy any artifacts and human remains that are situated where the piles are to be placed. And although the FEIS indicates that a "new fiber backbone will be installed as part of the AAF project" FEIS at 3-59, no mention is made of the excavation that will be involved in the installation of that cable. In addition,

6/ In its August 11 letter, the Advisory Council also called into question the assertion that NEPA scoping meetings could substitute for consultation, since the focus of such meeting was not on historic properties.

according to researchers familiar with the site the proposed fiber cable excavation will have a potential adverse impact on the site even if directional boring is used.

The FEIS is equally deficient in its analysis of operational impacts on the Vero Man Site. In fact, the document presents no real analysis at all of the potential for the Project to cause vibrations that may damage subsurface artifacts, or disturb the integrity of the side walls of archaeological excavations at the site. Instead, it makes passing reference to a study prepared for a different project, which found that "predicted vibration levels associated with passenger trains is less than the existing vibration levels associated with the freights." FEIS at 5-174. Building on this premise, the document goes on to reason that "[b]ecause FEC has operated passenger and freight rail along this corridor for more than 100 years," any subsurface damage to artifacts "would likely have already occurred." *Id.* At the same time the FEIS acknowledges that this conclusion is nothing more than speculation due to the fact that "there are no data on the stratigraphy beneath the FECR right-of-way and no studies on the effects of vibration on … artifacts in this geomorphological context." *Id.* Such baseless speculation is wholly inappropriate for an analysis of potential impacts on an archaeological treasure like the Vero Man Site. This is particularly so because increased vibrations resulting from the Project will not be generated by passenger trains alone. The Project will *also* result in a substantial increase in the speed of *freight trains* along the corridor, because the timetable speeds for freight trains at the Vero Man Site are projected to increase from the *45 mph to 70 mph*, according to the FEIS. *See* FEIS App. 3.3.3-A4, p. 11 of 22. No analysis appears in the document of whether freight trains traveling at such increased speeds, in combination with high-speed passenger trains, would result in damage to subsurface resources that has not already occurred under existing conditions. These potential impacts on an immensely valuable resource should not be ignored because of a failure to gather the necessary technical data from appropriate studies.

B. *Other Archaeological Sites*

Notwithstanding the County's comments on the DEIS and the DOE, the FEIS continues to neglect the potential effects of the Project on the Gifford Bones Site, a resource that has yielded fossilized bones of ground sloth, camel, mastodon and other animals for decades. The reason given in the document for omitting any analysis of this important resource is that the site is "separated from the FECR right of way by Old Dixie Highway." FEIS App. 4.4.5-E, p. 8, "Responses to Comments on Section 106 Historic Properties." But the information in the FMSF indicates that the site is in close proximity to the FEC corridor, and it is reasonable to expect that its boundaries could extend under the Old Dixie Highway and into the direct effects APE.

In addition to the Vero Man Site and the Gifford Bones site, there are likely to be numerous other potentially significant sites in the archaeologically sensitive area within which the Project would be constructed. The County understands that the Atlantic Ridge running beneath the FEC corridor for the length of Indian River County and beyond may contain significant archaeological sites wherever water courses cross that area. Yet the FEIS makes no mention of high probability areas on the Atlantic Ridge over which the Project would be constructed, or the potential for archaeological and paleontological resources to be located there.

According to the FEIS, the "identification of archaeological sites … was done through the review of data and mapping contained within the site file forms and survey reports on file with the FMSF, and supplemented by the knowledge of the project archaeologists." FEIS at 4-124. As noted above, no meaningful steps were taken to derive additional data through timely consultation, and no sampling or

field investigation was performed. As a result of this half-hearted effort, even known potential resources seem to have been overlooked. *See*, e.g., FEIS App. 4.4.5-E, p. 8 ("The FMSF data does not illustrate the presence of a previously recorded archaeological site adjacent to the St. Sebastian River Bridge (8IR2 is noted in the FMSF data as an unnamed midden that has not been plotted within the FMSF GIS data.)"); FEIS, p. 4-138 ("Two additional sites reported by DEIS commenters in Indian River County, the St. Sebastian River Bridge (8IR2) and the North River Canal (8IR8) are listed in the FMSF as having undetermined locations, and thus could not be considered for this study."). Such limited information-gathering falls well short of the "reasonable and good faith effort" to identify potential historic resources that is required by the NHPA Regulations. 36 C.F.R. § 800.4(b). As a result of its failure to take reasonable steps to identify potential archaeological sites along the proposed rail corridor, FRA did not assess whether Project construction would damage or destroy significant resources lying beneath the surface, or whether vibration from new construction as well as increased and faster freight operations and new high speed passenger trains would damage cultural materials and human remains.

C. *Architectural Resources.*

The reason presented in the FEIS for neglecting to assess the effects of the Project on Old Town Sebastian Historic District East or Old Town Sebastian Historic District West is that these National Register-listed resources do not fall within the boundaries of the Project's APE. But that is clearly not the case with respect to Old Sebastian Historic District East, since the FEC corridor runs for 600 feet directly along the western boundary of that district and within the APE. While the boundaries of Old Sebastian Historic District West are less clear (and could fall within the current -- and inadequate -- APE) the City has proposed one comprehensive historic district crossing the FEC corridor to include both districts, running south adjacent to the corridor to include eight more structures. Four of those historic structures are within the APE and four are adjacent to it. The two historic districts are notable not only for their 28 contributing historic structures, but also for the quiet, small town ambiance they currently enjoy. Thus, it is the distance from the borders of the Historic Districts, not from the contributing structures, that should be considered in determining whether they would be adversely affected by the Project. Nevertheless, the FEIS presents no assessment of the contextual effects (such as noise, vibration, safety and visual impacts) that increased and faster-running rail traffic associated with the Project would have on them. Nor did it address the measures that could be implemented to address those effects.

D. *The Cultural Resources Mitigation is Inadequate.*

Proper consultation is critical to the development of mitigation to address the effects of a project on historic resources. 36 C.F.R. § 800.6. As noted in the FEIS, "the documentation for … mitigation measures must provide evidence that consultation has been completed with the SHPO … and any other identified consulting parties." FEIS at 5-179. Nevertheless, FRA did not consult with the County, and we are informed that it did not consult with Indian River Historical Society or the Old Vero Man Ice Age Sites Committee – all currently designated consulting parties – regarding the draft MOA now attached to the FEIS. Accordingly, the claim made in the FEIS that this document was prepared "in coordination with … any consulting parties" is simply inaccurate. No such coordination occurred, because FRA failed to contact the County or (to the County's knowledge) the other consulting parties referenced above to obtain input as to the draft MOA. Moreover, neither the draft MOA nor the "Archaeological Monitoring Plan/ Unanticipated Discoveries Plan" that is attached to it is adequate to assure that adverse effects on significant historic resources would be minimized, for

several reasons. First, the plan relates only to *unanticipated* discoveries made during the course of construction, and is intended to establish "construction crew training and procedures in the *unlikely event* that archaeological features or artifacts are discovered during excavation." FEIS 5-171 (emphasis added). Likewise, the draft MOA focuses its artifact protection provisions solely on "archaeological resources *inadvertently discovered* during the Project." Such measures fall short of the mitigation needed to avoid the potential harm to known, productive resources like the Gifford Bones Site and the Vero Man Site, where it is not at all unlikely that significant artifacts would be disturbed during the course of construction. Moreover, at the Vero Man Site the presence of an archaeologist during excavation will do nothing to protect subsurface artifacts from the destruction caused by driving piles 50 feet beneath the ground. Instead of the inadequate measures now included in the plan, qualified archaeologists familiar with the site should be assigned the task of actively searching for and documenting cultural and fossil materials in the areas that are slated for construction, and of implementing recovery efforts commensurate with the importance of the sites. Thus, a properly designed and thorough Phase I investigation should be implemented at each of the sites, and follow-up Phase II and III recovery programs should be required, as appropriate, before construction begins.

Moreover, under the draft MOA the mitigation is applicable only at the six sites that have been specifically identified and discussed in the FEIS, and does nothing to identify or protect resources at the numerous other potentially significant archaeological sites along the FEC right of way. As noted above, there are likely to be important archaeological resources along the Project corridor other than those that were called out in the FEIS. Archaeologists should conduct a field investigation of all higher probability locations (i.e., natural watercourses with adjacent uplands) along the Project corridor where watercourses cross the Atlantic Ridge, perform testing as needed to determine the archaeological importance of these sites, consider the nature and extent of the construction work proposed at each such location, and perform further archaeological investigations and recovery efforts, as called for in light of such analyses. All such work should be performed under the supervision of a Register of Professional Archaeologists ("ROPA")-qualified archaeologist whose credentials have been reviewed and found to be acceptable by the consulting parties.

The mitigation set forth in the FEIS with respect to the destruction and replacement of the historic St. Sebastian River Bridge require nothing more than continued consultation with the FSHPO at the 60 percent and 90 percent stages of design. Since the County understands that construction of the Project is imminent, we expect that 90 percent drawings are already, or soon will be, available. Drawings depicting the proposed design of the replacement bridge – and any substantive modification to those drawings – should be made available not just to the FSHPO, but also to the County and other affected consulting parties, and the MOA should include a mechanism for continuing consulting party review and approval.

Moreover, as noted above, neither the FEIS nor the draft MOA make mention of mitigation measures aimed at protecting the Old Sebastian Town Historic Districts from the impacts of the Project, other than one requiring consultation with SHPO regarding the design of the grade crossing gates. No measures are identified to address the other contextual impacts, such as the noise, vibration, visual and community character effects that operation of the Project would have on these resources.[7/]

7/ Finally, the County notes that the FEIS includes "catchall" mitigation measures that call for AAF to "consult with SHPO to assess and avoid potential adverse effects of construction activities identified outside of the existing APE." Such undefined commitments are no substitute for the reasonable and good faith investigation of

The County appreciates that, due to the intercession of the Advisory Council, FRA now will be reinitiating the Section 106 consultation with additional local entities. However, it was clearly improper for FRA to issue the FEIS and make its statutory determinations without first completing the hard look at potential effects on cultural resources, and without working with the consulting parties to develop appropriate measures to mitigate those effects in compliance with NEPA, Section 106 and Section 4(f). Likewise, there should be no final MOA approval without the review and agreement of all the affected counties.

VII. The FEIS Includes no Meaningful Analysis of the Secondary Impacts of the Proposed Project, or the Cumulative Impacts of the Project in Combination with Reasonably Foreseeable Future Actions.

In its comments on the DEIS, the County pointed out that FRA is obligated to examine not only the direct and immediate effects of the Proposed Project, but also its *indirect* or secondary impacts and its cumulative impacts, in combination with those of other reasonably foreseeable actions. *See* 40 C.F.R. §§ 1502.16, 1508.8; FRA NEPA Procedures, 64 Fed. Reg. 28550, 28554; USDOT NEPA Procedures, Attachment 2 at 4; *see also* CEQ, "*Considering Cumulative Effects under NEPA*" at 11-21 (1/1997). As discussed below, the FEIS, like the DEIS, fails to consider such impacts, or to include any meaningful discussion at all of the effects of other actions in combination with those of the Project.

A. *Secondary Impacts*

The NEPA regulations specifically require an EIS to examine not only the direct impacts of a project, but also its "[i]ndirect effects and their significance." 40 C.F.R. § 1502.16(b). Thus, an agency must address impacts caused by the Project that "are later in time or farther removed in distance, but are still reasonably foreseeable." *Id.* at § 1508.8(b). Among such indirect impacts are "growth inducing effects related to induced changes in the pattern of land use, population density and growth rate …" *Id. See also id.* at §§ 1508.25(a)(2), 1508.7, 1508.27(b)(7).

Given these clear mandates, it is inexplicable that FRA has ignored the DEIS comment submitted by the County calling for a thorough discussion of the impacts of the growth-inducing impacts of the Project. As the County pointed out in its comments, AAF currently owns more than 20 acres of real estate in the areas around the Project stations in downtown Fort Lauderdale, West Palm Beach and Miami, and has specific plans to implement a massive redevelopment program under which it would construct *millions* of square feet of transit-oriented residential and commercial space in these areas.

Notwithstanding this ambitious Project-related real estate development program, the FEIS declares that "[t]he Project would not result in induced growth; no changes to land use due to induced growth would occur." FEIS at 5-5; *see also* FEIS at 5-138, ("the only potential growth-inducing component of the Project is use of the [Orlando] Intermodal Station"), FEIS at 5-45 ("Project is not anticipated to result in induced growth or development that could generate additional emissions of criteria pollutants, and would not result in indirect or secondary effects to air quality"). Indeed, the rudimentary analysis of the effects of ancillary development associated with the Project appearing in both the FEIS and the environmental assessment prepared for Phase 1 (the "EA") gives no hint of the

---

potential impacts required under Section 106 or the hard look at such impacts called for under NEPA *before* construction begins.

massive indirect growth that is to come. The FEIS discloses only that "Phase 1 of the Project … includes development in the vicinity of each of the proposed stations. At West Palm Beach and Fort Lauderdale, there will be 10,000 square feet of retail space within the station. At Miami, the Project includes 30,000 square feet of retail within the station, 400 residential units, and a 200 room hotel." FEIS at 5-6. Likewise, the EA focused only on development on that modest scale, and provided no information about the potential traffic, air pollution, cultural or displacement impacts of the *additional*, unanalyzed millions of square feet of development that AAF (and other developers) have on the boards for the affected downtown areas in connection with the Project.

There can be no doubt that such impacts are "reasonably foreseeable" since AAF has been developing its long-term redevelopment strategy for years. For example, before the DEIS was even released, AAF representatives met with the Northwest Progresso-Flagler Heights Redevelopment Advisory Board in Fort Lauderdale to discuss the Project. The minutes of that meeting indicate that those representatives advised the board that "AAF has purchased the parcels they will need in order to build [the] station, as well as additional transit-oriented development." *See* Minutes of Northwest Progresso-Flagler Heights Redevelopment Advisory Board, October 23, 2013. The minutes of the meeting go on to indicate that "All Aboard Florida will have a significant presence in Fort Lauderdale, as up to 500,000 square feet of development may occur in the City. There will be opportunities for multiple developers to invest in this area." More recently, the local press has reported that "[i]n Fort Lauderdale, AAF is working with the city to craft a development plan for 10 acres around the station – 8.2 acres of which is owned by AAF or governments." Brian Bandell, *All Aboard Florida Preparing Major Development Around Fort Lauderdale Station,* South Florida Business Journal, July 14, 2015**.** That report cites AAF President Michael Reininger as stating that the station "area could eventually have 2 million square feet of transit oriented development," presumably including both AAF projects and those of other developers. *Id.* In an AAF press release concerning the West Palm Beach program, Mr. Reininger announced that "[w]e fully expect this undeveloped part of the city [in the area of the new station] to see a dramatic change with new development that will be spurred by the transit activity we are leading." According to the Mayor of West Palm Beach, "[t]his transformative project will catalyze significant economic growth in Palm Beach County, in South Florida, and statewide." *See* AAF Press Release, *All Aboard Florida Marks Another Milestone With Unveiling or West Palm Beach Station*, July 21, 2014. As a first step in this transformation, AAF recently announced a proposal to construct a 23 story apartment tower on a parcel adjacent to the station. *Fort Lauderdale Transit Hub Sparks Development,* The Real Deal, July 14, 2014. The Company is simultaneously moving ahead with its plans for a major redevelopment in around its Miami station.

The FEIS concedes that there is a potential for induced growth to result from the Project, but makes no attempt to analyze its impacts. Thus, it simply notes that "the three proposed stations … may result in secondary … development and redevelopment outside the development directly associated with the stations. This additional development may also create impacts such as induced traffic generated by those developments." FEIS at 5-17. Notwithstanding this concession, the FEIS does not examine the secondary impacts of the massive development that AAF itself is planning for Southeast Florida, or of the additional impacts that would be caused by other projects that are likely to follow. It thereby failed to disclose whether such induced growth would have contextual impacts on the historic resources in the vicinity of the Fort Lauderdale and West Palm Beach stations (e.g., the Clematis Street Historic District in West Palm Beach), whether traffic congestion would be adversely affected in and around the redeveloped areas, or whether indirect displacement or other adverse socioeconomic effects would occur. These deficiencies alone require that an SEIS be prepared.

B. *Cumulative Impacts*

Under the NEPA regulations, an EIS must consider "[c]umulative actions, which when viewed with other proposed actions have cumulatively significant impacts." 40 C.F.R. § 1508.25(a)(2). A "cumulative impact" to be addressed in an EIS is "the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." 40 C.F.R. § 1508.7. In its comments on the DEIS, the County explained why FRA is obligated under these clear-cut principles to consider the effects of the Project in combination with those of the Tri-Rail Coastal Link project (the "Tri Rail Project"), a project that would serve 25,000 riders daily and add 25 commuter train round-trips to an 85 mile stretch of the FEC corridor that AAF proposes to use. Certainly, the Tri-Rail Project is one that would have safety, noise, vibration and other impacts that overlap with those of the Project, and should have been carefully considered in the FEIS.

The reason given in the document for failing to do so is that the Tri Rail Project is "not reasonably foreseeable." FEIS at 5-199. In coming to that conclusion, the FEIS fails to account for the fact that the extensive preliminary phase of planning required under the formal FTA procedures has now been completed for the Tri Rail Project, or that the "project development phase" under those procedures is about to begin. As the County pointed out in its comments on the DEIS, an enormous amount of federally-funded environmental and engineering work has gone into the project, as documented in a 387 page *Final Conceptual Alternatives Analysis and Environmental Screening Study* completed in 2009; a 189 page *Detailed Environmental Screening Report* issued in 2010; a 168 page *Final Alternatives Analysis Report* prepared in 2011; and a final *Preliminary Project Development Report* submitted to the FTA in April 2014. In addition, a Memorandum of Understanding ("MOU") has been executed by the Florida Department of Transportation, the South Florida Regional Transportation Authority, the Southeast Florida Transportation Council, eight affected Metropolitan Planning Organizations and other parties to "develop a multi-agency partnership for undertaking" the work and to outline the agencies' roles and responsibilities "in conducting the project." MOU Between Palm Beach Metropolitan Planning Organizations *et al.* for Tri-Rail Coastal Link dated May 2013.

Many public meetings have been held to consider the Tri Rail Project, and the record reflects an overwhelming degree of public and agency support. *See* Tri-Rail Coastal Link Study, Preliminary Project Development Report, Phase 3 Public Involvement Program Report, April, 2014. As the FEIS itself acknowledges, the NEPA process for the Tri-Rail Project is anticipated to begin in the remaining few months of this year.

According to the FEIS, this well-developed project is not reasonably foreseeable because the "access and operating" agreements have not been finalized and federal funding has not been secured. But a project does not have to be a foregone conclusion to be reasonably foreseeable for purposes of the NEPA review. Under the circumstances, the Tri Rail Project is long past the point where it could be considered speculative, and should have been taken into account in a thorough cumulative impacts analysis in the FEIS.

VIII. The FEIS Fails to Adequately Identify and Assess Mitigation Measures

As demonstrated by the comments above -- in particular those regarding noise and vibration, public safety and cultural and historic resources impacts -- the FEIS contains little more than a generic laundry list of potential mitigation measures that could be implemented for virtually any project,

anywhere. The document provides no details or specifics as to how the mitigation measures would be tailored to the Project's specific impacts and no information is provided to explain how the mitigation measures would be implemented along the Project's 235-mile corridor. This may be attributable in part to the document's grossly deficient assessment of impacts, but that does not excuse the fundamental omission of a meaningful and detailed assessment of mitigation measures.

FEIS Chapter 7, which purports to present the mitigation measures for the Project, identifies measures "proposed" to address Project impacts but provides no commitments as to their implementation. No information is provided as to whether or how the Project sponsor's performance in implementing the vaguely-described mitigation would be monitored, or whether any enforcement mechanisms would be put into place to assure that the measures are effectively implemented. A generalized listing of proposed measures without such details cannot form the basis for any agency to reach a decision with regard to how to mitigate the Project's impacts.

IX. The FEIS Must Be Rejected and New Supplemental Environmental Impact Statement Prepared

NEPA requires that "to the fullest extent possible" an FEIS must disclose and assess the Project's impacts and consider the reasonable alternatives and mitigation measures that would avoid or minimize those impacts. *See* 42 U.S.C. § 4332; 40 C.F.R. § 1502.1. The fundamental purpose of these requirements is to ensure that federal decision-makers understand the Project's short and long-term impacts, and how such impacts will be addressed, before they take any action.

As discussed above, the FEIS falls far short of these requirements. It fails to take a "hard look" at the environmental impacts of the Project, and does not adequately identify and assess effective measures to mitigate such impacts. As a result, the FEIS cannot form the basis for a record of decision, and a new supplemental environmental impact statement must be prepared.

Exhibits to Indian River Comments on AAF FEIS

Exhibit A	Acentech, Noise and Vibration Comments, dated September 22, 2015
Exhibit B	Frank Frey, FRA, email to Terry Rauth, Martin County sent August 28, 2015

EXHIBIT A

Acentech, Noise and Vibration Comments, dated September 22, 2015

ACENTECH

33 Moulton Street
Cambridge MA 02138
617 499 8000
acentech.com

22 September 2015

Indian River County
1801 27th Street
Vero Beach, Florida 32960-3365

Subject: Review of Noise and Vibration Sections of
Final Environmental Impact Statement for Proposed All Aboard Florida Project
Phase II Between West Palm Beach and Orlando, Florida

Attention: Dylan Reingold, Esq., County Attorney, Indian River County

I have reviewed the noise and vibration portions of the Final Environment Impact Statement dated August 2015 prepared for the proposed All Aboard Florida project by the USDOT Federal Railroad Administration that addresses Phase II of the Project between West Palm Beach and Orlando.

Provided in the following are my comments as to shortcomings in noise and vibration portions of the FEIS and suggestions where the FEIS should be revised in a supplemental environmental impact statement in accordance with guidance provided in published FRA and FTA manuals.

Sincerely yours,

Eric W. Wood

Eric W. Wood
Principal
Acentech Incorporated

Noise and Vibration Comments Following Review of AAF FEIS

Set out below are my observations of the most significant shortcomings of the noise and vibration analyses provided in the Final Environmental Impact Statement ("FEIS") issued by the Federal Railroad Administration ("FRA") in August 2015 for the proposed All Aboard Florida ("AAF") project. The shortcomings are measured against the two primary sources for noise and vibration assessment methodology identified in the FEIS – FRA's own guidance manual entitled "High-Speed Ground Transportation Noise and Vibration Impact Assessment" dated September 2012 (referred to below as the "FRA Manual") and the guidance manual issued by the Federal Transit Administration ("FTA") entitled "Transit Noise and Vibration Impact Assessment" dated May 2006 (referred to below as the "FTA Manual"). These documents are cited by FRA in the FEIS [pg 5-46] as providing the "methodology for identifying the affected environment and assessment potential impact from transit projects as the [AAF] Project." In addition, I draw upon my professional expertise and experience developed over the course of my 40-plus year career as a professional acoustical consultant during which I have been involved in scores of transportation, industrial and environmental projects subject to state and/or federal environmental review requirements, including the Acela Express train, the only operational high-speed train in the United States.

Part I - NOISE & VIBRATION ASSESSMENT COMMENTS

1. The FEIS Lacks Detailed Noise and Vibration Analyses

The FRA and FTA Manuals call for detailed noise and vibration analyses for large projects, such as AAF. The FRA and FTA Manuals set forth a basic three-step process for assessing noise and vibration impacts: (i) the completion of a screening procedure to identify if potential impacts could result; (ii) a general assessment to generally identify the location and magnitude of such impacts; and (iii) a detailed noise analysis to identify the specific locations and projected impacts that could result from a project and the development of project-specific mitigation that can only be based on such a detailed assessment. This approach has been employed by FRA in the environmental reviews for other proposed high speed trains.

Instead of following the FRA and FTA Manuals, the FEIS contains only a generalized noise assessment with many inadequacies. General assessments are only applicable during the early stage in the Project development process. For the proposed AAF project, noise measurements and detailed noise and vibration analyses should be performed in accordance with the FRA and FTA Manuals and results should be included in a supplemental environmental impact statement. Without detailed noise and vibration analyses it is not possible to fully understand what noise and vibrations are most likely to result from the proposed AAF project and to develop adequate mitigation.

Relevant FRA and FTA Manual Provisions:

- The FRA Manual [pg 4-1] provides that "The goals of an initial noise evaluation are to identify the potential for impacts and to determine their order of magnitude so that a more detailed analysis can be done in areas where significant impacts are found during later phases of the design process. The initial evaluation includes two parts: a preliminary screening of the project corridor to identify areas of potential impact, especially when the technology or alignments have not been selected, and a general noise assessment for when more details are known or when representative cases are required."

- The FRA Manual [pg 5-1] provides that "The Detailed Noise Analysis is appropriate for assessing noise impacts for high-speed train projects after the preferred alignment and candidate high-speed train technologies have been selected. At this point, the preliminary engineering has been initiated, and the preparation of an environmental document (usually an Environmental Impact Statement) has begun."
- The FTA Manual provides [pg 1-2] that "Large fixed-guideway projects, such as heavy rail, light rail, commuter rail and automated guideway transit systems, normally require environmental impact statements, including an in-depth noise and vibration assessment. While there may be exceptions to the EIS requirement, in the great majority of cases new rail starts or extensions to existing systems involve significant environmental effects in the context of the National Environmental Policy Act (NEPA). Because they are located in dense urban areas, noise and vibration impacts are a frequent concern; thus it is likely that for the major infrastructure projects requiring an EIS, the most detailed treatment of noise and/or vibration impacts will also be required."
- The FTA Manual provides [pg 7-9] that: "There is the potential of vibration-related problems anytime that new commuter or intercity rail passenger service is introduced in an urban or suburban area."… "High-speed passenger trains have the potential of creating high levels of ground-borne vibration. Ground-borne vibration should be anticipated as one of the major environmental impacts of any high-speed train located in an urban or suburban area."
- The FRA Manual [pg 7-6] provides that "Specification of mitigation measures requires more detailed information and more refined impact criteria than those used in the General Assessment."
- The FRA Manual [pg 8-1] provides that "More detailed analysis is required if any sensitive land uses are within the screening distances."
- The FRA Manual [pg 9-1] provides that "The Detailed Assessment approach presented in this chapter provides a means to determine general vibration propagation conditions along a proposed high-speed rail corridor and to develop specific projections for sensitive buildings where vibration impact is predicted by a General Assessment." And goes onto say that "As indicated above, it can be appropriate to use the Detailed Assessment procedures at several locations along the proposed corridor during the preliminary phases of a high-speed rail project to refine the General Assessment projection curves."
- The FRA Manual [pg 9-3] provides that "In locations where General Assessment indicates impact, the more refined techniques of Detailed Assessment should be used."

2. The FEIS Fails to Provide Adequate Details About Potential Vibration and Ground Borne Noise Impacts and a Detailed Analysis Is Necessary.

The AAF FEIS provides [pg 5-51 and 5-52 Tables 5.2.2-3 and 5.2.2-4] criteria for ground borne noise impacts. However, it does not frame the results of its general assessment in relation to these criteria. Instead, the AAF FEIS [pg 5-61] simply refers to a table [Table 5.2.2-13] and states that …"the Project would result in minor vibration impacts to 3,317 residential receptors and 513 institutional receptors, as well as 18 other vibration-sensitive land uses (TV studios, recording studios, auditoriums, and theaters)."

Unfortunately, there is no way to understand what such a "minor" impact would be since the AAF FEIS does not provide a definition for the term "minor" and does not provide estimates of the expected vibration levels at the thousands of impacted receptors along the N-S corridor

other than to say that project-induced vibration is not expected to cause structural damage to buildings. As noted in the excerpts from the FRA and FTA Manuals below, FRA and FTA recognize that vibration and ground borne noise impacts can result below the threshold for structural damage.

As directed by the FRA and FTA Manuals, the vibration impacts to the almost 4,000 receptors must be subject to a detailed analysis. The FEIS should adequately address vibration and ground borne noise levels and associated expected impacts along the N-S corridor with a detailed analysis presented in a supplemental environmental impact statement. This assessment must take into consideration factors such as layering of the soil and depth to water table that can have significant effects on the propagation of ground-borne vibration. Based on the results of this detailed assessment appropriate mitigation should be developed. The FEIS fails to adequately document methods available to mitigate both vibration and ground borne noise along the corridor.

Relevant FRA and FTA Manual Provisions:

- The FRA Manual [pg 6-34] provides that "Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 5–10 dB. This vibration level is an order of magnitude below the damage threshold for normal buildings."
- The FTA Manual provides [pg 7-1] that: "Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings."
- The FTA Manual provides [pg 11-1] that "The goal of the Detailed Analysis is to use all available tools to develop accurate projections of potential ground-borne vibration impact and, when necessary, to design mitigation measures."
- The FRA Manual [pg 9-1] provides that "The goal of the Detailed Assessment is to develop accurate projections of ground-borne vibration by using all available tools and, when necessary, to design mitigation measures."
- The FRA Manual [pg 9-3] provides that "In locations where General Assessment indicates impact, the more refined techniques of Detailed assessment should be used."
- The FTA Manual [pg 7-10] provides that "Factors such as layering of the soil and depth to water table can have significant effects on the propagation of ground-borne vibration."
- For analysis of ground borne vibration, the FTA Manual [pg 8-6] provides that "Specification of mitigation measures requires more detailed information and more refined impact criteria than what were used in the General Assessment. A frequency distribution, or spectrum, of the vibration energy determines whether the vibrations are likely to generate a significant response in a receiving building or structure."
- The FTA Manual [pg 8-8] goes on to state that "These criteria use a frequency spectrum because vibration-related problems generally occur due to resonances of the structural components of a building or vibration-sensitive equipment. Resonant response is frequency-dependent. A Detailed Analysis can provide an assessment that identifies potential problems resulting from resonances."
- For analysis of ground borne noise, the FTA Manual [pg 8-8] provides that "For special buildings listed in Table 8-2, a single-valued level may not be sufficient to assess activity interference at the Detailed Analysis stage. Each special building may have a unique specification for acceptable noise levels. For example, a recording studio may have stringent requirements for allowable noise in each frequency band. Therefore, the ground-borne noise criteria for each sensitive building in this category will have to be determined on a case-by-case basis."

3. The FEIS Does Not Disclose Key Noise And Vibration Assessment Information and FRA has Failed to Produce it Upon Request

A fundamental purpose of environmental impact statements is to allow interested parties to fully review and evaluate the assumptions and calculations that underlie the modeling and resulting conclusions.

Table 5.2.2-1 of the AAF FEIS provides only a portion of the noise and vibration modeling calculation inputs. To be comprehensive, as called for by both FTA and FRA Manuals, all relevant modeling calculations, inputs, assumptions, and results should be provided allowing evaluation by others.

The AAF FEIS includes numerous references to what appears to be the key noise and vibration technical memorandum prepared by AMEC in 2013, which is cited throughout the FEIS as:

> AMEC. 2013c. Technical Memorandum No. 5, Noise and Vibration for the All Aboard Florida Passenger Rail Project from Orlando to Miami, Florida. July 2013. Report.

However, only two pages of this report are provided in FEIS Appendix 5.2.2-A1. Multiple requests to FRA to obtain a copy of this document have not been satisfied.

Without that document, interested parties are unable to fully review and evaluate noise and vibration portions of the AAF FEIS. A copy of the underlying noise and vibration assessment relied upon in the FEIS should be provided and time should be provided for interested parties to fully review and evaluate its contents and submit comments.

Relevant FRA and FTA Manual Provisions:

- The FRA Manual [pg 11-1] states that "To be effective, noise and vibration analyses must be presented to the public in a clear, comprehensive manner."
- The FTA Manual provides [pg 13-1] that "To be effective, the noise and vibration analysis must be presented to the public in a clear, yet comprehensive manner. The mass of technical data and information necessary to withstand scrutiny in the environmental review process must be documented in a way that remains intelligible to the public. Justification for all assumptions used in the analysis, such as selection of representative measurement sites and all baseline conditions, must be presented for review."
- The FTA Manual describes in Section 13.1.1 key information to be provided to the public.

4. The FEIS General Assessment Is Based on Modeled Not Measured Existing Conditions

Despite the fact that the FRA and FTA Manuals call for the collection of actual measurements of existing noise conditions as a basis for predicting future project-related noise impacts, actual measurements have not been recorded for the proposed AAF project. Modeling of the existing noise conditions based on existing FECR freight operations and population density without also conducting and reporting actual field measurements is not consistent with the guidance published in the FRA and FTA Manuals.

Furthermore, the FRA and FTA Manuals specify that actual measurements are especially important at locations known to be sensitive. The AAF FEIS use of census blocks to predict population density, which was then used as an assumption in modeling noise levels is unsupported. The AAF FEIS does not demonstrate that the census block data used in the analysis is representative of sensitive areas along the corridor and this approach has not been endorsed by any agency as a reliable method to establish ambient sound levels at specific sensitive locations for use in noise and vibration impact assessment. Therefore, existing noise and vibration monitoring, with careful attention paid to sensitive receptors, should be performed as is called for by the FRA and FTA Manuals and used in a detailed noise analysis and reported in a supplemental environmental impact statement.

Relevant FRA and FTA Manual Provisions:

- The FRA Manual [pg 4-13] also states that "If the proposed high-speed rail project corridor is to be shared with an existing rail transit corridor (rapid transit, commuter rail, etc.), the methods described in Steps 1 through 3 are not adequate to characterize existing noise exposure accurately. Because existing noise exposure is a strong function of distance from the existing rail corridor, general estimates such as those presented in Table 4-6 are difficult to make, given the high variability in the operational characteristics of transit systems. In such cases, noise measurements at representative locations along the corridor are essential to estimate existing noise accurately."
- The FRA Manual [pg 4-11] states that "It is generally a good idea to base all estimates of existing noise on measurements, especially at locations known to be noise sensitive."
- The FRA guidance manual (FRA Manual) provides [pg 5-5] that "Some noise monitoring should be performed unless extenuating circumstances make measurements impractical. Project schedule, bad weather, and limited budget are typical reasons that measurements may not be possible. The most common approach is to use measurements at representative sites to characterize existing noise."
- The FRA Manual [pg 5-5] provides that "The most common approach is to use measurements at representative sites to characterize existing noise."
- The FRA Manual [pg 8-9] provides that "If there is any reason to suspect efficient propagation conditions, then a Detailed Analysis during final design should include vibration propagation tests at the areas identified as potentially efficient propagation sites."
- The FRA Manual [pg 9-4] provides that "Measurements to document the levels of vibration created by existing rail lines can be important in evaluating the impact of the new vibration source and determining vibration propagation characteristics in the area."
- The FRA Manual [pg 9-6] goes on to state that "Ambient measurements along railroad lines ideally will include multiple sites, several distances from the rail line at each site, and 4 to 10 train passbys for each test."
- The FRA Manual [pg B-2] goes on to state that "Full 24-hour measurements are the most precise way to determine ambient noise for residential receivers of interest. Such full-duration measurements are preferred over all other options."
- The FTA Manual provides [pg 5-13] that "In the Detailed Analysis, the existing noise exposure is based on noise measurements at representative locations in the community. It is generally a good idea to base all estimates of existing noise on measurements, especially at locations known to be noise-sensitive."
- The FTA Manual provides [pg 6-30] that "In general, it is better to measure existing noise than to compute or estimate it. Measurements are more precise than computations and estimates and therefore lead to more precise conclusions concerning noise impact."

- The FTA Manual provides [pg 6-30] that: "In general, it is better to measure existing noise than to compute or estimate it. Measurements are more precise than computations and estimates and therefore lead to more precise conclusions concerning noise impact."

Relevant Excerpts from the AAF FEIS:

- The AAF FEIS indicates [pg 4-33 to 4-35] that "Existing noise conditions along the N-S Corridor have been modeled based on existing FECR freight operations in Brevard, Indian River, St. Lucie, Martin, and Palm Beach Counties."
- The AAF FEIS states [pg 4-35 to 4-36] that "In areas away from major roads or railroad lines, ambient noise is typically dominated by local streets and community activities. According to the EPA, ambient noise in these areas can be related to population density (EPA 1974). Estimates of population density within the Project Study Area were made using census block data from the 2010 U.S. Census. The number of census blocks per population density category and ambient noise level per county is presented in Table 4.2.2-4." … "Table 4.2.2-5 presents a summary of the existing noise conditions at a distance of 50 feet from the N-S Corridor. This table shows that existing noise conditions range from 74 to 82 L_{dn} at a distance of 50 feet from the railroad."

5. The FEIS General Assessment Downplays Impacts

The general noise and vibration assessments presented in the AAF FEIS are based on "average operating characteristic" assumptions, which likely led to an underestimation of impacts. A proper noise and vibration evaluation for the AAF FEIS should be based on maximum (not average) operating characteristics and schedules. Otherwise noise and vibration impacts can be underestimated.

Relevant FRA Manual Provisions:

- The FRA Manual [pg 4-5, 4-8] provides that "The available information may not be sufficient to predict noise levels at all locations along the right-of-way, but by using conservative estimates (e.g., maximum design speeds and operations at design capacities), it will allow estimates of worst-case noise impacts."

Relevant Excerpt from the AAF FEIS:

- The AAF FEIS indicates [pg 5-46] that "Noise generated from the proposed passenger rail operations was calculated based on average operating characteristics for each county and projected service schedules."

6. The FEIS Fails to Account for the Increased Freight Train Speeds That Are Part of the Proposed AAF Project

The AAF FEIS [FEIS Appendix 3.3.3-A4 pg 7,11, 15, 18, 20, 21, 24, 25, and 27] clearly indicates that increases in freight train speed in many places of 25, 30 and even up to 45 miles per hour would result from the proposed AAF project. The increases in freight train average operating speeds and maximum operating speeds as a direct result of the proposed project can be expected to increase noise and vibration. Noise and vibration analyses under NEPA must account for all sources of project-generated noise and vibration. The AAF FEIS is incomplete without acknowledging and evaluating the increases in noise and vibration that would result from the proposed AAF project's increased freight train speed. The FEIS must fully evaluate

such increases in freight speeds and disclose any impacts that would result. These evaluations should be evaluated in a supplemental environmental impact statement.

Relevant Excerpts from the AAF FEIS:

- The AAF FEIS indicates [pg 5-10] that "The addition of passenger rail service would require modifying the mostly single-track system to a mostly double track system, which would be used by both passenger and freight operations. This will improve freight efficiency by increasing average operating speeds." The AAF FEIS also indicates [pg 3-44] that "From Cocoa to West Palm Beach, AAF plans to build and maintain track conditions in accordance with FRA safety standards that permit maximum passenger train speeds of 110 mph and maximum freight train speeds of 75 mph (FRA 2012b and 2012c)."
- FEIS Appendix 3.3.3-A4 pg 7,11, 15, 18, 20, 21, 24, 25, and 27 identifies both existing freight speeds and the higher freight speeds that would result from the proposed AAF project along the North-South alignment.

7. Conflict Between Freight and Passenger Trains Would Result in More Freight Movement At Night – the FEIS Fails to Account for This Shift

The FEIS [pg 4-34, Table 4.2.2.2-2] represents that there are currently 9 freight trains operating during daytime hours and 9 during nighttime hours. If the proposed AAF project becomes operational, 30 passenger train trips would start operating during the daytime period. It is reasonable to expect that conflicts between freight and passenger trains would then occur and would force more of the freight trains to operate during nighttime hours when few if any of the passenger trains are operating. Increasing night-time freight movement would, of course, increase significantly nighttime noise impacts at sensitive areas along the corridor. This foreseeable potential project-related additional noise and vibration impact should be identified, addressed and evaluated in a supplemental environmental impact statement unless enforceable project commitments are obtained that such shifts would not occur.

8. The FEIS Fails to Properly Acknowledge Existing Severe Noise Impacts

Table 5.2.2-10 of the AAF FEIS lists existing and future day-night Ldn noise conditions of 74 to 75 dB for residential receptors along the N-S corridor mainline. Levels above 65 dB are considered "normally unsatisfactory" by FTA and are defined as an unacceptable living environment by United States Department of Housing and Urban Development as cited in the FRA Manual [pg A-13]. The FRA Manual [pg 3-5] also acknowledges that 75 dB of noise is a "level associated with an unacceptable living environment."

As a result, the FTA Manual [pg 3-12] finds that "there is a stronger need for mitigation if a project is proposed in an area currently experiencing high noise levels from surface transportation. An example would be a project where additional commuter tracks are added to a very busy rail corridor. If this project were placed in a less noisy environment, the impact assessment might show a Severe Impact, but when the project is overlaid on an existing noisy environment, the result could be Moderate Impact or, possibly, No Impact. However, in this situation the new cumulative noise environment may be very objectionable because people would not be compartmentalizing the existing noise versus the new noise and reacting only to the new noise. In this circumstance impacts predicted in the Moderate range should be treated as if they were Severe."

Moreover, AAF FEIS Table 5.2.2-9 identifies exceedances of the Moderate Leq noise impact criteria from the proposed AAF Project. Because the N-S Corridor already experiences extremely elevated noise levels, a detailed analysis should be prepared that treats impacts predicted in the Moderate range as if they were Severe. This analysis should be provided in a supplemental environmental impact statement and circulated for public comment.

FRA and FTA Manual Provisions:

- The FTA Manual [pg 3-12] provides that "Ambient levels above 65 dB (Ldn) are considered "normally unsatisfactory" for residential land use by the Department of Housing and Urban Development. Thus there is a stronger need for mitigation if a project is proposed in an area currently experiencing high noise levels from surface transportation. An example would be a project where additional commuter tracks are added to a very busy rail corridor. If this project were placed in a less noisy environment, the impact assessment might show a Severe Impact, but when the project is overlaid on an existing noisy environment, the result could be Moderate Impact or, possibly, No Impact. However, in this situation the new cumulative noise environment may be very objectionable because people will not be compartmentalizing the existing noise versus the new noise and reacting only to the new noise. In this circumstance impacts predicted in the Moderate range should be treated as if they were Severe."
- The FRA Manual [pg A-13] provides that "HUD has developed noise standards, criteria and guidelines to ensure that housing projects supported by HUD achieve the goal of a suitable living environment. The HUD site acceptability standards define 65 dB (Ldn) as the threshold for a normally unacceptable living environment and 75 dB (Ldn) as the threshold for an unacceptable living environment."

9. The FEIS Fails to Identify and Analyze Maximum Noise Levels that would Result from the Proposed AAF Project

The FRA and FTA Manuals call for environmental impact statements to assess a project's Lmax because it is a straightforward assessment of what people would hear as a result of a project and therefore provides a more complete description of the project's impacts. However, the AAF FEIS fails to identify the proposed project's Lmax. Thus, as drafted the AAF FEIS is incomplete and new calculations with full documentation of Lmax noise levels at all sensitive locations along the corridor as is recommended in the FRA and FTA Manuals should be addressed in a supplemental environmental impact statement.

Relevant FRA and FTA Manual Provisions:

- The FRA Manual provides [pg 5-22] that "[I]t is desirable to include estimates of Lmax because:
    - it is representative of what people hear at any particular instant;
    - it is straightforward to measure with a standard sound level meter;
    - noise limits in vehicle specifications are usually in terms of Lmax; and
    - Lmax represents the sound level heard during a transportation vehicle passby, and then people can relate this metric with other environmental noises, such as an aircraft flyover or a truck passby.
    - Although Lmax is not used in this manual as a basis for assessing noise impact, when used in conjunction with Leq(h) or Ldn, it can provide a more complete description of the noise effects of a proposed project. Lmax also may be necessary in determining compliance with the project noise limits."

- The FTA Manual provides [pg 6-29] that "However, it is often desirable to include computations of Lmax in environmental documents, particularly for rail projects, because the noise from an individual train passby is quite distinguishable from the existing background noise."
- The FTA Manual [pg 6-29] also provides that Lmax "…can provide people with a more complete description of the noise effects of a proposed project and should be reported in environmental documents."

10. The FEIS Noise and Vibration Impact Maps Are Unusable and Do Not Conform to FRA and FTA Guidance

AAF FEIS Appendix 5.2.2-A2 includes numerous figures with calculated noise and vibration contours illustrated on aerial photographs. Unfortunately, these figures are not usable and do not conform to the basic standards set forth in the FRA and FTA Guidance because of the large scale and low resolution and because the aerial photographs do not identify landmarks such as towns and street names. In order to identify and disclose impacts, the figures must be properly updated and reissued with more than just county names. The figures should include local landmarks, better resolution, and a reasonable scale useful to interested members of the public. The revised figures should be provided in a supplemental environmental impact statement and circulated for public review and comment.

Relevant FRA and FTA Manual Provisions:

- The FTA Manual states [pg 13-2] that "It is important to illustrate noise/vibration impacts with base maps at a scale with enough detail to provide location reference for the reader."
- The FRA Manual [pg 11-2] agrees and states that "It is important to illustrate noise and vibration impacts on base maps at a scale sufficient to provide location reference for the reader."
- The FRA Manual [pg 11-1] states that "To be effective, noise and vibration analyses must be presented to the public in a clear, comprehensive manner."
- The FTA Manual provides [pg 13-1] that "To be effective, the noise and vibration analysis must be presented to the public in a clear, yet comprehensive manner. The mass of technical data and information necessary to withstand scrutiny in the environmental review process must be documented in a way that remains intelligible to the public. Justification for all assumptions used in the analysis, such as selection of representative measurement sites and all baseline conditions, must be presented for review."
- The FTA Manual describes in Section 13.1.1 key information to be provided to the public.

11. The FEIS Noise and Vibration Assessment Fails to Account for and Analyze the Quadrupling in Day-time Train Frequency

The AAF FEIS indicates [pg 5-61] that "For the Project, although vibration levels would not increase from the passenger trains, the frequency of events will approximately double." However the AAF FEIS also discloses that if the proposed AAF project is approved, the frequency of daytime train operations would increase from 9 to 39. Thus the frequency of daytime events would increase by more than four times. Far more than "approximately double."

Neighbors along the corridor are currently exposed to the noise from 18 daily freight trains (9 during the day and 9 at night). The proposed AAF project would increase freight train speeds and would introduce 32 new daily high-speed passenger trains. It is intuitive and reasonable to expect, if the Project is approved, that neighbors would be exposed to and would hear considerable additional noise from train operations, particularly during daytime periods when train operations are expected to increase by more than 4 times. However, Table 5.2.2-10 of the AAF FEIS provides that total future day-night noise levels would increase by no more than 0.3 decibels in the five counties along the N-S corridor, because the increase in the number of trains is averaged over a 24-hour period, as opposed to reflecting the true increase in train scheduled primarily during the daytime period. The increase in noise created by a quadrupling of daytime trains could significantly impact sensitive daytime uses such as schools or churches along the alignment.

The significant increase in day-time trains should be addressed and evaluated in a detailed noise and vibration analysis in a supplemental environmental impact statement.

12. The FEIS Noise and Vibration Assessment Fails to Account for and Analyze Special Track Work Locations

Locations for special track work (*e.g.*, crossovers and switches) are acknowledged in the FRA and FTA Manuals as being significant sources of noise and vibration. However, the noise and vibration general assessment in the AAF FEIS fails to account for and analyze special track work locations.

The AAF FEIS in Appendix 3.3.3-A4 (Track Charts) and starting on page 3-43 provides that new special track work is proposed at many locations along the corridor. Unfortunately, interested members of the public living along the corridor are unable to determine if such new special track work is to be located directly adjacent to their home and what additional noise and vibration would be produced at special track work locations. Noise and vibration impacts from special track work must be assessed and disclosed in a detailed analysis in a supplemented environmental impact statement.

<u>FRA and FTA Manual Provisions</u>

- As indicated in the FRA Manual [pgs 6-40, 8-6, 8-8, 9-19] special track work can be expected to increase noise and vibration.
- The FTA Manual [pg 6-9 Table 6-2] lists special track work crossovers and switches as major noise sources.
- The FTA Manual states [pg 7-8] that: “A significant percentage of complaints about both ground-borne vibration and noise can be attributed to the proximity of special trackwork, rough or corrugated track, or wheel flats.”
- The FTA Manual also states [pg 7-10 and pg 10-10] that “Jointed rail, worn rail, and wheel impacts at special trackwork can all cause substantial increases in ground-borne vibration.” “Jointed rail causes higher vibration levels than welded rail; the amount higher depends on the condition of the joints. The wheel impacts at special trackwork, such as frogs at crossovers, create much higher vibration forces than normal.”

13. The FEIS Noise and Vibration Assessment Fails to Address Train Acceleration and Deceleration Noise and Vibration Impacts

The AAF FEIS indicates [pg 3-44] that "Speed limits are restricted in certain locations due to track curves, junctions, bridges, or other infrastructure. Table 3.3-7 lists locations where speed limits will be reduced." The St. Sebastian River railroad bridge at milepost 212 is but one location listed with reduced maximum speeds where trains would decelerate when approaching and accelerate when leaving. It is reasonable to expect locomotive noise to increase when accelerating away from reduced speed-limit locations. The AAF FEIS does not demonstrate that the noise analysis has properly accounted for this additional noise. Noise and vibration impacts from train acceleration and deceleration must be assessed and disclosed in a detailed analysis in a supplemented environmental impact statement.

14. The FEIS Noise and Vibration Assessment Fails to Address Noise From Passing Trains

The FTA Manual provides [pg 7-9] that "Relocating the freight tracks within the right-of-way to make room for the transit tracks must be considered a direct impact of the transit system which must be evaluated as part of the proposed project."

The AAF FEIS indicates [pg 5-7] that "The Project would not adversely impact (and would benefit) current freight train service on the FECR Corridor by increasing freight speeds and providing additional passing track, …"

The AAF FEIS does not acknowledge or evaluate that with double tracking the proposed project would result in higher noise levels along the mainline when two trains pass. Such higher noise levels caused by the proposed AAF project while two trains pass adjacent to noise sensitive areas can be expected to cause additional sleep interference and annoyance. Noise and vibration impacts from train passings must be assessed and disclosed in a detailed analysis in a supplemental environmental impact statement.

PART II - NOISE & VIBRATION MITIGATION COMMENTS

15. The FEIS Cannot Assume Wayside Horns Would Be Implemented At Grade Crossings and Must Include a Detailed Noise Analysis That Discloses Impacts With and Without Wayside Horns and identifies Alternative Mitigation

The AAF FEIS [pg 5-45] provides that "AAF has committed to installing wayside horns at each of the 117 grade crossings between Cocoa and West Palm Beach where severe, unmitigated impacts would occur using locomotive-mounted horns (see Appendix 3.3.5-D)." As a result, the FEIS noise analysis assumes that wayside horns would be implemented as a design feature of the Project.

There are many problems with the incorporation of wayside horns as mitigation into the analysis of the project's noise and vibration impact assessment.

First, wayside horns cannot be implemented without governmental approvals. As a result, it cannot be automatically assumed that AAF would be able to install wayside horns where it wants to. The AAF FEIS must conduct a detailed noise analysis without wayside horns. If it also wishes to present an analysis with wayside horns, it must include a list of all agency approvals needed and what is necessary to obtain such approvals. As part of the detailed noise analysis

of the severe impacts that would occur without wayside horns, alternative mitigation measures to wayside horns must be assessed because agency approvals for use of wayside horns might not be received. The AAF FEIS should be updated to address sound insulation as a mitigation option for noise sensitive locations adjacent to grade crossings where wayside horns would be installed and sounded 50 times per day. It is notable that the Identification of the necessary permits and approvals for wayside horns is missing from AAF FEIS Table 1.4-1.

Second, Appendix 3.3.5-B of the AAF FEIS provides the FRA On-Site Engineering Field Report documenting their diagnostic safety review including examinations, assessments, and specific detailed safety recommendations for upgrading at-grade crossings along the proposed AAF project corridor. That report does not address, recommend, or evaluate the use of wayside horns at any of the at-grade crossings. As a result, it is unclear if FRA has evaluated and approved wayside horn design installations for the 117 grade crossings, yet AAF was allowed to assume the implementation of wayside horns at 117 grade-crossings.

Third, there are 159 grade-crossings along the N-S Corridor [FEIS pg 4-14] , and wayside horns would only be installed at 117 grade-crossings. The FEIS does not disclose any information about the impacts that would occur at the 42 grade-crossings that would not be equipped with wayside horns. The only discussion of project noise levels at grade crossings appears to assume wayside horns [FEIS Tables 5.2.2.2-9 shows one value for project noise levels at all at-grade crossings for each county], however the FEIS clearly states that not all grade crossings will receive wayside horns. The FEIS must disclose the impacts that would occur at grade crossings not receiving wayside horns. The installation of wayside horns should also be assessed at locations where moderate noise impacts are expected.

Fourth, while it is reasonable to expect that wayside horns would reduce the foot print of the noise that would be created by the train-mounted horns on 32 new passenger trains, the impacts created by sounding the wayside horns 50 times a day at the 117 grade-crossings was not identified or analyzed in the FEIS. The impacts on sensitive receptors, including residences and houses of worship, that are within the footprint of the noise created by the wayside horns must be identified and analyzed for significance.

Moreover, it is unclear what assumptions were really made about the noise produced from wayside horns. It is stated in the AAF FEIS [pg 5-45] "…a wayside horn generates the same sound as that from an on-board locomotive horn…". However, the train noise contour maps provided in the 2013 FONSI [pg 31] show clearly that the wayside and train horns do not generate the same sound along the road approaching the tracks. The difference in sound level warning distances appears to be as much as a factor of 3. Such discrepancy makes it difficult, if not impossible, for interested members of the public to fully evaluate project information.

In addition, Table 5.2.2-10 of the AAF FEIS provides existing and total future noise levels at mainline and at-grade crossing locations for the five counties along the N-S corridor. At the grade crossing locations the existing noise levels are shown to be 7 to 8 dB higher than along the mainline. Total future noise levels (with wayside horns) are shown to be the same at the grade crossings and along the mainline. This appears to indicate that the proposed wayside horns would be far quieter than on-board locomotive horns and that they would not contribute to the total noise directly adjacent to grade crossings. This appears to contradict the statement in the AAF FEIS [pg 5-45] that "…a wayside horn generates the same sound as that from an on-board locomotive horn…". This apparent contradiction should be clarified in the supplemental environmental impact statement.

The AAF FEIS should acknowledge and fully evaluate that if the proposed project is approved the new wayside horns to be installed as a part of the proposed project would create significant noise as loud as the locomotive-mounted horns 50 times per day along roadways adjacent to each of the 117 grade crossings. Such an increase can be expected to lead to severe impacts at nearby noise-sensitive areas. A detailed noise analysis should be performed, fully evaluated, and reported in a supplemental environmental impact statement.

FRA and FTA Manual Provisions

- Notably, the FRA Manual [Chapter 5] does not identify the installation of wayside horns as a high-speed train noise mitigation measure.
- The FTA Manual [pg 6-42] indicates that "A plan to use wayside horns in place of the locomotive horn at public grade crossings must be coordinated with several public and private entities, notably the local agency having responsibility for traffic control and law enforcement on the road crossings, the state agency responsible for railroad safety, any railroads that share the right-of-way, and FRA. Public notification must also be given."
- The FRA Manual [pg 5-29] provides that "…operational restrictions that can reduce noise impact include minimizing or eliminating horn blowing and other types of audible warning signals. These mitigation options must be compliant with safety regulations and FRA guidelines."
- Building insulation as a noise mitigation option to be addressed is addressed in the FTA Manual [pg 6-43] and the FRA Manual [pg 5-31]. The FTA Manual [pg 13-6] and the FRA Manual [pg 11-6] provide that "Reasons for dismissing any abatement measures should also be clearly stated …"

16. Wheel and Rail Maintenance Appear Assumed in Noise and Vibration Assessment Without Plan or Details as to How it Would Be Implemented and Enforced

The AAF FEIS indicates [pg 7-8] that "Vibration impacts will be minimized by wheel and rail maintenance that will control unacceptably high vibration levels. According to FRA guidelines, problems with rough wheels or rails can increase vibration levels by as much as 20 dB, negating the effects of even the most effective vibration control measures."

While wheel and rail maintenance is identified as a mitigation measure that would be implemented to control vibration impacts, it appears that the AAF FEIS noise and vibration assessments actually assumed that mitigation in the impact assessment. Without an understanding of how the assessment was conducted through a review of the AMEC 2013c report, which has not been provided, it can only then be assumed that the estimated impacts to nearly 4,000 receptors would not be reduced by the implementation of wheel and rail maintenance mitigation. Thus the identification of wheel and rail maintenance as a mitigation measure is not accurate. Moreover, it is inappropriate to assume that optimized rail and wheel conditions would be maintained for the life of the proposed project since the AAF FEIS does not provide detailed information about when, where, and how such effective maintenance programs would be conducted and makes no commitment and provide no assurances that adequate rail condition monitoring systems and wheel condition monitoring systems would be installed.

Also, the AAF FEIS fails to acknowledge that rail grinding is difficult to schedule on an active system and should identify and evaluate the additional noise caused by rail grinding on a regular basis. It is also unclear if freight trains would also be subject to the same requirements and if not, how the operation of freight trains on the tracks would degrade the rail surface

causing additional noise and vibration from project trains. A similar issue is that the AAF FEIS should but does not yet address if the track would be continuously welded or jointed and the noise related implications. Moreover, the AAF FEIS does not define which track type was assumed in the general noise assessment and if welded, set forth how it would be assured that that type of track with lower noise and vibration output would be installed.

The AAF FEIS should document fully the details (when, where, how) and provide assurances that rail and wheel conditions would be continuously monitored and optimized and that conditions would be maintained as it appears it has been assumed in the noise and vibration analysis. In order to assume that such measures would be implemented details of how such measures would be implemented and enforced is necessary. Simply referring to the existence of an FRA manual [pg 7-7] does not adequately define AAF's commitment to maintaining optimized rail and wheel conditions in order to minimize noise and vibration impacts.

The wheel and rail maintenance program that would be implemented as part of the proposed AAF project should be detailed in a supplemental environmental impact statement and new noise and vibration analyses should be prepared that do not take into account any benefit derived from such program unless enforceable project commitments are obtained that adequate wheel and rail maintenance programs would be implemented.

<u>FRA and FTA Manual Provisions</u>

- It has been documented by the FRA [FRA Manual pg 9-19] that "effective maintenance programs are essential for keeping ground-borne vibration levels under control. When the wheel and rail surfaces are allowed to degrade, the vibration levels can increase by as much as 20 dB compared with a new or well-maintained system. Maintenance procedures that are particularly effective at avoiding increases in ground-borne vibration include the following:
  - • Rail grinding on a regular basis, particularly for rail that develops corrugations. Rail condition monitoring systems are available to optimize track conditions.
  - • Wheel truing to re-contour the wheel, provide a smooth running surface, and remove wheel flats. The most dramatic vibration reduction results from removing wheel flats. However, significant improvements also can be observed simply from smoothing the running surface. Wheel condition monitoring systems are available to optimize wheel conditions.
  - • Reconditioning vehicles, particularly when components such as suspension system, brakes, and wheels will be improved and slip-slide detectors will be installed.
  - • Installing wheel condition monitoring systems to identify those vehicles most in need of wheel truing."
- Similar to the FRA Manual, the FTA Manual confirms [pg 6-38] that "A good maintenance program includes the installation of equipment to detect and correct wheel flats on a continuing basis."

17. The FEIS Fails to Identify Vehicle Noise and Vibration Specification Limits

The AAF FEIS does not address vehicle noise and vibration specifications. Establishing specific vehicle noise and vibration specifications is recommended by both the FRA and FTA Manuals because without specifications it is not possible to know what noise and vibration levels would be generated by trainsets prior to purchase.

Appropriate noise and vibration specification limits should be established. Project commitments must include assurances that project trainsets would be subjected to professional noise and vibration measurements to determine if they comply with the specification limits before being put into revenue service along the corridor. Similarly, another assurance would be trainsets not meeting specification limits would not be put into revenue service.

The establishment of vehicle noise and vibration specifications and related commitments as mitigation should be addressed and evaluated in a detailed noise and vibration analysis in a supplemental environmental impact statement.

Relevant FRA and FTA Guidance Provisions:

- The FRA Manual [pg 5-37] provides that "Incorporating noise control features during the specification and design of the vehicle is among the most effective noise mitigation treatments. The development and enforcement of stringent but achievable noise specifications by the project sponsor is a major step in controlling noise everywhere on the system. It is important to ensure that noise levels quoted in the specifications are achievable with the application of best available technology during the development of the vehicle and reasonable in light of the noise reduction benefits and costs. Effective enforcement includes imposing significant penalties for noncompliance with the specifications."
- The FTA Manual provides [pg 6-37] that: "Among the most effective noise mitigation treatments is noise control at the outset, during the specification and design of the transit vehicle. Such source treatments apply to all transit modes. By developing and enforcing stringent but achievable noise specifications, the transit property takes a major step in controlling noise everywhere on the system. It is important to ensure that the noise levels quoted in the specifications are achievable with the application of best available technology during the development of the vehicle and reasonable in light of the noise reduction benefits and costs." The FTA Manual at Table 6-12 provides a list of transit noise mitigation measures.
- The FTA Manual provides [pg 11-20] that "The ideal rail vehicle, with respect to minimizing ground-borne vibration, should have a low unsprung weight, a soft primary suspension, a minimum of metal-to-metal contact between moving parts of the truck, and smooth wheels that are perfectly round. A limit for the vertical resonance frequency of the primary suspension should be included in the specifications for any new vehicle. A vertical resonance frequency of 12 Hz or less is sufficient to control the levels of ground-borne vibration. Some have recommended that transit vehicle specifications require that the vertical resonance frequency be less than 8 Hz."
- The FRA Manual [pg 9-20] provides that "A thorough dynamic analysis, including the expected track parameters, should be part of the specifications for any new high-speed trainset."
- The FRA Manual [pg 5-10] provides that "For some projects, source-noise levels will be predefined; for example, noise limits are usually included in the specifications for purchase of new vehicles."
- The FTA Manual [pg 6-37] provides that "Effective enforcement includes significant penalties for non-compliance with the specifications. The noise mitigation achieved by source treatment depends on the quality of installation and maintenance. In the past, transit vehicles have been delivered that did not meet a noise specification, causing complaints from the public and requiring additional noise mitigation measures applied to the wayside."

18. The FEIS Fails to Define and Require Post-Construction Noise and Vibration Monitoring

The AAF FEIS should define and require implementation of train noise and vibration monitoring programs designed to address the uncertainty regarding actual noise and vibration from the proposed AAF project and the potential that additional sensitive receptors would be impacted by noise and vibration as rail traffic increases or running surfaces degrade. The program should include baseline monitoring at representative locations prior to initiation of service followed by periodic monitoring to evaluate potential increases in train noise and vibration with respect to impact thresholds defined in the AAF FEIS. The periodic monitoring should be performed annually during the first five years of operation and periodically thereafter. Following each set of measurements, the field data should be analyzed and reported and a determination made as to if AAF FEIS impact criteria are being exceeded and if exceeded what corrective actions are to occur and when.

FRA has required such monitoring before, including for the Northeast Corridor Improvement Project Electrification – New Haven, CT to Boston, MA where the above described noise and vibration monitoring was required at 67 locations as a part of that project's FEIS.

The AAF FEIS is incomplete without well-defined requirements and schedules for conducting and reporting professional noise and vibration measurements during preconstruction and operation. Without such monitoring there would be no assurances that AAF complies with reasonable noise and vibration criteria. The supplemental environmental impact statement should be updated to fully define all pertinent requirements and aspects of the preconstruction and operation noise and vibration measurement programs.

PART III - CONSTRUCTION NOISE COMMENTS

19. The FEIS Lacks a Detailed Construction Noise Analysis

The AAF FEIS explains [pg 5-52] that "Construction noise impacts were estimated following the general assessment methodologies in the FRA Manual. Based on those guidelines, 1-hour Leq noise levels were projected for the two loudest pieces of equipment used for typical construction activities." FEIS Table 5.2.2-5 provides "Distances to Potential Construction Noise Impact". However, no clear definition is provided in the FEIS as to how construction noise impact was defined. Also, the construction noise analysis provided for the AAF FEIS followed general assessment methods rather than the detailed assessment methods specified in the FRA Manual.

The AAF FEIS construction noise analysis and criteria should be presented in a supplemental environmental impact statement based on the process provided in the FRA Manual for detailed assessments of each construction phase. While construction contracts are not yet in place, input information for such an analysis is available from knowledgeable rail construction planners. Also, the criteria from FRA Manual Table 10-3 are more appropriate along this project corridor than is the general assessment criterion of 90 dBA 1-hour Leq. The limited discussion of construction noise mitigation in the AAF FEIS should also be expanded to include the mitigation plans and measures identified in Section 12.1.4 [pages 12-8 to 12-10] of the FTA Manual.

A detailed construction noise and vibration assessment should be prepared and presented in a supplemental environmental impact statement.

FRA and FTA Manual Provisions

- The FRA Manual provides [pg 10-4] that "As a result of the equipment mix, each phase has its own noise characteristics; some will have higher continuous noise levels than others, and some have high-impact noise levels. The purpose of the quantitative assessment is to determine not only the levels but also the duration of the noise. The Leq of each phase is determined by combining the Leq contributions from each piece of equipment used in that phase."
- The FRA Manual also provides [pg 10-5] that "Where a more refined analysis is needed, predict the noise level in terms of 8-hour Leq and 30-day averaged Ldn and compare to levels specified in Table 10-3:

Table 10-3 Detailed Assessment Criteria for Construction Noise

Land Use	8-Hour L_{eq} (dBA)		L_{dn} (dBA)
	Day	Night	30-Day Average
Residential	80	70	75
Commercial	85	85	80*
Industrial	90	90	85*

*Twenty-four-hour L_{eq}, not L_{dn}.

- The FTA Manual provides [pg 12-8] the same criteria as tabulated above from the FRA Manual.
- The FRA Manual provides [pg 5-1] that "The Detailed Noise Analysis is appropriate for assessing noise impacts for high-speed train projects after the preferred alignment and candidate high-speed train technologies have been selected. At this point, the preliminary engineering has been initiated, and the preparation of an environmental document (usually an Environmental Impact Statement) has begun."

20. The FEIS Should Include Construction Noise and Vibration Monitoring

Sections 7.2.4.3 and 7.2.2.4 of the AAF FEIS provide various commitments to mitigate noise and vibration associated with project construction. To ensure effectiveness of such mitigation measures, it is necessary to measure and evaluate construction noise and vibration at nearby sensitive areas. The FRA Manual [pg 10-10] and the FTA Manual [pg 12-10] provide that "Plans can be developed for preproject noise monitoring to establish baseline noise levels at sensitive locations, as well as for periodic equipment and lot-line noise monitoring during the construction period." and "If construction noise is a significant issue in the community, it is important that a program be put in place to monitor contractor compliance with the noise control specifications and mitigation plan."

Details of the construction noise and vibration monitoring and evaluation programs should be well defined and included in a supplemental impact statement circulated for public review and comment.

21. The FEIS Presents Conflicting information Regarding Nighttime Construction Activities and Resulting Noise and Vibration Impacts and Mitigation

AAF FEIS Table 5.2.2-15 provides that there would be more than 4,500 nighttime construction noise impacts at residential locations (category 2). The AAF FEIS indicates [pg 7-9] that "To meet required noise limits, AAF would implement the following noise control mitigation measures:

> • Avoid nighttime construction in residential neighborhoods; …"

The AAF FEIS goes on to say that "To mitigate construction vibration, AAF's contractor will be required to implement equipment location and processes, as listed below.

> • Avoid nighttime activities. People are more aware of vibration in their homes during the nighttime hours."

Given that AAF's construction contractors would be required to "avoid nighttime activities" in residential neighborhoods, it is unclear if the AAF FEIS's identification of more than 4,500 nighttime construction noise impacts at residential locations includes the mitigation or not.

A detailed construction noise and vibration analysis should be included in a supplemental environmental impact statement that addresses nighttime construction and impacts on residential receptors and also includes a listing that fully describes all specific "required noise limits" for construction referred to above and locations where they apply. All locations without required noise limits should be identified and assessed. The supplemental environmental impact statement should include enforceable project commitments that no project construction will occur during nighttime hours in the vicinity of residential areas.

EXHIBIT B

Frank Frey, FRA, email to Terry Rauth, Martin County, sent August 28, 2015

-----Original Message-----
From: Frank.Frey@dot.gov [mailto:Frank.Frey@dot.gov]
Sent: Friday, August 28, 2015 12:21 PM
To: trauth@martin.fl.us
Cc: kdelaney@tcrpc.org
Subject: RE: AAF Rail Safety - Martin County

Good afternoon Terry - I will need George's email address in order to share the attached with him as well.

My review of the 90% design plans has been completed for Martin County in which the spreadsheet is attached for your review. This is only a draft and will be modified pending our follow up meeting. I have also included my comments for St. Lucie for your situational awareness. In summary, unfortunately AAF failed to meet the bare minimum safety requirements as outlined in the following correspondences:

a. Part 1 and Part 2 of FRA's ON-SITE ENGINEERING FIELD REPORT, by Frank Frey (on file)

b. FRA's Final Environmental Impact Statement and Section 4(f) Determination Report Aug. 4, 2015, pages 3-45 through 3-51 (on file)

c. FRA's Highway-Rail Grade Crossing Guidelines for High-Speed Passenger Rail, Version 1.0 (attached)

d. The Letter from Florida Secretary of Transportation Ananth Prasad (attached)

e. The Letter from FRA Administrator Szabo (attached)

f. TCRPC's pedestrian safety concern letter (attached)

g. Specific discussions that took place onsite during February 4, 2014 through March 7, 2014, and during July 15, 2014 through July 18, 2014

Regarding your response to Lefevre (dated 6/3/15) on page 3, I will need to know your concern in why you are omitting 4-Quad gates at NE County Line Road (which one - at MP 280.90 or 255.30), SE Osprey Street, and SE Jonathan Dickenson Way. I just want to ensure that we are on the same page.

My schedule is very sparse over the next two weeks. I will be available on Friday Sept 4th, and then not until Monday Sept 14th and thereafter. Please let me know when a good time will be to follow up.

Respectfully,

Frank A. Frey, Gen. Engineer-HSR
Federal Railroad Administration | U.S. DOT
1200 New Jersey Avenue, SE
RRS-23 | W33-447
Washington, DC 20590
(202) 493-0130
cell (202) 738-2195