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January 18, 2023

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VIA USPS AND ELECTRONIC MAIL

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Re: Comments of Pittsfield Charter Township and the Committee for Preserving Community Quality on Michigan Department of Transportations' Second Revised Draft Environmental Assessment for the Extension of the Runway at Ann Arbor Municipal Airport

Dear Mr. Kulhanek and Mr. Houtteman,

These comments are submitted on behalf of The Charter Township of Pittsfield (Pittsfield) and the Committee for Preserving Community Quality (CPCQ) on the second revised Draft Environmental Assessment (SRDEA) dated November 2022, and released to the public on November 13, 2022. The SRDEA was drafted by Mead and Hunt and prepared for the Federal Aviation Administration and Michigan Department of Transportation, Office of Aeronautics (MDOT). These comments are timely because on December 15, 2022, an Agency Coordination letter was sent indicating that all who received the letter could submit comments until January 18, 2023.

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I. Introduction

"The care of human life and happiness and not their destruction is the first and only legitimate object of good government."
- ***Thomas Jefferson, Letter to the Republican Citizens of Washington County Maryland (March 31, 1809)***

"The Federal Aviation Act requires a delicate balance between safety and efficiency, and the protection of persons on the ground."
- ***City of Burbank v. Lockheed Terminal, 411 U.S. 624 (1973)***

This is the third draft Environmental Assessment that Ann Arbor Municipal Airport (ARB) has put forth for the same the proposed project. The first, dated February 2010, was prepared by JJR, Inc. To which Pittsfield Township submitted public comments on April 19, 2010. Exhibit 1. The second, dated December 2016, was prepared by SmithGroupJJR, to which Pittsfield Township submitted public comments on February 10, 2017. Exhibit 2. None of the previous draft environmental assessments became final. Neither MDOT nor ARB has offered any response to the comments submitted. Appendix N of the SRDEA purports to be responses to the comments submitted to prior draft environmental assessments.

In addition, on January 28, 2013, Pittsfield Township submitted a Petition to Deny Approval and Funding for the Major Runway Extension Project at Ann Arbor Municipal Airport (ARB) Located in Pittsfield Charter Township, Michigan to the Secretary of Transportation. Exhibit 3. Although the FAA responded to the portions

that concerned it on December 31, 2013, Pittsfield is awaiting a response from the Department of Transportation to whom the Petition was addressed. To the extent that the Petition was premature, Pittsfield will renew its Petition with the Department of Transportation.

Finally, Pittsfield responded on May 30, 2019, to Mead & Hunt's April 15, 2019, requesting comments on specific issues. Exhibit 4. That letter is not included in the Appendix N of the SRDEA that purports to letters received in response to ARB's "Early Agency Coordination." Nor does the SRDEA address any of the questions and comments raised by Pittsfield's letter. A revised SRDEA should be issued that includes Pittsfield's letter and addresses the comments, concerns, and questions raised in that letter.

Pittsfield incorporates by reference its previous comments, its Petition and its May 30, 2019, letter to Mead and Hunt. Pittsfield also incorporates by reference all other public comments that oppose the construction of the unneeded runway extension. As indicated in the two Resolutions that Pittsfield has passed opposing the extension, Pittsfield reiterates, once again, its continued and steadfast opposition to the runway extension and expansion of the airport.

II. The SRDEA Does Not Meet the Requirements of the State Block Grant Program.

The SRDEA mentions that the Project is being completed under Michigan's State Block Grant Program ("SBGP"), where FAA provides funds to the relevant state agency and that agency then "administers" the program. SRDEA, p. 1-5 – 1-6. There is, however, some question as to whether Michigan Department of Transportation has retained its ability to administer the SBGP. The most recent Memorandum of Agreement, MDOT Contract No. 2010-0204, is dated March 25, 2010 ("2010 Agreement"). Exhibit 5. That Agreement has a term of five years. 2010 Agreement, p.1, § 1 and expired seven years ago.

MDOT has told Pittsfield that there have been no amendments to the Agreement between MDOT and the Federal Aviation Administration (FAA), and a new Agreement has not been executed. Michigan is out of compliance with 49 U.S.C. § 47128 which requires such agreements to be in place before the FAA can fund the state's block grant program. See 49 U.S.C. § 47128(b)(4) and (5). MDOT seems to have lost its ability to fund the Project.

When a project is undertaken under the SBGP, federal law requires the Michigan Department of Transportation ("MDOT") to follow "United States Government standard requirements for administering the block grant, including the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), State and local environmental policy acts, Executive orders, agency regulations and guidance, and other Federal environmental requirements." 49 U.S.C. § 47128(4) (emphasis added).

Thus, as a matter of federal law, in carrying out projects under the SBGP, MDOT must comply not only with NEPA, the Clean Air Act, the Clean Water Act, CERCLA and RCRA, and as all state and local laws, in addition to FAA orders, regulations and guidance.

If the 2010 Agreement is still in effect, the requirement of 49 U.S.C. § 47128 that MDOT follow federal, state, and local law is also a matter of contract, as stated in the 2010 Agreement between the FAA and MDOT.

> In carrying out this program, MDOT will comply with all Federal laws, regulations and executive orders set forth in Attachment B. MDOT also acknowledges awareness of FAA policy and guidance in the form of Orders which have applicability to the state block grant program and are set forth in Attachment B.

2010 Agreement, p.3, Exhibit 5. "Attachment B" lists the federal statutes, rules, and regulations that MDOT must follow when carrying out projects, such as the proposed action.

In addition to federal law, projects under the SBGP must also follow state laws as well. 49 U.S.C. § 47128(4). This means this project must comply with the Michigan Environmental Protection Act ("MEPA"). MCL.324.1701 – 1705. MEPA prohibits state agencies, such as MDOT, from authorizing projects that will result in the "pollution, impairment, or destruction of the air, water, or other natural resources, or the public trust in these resources." MCL 324.1705(2). There is no

indication in the SRDEA that it follows Michigan environmental laws, regulations, and standards. MEPA indicates that it is incumbent on MDOT to show that "there is no feasible and prudent alternative" to the Project and that its conduct is consistent with "the promotion of the public health, safety, and welfare in light of the state's paramount concern for the protection of its natural resources from pollution, impairment, or destruction." MCL 324.1703(1). If MDOT approval of this project allows conduct that harms the air and water, and increases noise pollution, and invades the public trust in these resources, which it does, it does not comply with MEPA.

In proposing the Project, MDOT's project must also follow local ordinances as well. 42 U.S.C. § 47128. there is no indication in the SRDEA it will comply, for example, with Pittsfield Township's Noise Ordinance. Pittsfield Township, within which ARB is located, has a long-standing noise ordinance making it unlawful for "any person to create, assist in creating, permit, continue, or permit the continuance of any unreasonably loud, disturbing, unusual or unnecessary noise that either annoys, disturbs, injures or endangers the comfort, repose, health, peace, or safety of others within the limits of the township." Exhibit 6. MDOT and the SRDEA must make sure that Pittsfield Township's citizens' health, safety and property are protected from "unreasonably loud, disturbing, unusual or unnecessary noise" created by the Project. *Id*. In addition, Pittsfield contracted with the City of Ann

Arbor regarding ARB. Exhibits 7 & 8. There is no indication in the SRDEA, ARB and MDOT will follow the Agreement between Pittsfield and the City of Ann Arbor.

III. The SRDEA Does Not Support Its Purpose and Need Because There Is No Purpose or Need for the Project

An environmental assessment (EA) must include a discussion of the purpose and need for the proposed action which must "specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." 40 C.F.R. § 1502.13; see also, 40 C.F.R. § 1502.14; *Nat'l Parks & Conservation Ass'n v.BLM*, 606 F.3d 1058, 1070 (9th Cir. 2010); *Westlands Water Dist. v. United States*, 376 F.3d 843, 865, 867 (9th Cir. 2004). In addressing the Purpose and Need section of an EA, FAA Order 1050.1F provides that the Purpose and Need section "presents the problem being addressed and describes what the FAA is trying to achieve with the proposed action. The purpose and need for the proposed action must be clearly explained and stated in terms that are understandable to individuals who are not familiar with aviation or commercial aerospace activities." FAA Order 1050.1F, ¶ 6-2.1c. The SRDEA's Purpose and Need accomplishes none of these goals.

The "need" is the problem, and the "purpose" is the proposed solution to the problem. The Purpose (*i.e.,* the Project) is supposed to resolve the Need (*i.e.,* the problem). Here, it is the opposite, one large tenant's desire (AvFuel Corp.) to extend

the runway is driving the proposed action. This is a case of a Purpose looking for a Need. It is a project looking for a problem to justify its existence.

A. Neither the Purpose nor the Need justify the harm done to the communities surrounding ARB

In this third iteration of the environmental assessment, MDOT and ARB have abandoned any pretense that extending the runway at ARB is for safety reasons. Instead, the purpose of the runway extension is simply to "improve operational utility of the airport by meeting the takeoff and landing runway length requirements of aircraft that currently operate at the airport and are projected to steadily increase over time." SRDEA, p. 1-7. The SRDEA states that the Project is needed "because the Runway 6/24 was designed to serve primarily small piston driven aircraft; [sic] however, the Airport receives regular use by small turboprop aircraft and occasional business jet aircraft that require a longer runway to operate at a greater payload than they do today." Neither the purpose nor the need justifies the harm to the public health and safety of the surrounding neighborhoods that the extension to the runway will create. After reviewing the SRDEA and the "Runway Justification Study," it is apparent that the "purpose and need" for the Project is to allow a handful of larger aircraft operators at ARB to operate with full payloads on a couple of hot, humid days.

1. The SRDEA incorrectly categorizes B-II as the "critical aircraft" for Runway 6/24

The SRDEA claims that the critical aircraft at ARB is "B-II." "B-II" denotes an aircraft with an approach speed of 91 nautical miles per hour ("NMPH"), but less than 121 NMPH, (Aircraft Approach Code of "B"), wingspan of 49 ft., but less than 79 ft., and a tail height of 20 ft., but less than 30 ft. (Aircraft Design Group "II").

To determine the "critical aircraft," the SRDEA states that it "may be a single type of aircraft or a grouping of types of aircraft with similar characteristics that conducts at least 500 annual operations at an airport." SRDEA, Appendix C, p.19. It claims that the "B-II" grouping of aircrafts represent the "critical aircraft" at ARB. *Id.* The SRDEA claims that in 2019 there were 679 B-II operations, *Id.,* and, therefore, B-II is the "critical aircraft" for Runway 6/24.

FAA's AC 150/5000-17, *Critical Aircraft and Regular Use Determination*, however, states that in determining the "critical aircraft" for the airport, "an operations count by aircraft make and model is required for the **most recent 12-month period of activity** that is available." AC 150/5000-17, p.2-1 (emphasis added). Since the Runway Justification Study was run in February 2021, the "most recent 12-month period of activity" would have been from February 1, 2020, until January 31, 2021. According to the FAA, there were 383 B-II operations at ARB during that period. *FAA Traffic Flow Management System Counts,*

https:/aspm/faa.gov/tfms/sys/Airport.asp. The last full calendar year of data available to MDOT in February 2021 showed that in 2020 there were 424 B-II operations from ARB. *Id.* If one were to use the date that SRDEA was issued (November 13, 2022), one arrives at 469 annual B-II operations. *Id.* The SRDEA provided no justification for using data from 2019, which is not allowed using FAA's criteria in its Advisory Circular.

To cover up the failure to reach the required 500 annual operations within the previous 12-month period, SRDEA uses false numbers to bolster its argument that B-II is the "critical aircraft" at ARB. Table 1-0 in the SRDEA (p.1-8), for example, which shows the number of B-II flights is wrong. When compared to the chart in the Appendix C, the "annual operations" numbers in Table 1-0 are wrong.

Representative Aircraft	**Annual Ops 2019 in Table 1-0 of SRDEA**	**Actual Annual Ops from FAA TFSMC Database**
TBM8 (Socata TBM 850)	150	90
BE20 and B350 (Beechcraft King Air)	966	264
C56X (Cessna Excel XLS)	263	161
E55P (Embraer Phenom 300)	97	77
C172 (Cessna 172)	2,876	709
EC55 (EC-155)	84	82

This verifiably false information in the SRDEA calls into question the veracity of all data in the SRDEA and is a violation of NEPA. *See* 40 C.F.R. § 1502.24. Because of

this, MDOT cannot be trusted to present correct data about the situation at ARB based on its willingness to use false data for such a critical issue.

Therefore, the SRDEA's conclusion that "B-II" aircraft are the "critical aircraft" for Runway 6/24 at ARB is wrong. Because the Airport Reference Code "B-II" is not the critical aircraft, the runway does need not be lengthened to accommodate that size of aircraft.

2. Use of the lengthened runway would rarely be required, but would pose substantial risks to the surrounding community every day

a. After over twelve years, MDOT and ARB still have presented no evidence of "undue concessions"

The SRDEA claims that an extended runway is needed because for small turboprops and jets "to conduct operations on the existing runway, undue concessions in reduced fuel, passengers and/or cargo loads are often needed." SRDEA, p. 1-7. This has been the primary justification for extending the runway since 2007. However, none of the inventories, assessments, analyses, or studies required by FAA Order 1050.1F are present in the SRDEA that would confirm this need. FAA Order 1050.1F, ¶ 6-2.1c. As the FAA pointed out in an earlier draft of the SRDEA, "[t]he rate of users taking weight restrictions has not been documented (at least in the justification report)." Exhibit 13. Neither the SRDEA nor the Runway Justification Study (Appendix C of the SRDEA) provide any documentation

regarding the weight restrictions experienced by any aircraft at ARB. In response to the FAA and community concerns, MDOT and ARB simply brush the issue off by claiming that because they have gathered no data, they can provide no documentation about this critical issue. See SRDEA, Appendix N, p. 18, ("There is no information available on the number of aircraft operations that have needed to make weight and/or fuel concessions to operate at ARB. This is because there are no publicly available databases with this information. Likewise, there are no methods to obtain an accurate count of this number since all pilots would need to be willing to participate in an interview/survey effort to share this information"). There is no evidence or discussion in the SRDEA that operating with weight restrictions is an issue at ARB for anyone except the pilot of the Citation XLS.

Although no evidence indicates that airport users are taking "undue concessions," MDOT leans heavily on this purported "need" in the SRDEA. MDOT frequently mentions it throughout the SRDEA as the justification for extending the runway. Yet, although this has been an issue for over twelve years, neither MDOT nor ARB has tried to gather the information requested by the FAA and the surrounding communities. MDOT and ARB have even failed to gather this information from the two aircraft that account for most of the B-II flights. Without that evidence or other support, the statements made by MDOT regarding the

purported "need" are unreliable and self-serving and must be dismissed as arbitrary and capricious.

Even B-II aircraft must take weight restrictions on a "regular basis," MDOT still has not answered FAA's logical and reasonable question from 2016: "Why do they base at ARB instead of another close airport if they cannot use the aircraft to its max capability?" (Comment No. 15, October 2016 MDOT AERO/Applicant Ann Arbor comments in response to FAA questions) Exhibit 9. Why, indeed.

As mentioned above, MDOT claims that the Project is needed "because the Runway 6/24 was designed to serve primarily small piston driven aircraft; [sic] however, the Airport receives regular use by small turboprop aircraft and occasional business jet aircraft that require a longer runway to operate at a greater payload than they do today." Exhibit 13. This putative need, however, presumes that such critical aircraft cannot already operate at such capabilities regularly. Again, the SRDEA presents no evidence that aircraft currently operating at ARB have incurred weight penalties. On the few occasions that a longer runway is needed, Willow Run Airport (YIP) is a short 12 statute miles from ARB (about 15 minutes by car). YIP has three runways (7500, 7300 and 6000), 24-hour tower, 24-hour fire and rescue, de-icing, and robust general aviation and business aviation facilities. Thus, the Airport's argument that the runway needs to be lengthened so a handful of aircraft pilots and passengers need not drive an extra 12 miles to get to/from the

airport on the few days that a weight restriction would be required is ludicrous when compared to the damage the increase in jet operations will do to surrounding communities.

This issue of justification of the need to lengthen the runway has been problematic since the idea was first raised in 2007. Even the FAA has questioned the need for an extended runway. In May 2010 comments on the 2010 Draft Environmental Assessment (DEA), the FAA asked, "[h]as it been documented that the current B-II 'small' users operate with load restrictions? If so, how often does this occur and what are the quantifiable impacts to their operations?" Exhibit 10. In the ensuing 12 years, ARB has never answered the FAA's question from 2010 by providing that documentation. In addition, in a separate question, the FAA asked, "the conclusion for the implementation for the preferred alternative states that a positive result of improvements is the ability of business owners to achieve improved fleet efficiency for critical aircraft by maximizing their passenger and/or cargo loads. How has this statement been substantiated? What records exist that current users at ARB are not operating at maximum passenger and/or cargo loads? What has been the economic impact of the reduction of loads if they are occurring?" To paraphrase the FAA's questions, if there is no established, substantiated loss of passenger or cargo load opportunities, or established current negative economic impact, there is no Need. These questions must be answered before any project to

lengthen the runway is even considered by MDOT. The SRDEA does not have answers to these questions. Since these questions have been pending for 13 years

It is also worth noting that MDOT's federal block grant status could be at risk if it does not enforce the requirements under FAA Order 1050.1F in terms of requiring applicants to provide supporting data, inventories, assessments, analyses, or studies to support its proposed expansions, even though MDOT has not traditionally done so. Since this question is so important to the justification for lengthening Runway 6/24 at ARB, without evidence to support the statement that existing aircraft are taking weight penalties "on a regular basis," any decision to move forward with the Project is arbitrary and capricious.

b. "Contaminated runway" is not a justification for lengthening it

The SRDEA also claims that the runway extension is needed because "[d]iversions to other airports are also commonly needed when the runway surface is wet, or during the summer months when higher temperatures reduce aircraft performance." SRDEA, p. 1-7. This is contrary to the Runway Justification Study, which states in Section 6.3 that "The inclusion of the contaminated runway length distances cannot be used to justify runway length under FAA funding requirements …" SRDEA, Appendix C, p. 26. FAA also pointed this out in its comments, stating "[r]ecommend clarifying that contaminated runways are not used in the runway

length requirements." FAA Comments, p.1-5. MDOT ignored both the Runway Justification Study and the FAA and included the sentence as part of the justification for the "need" for the Project.

c. A longer runway is not needed to accommodate the existing aircraft that use ARB

The "purpose and need" of the Project comes under additional scrutiny when one considers that the take-off/landing distances specified for the various B-II aircraft that regularly use ARB. Since the "need" is to allow airport users to conduct operations without "undue concessions in reduced fuel, passengers and/or cargo loads," (SRDEA, p. 1-7), it is important to understand what are the "operational performance characteristics" for B-II aircraft that regularly use ARB. The following table is a table of the Take-Off Distance and the Landing Distances for the B-II identified in the Appendix C of the SRDEA.

Aircraft Model	**No. of 2019 Operations**	**Take-off Distance (MTOW, Sea Level, ISA) (feet)**	**Landing Distance (feet)**
Gulfstream Jetprop Commander 1000	4	2,131	2,186
Beech Super King Air 350	123	3,300	2,692
Beech 200 Super King Air	141	2,579	2,074

Raytheon 300 Super King Air	2	3,300	2,692
Beech F90 King Air	2	2,775	
Cessna 208 Caravan	100	2,053	1,624
Cessna Citation CJ4	5	3,180	2,770
Cessna Conquest	2	2,465	1,875
Cessna Citation II/Bravo	8	3,450	2,078
Cessna Excel/XLS	161	3,590	2,909
Cessna Citation Sovereign	28	3,530	2,600
Embraer Phenom 300	77	3,199	2,430
Pilatus PC-24	21	2,930	2,375

SRDEA, Appendix C

While the Cessna Citation Excel and the Cessna Citation Sovereign may not be able to operate at their maximum weight on an average day, they could operate at about 90% of their maximum weight. All other "B-II" aircraft can use ARB's 3,505-foot runway with little or no weight restrictions on most days. The Beechcraft King Air 200 can use ARB's 3,505-foot runway on most days without weight restrictions. The entire runway expansion project is specifically designed to benefit a single aircraft: AvFuel's Cessna XLS.

As stated above, ARB has long claimed that an extended runway is needed because the small turboprop and jet aircraft operating out of ARB "on a regular

basis" suffer "undue" weight penalties due to the length of the runway. While neither MDOT nor ARB have provided any data about how often this occurs, it is possible to provide a rough statistical analysis based on usage data of how the expanded runway might be necessary. FAA Advisory Circular 150/5325-4B *Runway Length Requirements for Airport Design,* Exhibit 11*,* aids an airport in determining the recommended runway length. AC 150/5325-4B, has a runway length curve used with temperatures at 86ºF (30ºC) or above, and an ARB elevation of 839 feet to meet the mean daily temperature during the hottest month at ARB. ARB had 76,430 total operations in 2019, of which, MDOT claims (at least in Appendix C, if not in the text of SRDEA) 679 were category B-II operations. SRDEA, Appendix C, pp. 8, 19. An analysis of data from the National Oceanic and Atmospheric Administration Weather Station at ARB shows that in 2019 there were 66 days in which the temperature was 86ºF or above. ARB has a based population of 164 aircraft, of which 14 are category B-II aircraft.

With these data, a calculation of potential need of an expanded runway based on maximum potential need can be made. If, on every day on which the temperature reached or exceeded 86 degrees, every aircraft in the B-II fleet attempted to operate at its maximum take-off weight – a highly unlikely possibility – and required the expanded runway to take-off, based on the ARB fleet population the need for the expanded runway would be 0.0154, or 15 in 1,000 (66/365 x 14/164). This means

that for every 1,000 operations at ARB on a day over 86º, only 15 operations would be B-II aircraft. This is based on the number of days with temperatures exceeding 86 degrees and the proportion of the total ARB fleet that is Category B-II.

However, if this calculation were based on the more realistic actual usage in the operational year used by MDOT (2019), on every day the temperature reached 86 degrees or above, the actual need for an expanded runway would be 0.0016 – or about 1.6 B-II operations for every 1,000 operations (66/365 x 679/76,430) – the number of B-II operations relative to the total operations in SRDEA's study year 2019. In addition, weight penalties are more of a concern for take-offs, rather than landings. So, the issue would apply primarily to one-half of the "total operations" for B-II aircraft, or about 340 operations per year. This lowers the actual "need" for the runway extension to 8 B-II operations for every **10,000 operations** on a day over 86º (66/365 x 340/76,430).

Thus, operational need for an expanded runway would be rare. Based on statistical analysis the expanded runway would be necessary for about 42 operations per year, at most. Yet, it would place citizens in the surrounding community at risk hundreds of times more often because aircraft would take off and land 950 feet closer to residential areas, and larger and heavier aircraft will be attracted to ARB by the expanded runway. The area to the west and south of the Airport – just off the most frequently used end of the runway – is heavily

residential. The Airport is not in a rural setting and more homes are being constructed close to the Airport. These risks are exacerbated because of the potential dangers posed by aircraft that would land just 93 feet over homes in an area heavily populated with Canada geese just west of the airport, and by the reduced margins of safety if an aircraft suffers an engine failure on or just after takeoff. Such aircraft can lose their climbing power with an engine loss and could crash into the heavily populated neighborhood. The risk of – and liability from – such a potential accident has not been studied and should be as part of any assessment about the purpose and need of extending the runway at the Airport.

3. The lengthened runway would primarily benefit a handful of rich, well-connected aircraft operators.

AvFuel, a Pittsfield Township-based national aviation fuel supplier that counts ARB as one of its customers, would be the primary beneficiary of any runway expansion as owner and operator of B-II aircraft based at ARB. AvFuel provided a letter of support in the SRDEA, claiming that, "most flights departing ARB require concessions to fuel and/or passenger loads with a stop for fuel before reaching their intended destination due to runway length limitations at ARB. When runway 6/24 is contaminated with snow or ice, AvFuel often needs to divert to another airport, which delays or cancels flight plans until pavement surface conditions at ARB improve, since braking distance is reduced when water, snow, or ice is present,"

SRDEA, Appendix C, p. B2, although no specific data on any such impacts were provided.

In addition, a further analysis based on aircraft performance data provided in the SRDEA's Runway Justification Analysis confirms that the Citation-class aircraft, including AvFuel's Cessna Citation XLS jet, could operate 90% of the time on the existing 3,505-foot runway. The Citation XLS performance data shows only a 3,500-foot runway is required until temperatures exceed 85 degrees F., which would let the AvFuel jet operate at 90% capacity. SRDEA, Appendix C, pp. E13-14. Also, in response to claims of the need for a longer runway to combat wet runway conditions, the FAA noted that under such circumstances, "Safety is maintained by the pilot adjusting their mission (payload, etc.) to the available runway length, not by the addition of a longer runway."

To further support the claimed need for the extension, the SRDEA explains that the 4,649 instrument flight rules (IFR) operations at ARB in 2019, indicating the aircraft involved required eliminating weight concessions that would let aircraft operate at greater capacity, thus resulting in a "more efficient operating environment." However, further analysis of the supporting data showed that all but an estimated 48 Citation XLS class jet flights of the 4,525 IFR airplane operations could be conducted on the current 3,505-foot runway without penalty.

Finally, if operating the aircraft to fullest extent of its capabilities is such a concern, then the owners of the aircraft should move their aircraft to YIP – just a few miles from ARB. While that may be inconvenient for the owners of the handful of aircraft it would affect, that inconvenience pales when compared to the damage that would be done to the public's health and safety should the runway be lengthened.

4. Support for Need for Economic Need and Increase in Jet Operations Comes at a Cost.

In support of the presumed need, and alluding to a connection between the airport and the Ann Arbor-area business community, the SRDEA also reported that the area surrounding Ann Arbor was home to "many prominent businesses and institutions with the University of Michigan being the area's largest employer. Manufacturing, health care, automotive, information technology, and biomedical research companies account for major employers in the surrounding area." SRDEA, pp. 1-1. The SRDEA added that with many such technology-driven industries, "[t]here is often a need for air transportation to bring workers, clients, suppliers, customers, and time sensitive parts / supplies to and from the region." SRDEA, p. 1-2. However, no data were provided to support the implied claims of any connection to or the vitality of ARB to support such vast economic and operational activity, save for particulars on the AvFuel XLS Citation jet. In addition, the SRDEA does

not address the fact that YIP can satisfactorily address the needs of the surrounding area, since there are very few "businesses and institutions" that are not also within a short drive from YIP.

The SRDEA suggests that the University of Michigan's six/seven home football weekends each year and the two annual NASCAR racing events at nearby Michigan International Speedway are examples that bring increased aircraft activity to airports in the region, suggesting that "should Runway 6/24 be extended, additional aircraft activity could occur at ARB due to its proximity to special event venues surrounding the Ann Arbor area." Again, any need for more airport capacity can be (and has been) satisfactorily met by YIP. For example, according to Google Maps, YIP is just 8.8 miles further from Michigan International Speedway (ARB is 33.9 miles away, and YIP is 42.7). Even the comparative distance between the two airports and Michigan Stadium is inconsequential. While ARB is 3.6 mile (or 4.3 miles) from the stadium, YIP is only 13.6 miles away from the stadium. It is not apparent from the SRDEA why residents in the surrounding communities would have suffer health impacts just so a few wealthy aircraft owners can shave 5 minutes off their drive to downtown Ann Arbor or Brooklyn, Michigan.

An earlier draft of the SRDEA projected an immediate tripling of annual jet operations if the ARB runway were extended to over 1,000 operations per year, with another 500-665 operations from jets, which use nearby Willow Run Airport,

possibly moving to an expanded ARB. That earlier draft SRDEA suggested that up to 40% of the current 9,313 annual small and medium jet operations at nearby Willow Run Airport "would likely shift to ARB if additional runway length were available," thus increasing jet operations from the 360 in 2019 to upwards of 3,660 jet operations per year – a 10-fold increase, ultimately turning ARB into a jetport. This is not an organic increase in jet operations. This is a shift of operations from YIP to ARB. This indicates that the extension of the runway would not increase air traffic in the region – thereby increasing the economic benefit to the region – but merely shift jet operations from YIP to ARB. Even AvFuel Chief Pilot suggests that, indicating that AvFuel would shift its aircraft currently based at YIP to ARB. Were YIP operating at capacity or near capacity, this would be a benefit to the region. But it is not. YIP has the available capacity to safely and efficiently handle any aircraft that cannot take-off or land at ARB due to "operational capabilities," now and in the future.

In short, the "need" expressed in the SRDEA is being already being met by YIP. There is no need for ARB to extend its runway.

IV. The Use of Willow Run Airport Is a "Reasonable Alternative" that Has Not Been Fully Considered.

The National Environmental Policy Act ("NEPA") (42 U.S.C. §§ 4321 *et seq*.) requires that federal agencies examine all reasonable alternatives in preparing

environmental documents. 42 U.S.C. § 4332(c)(iii). An agency preparing an EA should develop a range of alternatives that could reasonably achieve the need that the proposed action is intended to address. The Council on Environmental Quality ("CEQ") Regulations ("NEPA Regulations"), which implement NEPA, require that Federal agencies "[u]see the NEPA process to identify and assess the reasonable alternatives to the proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment" 40 C.F.R. § 1500.2(e), and that "agencies shall . . . (a) Rigorously explore and objectively evaluate all reasonable alternatives…." 40 C.F.R. § 1502.14(a). Courts have consistently held that the "existence of reasonable but unexamined alternatives renders an EIS inadequate." *See*, *e.g.*, *Friends of Southeast's Future v. Morrison*, 153 F.3d 1059, 1065 (9th Cir. 1998). The FAA and MDOT must act if an environmental assessment is limiting the choice of reasonable alternatives. "If the FAA is . . . aware that the applicant is about to take an action within the agency's jurisdiction that would have an adverse environmental impact or limit the choice of reasonable alternatives, the responsible FAA official will promptly notify the applicant that the FAA will take appropriate action to ensure that the objectives and procedures of NEPA are achieved" 1050.1F, 2-3.1. Because the SRDEA fails to explore all reasonable alternatives to the Preferred Alternative selected, it is inadequate.

The SRDEA does not address using Willow Run Airport (YIP) as alternative. The SRDEA bases its conclusion that ARB is a more "desirable" location on the assumption that B-II aircraft operators using ARB instead of YIP "demonstrates that a large number of operators of business aircraft value the close proximity of ARB to their corporate offices and business contacts over the larger facility at Willow Run." SRDEA, Appendix N. This is a baseless assumption since it is equally likely that the fact that B-II aircraft still land at ARB instead of YIP because the weight restrictions posed by the short runway ARB are non-existent or not significant, otherwise these users would land at YIP instead.

Although the FAA raised this point in its October 2016, comments, the SRDEA chose not to address it. FAA October 2016, Comments, No. 62. Exhibit 9. Instead, ARB waves the argument off by stating that the Airport "cannot dictate which airfield a pilot uses" – an argument that applies equally to the SRDEA's argument that rejects the YIP alternative.

However, using YIP instead of ARB meets the purpose and need of the project thereby making it a reasonable alternative that must be considered in the Environmental Assessment. That is, the operational requirements of all of the aircraft at ARB can be met by using YIP instead of ARB. As the SRDEA points out, YIP has the runway length and facilities to accommodate the aircraft that may be weight-restricted from using ARB. The only reason that the SRDEA does not

consider YIP as a reasonable alternative is that it is located and mere 12 miles from ARB and that it is slight inconvenience to the corporations who want to use ARB instead of YIP. Even if lengthening the runway would benefit more than one or two aircraft, this is not an appropriate reason to dismiss an alternative from further consideration in an Environmental Assessment. If an alternative is "reasonable" (*i.e.,* it meets the purpose and need) then it must be considered in the Environmental Assessment alongside the preferred alternative and the no action alternative. *Friends of Southeast's Future v. Morrison,* 153 F.3d 1059, 1065 (9th Circ. 1998). Since using YIP instead of ARB would achieve the purpose and need of allowing "critical aircraft" to take-off and land without weight restrictions, it is a reasonable alternative and must be considered as part of the Environmental Assessment process. The SRDEA must be considered inadequate, arbitrary, and capricious on this basis alone.

V. ENVIRONMENTAL IMPACTS

United Stated federal law states at 49 U.S.C. § 47101(a)(6) that it is "the policy of the United States . . .that airport development under this subchapter [which includes the SBGP] provide for the protection and enhancement of natural resources and the quality of the environment of the United States." NEPA, the NEPA regulations, caselaw, other applicable environmental laws, state, and local law provide the framework for carrying out this policy. At a bare minimum, an

environmental assessment must describe the impact the proposed project will have on a variety of environmental resources. The Project will have a significant impact on the environment not only on the airport, but throughout the surrounding communities. Since it is Pittsfield's duty and responsibility to protect the environment within its boundaries and to protect its residents from significant environmental impacts, it has serious concerns about the environmental impact the Project will have on the community.

A. NEPA requires that a Health Risk Assessment be drafted for the Project

NEPA requires agencies to analyze the direct and indirect environmental consequences that a proposed action might have on public health and safety. 40 C.F.R. §§ 1501.3(B)(2)(III), 1502.16(a) – (b), 1508.1(g). An agency normally meets this statutory requirement by preparing a health risk assessment ("HRA") or other comparable study that is subject to a public comment and review process to ensure all "likely health effects" are "adequately disclosed." *Natural Resources Defense Council, Inc. v. U.S Dept. of Transp.*, 770 F.3d 1260, 1272 (9th Cir. 2014); *see also Beverly Hills Unified School District v. Federal Transit Administration*, No. CV- 12-9861-GW (SSX) 2016 WL 4650428, at *61 (C.D. Cal., Feb. 1, 2016). The SRDEA fails to take a hard look at the Project's environmental impacts by failing to include an

HRA or any comparable analysis and provides no support for the health and safety conclusions made in SRDEA § 3.15.3.

As a threshold issue, the SRDEA's analysis is improperly constrained to consideration only of health impacts to children. See SRDEA § 3.15.3. NEPA does not limit an agency's health impact analysis to just children, however. Rather, it mandates an agency consider "the degree of [a proposed action's] effects on public health and safety." 40 C.F.R. § 1501.3(b)(2)(iii), emphasis added. The Environmental Protection Agency's ("EPA's") guidance advises agencies to assess health impacts for all "population groups of concern."

An HRA for a proposed action of this size and scope should include, at least, emissions estimations of hazardous air pollutants ("HAPs"), exposure assessments, dose-response assessments, and a potential health risk measurement. This requires consideration of all construction and operational sources of emissions, including on- and off-road equipment, and emissions/toxins associated with construction. In addition, the SRDEA does not mention whether firefighting foam was or is used at ARB that may contain per- and polyfluoroalkyl substances (PFAS) and/or other toxic materials, such as perfluorononanoic acid (PFNA), perfluorooctanoic acid (PFOA), and perfluoroctanesulfonic acid (PFOS). If it was or is used at ARB, those substances may be in the soil unearthed as of part of the Project and is now in the groundwater. Likewise, the aviation gas that is stored at ARB contains lead, among

other hazardous components, yet the SRDEA does not analyze whether disturbing the soil will cause lead to leach into the ground. In addition, the soil underneath and around the Airport likely contain other federally regulated substances, such as volatile organics, semi-volatile organics, PCBs, metals, pesticides, and petroleum hydrocarbons. The task of removing and remediating this contamination, alone, should be subject to an HRA-style analysis before the construction phase begins.

Nearly all of the over twenty individual exhaust constituents are regulated as HAPs by the Federal Clean Air Act. 42 U.S.C. § 7412(b). The SRDEA should include an HRA that analyzes potential health impacts from construction activities, on-going airport ground operations (ground support equipment, emergency generators, truck deliveries, etc.) and aircraft operations. Exhaust from these sources contains benzene, formaldehyde, PAH's, naphthalene, acetaldehyde, acrolein, 1,3-butadiene, chlorobenzene, propylene, xylene, ethyl benzene, arsenic, cadmium, chromium, lead, manganese, mercury, nickel, and selenium. These toxic contaminants must be analyzed in the SRDEA in relation to human health.

The SRDEA, to be transparent and informative as required by NEPA, should have an HRA that includes the aforementioned sources and associated risks to human health. An HRA is critical for ensuring an adequate disclosure of the Project's health effects to the public and decisionmakers. *Natural Resources Defense Council, supra*, 770 F.3d at p.1272.

When preparing the HRA for the Project, the study area should be expanded to include a broader range of sensitive receptors. A two-mile radius to pick up additional sensitive receptors such as schools, hospitals, and parks should be used. Construction-related emissions such as diesel construction trucks and soil hauling would be expected to impact areas over two miles away because of their operational characteristics and haul routes. And aircraft exhaust and noise from the increase in aircraft operations and change in the type of aircraft using the Airport will also affect an area considerably larger than the project area.

A Health Impact Assessment or similar public health analysis should be part of the ARB environmental analysis. Failing to include a Health Risk Assessment would render the environmental assessment arbitrary and capricious.

B. Noise from aircraft, particularly high-performance jets has not been sufficiently analyzed by MDOT.

1. Technical and Scientific Data Support the Finding that Aircraft Noise is Detrimental to Public Health and Welfare.

a. Aircraft noise has caused health risks to people living under flight paths.

i. Aircraft noise causes an increased risk of cardiovascular disease, hospitalizations, and mortality.

The causal connection between aircraft noise and this increased health risk is well-supported by a growing body of scientific evidence. Two large studies have

found associations between aircraft noise and heart disease and stroke. In a 2013 Harvard University study, researchers examined hospitalization rates in 6 million adults aged 65 years and over living near 89 US airports. The study concluded there is a statistically significant association between exposure to aircraft noise and risk of hospitalization for cardiovascular diseases among older people living underneath flight paths.[1] A second 2013 study examined hospitalization and mortality in a population of 3.6 million potentially affected by aircraft noise from London Heathrow airport.[2] The conclusion in that study was that aircraft noise was associated with increased risks of stroke, coronary heart disease, and cardiovascular disease for both hospital admissions and mortality.

Two additional studies discussed below have found connections between aircraft noise and heart disease and stroke. In one study, using data collected between 2004 and 2006 on 4,712 participants who lived underneath flight paths in six European countries, researchers concluded that individuals exposed to aircraft noise over many years showed an increased risk of heart disease and stroke.[3]

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[1] Correia AW, Peters JL, Levy N, Melly S, Dominici F., *Residential exposure to aircraft noise and hospital admissions for cardiovascular diseases: multi-airport retrospective study,* 347 BMJ f5561, (October 8, 2013). Exhibit 14.
[2] Hansell AL, Blangiardo M, Fortunato L, Floud S, de Hoogh K, Pecht D, et al., *Aircraft noise and cardiovascular disease near Heathrow airport in London: Small area study*, 347 BMJ f5432 (October 8, 2013). Exhibit 15.
[3] Floud S, Blangiardo M, Clark C, Babisch W, Houthuijs D, Pershagen G, et al., *Reported heart disease and stroke in relation to aircraft and road traffic noise in six European countries - The HYENA study*, 23 Epidemiology 39 (2012). Exhibit 16.

Likewise, a census-based study of 4.6 million individuals in Switzerland concluded that aircraft noise was associated with mortality from myocardial infarction.[4] The study noted that the association does not seem to be "explained by exposure to particulate matter air pollution, education, or socioeconomic status of the municipality."

ii. Aircraft noise causes an increased risk of hypertension.

Besides causing cardiovascular disease, aircraft noise is also linked to an increase in hypertension among those exposed. Two meta-analyses[5] relating to seven epidemiological studies found a correlation between aircraft noise exposure and hypertension in adults.[6] A 2008 field study of 140 individuals living near four European airports found increases in blood pressure during the night sleeping period related to aircraft operations.[7] Short-term experimental studies in healthy

[4] Huss A, Spoerri A, Egger M, Roosli M. *Aircraft noise, air pollution, and mortality from myocardial infarction,* 21 Epidemiology 829 (2010). Exhibit 17.
[5] Meta-analyses combine evidence from several studies and are considered to provide the highest ranked research and to provide stronger evidence than single studies.
[6] *See* Babisch W, Kamp I., *Exposure-response relationship of the association between aircraft noise and the risk of hypertension*. 11 Noise Health 161 (2009). Exhibit 18. *See also* Huang D, Song X, Cui Q, Tian J, Wang Q, Yang K., *Is there an association between aircraft noise exposure and the incidence of hypertension? A meta-analysis of 16784 participants*, 17 Noise Health 93 (2015). Exhibit 19.
[7] Haralabidis AS, Dimakopoulou K, Vigna-Taglianti F, Giampaolo M, Borgini A, Dudley ML, et al., *Acute effects of night-time noise exposure on blood pressure in populations living near airports,* 29 Eur. Heart J. 658 (2008). Exhibit 20.

adults[8] and those with existing cardiovascular disease[9] have found links between aircraft noise at night and next-morning blood pressure and blood vessel functions.

iii. Aircraft noise increases the risk of dementia in older individuals.

Besides an increased risk of cardiovascular disease and hypertension, a recent study confirms that aircraft noise also causes an increased risk of developing dementia later in life.[10] "These findings suggest that within typical urban communities in the United States, higher levels of noise may impact the brains of older adults and make it harder for them to function without assistance. This is an important finding since millions of Americans are currently impacted by high levels of noise in their communities," said senior author Sara D. Adar, ScD, of the University of Michigan School of Public Health, Ann Arbor.[11] Professor Adar added that "although noise has not received a great deal of attention in the United States to date, there is a public health opportunity here as there are interventions that can

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[8] Schmidt FP, Basner M, Kroger G, Weck S, Schnorbus B, Muttray A, et al., *Effect of nighttime aircraft noise exposure on endothelial function and stress hormone release in healthy adults*, 34 Eur. Heart J. 3508 (2013). Exhibit 21.
[9] Schmidt F, Kolle K, Kreuder K, Schnorbus B, Wild P, Hechtner M, et al., *Nighttime aircraft noise impairs endothelial function and increases blood pressure in patients with or at high risk for coronary artery disease* 104 Clin. Res Cardiol. 23 (2015). Exhibit 22.
[10] Weuve J, D'Souza J, Beck T, Evans DA, Kaufman JD, Rajan KB, Mendes de Leon CF, Adar SD, *Long-term community noise exposure in relation to dementia, cognition, and cognitive decline in older adults,* Alzheimer's & Dementia: The Journal of the Alzheimer's Association (October 20, 2020). Exhibit 24.
[11] https://www.eurekalert.org/pub_releases/2020-10/w-cnm101920.php (last accessed December 23, 2020).

reduce exposures both at the individual and population level." *Id.* This study underscores the need for FAA to reduce exposure to aircraft noise to better protect older adults living in Pittsfield Township.

b. Aircraft Noise Causes Sleep Disturbance for Those Who Live Under the Flight Paths.

"Sleep undoubtedly counts as one of life's basic needs," the court concluded in *Harper v. Showers*, 174 F.3d 716, 720 (5th Cir. 1999). The Second Circuit agreed that "[n]o reasonable person would disagree that "sleep is critical to human existence." *Walker v. Schult*, 717 F.3d 119, 126 (2d Cir. 2013). Sleep is a biological imperative, and an active process that serves several vital functions for human life. Undisturbed sleep of sufficient length is essential for daytime alertness and performance, quality of life, and health.[12] The epidemiologic evidence that chronically disturbed or curtailed sleep is associated with negative health outcomes (such as obesity, diabetes, and high blood pressure) is overwhelming. Aircraft noise-

[12] Fritschi L, Brown AL, Kim R, Schwela DH, Kephalopoulos S, editors. *Burden of Disease from Environmental Noise*. Bonn, Germany: World Health Organization (WHO); 2011. Exhibit 25. *See also* EU Parliament Directive 2002-49-EC. Exhibit 26. (The WHO has adopted the underlying principles of European Parliament's Directive 2002 in this publication. *See* the "introduction" section to the WHO publication: *Burden of Disease from Environmental* Noise. In recognition of the significant environmental risk from noise pollution, European Parliament and Council adopted Directive 2002/49/EC of 25 June 2002 to manage environmental noise. *Id.* In turn, the EU Parliament has mandated all EU Member States to develop a noise map and action plan to manage noise as evidence regarding the health effects of environmental noise has mounted in the recent years. *Id.*).

Muzet A, *Environmental noise, sleep, and health*, 11 Sleep Med. Rev. 135 (2007). Exhibit 27.

induced sleep disturbance is considered the most deleterious non-auditory effect of aircraft noise.

In 2012, researchers conducted a systematic review to clarify the causal link between aircraft noise exposure and sleep disturbance.[13] The researchers reviewed 12 studies that dealt with sleep disturbances. Of those studies surveyed, four were found to be of high quality, five were considered of moderate quality and three were considered of low quality. All moderate- to high-quality studies showed a link between aircraft noise events and sleep disturbances such as awakenings, decreased slow wave sleep time or use of sleep medication.

Four years later, in 2016, researchers investigated the relationship between sleep disturbance and exposure to aircraft noise on almost 4,000 residents living near an airport.[14] The study concluded that the prevalence of insomnia and daytime hypersomnia (excessive daytime sleepiness) was higher in the aircraft noise exposure group, as compared to the control group. The study concluded there is a causal relation between exposure to aircraft noise and sleep disturbances.

Research has shown a relationship between aircraft noise exposure and sleep disturbance and a link between noise-induced sleep disturbance and long-term

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[13] Perron S, Tétreault LF, King N, Plante C, Smargiassi A, *Review of the effect of aircraft noise on sleep disturbance in adults*, 14 Noise & Health 58 (2012). Exhibit 28.
[14] Kyeong Min Kwak, Young-Su Ju, Young-Jun Kwon, Yun Kyung Chung, Bong Kyu Kim, Hyunjoo Kim, Kanwoo Youn, *The effect of aircraft noise on sleep disturbance among the residents near a civilian airport: a cross-sectional study*, 28 Annals of Occupational and Environmental Medicine 38 (2016). Exhibit 29.

health consequences. The residents underneath flight paths are now waiting for the policymakers to help mitigate the effects of aircraft noise on their sleep.

c. Aircraft Noise Has an Impact on Children's Learning and Low Weight at Birth.

The aircraft noise generated by aircraft flying above Pittsfield Township will affect children living underneath flight paths. Recent studies show that children born to mothers living underneath flight paths are born with lower-than-normal birth weight.

i. Chronic exposure to aircraft noise negatively affects children's ability to learn.

Reviews of how noise, and in particular aircraft noise, affect children's learning have concluded that aircraft noise exposure at school or at home is associated with children having poorer reading and memory skills.[15] There is also increasing evidence suggesting that children exposed to chronic aircraft noise at school have poorer performance on standardized achievement tests, compared with children who are not exposed to aircraft noise. The RANCH study (Road traffic and Aircraft Noise and children's Cognition & Health) is a large-scale cross-sectional study of 2,844 children aged 9–10 years from 89 schools around London Heathrow, Amsterdam Schiphol, and Madrid Barajas airports. It found a causal link between

[15] Clark C., *Aircraft Noise Effects on Health: Report Prepared for the UK Airport Commission. Report Number 150427*. London: Queen Mary University of London, (2015). Exhibit 30.

aircraft noise and poorer reading comprehension and poorer recognition memory.[16] These associations were not explained by air pollution.[17] Children's aircraft noise exposure at school and that at home are often highly correlated.[18] In the RANCH study, night-time aircraft noise at the child's home was also associated with impaired reading comprehension and recognition memory.[19]

ii. Chronic aircraft noise exposure is linked to low birth weight.

Health economists from Lehigh University, Lafayette College and the University of Colorado, Denver, pinpointed a causal link between aircraft noise and low birth weight.[20] This study focused on the effects of aircraft noise on babies' health at birth, specifically low birth weight born to mothers living near Newark Liberty International Airport after implementing NextGen flight procedures at the airport. The study concluded that low birth weight was tied to implementing

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[16] Stansfeld SA, Berglund B, Clark C, Lopez-Barrio I, Fischer P, Ohrstrom E, et al. *Aircraft and road traffic noise and children's cognition and health: A cross-national study,* 365 Lancet 1942 (2005). Exhibit 31.
[17] Clark C, Crombie R, Head J, van Kamp I, van Kempen E, Stansfeld SA., *Does traffic-related air pollution explain associations of aircraft and road traffic noise exposure on children's health and cognition? A secondary analysis of the United Kingdom sample from the RANCH project,* 176 Am. J. Epidemiol. 327 (2012). Exhibit 32.
[18] Clark C, Martin R, van Kempen E, Alfred T, Head J, Davies HW, et al., *Exposure-effect relations between aircraft and road traffic noise exposure at school and reading comprehension - The RANCH project*, 163 Am. J. Epidemiol. 27 (2006). Exhibit 33.
[19] Stansfeld SA, Hygge S, Clark C, Alfred T., *Nighttime aircraft noise exposure and children's cognitive performance,* 12 Noise Health 255 (2010). Exhibit 34.
[20] Argys, L.M., Averett, S.L., Yang, M., *Residential noise exposure and health: Evidence from aviation noise and birth outcomes*, 103 Journal of Environmental Economics and Management 102343 (2020). Exhibit 35.

NextGen flight procedures. The flight procedures over Pittsfield Township are also NextGen flight procedures. One economist, Muzhe Yang of Lehigh University stated that "[o]ur findings have important policy implications regarding the trade-off between flight pattern optimization and human health. This is especially important given the long-term negative impact of low birth weight on a range of later-life outcomes such as lifetime earnings, educational achievement, and long-term health."[21]

d. Aircraft noise causes poorer mental health.

Studies have also been conducted to show the link between aircraft noise exposure and poorer well-being, lower quality of life, and psychological ill health. In a 2020 study, researchers determined that noise annoyance, particularly from aircraft, is associated with depression, anxiety, and sleep disturbance over a five-year period.[22] The research concluded that over the five-year period, general noise annoyance remained stable and that "daytime noise annoyance predicted new onset of depressive, anxiety symptoms (also nighttime annoyance) and sleep disturbance." These results "indicate the need to provide regulatory measures in affected areas to prevent mental health problems." These results confirmed the findings in a 2010

[21] https://www2.lehigh.edu/news/muzhe-yang-how-airplane-noise-affects-fetal-health (last accessed December 23, 2020). Exhibit 36.
[22] Beutel, M.E., Brähler, E., Ernst, M., *Noise annoyance predicts symptoms of depression, anxiety, and sleep disturbance 5 years later. Findings from the Gutenberg Health Study*. 30 European Journal of Public Health, 487 (2020). Exhibit 37.

study of 2,300 residents near Frankfurt airport that annoyance was associated with self-reported lower quality of life.[23]

e. Aircraft Noise Has Increased the Community's Annoyance with Environmental Noise.

i. International Organization for Standardization creates standards to address elevated levels of community annoyance from aircraft noise.

Community annoyance refers to evaluating the disturbing aspects or nuisance of a noise situation by a "community" or group of residents, combined in a single outcome. To help with comparisons and data pooling, members of the International Commission on Biological Effects of Noise proposed a standardized annoyance question[24] that was adopted by International Organization for Standardization ("ISO") as TS 15666.[25] The percentage of highly annoyed respondents is considered the main indicator of community annoyance. Using a common question has allowed researchers to compare studies from around the globe.

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[23] Schreckenberg D, Meis M, Kahl C, Peschel C, Eikmann T., *Aircraft noise and quality of life around Frankfurt Airport,* 7 Int. J. Environ. Res. Public Health 3382 (2010). Exhibit 38.
[24] Fields JM, De Jong RG, Gjestland T, Flindell IH, Job RF, Kurra S, et al., *Standardized general-purpose noise reaction questions for community noise surveys: Research and a recommendation*, 242 J. Sound Vibr. 641 (2001). Exhibit 39.
[25] IS Organization, *ISO TS 15666: Acoustics- Assessment of Noise Annoyance by Means of Social and Socio-Acoustic Surveys* (2003). Exhibit 40.

Because of this step forward, in 2016, the ISO published a new standard to assess community annoyance because of environmental noise, such as aircraft noise. ISO 1996-1:2016, *Acoustics – Description, measurement, and assessment of environmental noise*, Exhibit 41, helps policymakers in predicting the potential annoyance response of a community to long-term exposure to several types of environmental noises, including aircraft noise. Although the U.S. has approved ISO 1996-1:2016 as being "state of the art," and ready for use in the United States, FAA has refused to use it in assessing aircraft noise in communities. Use of this tool in developing flight procedures would allow FAA to better evaluate and manage aircraft noise exposure. See pp. 35-40, *infra* for complete discussion of ISO 1996-1:2016.

ii. Community annoyance from aircraft noise is increasing.

In 2017, the United Kingdom Civil Aviation Authority undertook a survey of "noise attitudes." The study examined evidence on attitudes to aircraft noise around airports in England, including the effects of aircraft noise on annoyance, well-being, and health. It found that the level of noise exposure that leads to significant community annoyance has fallen from 57 dB L_{Aeq} (in an earlier survey) to 54 dB L_{Aeq}.

In 2016, the long-term German study entitled, "Noise-Related Annoyance, cognition, and Health" (NORAH) concluded there has been a change in annoyance responses: people are now more highly annoyed by aircraft noise than 30 years ago.[26] The NORAH study examined noise responses following the opening of a new runway, and implementation of a night curfew. The NORAH study mentions that several attempts are being made at trying to explain the variance within the annoyance response, using modelling to calculate the weight of non-acoustic factors. The NORAH study concluded that more people were "highly annoyed" when they experienced an increase in aircraft noise and that annoyance remains through the years. People do not habituate to aircraft noise.

Annoyance with aircraft noise amongst the affected population is increasing, not decreasing. The authors of 2011 report looked at datasets from separate airports in various parts of the world, including the U.S. from 1967 until 2005.[27] The results suggested there has been a significant increase in annoyance over the years. Instead of a gradual increase, the study showed increased levels of annoyance from

[26] Schreckenberg, D. et al. *Effects of aircraft noise on annoyance and sleep disturbances before and after the expansion of Frankfurt Airport – results of the NORAH Study WP1 'Annoyance and Quality of Life',* Internoise Congress, Hamburg (2016). Exhibit 42.
[27] Janssen, S. et al., *Trends in aircraft noise annoyance: the role of study and sample characteristics,* 129 J. Acoust. Soc. Am. 1953 (2011). Exhibit 43.

1996 onward. This is despite FAA's self-congratulatory declarations that aircraft noise is decreasing.[28]

iii. FAA's recent Neighborhood Environmental Survey underscores growing community annoyance with aircraft noise.

The method for representing the community response to noise is known as the "Schultz Curve," which is a dose-response curve developed in the 1970's. The noise thresholds used for current FAA noise policy are informed by the "Schultz Curve." While the "Schultz Curve" remains the accepted standard for describing transportation noise exposure-annoyance relationships, its original supporting scientific evidence and social survey data were based on information from the 1970s. The last in-depth review and revalidation of the Schultz Curve was conducted in 1992 by the Federal Interagency Committee on Noise ("FICON Report"). More recent analyses have shown that aviation noise results in annoyance levels higher than other modes of transportation. Recent international social surveys have also generally shown higher annoyance than predicted by the Schultz Curve. These analyses and survey data indicate that the Schultz Curve may not reflect the current U.S. public perception of aviation noise.

[28] "By one measure, it has been a success: over the last four decades, the number of people in the U.S. exposed to aviation noise has dropped substantially, even as the number of flights has soared." https://www.faa.gov/regulations_policies/policy_guidance/noise/ (last accessed December 23, 2020).

In 2015 and 2016, FAA conducted a nationwide survey to measure the relationship between aircraft noise exposure and annoyance in communities underneath flight paths. This survey captured the community response to a modern fleet of aircraft as they are being flown today and it used best practices in terms of noise analysis and data collection. This survey has been called the "Neighborhood Environmental Survey" (NES). See Exhibit

For the NES, FAA surveyed over 10,000 residents living near 20 representative airports via a mailed questionnaire. The questionnaire asked the recipients about various environmental concerns that bothered, disturbed, or annoyed them. Noise from aircraft was one of the thirteen environmental concerns that the survey covered. Since the aircraft noise question was one of 13 environmental concerns listed, the recipient did not know whether this was an airport community noise survey. This was the largest survey of this type undertaken at one time. The data from the survey was used to calculate the new "National Curve" to replace the "updated Schultz Curve" in use by the FAA and provides a contemporary picture of community response to aircraft noise exposure. A follow up phone survey was also offered to the 10,000 mail survey respondents, and just over 2,000 elected to participate. The phone survey provided additional insights on how the mail survey respondents felt about aircraft noise.

The results of the survey showed that the updated Schultz Curve, as used in the FICON Report, was antiquated, and no longer reflected the public's response to aircraft noise exposure. Comparison of the FICON Report prepared using the updated Schultz Curve and NES prepared using the National Curve showed the following percentage of population highly annoyed by exposure to transportation noise:

- At a noise exposure level of DNL 65 dB, the FICON Report indicated 12.3% of people were highly annoyed, compared to between 60.1% & 70.9% from the NES.

- At a noise exposure level of DNL 60 dB, the FICON Report indicated that 6.5% of people were highly annoyed, compared to between 43.8% & 53.7% from the NES.

- At a noise exposure level of DNL 55 dB, the FICON Report indicated that 3.3% of people were highly annoyed, compared to between 27.8% & 36.8% from the NES.

- At a noise exposure level of DNL 50 dB, the FICON Report indicated that 1.7% of people were highly annoyed, compared to between 15.4% & 23.4% from the NES.

Extrapolating from the FAA's current "thresholds of significance," one concludes that the new "threshold of significance" should be around DNL 45 dB.

iv. WHO Environmental Noise Guidelines for European Region (October 2018) establish new, science-based thresholds of significance.

In October 2018, the World Health Organization (WHO) Regional Office for Europe published its Environmental Noise Guidelines for the European Region ("WHO Guidelines") Exhibit 44. Those Guidelines found that aviation noise was connected to higher incidence of ischemic heart disease, hypertension, "prevalence of 'highly annoyed'" population, and a delay in reading skills and oral comprehension in children. WHO Guidelines. WHO strongly recommended that average levels of noise produced by aircraft be reduced below 45 dB DNL, as aircraft noise above this level is associated with adverse health effects. WHO Guidelines, pp. xvii, 61.

WHO also strongly recommended that noise levels produced by aircraft be reduced during nighttime below 40 dB DNL, as aircraft noise above this level is associated with adverse effects on sleep. WHO strongly recommended that to reduce health effects policymakers implement "suitable measures to reduce noise exposure from aircraft in the population exposed to levels above the guideline values for average and night noise exposure." WHO Guidelines, pp. xvii, 61.

2. MDOT and ARB must protect the surrounding community from aviation noise.

It is "the policy of the United States … that aviation facilities be constructed and operated to minimize current and projected noise impact on nearby communities." 49 U.S.C. § 47101(a)(2). Part of the FAA's mission, and therefore

MDOT's mission, is to ensure that the communities surrounding airports are not hurt by noise from aircraft at airports. This mission is expressed in 49 U.S.C. § 47101(c), which states that "[i]t is in the public interest to recognize the effects of airport capacity expansion projects on aircraft noise. Efforts to increase capacity through any means can have an impact on surrounding communities. Noncompatible land uses around airports must be reduced and efforts to mitigate noise must be given a high priority." Thus, if noncompatible land uses around airports cannot be reduced, then the capacity of nearby airports should not be increased or else the FAA and the airport sponsor would violate federal law. ARB and MDOT seem aware that increases in capacity at the airport will affect the noise levels in Pittsfield, because they studiously have avoided the topic. Noise impacts of the increase in jet operations at ARB have not been analyzed or account for in the SRDEA.

MDOT has the legal duty to protect residents and property owners from the deleterious effects of aircraft noise. Federal law establishes the absolute duty of the government to protect both people and property from aircraft noise. "[T]he Congress declares that it is the policy of the United States to promote an environment for all Americans free from noise that jeopardizes their health or welfare." 42 USC § 4901(b). MDOT's statutory duty to protect people and property on the ground from the deleterious effects of aircraft noise goes beyond its duty under NEPA to

determine what it believes to be "significant" or "reportable" under FAA Order 1050.1F. Legally speaking, the MDOT cannot conclude that a proposed MDOT action purportedly not "reportable" under 1050.1F, § 14.5e or that purportedly does not have a "significant impact" under 1050.1F, § 14.3, is not subject to review and regulation under 42 USC § 4901(b), 49 U.S.C. § 40103(b)(2) and 49 U.S.C. § 44715(a)(1)(A). Those statutory obligations require that the lead agency address aircraft noise separate from its duties under NEPA because the lead agency's proposed action will create aircraft noise that will have a deleterious effect on the public health and welfare.

3. ARB and MDOT incorrectly assume that extending the runway will not significantly increase the number of air operations, the fleet mix, or other growth-inducing effects of the Project.

When considering an airport project for federal funding, the FAA must evaluate not merely the direct impacts of a project, but also its indirect impacts, including those "caused by the action and later in time but still reasonably foreseeable." 40 C.F.R. § 1508.8(b). Indirect impacts include a project's growth-inducing effects, such as changes in patterns of land use and population distribution associated with the project (40 C.F.R. § 1508.8(b)) and increased population, increased traffic, and increased demand for services. *City of Davis v. Coleman*, 521 F.2d 661, 675 (9th Cir. 1975). The "growth-inducing effects of [an] airport project

appear to be its *raison d'etre*." *California v. U.S. D.O.T.*, 260 F.Supp.2d at 978, citing *City of Davis, supra*, 521 F.2d at 675. Even though the Project is virtually defined by its growth-inducing impacts, ARB and MDOT have ignored this requirement completely – not only in the SRDEA, but in the public participation parts of the Project as well. There is substantial evidence to indicate that the Project will cause a significant increase in both night and jet operations.

As indicated above, the runway need not be extended for most of ARB's "critical aircraft" to operate at the airport without weight restrictions. For example, it is clear that the "load restrictions" referenced in the SRDEA will apply to the higher category aircraft (jets in the C-I and C-II ARC categories) even with a 4,225-foot runway. Operationally, weight is reduced by carrying fewer passengers, less baggage and/or less fuel, which discourages these aircraft from conducting operations at ARB. A Cessna Citation II (Category B-II), for example, requires 2,990 feet for takeoff at maximum certificated gross weight on a standard day, and, most days, can operate at unrestricted weight from ARB's existing 3,505-foot runway. A Lear 35 (Category C-I), on the other hand, requires 5,000 feet for takeoff at maximum certificated gross weight on a standard day. While extending the runway to 4,225 feet would not facilitate unrestricted operations by the Lear 35, the required weight reduction would be substantially diminished. Therefore, the runway extension to 4,225 feet would operationally benefit the Category C-I Lear

35, but would provide little or no operational benefit to the Category B-II Citation jet, which the SRDEA claims is a "critical aircraft." Thus, with the runway extension ARB does not become any more or any less attractive to the operator of the Citation II, but becomes much more attractive to the operator of the Lear 35. This would cause an increase in usage of ARB by the Lear 35, but the same usage by the Citation II. This is not reflected in the SRDEA's noise analysis or in the Runway Justification Study, which relies on the FAA's Terminal Area Forecast.

The primary reason ARB is so keen on extending the runway is to facilitate the loading of additional passengers and baggage on high performance jet aircraft outside of what ARB considers to be its "critical aircraft." Also, the ability to carry more fuel may mean that, in certain cases, costly and time-consuming intermediate fuel stops will become unnecessary. If the runway is lengthened to 4,225 feet, it is reasonably foreseeable that ARB will become much more attractive to operators of higher performance jet aircraft, such as the Lear 25 (Category C-I), Cessna Citation III (Category C-II) and Cessna Citation Sovereign (Category C-II), who could then operate at ARB instead of driving to and from Willow Run Airport, a mere 12.3 mile car trip, where there are ample facilities for large aircraft. In an earlier draft of the Runway Justification Study, MDOT indicated that it believed that jets currently based at YIP may move their operations to ARB if the runway is extended. These

additional ARB-based jets are not included in the forecasts on which both the Runway Justification Study and the SRDEA's noise analysis is based.

4. The RDEA does not analyze the fact that night and jet operations will increase because of the Project.

It is reasonably foreseeable that the fleet mix at ARB will change in favor of a higher percentage of jet operations as compared to the current level of light single and multi-engine propeller driven aircraft operations. The smaller Category A-I/II and B-I aircraft currently account for a high percentage of ARB operations. B-II aircraft account for a low percentage of ARB operations. Because of the availability of a longer runway, it is therefore reasonably foreseeable that the number of night operations will increase as the number of arrivals of longer haul business jets often occur in the evening hours due to the longer time duration of their trips. Since one of the stated "benefits" of the Project is to increase interstate commerce (SRDEA, Appendix N, p. 9), this is not merely an indirect, but also a direct effect, that the Project will have on the surrounding community. This will also affect the fleet mix of night operations to reflect a higher percentage of jet operations than exist under current conditions. Because there is a potential of an increase in the number of operations, it must be analyzed thoroughly.

The evidence is clear that the Project will cause an increase in both jet and night operations. It is also reasonably foreseeable that these added high-

performance jet aircraft operations and night operations will come with significant noise and air quality impacts. Still, ARB and MDOT have not acknowledged, let alone analyzed, these reasonably foreseeable impacts caused by expansion of airport physical facilities and operational profile and, thus, the Project should not be approved for funding.

5. Increased jet aircraft and nighttime operations were not included in the noise modeling used by ARB and MDOT.

The SRDEA states it used FAA's Aviation Environmental Design Tool (AEDT) to model annual operations for the 2019 "base" or existing condition in the SRDEA, to develop 65, 70 and 75 DNL noise contours for the Project. SRDEA, Appendix L. The RDEA states that "the 65 DNL contour remains completely within ARB owned property or over commercial property not considered noise sensitive under all noise scenarios." SRDEA, Appendix L, p. 7. The SRDEA noise analysis assumes that both the time of day of the operations and the fleet mix remain constant. See SRDEA, Appendix L, pp. 3-5.

During the period modeled, jet operations accounted for about 2 percent of total operations at ARB, and nighttime operations accounted for 4.2 percent of total operations. https://aspm.faa.gov/tfms/sys/ Airport.asp. Because of the increase in the length of the runway the Project will facilitate an increased number of night operations, and a change in fleet mix that will include many more higher

performance jet aircraft. DNL calculations depend on, among other things, forecast numbers of operations, operational fleet mix and times of operation (day versus night). SRDEA, Appendix L, pp. 2-3. However, ARB and MDOT have failed to model or assess future increased night operations and fleet mix changes resulting from the Project.

FAA Order 1050.1F requires an EA's noise analysis to include, among other things: (1) noise contours at the DNL 75 dB, DNL 70 dB and DNL 65 dB levels; (2) analysis within the proposed alternative DNL 65 dB contour to identify noise sensitive areas where noise will increase by DNL 1.5 dB ; and (3) analysis within the DNL 60-65 dB contours to identify noise sensitive areas where noise will increase by DNL 3dB, if DNL 1.5 dB increases as documented within the DNL 65 dB contour. FAA Order 1050.1F, Appendix A, p. A-62, & 14.4d. As the noise modeling failed to account for the foreseeable increases in nighttime and jet aircraft operations at ARB, the questions of whether the future DNL 65 dB contour will be increased, and to what extent, and whether increased noise levels within the DNL 65 dB contour would require designation of a DNL 60 dB contour remain unanswered.

6. Federal law and NEPA required that MDOT use ISO to calculate the noise impact of the runway extension in the community surrounding ARB.

The NEPA regulations mandate that federal agencies "insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements." 40 C.F.R. § 1502.24.[29] In addition, the Data Quality Act (also called the Information Quality Act, Section 515 of the Consolidated Appropriations Act, 2001 (Pub. L. 106-554)) requires that agencies to use the best scientific methods in technical matters. ISO 1996-1:2016, entitled "Acoustics -- Description, measurement and assessment of environmental noise -- Part 1: Basic quantities and assessment procedures," which was published in March 2016, defines the basic qualities to be used for the description of noise in community environments and describes basic assessment procedures. ISO 1996-1:2016 predicts the potential annoyance response of a community to long-term exposure to noise based on characteristics of the community rather than based on the noise created. As a product of the International Organization for Standardization, ISO 1996-1:2016 represents the best science for assessing the impact of noise on affected communities. Therefore ISO 1996-1:2016 must be used to avoid a violation of NEPA and the Data Quality Act.

7. The Levels used in NES and the WHO Guidelines Should Have Been Used.

[29] The courts have applied this standard to EAs as well as EISs. *See, e.g.*, *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1152 (9th Cir. 1988)

Both the FAA's "Neighborhood Environmental Study" and the World Health Organization's Guidelines, indicate that it is imperative that levels well below 65 DNL need to be examined for their impact on public health and safety. It is also imperative that this study be done now, not be in the future after the runway extension is built. Both the NES and Guidelines indicate that 45 DNL is a more appropriate threshold of significance than 60 DNL. Because MDOT fails to analyze to these levels, the SRDEA is inadequate and incomplete.

C. Air

1. Aircraft Emissions have caused health risks to people living under flight paths.

Besides the health risks of aircraft noise, substantial research has been performed on the health risks posed by air toxics and particulate matter emissions from airports. This includes a 2014 study that showed that concentrations of particulate matter, black carbon, and nitrogen oxides (NO2) are elevated fourfold within six miles downwind of the airport and twofold within 10 miles from airport emissions. Hudda et al. *Emissions from an International Airport Increase Particle Number Concentrations 4-fold at 10 km Downwind*, Environmental Science & Technology, 2014 48(12), pp.6628-6635. Exhibit 45. In that study, researchers from University of Southern California's Keck School of Medicine conducted the analysis in a region near Los Angeles International Airport over 29 days, usually during

times of onshore westerly winds in the late morning and afternoon. But measurements also were taken in early mornings and late nights when air traffic and onshore winds are lower. They found chemical concentrations to be up to five times higher than background pollution levels of an area within nine square miles of the airport. Within two miles east of the airport, levels of dangerous particulates were 10 times higher than in areas not affected by the airport's emissions. As a result, residents living downwind and to the east of the airport could inhale hazardous levels of nitrogen oxides and fine particulates that could contribute to inflammation, blocked arteries, asthma, heart conditions and other health issues.

The results from LAX were confirmed in a 2016 study at Boston's Logan Airport[30] where it was determined that aviation activities affected ambient ultrafine particle number concentrations ("PNC"). The study concluded there is a correlation between aviation activity and concentrations of ultrafine particulate matter and NO2. Two years later, in 2018, the same research group found that ultrafine particles from aviation activity penetrate indoors:[31]

> Overall, our results indicate that aviation-related outdoor PNC infiltrate indoors and result in significantly higher indoor PNC. Our study provides

[30] N. Hudda et al., *Aviation-Related Impacts on Ultrafine Particle Number Concentrations Outside and Inside Residences near an Airport,* February 7, 2018, Environmental Science & Technology. Exhibit 46.
[31] N. Hudda et al., *Aviation-Related Impacts on Ultrafine Particle Number Concentrations Outside and Inside Residences near an Airport,* February 7, 2018, Environmental Science & Technology. **Exhibit 46.**

> compelling evidence for the impact of aviation-related emissions on residential exposures.

These findings were confirmed in 2020.[32] Likewise, in 2020, it was reported that pregnant mothers exposed to aircraft emissions resulted in preterm births.[33] This analysis evaluated whether ultrafine particulate matter (UFPs) from jet aircraft emissions are associated with increased rates of preterm birth (PTB) among pregnant mothers living downwind of Los Angeles International Airport (LAX). The result was that *in utero* exposure to aircraft-origin ultrafine particles was positively associated with preterm births. This led the researchers to conclude that:

> emissions from aircraft play an etiologic role in PTBs [pre-term births], independent of noise and traffic-related air pollution exposures. These findings are of public health concern because UFP exposures downwind of airfields are common and may affect large, densely populated residential areas.

One of the perceived difficulties in assessing aircraft emissions was put to rest in a February 21, 2021, report that distinguished between roadway particle pollution and aircraft particle pollution.[34] The Mobile ObserVations of Ultrafine Particles (UFP) study found that key differences existed in the particle size distribution and

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[32] N. Hudda et al., *Impacts of Aviation Emissions on Near-Airport Residential Air Quality*, June 23, 2020, Environmental Science & Technology/. Exhibit 47.
[33] S. Wing et al., *Preterm Birth among Infants Exposed to In Utero Ultrafine Particles from Aircraft Emissions*, April 2, 2020, Environmental Health Perspective. Exhibit 48.
[34] E. Austin et al., *Distinct Ultrafine Particle Profiles Associated with Aircraft and Roadway Traffic*, February 21, 2021, Environmental Science & Technology/. Exhibit 49.

the black carbon concentration for roadway and aircraft features. These differences can help distinguish between the spatial impact of roadway traffic and aircraft UFP emissions using a combination of mobile tracking and standard statistical methods.

Particulate pollution is not the only concern. In 2008 the Airport Cooperative Research Program produced an analysis entitled "Aircraft and Airport-Related Hazardous Air Pollutants: Research Needs and Analysis," which was funded through the FAA. That analysis provides direction on how airports should be able to address the requests from states and "communities surrounding airports to analyze the health impacts of aircraft and other airport-related sources of air toxics, also known as hazardous air pollutants (HAPs), in National Environmental Policy Act (NEPA) and state-level documents." Indeed, the health effects of emissions of air toxics from airports on the surrounding communities has been studied regarding large California airports under state law. The conclusion is inescapable: the HAPs emitted by airports create health risks to the surrounding communities and any project that increases the emission of HAPs into the air should be analyzed.

At the very least, the MDOT should require a Hazardous Air Pollutants inventory under FAA's guideline set out in *Guidance for Quantifying Speciated Organic Gas Emissions from Airport Sources*, (Ver. 1, September 2, 2009) ("HAP

Guidance") Exhibit 50.[35] According to the FAA, the HAP Guidance "provides an approach to, and technical guidance for, preparing speciated OG/HAP emission inventories in support of environmental documents prepared by, or on behalf of, the FAA under the National Environmental Policy Act (NEPA)." With the establishment of HAP Inventory, there would be, at least, a baseline for future health risk assessments showing the deleterious effect that airport emissions have on the surrounding communities.

While establishing a HAP Inventory is a step in the right direction, what is needed is a study that quantifies the substantial health risks that HAP emissions resulting from the SoCal Metroplex project present to surrounding communities. Toward that end, a more significant finding is the May 8, 2009, article *Between-airport heterogeneity in air toxics emissions associated with individual cancer risk thresholds and population risks*, by Ying Zhou and Jonathan I. Levy. Exhibit 51. In that article, the authors conclude:

> Using state-of-the-art four-dimensional emissions characterization and atmospheric dispersion modeling, we demonstrated that both the emission rate contributing to a 10^{-6} maximum individual risk and the total population exposure within 50 km of the airport per unit emissions vary substantially across airports *but can be predicted with reasonable precision using easy to*

[35] In addition, the FAA and the EPA has published the *Recommended Best Practice for Quantifying Speciated Organic Gas Emissions from Aircraft Equipped with Turbofan, Turbojet, and Turboprop Engines* which details joint efforts between the FAA and the EPA to update OG/HAP speciation profile data from these types of aircraft.

> *obtain variables, such as distance from the airport, total population, and mixing height.* These results provide a method to quickly but reasonably determine the likelihood of public health impacts of concern for airport modifications or expansions.

Zhou Levy Article, p.10 (emphasis added). In developing their conclusions about air toxics at airports, Zhou and Levy used the AERMOD high resolution atmospheric dispersion model, which is an FAA–approved model.

Because of the increase in aircraft flying at low altitudes directly over Pittsfield Township, ultrafine particulate matter and various contaminants have increased in the air above Pittsfield Township. Consequently, the citizens of Pittsfield Township are breathing in more particulate matter and inhaling contaminants that can lead to serious health effects.

The significant harms to human health of poor ambient air quality are well known. Extensive correlations have been demonstrated in diverse illnesses, affecting all segments of the population. Air quality related illnesses include breast cancer, brain tumors, asthma and non-smoking COPD, heart attacks, poor cognition, Sudden Infant Death Syndrome (SIDS), neonatal ICU admissions and preterm delivery. Recent data linking Traffic Related Air Pollution (TRAP) to Pregnancy related complications such as preeclampsia and gestational hypertension, is alarming given the maternal mortality crisis occurring nationwide. A well-designed study documented airport delays and taxiing time to an increased

incidence of hospitalizations for asthma and heart attacks. Data is now emerging regarding the specific risk of UFPs. UFPs cause unique risk to health because their small size allows passage across tissue barriers, including the difficult to permeate blood-brain barrier. Recent NIH studies have shown UFP exposure related brain tumors, childhood cancers, asthma, heart attacks, mental health issues, including teen ER visits for anxiety and suicidal ideation, and various pregnancy complications, specifically preterm birth. Babies and children may be susceptible because they accumulate UFPs at relative concentrations higher than adults. Recent COVID-19 related public health trends, specifically decreased asthma admissions and preterm birth and increased COVID-19 mortality for residents in areas of poor air quality, are tangible examples of the real-time consequences of air quality. One recent study showed an increase by only 1 µg/m3 of PM2.5 is associated with an 8% increase in the COVID-19 death rate. It is imperative we quantify the emissions pollutant volume and dispersal patterns regarding public health and environmental justice.

D. Water

1. SRDEA fails to adequately consider water issues.

The SRDEA consistently understates the significance of water resources. SRDEA, pp. 3-32 – 3-45. The principal use of the grounds where the airport is located is for the collection and pumping of water for the City of Ann Arbor.

However, water quality must be taken much more seriously than the SRDEA takes it. As FAA Order 1050.1F points out, the significance threshold is breached when the action would "contaminate an aquifer used for public water supply such that public health **may** be adversely affected." FAA Order 1050.1F, p. 4-12. The 1050.1F Desk Reference elaborates that "[i]f there is the potential for contamination of an aquifer designated as an EPA-designated sole source aquifer for the area, the FAA must consult with the EPA regional office as required by Section 1424(e) of the SDWA." That is the case here, but there is no indication in the SRDEA that MDOT consulted with EPA.

The Airport is located on a porous sand/gravel formation that yields a large amount of water for pumping. The land where the airport is located was originally acquired by the City of Ann Arbor for water rights in 1921. Currently, about 25% of Ann Arbor's water supply come from the three wells on Airport property. The paving that the Project will require increases not only the impervious area on top of the aquifer, but also increases the risk of contamination, particularly from PFAS contamination that may exist in the soil from firefighting foam that may have been used at ARB for firefighting and for training. This, in turn, reduces the infiltration of water that feeds the aquifer/City water supply. Adding 950 feet to the end of the runway adds another 71,250 square feet of impervious area over an aquifer vital to the City of Ann Arbor.

So critical is drinking water from the airport wells to the city that de-icing is prohibited on the airport. Due to the 'unmaintained nature' of the airport vegetation, it is acting as a buffer around the wellheads," the water faces many potential threats from a lengthened runway. Those threats become more critical because of the potential for lead to contaminate Ann Arbor's water supply. Most of the fuel used at ARB is consumed by piston-driven aircraft, which mostly use leaded AvGas. Any risk to the aquifer underlying the airport could pose a threat of lead contamination. With Ann Arbor's other water resources affected by dioxane risks caused by the "Gelman spill," the Airport well-field has taken on a much more significant role. The SRDEA, however, gives this issue only passing mention. See SRDEA, pp. 3-41 – 3-44. Notably absent from their coordination efforts is the EPA or its Regional Office regarding water resource issues.

Because the wells on ARB property is a principal source of Ann Arbor's water supply, the Washtenaw County Water Resources Commissioner raised serious issues about the Project in the past. In response to the draft 2010 EA, the Washtenaw County Water Resources Commissioner pointed out:

> It is noted in the [draft EA] that: "The amount of impervious surface on site would increase slightly due to the extension of the runway and taxiway from the existing 7 percent of the 837 acres to 7.4 percent." This slight increase noted equates to an additional 3.348 acres or 145,839 square feet. This increase in impervious surface is considered by this office to be significant

> and not slight particularly knowing that the additional runoff from this area will discharge to the Wood Outlet Drain.

Exhibit 52, p.2. This, coupled the City owning and operating four water wells on ARB's property, caused deep concern with the County.

This issue has become even more important since the draft EA was published back in 2010. In May 2012, for example, it was reported that the water table in the Ann Arbor area, has risen substantially. As pointed out in the Ann Arbor Chronicle, "[t]he only hard data that the city has collected on the water table is at the municipal airport, and there the water table measures between 2-7 feet below the surface now, compared to 15 feet below the surface 50 years ago." Exhibit 53. This is not an insubstantial problem. With the water table at the airport now being 2-7 feet below the ground surface instead of 15 feet, when the drinking water wells were first dug, the groundwater is even more vulnerable to contamination because there is much less soil for any surface pollution to filter through or attach to soil particles before it reaches the water table. This dramatic change in the water table may also alter groundwater data from the past. That is, the rise in the water table may have altered the direction of groundwater flow, or there may now be some barrier blocking the traditional pathway for the water to flow, which would cause Ann Arbor's principal drinking water supply to be contaminated.

In the past the Washtenaw County Water Resources Commissioner raised additional significant concerns that have yet to be addressed by either ARB or MDOT.

3. It is indicated that the preferred alternative does not impact the stream that is existing on the site. [Draft EA, p.4-18]. Using GIS measurements it appears that the stream is less than 1,000 linear feet from the existing runway. The runway extension would bring this infrastructure within 50 linear feet or less of the stream. In addition to this the grading limits shown in Appendix D-7 clearly extend into and beyond the location of the stream. Based on this information *it is not understood how it has been concluded that there are no impacts to the stream*.

4. It is indicated that the preferred alternative does not impact the floodplain for the stream that is existing on the site. It is indicated that proposed grading for the expansion would not occur within the designated floodplain boundary. [Draft EA, p.4-24]. Based on the floodplain boundary shown on FEMA Community-Panel Number: 260623 0010 C these statements are incorrect. Not only do the grading limits indicated for the preferred alternative extend into the floodplain boundary but the runway extension itself will extend into this floodplain boundary. Based on this information it is *not understood how it has been concluded that there are no impacts to the floodplain*.

….

6. It is noted in the report that: "Implementation of appropriate best management practices (BMPs) would continue to control the rate of stormwater runoff and maintain water quality standards." [Draft EA, p.4-18]. It is unknown by this office as to what the control rate of stormwater is currently being implemented or whether this rate meets county standards. *The additional volume created by this increase in imperviousness is not spoken to at all by the report. The type or locations of the appropriate BMPs indicated are not identified*.

Exhibit 52, pp.1-2 (emphasis added). Pittsfield Township has the same concerns about how water resources will be managed by ARB should this Project move forward. If there has been a change to the Project that addresses these concerns, they should have been addressed in the SRDEA. As such, these issues have not been sufficiently addressed by the SRDEA.

MDOT and ARB have a responsibility under the law to ensure the safety of the water in Ann Arbor's wells. Further, although Pittsfield does not receive its drinking water from these wells, water from the same aquifer filling these wells is the source of water for many Pittsfield Township waterways, including the several ponds in the Stonebridge Community. Thus, beyond ensuring applicant Ann Arbor's compliance with the law, Pittsfield has a vested interest in ensuring the water in the aquifer be maintained to the highest possible quality level.

8. The EA Fails to Address Standards and Requirements Under the Michigan Safe Drinking Water Act

The Michigan Safe Drinking Water Act, Public Act 399, as amended, was enacted in 1976 and enables the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to maintain direct control over the public drinking water program in the state.

Rule 325.10812, promulgated under the Michigan Safe Drinking Water Act, MCL 325.1001 *et seq*., provides that:

> R 325.10812 Location of wells; major sources of contamination. Rule 812. **Wells serving type I and type IIa public water supplies shall be located a minimum distance of 2,000 feet, and wells serving type IIb and type III public water supplies shall be located a minimum distance of 800 feet, from known major sources of contamination**, including large scale waste disposal sites, land application of sanitary wastewater or sludges, sanitary landfills, and chemical or waste chemical storage or disposal facilities. The department may require an increase or approve a decrease in the 2,000 foot distance for type I or type IIa public water supplies or the 800 foot distance for type IIb or type III public water supplies based on a study of hydrogeological conditions or other methods approved by the department for identifying the capture zone of a well. [Emphasis Added]

As acknowledged in the SRDEA, there are several water wells on ARB property. SRDEA, 3-42; Figure 3.9. Further, the ARB property is within a wellhead protection area, which represent the land surface area that contributes ground water to wells serving public water supply systems throughout Michigan. EA, 3-42; Figure 3.10. Specifically, the Steere Farm wells on ARB property provide a substantial portion of the public water supply to the surrounding community.

While the SRDEA sets forth certain actions and Best Management Practices ("BMPs") that "should be considered" because ARB is within a wellhead protection area, the SRDEA fails to address or analyze compliance with the minimum well isolation distances provided for under the Michigan Safe Drinking Water Act and

the rules promulgated by the EGLE, nor does it identify the distances from the Project Area to the various wells located on ARB property.

Further, the EA's failure to address or analyze the requirements under the Michigan Safe Drinking Water Act leaves the public unable to fully assess whether the Project is subject to challenge under the Michigan Environmental Protection Act (MEPA), Part 17 of NREPA, MCL 324.1701-.1706. MEPA authorizes any person to bring an action "for the protection of the air, water, and other natural resources and the public trust in these resources from pollution, impairment, or destruction." MCL 324.1701(1), and prohibits conduct that "has polluted, impaired, or destroyed or is likely to pollute, impair, or destroy the air, water, or other natural resources or the public trust in these resources. MCL 324.1703(1); MSA 13A.1703(1)." *City of Jackson v. Thompson-McCully Co., L.L.C.*, 239 Mich. App. 482, 487-88, 608 N.W.2d 531, 535 (2000). The SRDEA fails to address MEPA, nor does it provide sufficient information to evaluate the applicability of potential action under MEPA, and consequently additional analysis related to compliance with the Michigan Safe Drinking Water Act and MEPA is required.

The Project should not be approved by MDOT until these requirements regarding water quality have been complied with fully.

VI. MDOT has not given the communities' interests "fair consideration" as required under federal law.

i.

The aviation statutes of the United States make it incumbent on MDOT to give the interests of the surrounding communities fair consideration. *See* 49 U.S.C. § 47106(b)(2). That statute requires that before any federal funding, including funds from the SBGP, of an airport development project takes place, "the interests of the community in or near which the project may be located have been given fair consideration." 49 U.S.C. § 47106(b)(2). Thus, before the Project moves forward, MDOT and FAA must ensure that Pittsfield Township's interests have been given fair consideration.

A. The Expansion at Ann Arbor Municipal Airport Does Not Comply with Planning in the Surrounding Communities.

MDOT has a duty under the law and by contract to ensure that federal funds are used properly for airport development projects. It is imperative that the concerns and issues of the surrounding communities are considered *prior* to approval of a project. This policy is reflected not only in the statutes that the FAA (and MDOT, through its SBGP Contract) is bound to uphold, but in its regulations and guidance documents it has issued. One place this policy is shown is in the assurances that airport sponsors, owners and operators are bound to follow upon accepting federal funds for airport development. Grant assurances 6 and 7 state:

6. Consistency with Local Plans. The project is reasonably consistent

with plans (existing at the time of submission of this application) of public agencies that are authorized by the State in which the project is located to plan for the development of the area surrounding the airport.

7. Consideration of Local Interest. It has given fair consideration to the interest of communities in or near where the project may be located.

FAA Airport Sponsor Grant Assurances, Exhibit 54. ARB is bound by these assurances and must comply with them. Thus, approval of this project without the approval by Pittsfield Township would violate ARB's grant assurances.

B. ARB's and the City of Ann Arbor's Goals Are Different from Pittsfield's Goals.

While Pittsfield Township recognizes the "operational needs" presented in the SRDEA, it is less sympathetic with growth-inducing aspects of the project which would subject both the government of Pittsfield and the people of Pittsfield to untold potential future damage. This damage would come in the form of both safety risks and in economic loss because of repeated flights of low flying, heavy jet aircraft. Pittsfield and its residents would have no choice but to seek recovery in the event of a tragic accident or inverse condemnation class action proceedings, from the City potentially leaving Pittsfield victims without an effective remedy at law.

1. The Project would increase safety concerns of low-flying aircraft near surrounding densely populated communities

Petitioners would be subjected to a perfect storm of potential risks from low-flying aircraft in heavily populated neighborhoods also occupied by wildlife, including many Canada geese, during much of the year. *See* Exhibit 55 for map of ponds surrounding the airport that support Canada Geese. This is confirmed by a study conducted by MDOT and Ann Arbor's own airport architects (URS Corporation), which was excluded from the draft EA, and visualized on a projection of what the approach to an expanded Runway 6 would look like relative to the close proximity to area homes, which was corrected for accuracy. Exhibit 56. The safety of having an airport so close to a densely populated area is not an unfounded fear. In June 2009, a small single-engine plane attempting to land at ARB instead made an emergency landing 1,200 yards short of Runway 6/24 on a Stonebridge Golf Club fairway in Pittsfield after its engine died at low altitude on final approach. Exhibit 57. The pilot said if there had been people on the fairway, he would have "crashed into the trees," which would have been fatal for him and his grandson, whom he was instructing. *Id*. In Fall 2022, a single-engine plane was forced to make an emergency landing in the ARB-owned agricultural field to the west of the airport after losing its engine on take-off. While that resulted in no

damage or injury, with an expanded runway that aircraft may have had nowhere to "ditch" other than in the heavily populated Stonebridge neighborhood across from the agricultural field. It is not insignificant that between 1973 and 2001 nine people died from accidents flying in the Ann Arbor Airport traffic pattern within three miles of the airport. Exhibit 58.

With Runway 6/24 extended 950 feet farther to the southwest and even closer to hundreds of homes, as proposed, and planes still lower on approach – and planes heavier, larger, carrying greater payloads, and more people – this poses a risk too grave to bring to a heavily populated community as well as to the users of ARB.

9. Because of the Project ARB will attract more and heavier aircraft, which will increase the safety risk to the surrounding community as well lower their property values.

Extending Runway 6/24 by 950 feet will attract more and heavier jets (as well as larger multi-engine turboprop aircraft) while bringing them closer to heavily populated residential areas. ARB estimates that jets would be within 600 yards and at altitudes of 93 feet above rooftops of homes, or lower, on a regular basis. Aircraft landing on Runway 6 would pass Lohr Road below 90 feet, which is the site of a non-motorized bike path, the Lohr-Textile Greenway Project. Thus, low-flying, heavy jets would land just feet over people traversing this non-

motorized trail.

This is especially dangerous with heavier aircraft because, in the event of any common multi-engine aircraft mishaps – such as an engine failure on takeoff, a bird strike on takeoff, climb out, or approach, or similar incident – with aircraft in very close proximity to homes, the risk could be grave – a perfect storm of environmental or human risk. For example, a twin- engine jet losing one of its engines would lose 80 percent of its climb performance. At low altitudes that could be tragic. Likewise, losing an engine in a light twin-engine aircraft would be catastrophic since the aircraft could not continue to climb on one engine in takeoff configuration. Neither could it turn back toward the airport at low altitude in takeoff configuration.

Such impacts and safety implications on political jurisdictions where airports are located and where the airport decision-making bodies are devoid of local citizens and local governments must be investigated carefully and thoroughly by the governmental entities empowered to protect the safety of all concerned. MDOT must protect the health and well-being of the people on the ground as well as those in the air from the inherent risks of aviation.

10. Expanding the Runway Will Result in an Increase in Violations of Pittsfield Township's Ordinances and Planning Procedures

a. Noise Ordinance

Pittsfield Township, within which ARB is located, has a long-standing noise ordinance making it unlawful for "any person to create, assist in creating, permit, continue, or permit the continuance of any unreasonably loud, disturbing, unusual or unnecessary noise that either annoys, disturbs, injures or endangers the comfort, repose, health, peace, or safety of others within the limits of the township." Pittsfield Township has a duty to protect its citizens' health, safety, and property from "unreasonably loud, disturbing, unusual or unnecessary noise." Exhibit 6.

How the lengthening of the runway will affect the enforcement of this ordinance has not been examined, as required by NEPA, NEPA Regulations and FAA Order 1050.1F. If the ARB runway were expanded to the west, as proposed, and the noise impacts on Pittsfield residents were to change, this ordinance would face demands from citizens for more strenuous enforcement. Therefore, all aircraft flying in and out of ARB are subject to Pittsfield's noise ordinance and fines can be levied on the aircraft owners for operating their aircraft if they create an "unreasonably loud, disturbing, unusual or unnecessary noise that either annoys, disturbs, injures or endangers the comfort, repose, health, peace, or safety of

others within the limits of the township."

Justice Rehnquist, in the landmark case *City of Burbank v. Lockheed Air Terminal Inc.*, 411 U.S. 624 (1973) stated that the legislative history of the 1968 noise control amendment to the Federal Aviation Act, and the subsequent 1972 Noise Control Act, provided for local land use planning to control the noise impacts on communities surrounding airports. *Burbank*, 411 U.S. at 643. Justice Rehnquist further noted that the House Committee on Interstate and Foreign Commerce specifically advocated the cooperation of state and local governments in achieving noise control. *Id.* Justice Rehnquist concluded from the legislative history that Congress intended only that the FAA regulate the "source" of noise, specifically the "mechanical and structural aspects of jet and turbine aircraft design." *Id.,* at 650. The statute did not, however, limit the states and local authorities from "enacting every type of measure, which might have the effect of reducing aircraft noise . . ." *Id.,* at 650-651. Justice Rehnquist, thus, suggests that so long as local or state governments do not regulate aircraft noise emissions directly, for example by requiring aircraft to meet certain noise standards or requiring certain technical modifications to jet engine design, they may regulate noise for the common benefit.

Therefore, all aircraft flying in and out of ARB are subject to Pittsfield's noise ordinance and fines can be levied on the aircraft owners for operating their aircraft such that they create an "unreasonably loud, disturbing, unusual or

unnecessary noise that either annoys, disturbs, injures or endangers the comfort, repose, health, peace, or safety of others within the limits of the township."

b. Violation of Agreements between the City of Ann Arbor and Pittsfield Township.

ARB and Pittsfield Township have a long and contentious history. In 1979 Pittsfield Township and the City of Ann Arbor, the owner of ARB, reached an agreement intended to resolve issues at the Airport. Exhibit 7. In 2009, a new agreement was reached that incorporated the 1979 Agreement and sought to instill a sense of cooperation between the City of Ann Arbor and Pittsfield Township on issues regarding the Airport. Exhibit 8. The 2009 Agreement is automatically renewed, unless one party opts out.

Pittsfield Township's position is that extending the runway at ARB violates the 2009 Agreement, if not to the letter of the agreement, at least to the spirit of the agreement. The 2009 Agreement was drafted to foster cooperation between the City of Ann Arbor and Pittsfield Township on issues related to ARB. However, ARB's insistence on extending the runway over the strong opposition of Pittsfield Township is not being "cooperative." The runway extension violates the Agreement between the City of Ann Arbor and Pittsfield Township.

11. Runway expansion could cause Pittsfield Township to lose millions of dollars from reduced taxes.

There is extensive research to suggest an extension of the runway could cause severe economic losses to several communities surrounding the airport, including Pittsfield Township, in reduced real estate values and, reduced property and school taxes based on assessed property values. This reduction in home values is attributable to aircraft noise and emissions. How and to what extent the noise and emissions created by the Project will damage property values is not addressed in the SRDEA. Extensive research based on other communities in which airport runways have been extended – Atlanta, Reno-Tahoe, Chicago O'Hare, the Greensboro-High Point-Winston Salem metroplex, 23 cities in Canada, among others – show property values decline as runways are expanded. The most respected such study, *The Announcement Effect of an Airport Expansion on Housing Prices*, G.D. Jud & D.T. Winker, (2006), JOURNAL OF REAL ESTATE FINANCE AND ECONOMICS, 33, 2, 91-103, Exhibit 59, suggests house prices decline by about 9.2 percent within a 2.5-mile band of the airport, and, beyond that, in the next 1.5-mile band, prices decline another percent once an announcement – without extraneous influences – was made.

The lengthy hold up of the proposed ARB expansion has represented an extraneous influence since the initial announcement in 2007, but that if approved, these effects would occur at ARB. To further support this claim, a literature search could find no published, peer-reviewed research study where residential real estate

values continued to rise in areas immediately surrounding an airport after runways were expanded. A decrease in property values in the areas surrounding ARB would have important consequences for the governmental bodies that benefit from property tax collections. In the corridors referenced in the Jud & Winker study noted above, there are:

- 6,239 Pittsfield Township parcels of land within the 2.5-mile area surrounding the airport; and
- 4,168 parcels within the 2.5-mile to 4-mile area.

These parcels will be subjected to a decline in real estate values of 9.2 percent and 5.7 percent, respectively due to the expanded runway. Using those facts, the following is the estimated value of what the potential **annual** losses in property tax revenue would be for various governmental bodies based on their tax collections in the year following the extension of the runway:

- $1.5 million less for the Ann Arbor School District;
- $1.4 million less for the Saline School District;
- $850,000 less for Pittsfield Charter Township; and,
- $810,000 less for Washtenaw County.

This estimate is only for property in Pittsfield Township. These numbers understate the decline in tax revenues, because they do not consider the potential effects of property in Lodi Township, the City of Saline, (both of which could affect

the Saline School District's revenues), or property in the City of Ann Arbor. Thus, governmental bodies could stand to lose millions of dollars in operating funds annually from a runway expansion project that has yet to show any real economic benefit.

12. MDOT must consider the interests and decisions of the surrounding communities

ii.

Both Pittsfield Township, where ARB is located, and neighboring Lodi Township have passed Resolutions opposing an expansion of the runway at ARB. Pittsfield passed two resolutions opposing the extension of the runway. The first was passed on March 24, 2009 (Exhibit 60), and the second was passed on April 12, 2017 (Exhibit 61). Lodi Township passed its resolution on May 12, 2009 (Exhibit 62). The Resolutions oppose the expansion because of the risks from Canada geese in areas surrounding the airport, low-flying aircraft on the approaching newly expanding runway, and that 99 percent of the based aircraft can operate at their full weight capacity on the existing runway. More important, though, the Resolutions seek to protect the health and property rights of their citizens. The Airport has ignored these Resolutions in the past and will do so again unless FAA or MDOT take them seriously when conducting an environmental assessment.

Ignoring the resolutions violates NEPA, NEPA Regulations and FAA Order 1050.1F, it is also a violation of ARB's federal grant assurances, exposing the City

of Ann Arbor to litigation liability and potential loss of all federal funding for ARB. Going forward with the project without Pittsfield's sign-off is not being a good neighbor or keeping with the spirit of cooperation regarding Airport issues.

Given Pittsfield's and Lodi's resolutions of opposition, the expansion of the runway contradicts the will of those governing bodies. The expansion would benefit a minute number of airport users while placing at risk thousands of members of the Pittsfield and Lodi communities with added larger and heavier aircraft, flying much closer to their homes, at lower altitudes, in an area heavily populated by Canada geese, and in an increasingly dense residential area.

The consideration of the wishes of these local communities must be weighed, evaluated, and given "fair consideration" as required by the FAA's grant agreement with Ann Arbor. In the twelve years since the proposed expansion has been pending, for example, not even one study on the potential safety effects of the expansion on the residents of Pittsfield has been conducted. ARB and MDOT have consistently ignored the interests of communities surrounding ARB.

13. Any Environmental Assessment Must Properly Consider the Intensity of the Impacts on the Surrounding Community.

NEPA Regulation 40 C.F.R. § 1508.27 requires that the Project be placed in context with the surrounding society so the Project's impact on the affected region,

the affected interests, and the locality can be rigorously evaluated. Any environmental document undertaken by MDOT must adequately address this aspect before the Project can be approved. This aspect of the environmental assessment process is often called "Intensity," and it requires consideration of:

> (1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that the effect will be beneficial.
> (2) The degree to which the proposed action affects public health or safety.
> (4) How much the effects on the quality of the human environment are likely to be highly controversial.
> (5) How much the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
> ….
> (10) Whether the action threatens a violation of Federal, State, or **local law** or requirements imposed for protecting the environment.

40 C.F.R. § 1508.27 (emphasis added). *See also* FAA Order 1050.1F, § 4-3.2, p.4-3.

The National Environmental Protection Act under which the SRDEA was prepared, and the due process clauses of the Fifth and Fourteenth Amendments to the United States Constitutions all provide legal protections to the residents living west of the Ann Arbor Municipal Airport. The citizens living in areas that surround the airport believe the airport expansion represents an arbitrary denial of their life, liberty, or property in violation of the Fifth and Fourteenth Amendments. These rights cannot be restricted except for a valid governmental purpose. *Bolling v.*

Sharpe, 347 U.S. 497 (1954). Critical is that any decision to move forward on the runway expansion must be made by a neutral decision-maker. Goldberg *v. Kelly*, 397 U.S. 254, 267 (1970). This is an important distinction because for four decades, MDOT has shown itself to be an advocate for expansion of the ARB primary runway, and not a neutral party. Typically, when a law or other act of government is challenged as a violation or potential violation of individual liberty under the due process clause, courts balance the importance of the governmental interest and the appropriateness of the government's method of implementation against the resulting infringement of individual rights. Where state authorities, such as MDOT, are involved, the United States Supreme Court has held that ". . . we cannot leave to the States the formulation of authoritative . . . remedies designed to protect people from infractions by the States of federally guaranteed rights." *Chapman v. California*, 386 U.S. 18, 22 (1967). Thus, MDOT may be forced to recuse itself from any decision in the Ann Arbor Municipal Airport expansion case, an expansion project which poses significant potential risks to citizens living in neighborhoods surrounding the airport.

This proposed project has a statistically small benefit, and yet would attract larger and heavier jet aircraft in closer proximity to homes in areas heavily populated with Canada geese, potentially jeopardizing residents if an accident occurs – accidents that the FAA contends are the third most frequent that occur in

terms of incidents with hazardous wildlife in aviation. The risk to public safety may far outweigh any established benefit, which has not been substantiated. Added risks in terms of additional noise and night flights have not been established, but with arrival traffic traveling just 93 feet over rooftops on an expanded runway, it could have a controversial and negative impact on the human environment of citizens in Pittsfield Township, in violation of that township's noise ordinance and resolution, and in violation of federal law.

VII. Conclusion

These comments detail why the SRDEA is inadequate and fails to meet the requirements of federal law, NEPA, the NEPA regulations, FAA Order 1050.1F as well as State and local laws. For the reasons stated above, the Project proposed by ARB should not be approved by either MDOT or the FAA because:

- The SRDEA does not state a valid Purpose and Need, rather, ARB attempts to justify its desire for an extended runway by creating a non-existent problem (or, at least, a problem that affects a picayune portion of the aircraft operating at ARB).

- The SRDEA does not establish by convincing evidence that the "critical aircraft" at ARB is a "B-II" type aircraft. In order to push its agenda, ARB has cherry-picked a year where operations of B-II aircraft exceeded 500 operations, but it ignores the fact that FAA regulations require there to be over 500 operations in 12 months preceding the environmental assessment. This fact obviates the "need" for an extended runway.

- The SRDEA does not address the fact that the proposed expansion brings potential risks to residents living near the airport by attracting larger and

heavier jets, having aircraft take off 850 feet closer to population areas, and aircraft land just 93 feet over homes to the west of the airport.

- The SRDEA does not address the fact that the proposed expansion will have both noise and public safety impacts, violating a local Pittsfield Township noise ordinance.

- The SRDEA does not address the fact that both Pittsfield and Lodi Townships have passed resolutions oppose expanding the Ann Arbor Airport runway. This puts the proposed expansion at odds with 40 C.F.R. § 1508.27(2), (4), (5) and (10).

- By carrying out the preferred alternative, ARB will be in violation of its FAA grant assurances which require it to consider the local interests of these communities, which there is no evidence presented in the SRDEA that it has done.

In keeping with the above, if this proposed expansion is not rejected based on these above arguments, we ask that the following changes to the RDEA be required before the project moves forward:

(1) Compliance with Pittsfield Township's Noise Ordinance must be considered as a required part of the project.

(2) The SRDEA must address the fact that the preferred alternative is in direct opposition of Resolutions passed by both Pittsfield Township, the jurisdiction in which ARB is located, and Lodi Township, the adjacent jurisdiction. This puts the City of Ann Arbor at risk for litigation since it has signed grant agreements that state that the project must comply with local laws.

(3) The Alternative of using Willow Run Airport (YIP) to meet the RDEA's Purpose and Need must be fully considered as a "reasonable alternative" under NEPA and FAA Order 1050.1F.

(4) An updated noise study must be conducted that includes the effects of larger and heavier jet aircraft that an expanded runway will attract at night, and the health effects of such potential noise from positioning the runway 950 feet closer to the population center on citizens living near the airport.

(5) A Health Risk Assessment must be drafted to assess the public health risk as a result of the Project.

(6) The drinking water from wells on the airport property must be evaluated and provisions for further consultation with federal and state officials required (FAA Order 1050.1E (Pages A-76-76, 17.4a).

If you have any questions or comments, please feel free to call me at (626) 396-7300 or send me an email at staber@leechtishman.com.

Sincerely,

LEECH TISHMAN FUSCALDO & LAMPL

Steven S. Taber

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