

To: Pitkin County Board of County Commissioners and Members of the Airport Advisory Board
From: Amory B. Lovins, 1739 Snowmass Creek Rd., [Old] Snowmass CO 81654
19 April 2022

Confidential

Dear County Commissioners and Airport Advisory Board Members:

On 31 March 2022, the Federal Aviation Administration adopted new Airport Design guidelines ([150/5300-13B](#)), immediately superseding those that would previously have applied to the proposed redesign of the Aspen Airport. This regulatory change, mandatory for Airport Improvement Grant and Passenger Facility Charge funding (see e.g. Grant Assurance 34), may entail substantial rework—but also offers a fresh opportunity to rethink the project’s plans and processes. I therefore presume to offer you respectfully some personal opinions, apprehensions, and suggestions reflecting both my views and those of a group of concerned and engaged citizens, informed by domestic and international sources*.

In December 2020, the Pitkin County Board of County Commissioners (BOCC) unanimously adopted Resolution 105.2020, requiring *inter alia* these actions, none mandated by the FAA:

- #12: Replace the current ADGIII Airport Layout Plan [which has non-standard conditions] with an improved ADGIII Airport Layout Plan [without those exceptions] that accommodates aircraft that meet community goals
- Commission an updated fleet mix study after allowing airline industry to recalibrate after the disruptions caused by the COVID 19 pandemic
 - Negotiate with airlines[†] and FAA to achieve agreements with the county that ASE will be served by aircraft with the following characteristics:
 - greenhouse gas and other emissions that are significantly lower than the CRJ-700
 - quieter than the CRJ-700
 - weight limit of 140,000 MTOW
 - seat limitation of no more than 100-120 passengers
 - Retain and strengthen the voluntary noise restriction
 - Separate the runway from the taxiway by 400' between centerlines
 - Widen the runway to 150'
 - Charge the Airport Advisory Board to evaluate the success of the negotiations and/or the outcome of update [*sic*] fleet mix studies and make an alternative recommendation if necessary.

I’m aware of no public information about an updated fleet mix study or the negotiations described—nor about any progress in satisfying these important, though obscurely drafted, preconditions set by the BOCC for #12, #13 (leave the runway where it is), and #14 (phase the work):

* To help make this document accurate and comprehensive, members of our group consulted confidentially with experts including Aspen Airport and Fixed Base Operations (FBO) employees, NetJet pilots, SkyWest management and pilots, Roaring Fork Valley pilots and aircraft owners, several major US airlines’ senior operating personnel, Federal Aviation Administration personnel, noted Washington DC aviation counsel, well-known international and domestic airport architects, construction designers, and contractors, and aviation consultants with deep and comprehensive experience in airport design and redevelopment (including FBO operations, state-of-the-art terminal design, aircraft performance, airport navigation requirements, and virtually every required airport and aircraft discipline). We gratefully acknowledge their generous cooperation. Responsibility for any reporting errors is mine. Details of my prior analyses were documented in my 22 November 2020 [memo](#) (pp. 248–258) to the Pitkin County Board of County Commissioners (BOCC), and in the five preceding memos listed on its page 1.

[†] All commercial airlines serving Aspen simply put their names on aircraft chosen, provided, and operated by a single firm—SkyWest (St. George, UT)—to best satisfy mission needs. The County would in practice be talking to SkyWest or its lessors, not to the airlines—currently American, Delta, and United.

Pursuit of the work in the proposed Airport Layout Plan will not be approved by the Board of County Commissioners until such time as either negotiations with the FAA and/or the airlines, and other partners, or clear and convincing evidence in an updated fleet mix study indicate that only aircraft which are cleaner, quieter, and of certain [*sic*] size that [*sic*] will serve ASE.

If achieved, the call to “negotiate with airlines and FAA” to switch ASE’s commercial service—but not its fourfold larger General Aviation (GA) traffic—to aircraft with emissions and noise less than the current CRJ-700 fleet’s would effectively rule out the CRJ-700. It would also bar the noisier, dirtier E-175 now being promoted as its likely successor, and probably the A-220 previously proposed in that role (all using the BOCC’s per-plane metric). (The widely available Dash 8-Q400 turboprop *would* qualify but was already improperly excluded.) Thus the falsity of the CRJ-700 prompt-retirement projections that have underlain this project from ~2011 through at least 2020, and explicitly underlie the Vision Technical Working Group’s [report](#) (p. 13), becomes irrelevant, because the basic rationale has been quietly changed from about-to-retire CRJ-700s to noise, emissions, and pollution. I don’t expect the mandated negotiations would succeed—the County lacks authority, the operator lacks motive, and there’s no qualifying jetliner in sight—but tacitly abandoning the project’s original rationale is remarkable. Notably, the new criteria are per aircraft, not per fleet, so ultraclean (e.g. electric) planes could not be offset against CRJ-700s; that plane, profitably operating and ideally suited to Aspen’s unique conditions, would simply be banned. As we’ll see, there are no analytically valid noise or pollution data to support this risky policy.

The Commissioners also instructed staff to open “discussions with the Federal Aviation Administration..., Airlines and other partners,” based on the BOCC-approved resolution, “as a starting point for the eventual development of an FAA required Airport Layout Plan,” and to “Continue to update studies, forecasts and develop appropriate noise and emissions data to be included as part of Airport Advisory Board review and Board of County Commissioners approvals moving forward.” I’m aware of no public information on progress toward those requirements. That they exist is a tacit admission that these ASE Vision products were inadequate for design decisions and now need to be done over. There is no public indication that this work has begun, nor that the Vision consultants who were chosen and instructed to produce the misleading results they did (or new consultants similarly compliant with client demands) will not simply be asked to repeat, with similar outcomes. Yet on 17 February 2022, the Airport Advisory Board was [told](#) that the new Airport Layout Plan (ALP), consistent with achieving full ADG-III status in 7–15+ years, is estimated to be completed *in 12 to 24 months*.

That timeline seems risky and implausible. It’s hard to imagine how new noise and emissions studies could be properly done in time to inform ALP development. (If noise and pollution were as serious a concern to the County as they are to the community, the County would long ago have installed standard mitigations like berms, deflectors, and absorbers.) This timeline invites the inference that the consultants already chosen by County staff are expected to issue, in parallel with ALP development, findings supporting staff’s agenda—presumably based on published commercial aircraft data per passenger rather than per aircraft, let alone actual field measurements taken on and near the airport, let alone ASE-specific commercial *and GA* measurements—and that the BOCC will then be asked to accept such theoretical calculations as “clear and convincing evidence” that the proposed full-ADG-III Airport Layout Plan can proceed.

Given this seeming haste, it’s time to take stock of what has changed since December 2020. In the intervening five quarters, the County has:

- chosen and launched the Airport Advisory Board (AAB);
- privately selected consultants for ALP development and perhaps supporting tasks;
- quietly quintupled to a quarter-million dollars the legal budget for the new ALP in the 9 March 2022 Supplemental Appropriation;
- presumably learned that Skywest tested the Embraer E-175 at ASE, with unannounced but poor results that would dictate very significant operational restrictions and less profitability—yet officials announced in the [press](#) that the E-175 “is the only option” and will probably be Aspen’s follow-on aircraft (as if one were needed other than as a rare fleet fill-in). The Vision process had correctly [found](#) the E-175 only marginally suitable, consistent with the new test results; increasing E-175 engine power would require a total aircraft recertification (unlike the CRJ-700); and the increased-power E-175 E2 model was just again [postponed](#) to at least 2027—the same year in which Embraer expects to release an attractive new turboprop declared to have strong market prospects;
- nonetheless arranged, apparently without public discussion, to add 3–4 E-175-compatible pads during the May 2022 airport maintenance shutdown.

These events, coupled with silence on the BOCC’s important prerequisites just listed, have deepened community concerns that there is no obvious path or credible process for satisfying the BOCC’s preconditions, nor for meeting many other critical needs if this process is to merit and receive FAA and ultimately bond-issue voter approval. Those needs include issues that are standard to any project of this nature, vital for risk management, but missed by the Vision Group and by its County-selected advisors over the past few years. The following nine are top-of-mind:

1. **Aviation safety** is the top community priority identified by the Vision process, as well as for the FAA’s mission, but is not an apparent County or AAB core focus. The County has still not done a study of the causes of the past 45 years’ accidents associated with Aspen Airport. Most aircraft operations continue to use downwind routing, which the FAA strongly discourages. This daily practice undermines safe aerodynamics and causes risky head-to-head traffic. Correcting this major risk would not need time or investment. General Aviation pilots continue to lack the critically important, airport-specific training required of ASE’s all-Skywest commercial pilots; this conspicuous lack boosts the continuing toll of roughly one GA accident per year that makes Aspen one of the nation’s most dangerous airports. The tower continues to lack full airport visibility, modern area surveillance, and today’s standard FAA tower equipment (though at least the first two are apparently intended to be fixed). Unauthorized aircraft types are being given clearance to operate at ASE: 95'-wingspan, unknown-weight private 737s have landed at ASE, but it’s unclear whether or why they were felt to be safety-qualified for ASE under standard contingencies like engine loss after rotation, bad-weather go-around, and accelerate/stop distance. They were apparently allowed to land regardless. This risky practice and all other sloppy enforcement should cease immediately to ensure strict compliance with the FAA’s rules and safety philosophy (*e.g.* Ch. 5 (esp. §5.2.3), Ch. 9, and Appendices, [Order 5280.5D](#)). Further, plausible concerns persist about the adequacy of large-wildlife exclusion measures, and of medical response capabilities for a mass casualty incident even for the 70+ souls on board a CRJ-700—especially when passengers per plane are proposed to rise by up to 71%.

2. **Pollution and noise data.** The [declared](#) Guiding Principles of reducing “overall airport emissions (aircraft & facilities)” and “Airport Noise Intensity” each by 20–30% are being applied only to aviation operations, only to commercial planes (not the dominant GA planes), and based on unsound analysis. The County’s air-pollution contractor’s deeply deficient October

2021 report was released 12 April 2022 to a citizen who insistently requested it, and is now also planned to go to the Airport Advisory Board. That contractor measured in the wrong place—atop the North 40 fire station 62 in the Airport Business Center across Highway 82, rather than off the end of the runway, where takeoffs with maximum power set before brake release (and thus maximum noise and pollution) are common due to aircraft weight and specific performance parameters plus runway restrictions and altitude. Strong jetstreams therefore blow directly downwind toward the Powder Pandal children’s ski-lesson area and toward the X-Games zone with up to 10,000 people, respectively ~1,652' and less than 2,000' from those spooling-up aircraft. Yet air quality at those critical sites remains unknown. The contractor also measured the wrong things—no particulates, such as PM₅ and PM₁₀, and no NO_x, but only volatile organics. The study thus reveals nothing about primary air pollution from ASE operations—only that fuel odors (such as many passengers and staff experience at the terminal) are unmeasurable far away and crosswind. The result is manifestly useless for public health policy.[‡]

Likewise, the County’s noise expert was told not to measure noise along the takeoff path and at 1000' intervals off the end of the takeoff runway; and noise metrics have been reported as 24-hour averages (including curfew hours with no flights) rather than revealing the peaks relevant to public health and comfort. If her proposed noise study was ever done, it remains apparently unpublished. She [said](#) the County “has a lot of past noise and emissions testing results,” but those too seem unpublished, so ASE Vision [lacked](#) vital baseline data, and so do current decisions.

Reinforcing my impression that these outcomes are not accidental, during 2019–21 some knowledgeable citizens solicited competent, independent, and affordable proposals for noise and air-pollution studies and presented them to the County, with no response despite a reminder. A citizen proposal to measure baseline aircraft emissions data during pandemic and construction shutdowns was acknowledged by the County to be a good idea but doesn’t seem to have been done.

Further, as ASE Vision’s Community Character Committee [complained](#), no data have been released on the relative impacts of GA and commercial operations (whose ratio is >4:1), although the County has ample aircraft, noise-complaints, and other data that could illuminate their relative importance. The County continues to focus almost exclusively on one-fifth of aviation operations. And even the 2018 Environmental Assessment estimated only air pollution from airport construction, not from aircraft operations.

[‡] The study, by Air Resource Specialists (Fort Collins CO), explored only the origin of local fuel-odor complaints. But “Winds blowing across Highway 82 from [the airport] toward the monitoring station and the local neighborhood were infrequent” (p. 15), so measurements were dominated by Highway 82 traffic emissions, the nearby gas station and other non-airport local emitters, and a substantial but indeterminate amount of interfering wildfire smoke. The near-irrelevance of airport emissions to the chosen measurement site’s VOC levels (at least on those specific dates) was confirmed when September 2020 data showed no significant difference between a three-day airport shutdown and heavy operations. The report concluded that airport operations “do not appear to make any significant contribution to local air quality levels in residential areas...adjacent to the...Airport.” Yet the firm made no measurements in those neighborhoods, nor at the airport. It only claimed its measurement site (secret at the time), being nearer the airport than the neighborhoods are, must be more affected—yet “closer” wasn’t weighted for prevailing wind directions. Moreover, the firm measured only volatile organics and equated those with “air quality,” but measured none of the major jet-engine combustion products of chief health concern. My half-century’s experience in experimental science makes it hard to imagine any useful conclusion that could be drawn from these measurements. The study could hardly have been better designed to *not* detect any air-pollution health risks from the airport, despite noting (p. 3) “Pitkin County’s interest in evaluating potential health effects from exposure to emissions....”

Thus County staff have consistently prevented the formulation of scientifically valid and policy-meaningful aircraft noise-and-pollution baseline measurements, standards, and goals. The public has not been told that the work already done will now need to be redone with proper instructions—currently, however, resting in the same hands responsible for these past deficiencies.

Enforcement of existing standards is questionable too: some old Gulfstream IIIs recently operated at ASE with their required hush kits unused or inoperable. An online noise-complaint option has been added but appears fragmented and ineffective. Reportable fuel spills have apparently not all been reported. On the brighter side, the 2300 landing curfew was commendably enforced on 5 March 2022 against UA5362, to some residents' surprise and gratification.

3. Future fleet. The obsolete or incorrect information given to the Vision process (and still repeated by County officials) about the availability, timing, and characteristics of future aircraft and the rapid shifts in airline route architectures needs to be modernized. The passage of time only continues to confirm that the Vision participants and the Commissioners were systematically misled by their staff and advisors into approving the full-ADG-III airport conversion, explicitly predicated on the supposedly imminent retirement of the CRJ-700 fleet—a claim established in my Public Forum [introduction](#) (pp. 9–11) to be wrong by about two decades, probably longer.

Despite clear evidence consistently obfuscated, rejected, or suppressed throughout the Vision process and ever since, the County continues to plan for bigger commercial planes in hub-and-spoke routes rather than more but smaller, less-or-zero pollution and CO₂, extremely quiet planes flying point-to-point within 5–10 years. This powerful market trend and its ignored GA analogy create a high risk that the airport now being planned will be obsolete before it could be built.

The County's official planning horizon was 30 years, but the Vision process scarcely looked five years ahead (perhaps ten for the terminal), its choices were confined to currently commercial aircraft, its brief mentions of emergent aircraft are already badly outdated, and I see no intent or means to repair these gaps. On the contrary, the Airport Advisory Board (#8 below) was [told](#) to rely on the original Vision data and to implement its BOCC-edited-and-adopted recommendations “to the greatest extent possible.”

Thus all the original errors are to be unquestioned and perpetuated. The consultants are already chosen and being hired. Having the same people choose and instruct them who drove the previous error-ridden results can't be expected to yield different results. This information monoculture intensifies all aspects of project risk.

4. Regulation. As the Commissioners have been told, the FAA is eager to explore and offer “localization” [arrangements](#) that preserve public ownership and operation but return non-safety regulation, notably noise and pollution, to local control, including such key issues as curfew times, ASE-specific GA pilot training, additional FBOs, and authorized aircraft types. This flexible [Investment Partnership Program](#) could solve Aspen Airport's most pressing problems, especially around GA impacts and GA/commercial priorities. Yet it remains unexplored, because County staff and advisors have consistently, and apparently deliberately, confused that proposal with others unrelated—notably becoming a private airport or a privately owned airport.

The FAA offered to fly out three experts to discuss actual localization, but the County chose a phone call apparently discussing only private ownership, and FAA was deflected from discussing actual localization. The County's legal advisors likewise discussed private ownership, not localization, with the Commissioners. The Vision Chairman stated that a lawyer for the County had comprehensively dismissed localization, but it appears that was a different concept. This can't be checked, because the relevant record was declared confidential—as if it were about sensitive litigation rather than a policy innovation of high public interest. This pattern of behavior invites the inference that perhaps County staff covertly wish to *prevent* the option of locally controlling precisely the impacts of noisy and dirty GA aircraft that arouse the greatest public concern. Continued FAA preemption would avoid politically delicate local choice and accountability.

Meanwhile, the County's approaches to the FAA cannot have left a good impression; nor will the County's seeking high-level political interventions to secure funding outside normally independent FAA processes.

5. Lumberyard. The City of Aspen's very active Lumberyard proposal would put hundreds of units of high-density housing, 4–5 stories high, far closer to the runway than the FAA's policy allows (the property is just 750' from the taxiway and 150' from the Airport property line). There is no assurance of FAA approval—quite the contrary, as specifically noted in the 1998 Airport Plan Update's boilerplate language (p. II-20) and continuing in [current policy](#). Though FAA won't intervene until there's an actual decision to proceed, the City and County have long been told by informed citizens that such approval seems unlikely, putting continuing City planning and design investments at risk. The public doesn't know this either.

6. FBO. The reportedly imminent issuance of an RFP for competing the expiring FBO operating contract is cart-before-horse, and urgently needs policy, process, and data transparency. The County should already have launched a searching public discussion, led by an independent expert on airport finances and operations, of the Aspen Airport's business model, revenue flows, and earnings prospects. That information could then illuminate whether the County should own the FBO and conduct or contract out its operation, rather than continuing to allow a private operator to keep most of the profits that could support airport improvements and County operations.

There are strong indications that the County now earns only a small fraction of what Aspen Airport operations would conventionally yield under businesslike management at market prices and values. The public, and apparently the Commissioners, lack any insight into that opportunity, or even transparent financial accounting of FBO operations. The current FBO operator sets its own **landing** fees but seems not to collect them consistently, and the operator is incentivized for its own profits, not the County's. County staff's implicit strategy seems to be to avoid public discussion and quietly perpetuate existing cozy arrangements, to the County's great disadvantage.

7. Governance is a perennially overlooked need that Aspen Airport, seemingly alone among its peers, lacks. Other US airports in ASE's league generally have an independent and expert governing Board reporting to the owner and professionally qualified for this complex and demanding task. Normally an experienced Airport Manager reports to such an aviation-savvy governing Board rather than directly to the Board of County Commissioners—which (like its other staff) manifestly lacks that expertise, has no time to acquire it, and is called to apply its wisdom and

accountability to a vast range of other demanding issues. Global aviation experts say Aspen Airport can't expect to succeed under its current governance, which intensifies every kind of risk.

8. **Advice.** As I and others feared, the Airport Advisory Board has been cast in the same mold as the Vision process. The AAB's agenda and information flows will remain fully controlled by the same County staff responsible for all the unsatisfactory outcomes just described. The AAB is offered only hearsay filtered through County staff, not access to primary information sources. The AAB's consultants are to be chosen and instructed by County staff, not by the AAB itself. By design, the AAB lacks the independence, scope, budget, and authority that could have made it valuable to the Commissioners, credible to the FAA, and convincing to the public.

Moreover, conflicts of interest abound. The AAB's Chair and another member were among the three leaders of the Vision process whose flawed findings it is now charged to implement but unlikely to scrutinize. Another member works for the Aspen Skiing Company. So does the appointed Alternate Member. Thus three of the seven currently active members, plus a fourth one in the wings, have an agenda to defend. Two members are private pilots, but no member has any experience in the arcane art and science of airport design. Over decades, I've served on many advisory boards. I don't think this one is set up to deserve that name or fulfill that purpose.

The 17 February 2022 catchup [brief](#) to non-Vision members of the AAB didn't mention Vision's minority report, minority committee reports, dissents, recantations, or unvarnished history. The AAB seems unlikely to hear, or be allowed to consider, any evidence seriously questioning County staff's agenda. Rather, the AAB will, like Vision, add a veneer and illusion of independent scrutiny that it cannot actually provide. Most regrettably, this will add little, no, or negative value to the BOCC's deliberations and to the County's credibility with the FAA. The AAB members are good people—most are old friends of mine—but their personal quality can't compensate for basic, designed-in structural flaws. The distorted framing, facts, and logic that handicapped Vision from its start will now simply be replicated under different names.

9. **Communications.** Public communications about the Vision process have been and remain consistently misleading. County staff have masterfully conjured the illusion of a thoughtful, informed, and inclusive community Vision process yielding virtual consensus and now happily proceeding to implementation. The facts differ.

Of the nearly 160 citizens who volunteered and got appointed for the ASE Vision process, more than half dropped out—many complaining of biased assignments and information and of feeling forced out—and *just one-third* completed the process and support its products. That's hardly a ringing endorsement. In fact, the 44 citizens who publicly called for a pause in the BOCC's airside decision *were 85% as numerous as the 52 who ultimately voted for the Vision recommendations*. They are also no less knowledgeable, including two former ASE directors (one of whom also ran the FBO for 26 years), distinguished local pilots, and former County Commissioners. Further dissent was filed in a minority report that is posted but ignored, and in multiple unposted committee [minority reports](#), including an unmentioned 5–0 [rejection](#) by the Community Character Working Group[§]. In County staff's narrative, all these inconvenient truths are airbrushed out.

[§] 27 Dec 2019 (1 abstention, 8 absences); partly quoted on p. 13 of my [introduction](#) to the 22 Oct 2020 Public Forum (pp. 189–204). This supplementary report specifies serious discrepancies, gaps, and impracticalities in the Technical Working Group report, which the Community Character Working Group had not previously been able to review—yet they remained unreconciled and unmentioned in the Vision materials published and sent to the Commissioners.

The Vision process was and is also portrayed as open and agenda-free, but a major consultant revealed** having been instructed on the County's very specific (though denied) agenda of allowing large planes, specifically G-650s, to legally use ASE. Local media have not mentioned this, and have knowingly or unwittingly contributed to the deception by running misleading headlines. The *Aspen Times* just restored to its website, at a reader's specific request, the mysteriously removed and officially ignored 20 September 2020 [letter](#) in which four (actually five—one was inadvertently omitted and restored later) Vision members reversed their vote once they had learned more. Those editors' and reporters' behavior could be partly explained by severe, and I think improper, pressure from County staff and powerful local interests.

In short, the current trajectory is toward requesting new commercial aircraft that cash-strapped airlines have no incentive or qualifying airplanes to substitute for existing CRJ-700s good into the 2040s; to allow G-650 and other GA airplanes strongly opposed by most of the community; to rebuff the FAA-proffered and -preferred localization that could actually ensure community goals are met with local choice and accountability; to ignore rapid and profound changes in aircraft and route architectures; to continue refusing to hear competent independent advice inconsistent with County staff's agenda; and to keep planning to build an airport not fit for purpose.

This is not a healthy picture. It's a portfolio of failure conditions. If these issues and the resulting risks persist, they will cast FAA and voter approval into serious doubt. When last asked in 1995, the community rejected a comparable expansion by more than two-to-one. Thus my colleagues and I fear that the Commissioners' current handling of the airport issue, directly and by delegation, risks embarrassing failure in a vast, critical, and highly visible public works project. This could reflect poorly on all concerned and on Aspen's, Pitkin County's, and Colorado's global reputation.

Like many concerned citizens who have voluntarily and diligently tried to help the County put its process on a sounder track, including those citizens who have kindly contributed to this letter, I wonder how our County Commissioners intend to deal with these festering issues. If you keep doing what you've done, you'll keep getting the results you've gotten, and it won't end well.

Sincerely,



Amory B. Lovins

cc: FAA

** Quoted in n. 14 on p. 8 of my introduction to the 22 Oct 2020 Public Forum cited in the previous footnote.