From: Amory Lovins
Subject: Any criticisms/comments to our 21 March financial analysis, please?
Date: April 20, 2024 at 19:14:02 MDT
To: Jon Peacock
Cc: [BOCC, AAB, Aspen City Council, Airport Director, press]

Dear Jon,

Thank you for your kind reply of 17 April commenting on my 21 March 2024 Essay #17 and, I hope, on the update in my 8 April BOCC letter. I presume this took 27 days because you had to solicit, review, and collate responses from various Staff, advisors, and consultants. I appreciate their and your effort to vet these financial analyses, before Second Reading on 1 May, so we can correct any errors and so the BOCC and public may properly assess the quality of our work.

This exercise reinforces my hope that engaging on specific substance can define and narrow areas of disagreement and perhaps reveal areas of agreement. In this case, though, I think all five points you raise reflect misreadings of what we published. Whoever prepared these points seems not to have read our analyses as carefully as we prepared them.

Of the five points you raise, three object to claims we didn't make, and the fourth seems to invoke an FAA rule we can't find. Your fifth point criticizes our use of the same bond duration that your own analyses use, complains about omitting data that we think are in fact largely or wholly included, and objects to actual omissions that the Essay declares and that don't affect our conclusions materially if at all. Reviewing all five points, I see no reports of actual errors. Our work isn't perfect, but we try to get it right, and so far, it seems we have.

If some apparent errors do emerge later (you say these five are "some specific examples," implying that there may be others), please let me know what they are and why you think they're wrong, so we can post appropriate revisions under our rigorous error-correction policy. Meanwhile, I ask that if you share your critique or a similar one, you please tell the recipients that I don't think your review found errors, and share this response with your recipients to provide the following details for those interested. Some of your five points are split into multiple parts with separate responses. I apologize for length, but you've raised many important questions [in blue], and I want to make sure my answers **[in boldface]** are clear and complete.

On Apr 17, 2024, at 15:47, Jon Peacock wrote:

Amory,

Before the second reading I want to get back to you. It is difficult to respond directly to your essays, because we don't have agreement on the assumptions underlying your analysis. Some specific examples include:

1. The county can walk away from FAA grant assurances if we finance future airport improvements, maintenance, operations and acquisitions without FAA grant funding. This is not correct.

I agree that the statement is not correct. We at Aspen Fly Right have never proposed to "walk away from FAA grant assurances," and we think the course we've suggested complies with them.

1. FAA grant assurances run beyond the year they are received. In the case of grant funds for maintenance and improvements, the grant assurances apply based on a depreciation schedule. In the case of land acquired with FAA funds the grant assurances run in perpetuity (so long as the sponsor owns the land). ASE lands were acquired with FAA grants.

Yes, we knew that. I wonder where you got the idea that we're proposing to violate grant assurances, and what makes you think our suggested actions, e.g. on p 3 of my 8 Apr 2024 BOCC letter, would violate one or more grant assurances. Please specify which and how.

2. Using a 0.8% growth rate in the Forecast for Future Air Service would justify a smaller aircraft than the Airbus A220-300 as our critical design aircraft. This is not correct.

I'm not sure why you refer to 0.8%/y, the approximate Core Community Goal. The evidence-based enplanement growth assumption we recommended is 0.6%/y as shown in the Lower-Range original forecast (31 May 2023 Forecast, Table 27, p 29). That's what the County preferred and initially proposed. It fits the historic evidence of 0.6%/y average enplanement growth in 2000–14. This forecast variant entailed no bigger planes nor changes in airfield layout. Details are in the Forecast's Table 32, p 60 and are summarized at the top of p 35: the fleet stays entirely regional jets and shows zero adoption of any mainline plane through 2042. FAA rules require the future critical design aircraft to be justified by and consistent with the aviation forecast. "The critical aircraft is the most demanding aircraft type, or grouping of aircraft with similar characteristics, that make regular use of the airport," defined as at least "500 annual operations" and "determined with an FAA-approved forecast that considers aircraft 'highly likely' or 'expected' to regularly use the airport," and "must be supported by a reasonable forecast" (§1.2.1, §1.4, §2.3.1, AC 150/5000-17). Obviously an aircraft type with zero projected adoption in the forecast period can't have 500 annual operations. Thus adopting the Lower-Range Forecast would not only "justify" but *require* a smaller-than-mainline, i.e. regional-jet-sized, critical design aircraft. So what's "not correct," please?

Are you simply saying that the FAA could, as it reportedly did, force the higher forecast and bigger aircraft by saying the agency wouldn't accept any less? If so, that would impugn not our thesis but the FAA's decisional legality, consistent with our impression that the FAA insisted on a forecast that doesn't fit the historical evidence and wasn't derived by the fact-based reasoning required by the FAA's customary and proper procedure as mandated by federal law. Instead, adopting the higher forecast in order to fit FAA ambitions inconsistent with facts on the ground (starting with severe but ignored lodging constraints) seems to me a textbook case of "arbitrary and capricious" decision-making. The FAA and County appear to share responsibility for this improper and legally infirm outcome. To try to prevent that error, I'd submitted on 17 May 2023 a detailed technical critique that was politely but severely critical of the Draft Forecast—supplemented 27 June 2023 by my BOCC brief, which added the important discovery of *r^2*=0.98 for enplanement/pillow-count correlation. I also pointed out that the FAA's guidelines call for causally explanatory variables, not spurious ones like the Colorado personal income that the forecasters used (even though only 3% of commercial airline passengers to ASE originate in Colorado, so the inferior *r*^2=0.71 fit is not surprising). Unfortunately, the process did not use this evidence. The AAB had it but did not discuss it; the BOCC curtailed my brief and held six minutes of desultory remarks without the promised "Roundtable" discussion between me and the forecasters who were sitting

there; the BOCC voted 3–2 to send the forecast, albeit without its formal approval, to the FAA, which duly approved it; the County never responded to my repeated offers to explain my evidence to the FAA; I have no reason to think the County even sent it to the FAA; I did so but received no acknowledgement and have no reason to think the FAA considered it; and thus the County systematically contributed to the invalid choice of the critical design aircraft, hence the airfield redesign for bigger planes. That's why my 8 Apr 2024 BOCC letter said it may be necessary to resubmit the Lower-Range forecast, this time with a full explanation of the convincing evidence that the FAA evidently lacked or overlooked. Currently, the FAA's choice of critical design aircraft drives what Essay #17, p 10, n 4 calls "a huge public investment for infrastructure to serve imaginary visitors who will sleep on imaginary pillows, flying in doubled-capacity airplanes with no airline interest or business case." That is indefensible for our elected officials and, to put it baldly, a fraud on airport users and taxpayers. This BOCC seems far from the spirit of 1993–95. Perhaps that will change in November.

The 1.3%/y Mid-Range forecast made the elementary error of combining two periods with utterly different behavior (Fig. 7) into a single trend. This effectively assumed that the 12x faster growth during the STR spurt, which abruptly doubled pillow count, would continue as a causal factor for the next 20 years, when in fact it had already begun to reverse. If you wish, I'd be glad to walk you through why the forecast the County sent to the FAA doesn't fit the historic data and isn't technically credible, even at the level of an undergraduate paper. The County and FAA then used an invalid process that doesn't and shouldn't command public confidence. It risks being overturned on APA blackletter law if anyone chooses to litigate. I don't understand why you or the FAA undertake that risk.

I also think the County should seek in parallel a durable administrative or legislative solution to the acute and ever-growing mismatch between the agency's forecast (TAF), based solely on national GDP growth, and the actual but excluded conditions and needs of sponsor communities. This divergence can only cause worsening political conflicts, waste of public funds, and discrediting of local governments and officials caught in the middle. Those outcomes are in no one's interest.

3. For planning purposes, the FAA does not allow restrictions which "unjustly discriminate" or prohibit certain types of aircraft operations at ASE. ASE is regularly the third busiest commercial airport in Colorado. Even if the growth rate were 0% the FAA would have required a more rigorous ADGIII aircraft like the Airbus A220-300.

The first two sentences are true. I'm familiar with the doctrine prohibiting "unjust discrimination," and provocatively explored its meaning and boundaries in <u>Essay #12</u>. We haven't proposed to violate that doctrine, so I'm not sure why you invoke it. However, Essay #12 does suggest many interesting local regulatory options, some endorsed by the FAA, that could *justly* discriminate, based on reasoned analysis, to yield net public benefits. If you haven't had a chance to read Essay #12, let me respectfully suggest you do so—not as deep as the Great Books, but intriguing. The County (chiefly Dan Bartholomew) encouraged me to speed its preparation to help clarify what regulatory options the County might have, so I did, but regrettably, I've had no reaction since submitting it more than a year ago. It contains many flexible options that I think could help solve obvious policy problems, but the County does not appear to have assessed it, and that lack artificially shrinks your solution space.

Your third sentence does not seem correct under the FAA rules cited in the first paragraph of my response to your point #2 above. Specifying a critical design aircraft not

forecast to operate at all, let alone ≥500 ops/y, in any forecast year would violate those FAA rules. The only way to specify the A220-300 is what the FAA did—insist on an exaggerated forecast inconsistent with reason and historical evidence, coerce the unwilling County and consultants with threats of rejection, and ignore the agency's own decision-making traditions and legal obligations. Any ALJ I've ever met wouldn't hesitate to strike down such a decision. Incurring that ongoing risk seems to me imprudent.

4. If we use our own money to *maintain* the airfield we don't have to follow an FAA approved ALP. This statement is true, but ignores a broader point: When the runway needs to be reconstructed versus just maintained it must be done in compliance with an FAA approved ALP.

I don't think we made such a statement about repair and rehab, but I agree that runway reconstruction requires an approved ALP. My 8 Apr 2024 BOCC letter therefore suggested promptly seeking a new status-quo ALP as part of a 7-step process. It would be akin to the 2012 ALP, plus whatever minor refinements the County wants and the FAA accepts without changing separation or otherwise disturbing the existing MoS and 95' wingspan limit. I don't see the logic of Brad's claim that this would be a very slow and difficult process. In fact, I think it could well be faster than the current process, and shouldn't require an EIS since nothing would be moved.

4. The FAA has been consistent since 2012 that the current 320' separation will not be approved on any future ALP's. The county currently has an ALP with a 400' runway taxiway separation and 150' wide runway. Should our runway require reconstruction, the runway would have to be rebuilt in compliance with that ALP (or a new approved ALP). As you are aware we have identified significant sub-surface problems and the runway is at imminent risk of failure and needs to be rebuilt for safe and efficient operation of the airport.

Yes, [runway] segment 7 is concerning, and we'd need a new ALP, as I proposed. Your familiar points notably do not say that the new need to reconstruct the runway invalidates the 1999 MoS, which John Bauer told the BOCC (11 Apr 2023) the FAA wouldn't revoke. I wrote Greg Poschman, and then John Ely, to ask what specific FAA rule says that reconstruction *always* requires bringing a nonstandard airfield element up to standard. I can't find such a rule, so let me ask you too where to find it. I can only find *AIP Handbook* §3-23, which says that reconstructing such a nonstandard element *qualifies for AIP funding* if it's *either* brought up to standard *or* covered by an existing approved MoS (as ours is). It seems odd that reconstruction in a nonstandard fashion approved by a prior MoS is AIP-fundable, yet at the same time, as Brad told the BOCC on 10 April 2024, it's not legally possible. Could you please help me understand the specific FAA rule(s) you're invoking here?

I hope you also found it helpful to know that although the FAA said it wouldn't fund this runway reconstruction because the previous fix hadn't lasted long enough, there is a potentially helpful safety exception to that general rule. These citations are all in the dagger footnote on p 2 of my 8 Apr 2024 BOCC letter.

5. Your financial analysis does not have complete costs in it. It does not appear to include funding for major infrastructure items like a new de-ice pad, north ramp reconstruction, FBO terminal, landside vehicle parking, transit connectivity, electrification infrastructure, etc.

We didn't include the FBO terminal in our 8 Apr 2024 update because it would be paid for by the FBO operator (Essay #17, n 17) on the County's assumption, which we adopted for

purposes of our financial analysis, that the County would sign Atlantic Aviation's contract offer rather than adopting a different FBO model. (We prefer a County-controlled, contractor-operated model as described in Essay #3 and briefly in Essay #14.) Our 8 Apr 2024 graphic did sketch this $49M item in dashed lines, not included in the $247M total for Better Airport, for easily comparing that contingent today with available funding—noting that this greater cost would probably come with greater revenue by not having to reward KKR's shareholders (Essay #17, nn 11 & 17).

Our 8 Apr 2024 update included Brad Jacobsen's 21 Mar 2024 $72 million "Other Airfield" line-item for the new layout (or $81 million for the original layout), which we reasonably assumed would include the de-ice pad and north ramp as essential elements of the airfield. This seems consistent with the granular 14 Sep 2021 BOCC Executive Session data discussed in Essay #17, n 17.

Our 8 Apr 2024 $115 million (new layout) or $119 million (original layout) "New Terminal" item included all three line-items in Brad's 21 Mar 2024 update (shown next)—for the new layout, $69 million for the terminal building, $15 million for the terminal apron, and $31 million for the "terminal landside," which we reasonably assumed included landside parking and transit connectivity. All these totals are clearly shown on our graphic.

ILLUSTRATIVE FINANCIAL COMPARISION

Project/Program	CGR ALP	Alternative CGR ALP
Runway Reconstruction*	$ 112,000,000	$ 110,000,000
Other Airfield	$ 81,000,000	$ 72,000,000
AOC Relocation	$ -	$ 16,000,000
New ATCT	$ 139,000,000	$ -
Terminal Building	$ 71,000,000	$ 69,000,000
Terminal Apron	$ 16,000,000	$ 15,000,000
Terminal Landside	$ 32,000,000	$ 31,000,000
TOTAL	$ 451,000,000	$ 313,000,000

Costs includes 21% Soft Costs and 30% Contingency
Costs escalated to assumed mid-point of construction
GA facilities/expansion will be paid for by others

	Estimated Funds	
Sources of Funds	CGR ALP	Alternative CGR ALP
FAA AIP *	$ 108,900,000	$ 106,200,000
PFCs **	$ 7,000,000	$ 5,600,000
CFCs ***	$ 16,000,000	$ 15,500,000
Bond Funds	*$ 319,100,000*	*$ 185,700,000*
*Annual Debt Service *** *	*$ 23,200,000*	*$ 13,500,000*
TOTAL	$ 451,000,000	$ 313,000,000

** Assumes 90% of Runway Reconstruction and 10% of other airfield*
*** Assumes 5 years of collection for CGR ALP and 4 years of collection for Alt CGR ALP*
**** Assumes the entire cost of CONRAC development*
***** Assumes 30 year term at 6% interest*

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Thus it appears that only the new electrification infrastructure may or may not be included in those updated cost estimates on which we relied. Even if Brad didn't include it in his airfield or terminal costs, that shouldn't materially affect overall fundability from the new FBO revenues in light of our six substantial conservatisms (Essay #17, pp 6–8). This cost item should also be virtually identical for Better Airport and Bigger Airport, so it shouldn't materially affect those options' relative costs. As our Essay #17 says in the middle of p 4,

It's unclear whether these Bigger Airport estimated costs fully include the various ancillary investments to improve the existing landside layout—roads, parking, intermodal

transportation integration, landscaping, signage, etc.—but we think they probably do, and anyway, they're relatively small.

"Relatively small" is consistent with the 2020 Kimley-Horn line-items cited in Essay #17, n 15. Likewise in paragraphs 2–3 on p 5:

For all airport configurations, we rely entirely on the County's sparse published cost data. More-detailed cost estimates, including any for other potential layouts, would be extremely useful but have not been released….Net of its correspondingly smaller grants, a simplified version [of Bigger Airport] might even cost modestly less than Better Airport. We can't analyze it without cost data that the County hasn't yet released. However, we don't think it would change our conclusion that choosing the right airfield design shouldn't depend on FAA grants, because Bigger *vs.* Better Airport would have broadly similar net costs.
As mentioned in notes 33 and 39 of our 8 Apr 2024 update, certain *non-FAA* DOT grants may be available for intermodal surface transport, but we couldn't evaluate them without cost data, and if available, they'd just reduce the County's cost.

Probably none of these items contributed significantly to the extraordinary $257 million decrease in the original layout's cost estimate from the County's 2024 Budget to Brad's 21 Mar 2024 estimates for the AAB, footnoted at the bottom of p 2 of my 8 Apr 2024 BOCC letter. Its causes remain singularly obscure. I await Dan's explanation of that huge discrepancy, as he kindly promised to seek on 27 Mar 2024.

5. It also appears to depend on a 30 year bond term, whereas runway pavement is typically fully depreciated after 20 years, at which point major rehabilitation/reconstruction is typically needed. It does not appear the financial assessment took these potential overlaps into account.

Our financial analysis used a 30-year bond term because that's the assumption used both for the Airport Enterprise Fund's bond in your 2024 Budget and for Brad Jacobsen's bonds in his 21 Mar 2024 update to the AAB, reproduced above. Your experts apparently felt that a simple 30-year tenor adequately approximated actual detailed timing, and so did I. And if indeed the runway's physical life (right at the FAA-required 20-year minimum in the *AIP Handbook*, Table 3-7) equals its depreciation life, my impression as an Adjunct Professor of Civil and Environmental Engineering at Stanford is that it's probably being underbuilt, shortchanging users and increasing the County's financial risk. That's why I suggested drawing on the FAA's top experts in designing for best drainage and durability at this historically wet and geotechnically challenging runway site. Evidently the design and monitoring (with no cores taken until 2022) have long been inadequate. You've been County Manager for the past 13 years, but you're not an aviation or geotechnical expert, and you have many other major responsibilities. The sorry state of the runway and terminal today emphazize the importance of standing up an independent, expert, transparent, and accountable Airport Board of Directors, reporting to the BOCC, to provide focused oversight to responsible Airport Staff. Without that fundamental governance reform, bond underwriters may rationally attach a risk premium to our airport projects, and project risk rises.

5. Your financial analysis does not take a comprehensive look at all airport revenues nor projections of operating costs.

True. It wasn't meant to and doesn't need to. Unlike Brad Jacobsen's 21 Mar 2024 projections for the AAB, its bonding for the new runway and terminal service debt only with the new FBO revenue ($18M/y minimum guaranteed fuel flowage + $1M/y rent); instead, all other revenue streams continue to fund all other airport costs. This is a more favorable scenario than Brad's, which draws $21.1 million (over four years for the new layout) from two Facility Charge funds that we left undisturbed to continue funding normal airport operations.

Our financial analysis, Essay #17, on p 6 and elsewhere, clearly states its specific and limited purpose. A comprehensive airport financial study is not needed for any of our conclusions.

5. Additionally, your analysis doesn't take into account debt coverage ratios to maintain the county's bond rating. Generally AA rated airport bonds need to maintain a debt coverage ratio of 1.75 to 2.5.

Net Revenue Debt Service Coverage ratio—net meaning "after operating and maintenance expenses"—is typically expected to achieve the range you say, in order to protect debt service "in the event of a downturn in revenue or an increase in operating costs," says Moody's Investors Service ("Rating Methodlogy: Publicly Managed Airports and Related Issuers," 10 Feb 2023, p 10, https://ratings.moodys.com/api/rmc-documents/398689). However, those fluctuations are not relevant here, where neither the bond payments (set at issuance) nor the supporting revenues (the FBO operator's minimum guaranteed payments, which are constant regardless of actual fuel sales) are at risk. Our analysis discusses coverage ratios in notes 40–43 in Essay #17 but explicitly and validly does not assume them, because:

(a) The $19M/y in new FBO revenue to the Airport Enterprise Fund isn't ordinary fluctuating airport revenue but a fixed (in nominal dollars) contractual minimum 30-year annual guarantee from a subsidiary of a half-trillion-dollar enterprise that was recently the world's largest private-equity fund. Moreover, it's based on monopoly rent, and would presumably be enforced by default provisions that would deprive that owner of its very lucrative ASE monopoly franchise if the fees weren't paid timely. Thus the risk is very much lower than for ordinary airport revenues.

(b) We suggested instead other commonly used forms of credit enhancement, such as bond insurance (costed into our analysis), subordination (such as Pitkin County already does, n 46), step-ups, reserves (n 46), and backup revenue streams (n 56). Some other options also appear possible, such as refunding bonds (n 54) and 2%/y TIFIA grants (p 6).

(c) Of course. other bond structures could be assumed, but this one was analytically tractable, was suggested by expert advisors, and validly supports the conclusions drawn from it. As p 4 of our 8 Apr 2024 update and n 40 of Exhibit #17 emphasize, we did not attempt to construct a detailed bond design, and can't reasonably be expected to. You'll have to pay your own experts to do that. However, we were advised *pro bono* by two underwriters, a muni-bond buyer, and a muni-bond seller, all very familiar with Pitkin County's financials, and by eminent bond counsel. If your financial advisors have reached different conclusions, we'd like to see them, and following the County Attorney's usual requirements for all our inquiries, I've filed a CORA request accordingly.

5. I don't see how that is achieved in your analysis without FAA grants, or as you suggest, using county GO [General Obligation] bonds.

The adequacy of financing from new minimum FBO revenues is clear from the arithmetic, and we didn't "suggest…using county GO bonds." This option is mentioned on p 6 of Essay #17 and in the second bullet on p 4 of our 8 Apr 2024 update, but only as a fallback option for emergencies, or as a source of passthrough financing to the Airport if the County wished to reduce borrowing cost without burdening taxpayers. As stated in the middle of p 4 in our 8 Apr update, "We haven't assumed such a passthrough bond and don't think it's needed, but if permitted, it could cut costs." Our 8 Apr 2024 update emphasizes this contingent or money-saving optionality by saying just above the graph on p 6 that "No tax-supported County funding is shown." Your following comment about GO debt capacity is thus irrelevant to our proposals, though it's good to see that your $145 million recent GO capacity cap is far above the $36–66 million that our analysis discusses. I also congratulate you and your finance team on prudently protecting the County's GO bond capacity.

Using County GO bonds would be a significant departure for funding the airport and presents significant issues. First, currently the airport does not use or obligate local tax funds, nor does debt incurred against airport revenue bonds count against county GO bond limitations or obligate local taxes to fund the airport. Doing so would mean those revenues are not available for general county services and infrastructure. The legal debt limit for County GO bonds is $170 million. At the end of 2023, our outstanding GO debt was $25 million, leaving $145 million of GO debt capacity available. If future valuations decline, the debt limit will also. If the county uses all or a part of its GO bond capacity at the airport, the county will not have that financing available for other core services, e.g., new county facilities, replacement of major transportation infrastructure, or affordable housing projects. Over a 30 year period this is not a good position to put core county services in.

As Essay #17 shows, we understand the Airport's financing and County bond capacity. Please reread Essay #17's p 6 (with its endnotes) and 8 Apr 2024 p 4, which review similar points. Both say that *we are not assuming GO bonds*, and note that some airports, such as Des Moines (Essay #17, n 50), have nonetheless chosen to issue GO or similar bonds in order to pass through the loan to their airport, whose repayments then service the debt with no burden on taxpayers (income, property, sales, etc). We merely mention this as an option, and do not assume it anywhere. Our actual analysis rests entirely on Airport Enterprise Fund bonds serviceable by the new minimum guaranteed FBO revenues. Six important conservatisms in our assumptions are described on pp 6–8 of Exhibit #17, and merit your attention.

5. Of course, going back to points 1 & 3 above, our ability to pay for airport improvements does not give us the ability to maintain modifications to standards not on an FAA approved ALP.

Of course it doesn't, and we've never claimed the contrary.

Amory, in short you have provided a rigorous and thoughtful analysis, however, the assumptions that underlie your arguments appear to be incomplete or inaccurate and consequently so are the outcomes of your otherwise punctilious analysis.

I appreciate these gracious sentiments, but have tried to explain why I think your points do not impugn or invalidate any of our financial conclusions. Appearances can be

misleading and seem to have misled. I'd be happy to discuss further to try to get us closer to mutual understanding.

I do appreciate the energy and effort you are putting in to help make this project the best it can be. While we don't see things the same way on the ALP, I do think there is agreement on overall goals for the airport, and I hope we can continue to work towards these common outcomes together.

Perhaps there's agreement, but whether or not we want and welcome bigger planes seems pretty fundamental. Otherwise we probably do have considerable overlap in wanting a safe, modern, rightsized, durable, quiet, beautiful, healthful, clean, and carbon-free airport. Even Citizens Against Bigger Planes supports 11 of the 12 elements of your Airport Modernization policy—just not bigger planes. It would indeed be great if we could all get there together. That would require more agreement than we now have on basic facts, so let's persevere.

Respectfully — Amory

Best,

Jon