Article

Does the Federal Aviation Administration Comply With the Improper Payments and Elimination Recovery Act When Awarding Airport Improvement Grants?

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Frustrated by nearly half a century of extravagant spending and ballooning federal deficits (now over $22,300,000,000,000), Congress in 2010 passed the Improper Payments Elimination and Recovery Act (IPERA). Congress directed federal agencies to identify and eliminate federal waste and recover improper payments made. Congress mainly targeted federal entitlement programs (Medicare, Medicaid, and Earned Income Tax Credit) and Government grants to state and local entities (Entities).

In the five years following IPERA's enactment, the federal agencies charged with implementing it—the Government Accountability Office (GAO) and The Office of Management and Budget (OMB) which respectively serve as the spending watchdog and implement the President's budget—have identified many federal agency grant problems. This article focuses on the Federal Aviation Administration (FAA), a Department of Transportation (DOT) Agency. Currently, DOT and other federal transportation agencies track state and local expenditures after grants are made but fail to assure that grants awarded for projects are properly justified consistent with federal agency requirements.

Arguably, IPERA today allows the agencies overseeing federal transportation agencies to scrutinize grants both before and after they are awarded. But if there is any doubt as to IPERA's scope, Congress should amend it to assure that transportation agency grants meet all applicable agency requirements both before and after a grant award. Otherwise, transportation agencies tasked with improving the transportation infrastructure will award grants as fast as possible, however inadvisable, because their success rate before Congress may depend on spending dollars, not spending dollars wisely.

INTRODUCTION

In 2002, long before the federal debt ballooned from $6.2 trillion to nearly $23 trillion,[1] Congress adopted the Improper Payments Information Act (IPIA).[2] The purpose was to encourage each federal agency to annually review all programs and activities that it administers and identify all such programs and activities that may be susceptible to significant improper payments.[3] In 2010, Congress got serious, passing the Improper Payments Elimination and Recovery Act (IPERA).[4] The mandate: recover payments improperly made and eliminate future ones.[5] Among other activities, IPERA authorized scrutiny of the Department of Transportation (DOT), which includes federal agencies like the Federal Transit Administration (FTA) and the Federal Aviation Administration (FAA). In 2016, DOT oversaw a $94.7 billion budget; DOT annually grants billions to the states and local entities in transportation grants to rebuild the crumbling U.S. infrastructure including airports.[6] In December 2016, GAO reviewed DOT discretionary Hurricane Sandy grants made by the FTA and found:

"DOT lacks clear department-wide requirements for what should be documented when evaluating discretionary grant awards. FTA did not document key decisions including how it addressed high-level concerns, such as potential implementation challenges, raised by reviewers regarding 26 of the 40 funded projects."[7]

In the wake of the report, GAO recommended that DOT issue a directive for discretionary grant programs that includes requirements to

1. U.S. DEBT CLOCK, http://www.usdebtclock.org.
2. 31 U.S.C. § 3321.
3. *Id.*
4. 31 U.S.C. § 3301.
5. *Id.*
6. *Fiscal Year 2016 Budget*, U.S. DOT, https://www.transportation.gov/budget/fy2016.
7. U.S. GOVT. ACCOUNTABILITY OFFICE, GAO 17-20: DOT DISCRETIONARY GRANTS, PROBLEMS WITH HURRICANE SANDY TRANSIT GRANT SELECTION PROCESS HIGHLIGHT THE NEED FOR ADDITIONAL ACCOUNTABILITY 1 (2016), http://www.gao.go /products/GAO-17-20.

document key decisions and align the grant programs' policy priorities with the evaluation process.[8]

It is with that history in mind that this article looks at the ways in which the FAA– the DOT agency charged with assisting state and local agencies to develop the National Plan of Integrated Airport Systems (NPIAS) – spends federal monies. The NPIAS comprises 3,340 public use airports across the country.[9] FAA classifies 89% of these airports as non-primary airports, which serve mainly general aviation activity.[10] The term "general aviation" does not include scheduled airline and military activity but does include recreational flyers, corporate aircraft, emergency services such as police, fire, and medical evacuation, and chartered aircraft.[11] There are 382 primary airports across the country serving regularly scheduled passenger service.[12] Of these, 30 are "large hub" airports, like LaGuardia in New York and LAX in Los Angeles, California, that each account for 1 percent or more of U.S. passenger boardings.[13] U.S. airlines and foreign airlines serving the United States carried 895.5 million system wide (domestic and international) scheduled service passengers.[14]

As relevant here, the FAA estimates that in the period from 2017 to 2021 these airports will need approximately $32.5 billion for FAA grant-eligible projects.[15] Every year, the FAA Airport Improvement Program (AIP) funds up to 90% of the qualifying airport improvement costs across the country.[16]

In its 2015 FAA Annual Performance and Accountability report, FAA stated it misspends only $4 out of every $10,000 spent (an improper

8. *Id.*

9. FED. AVIATION ADMIN., REPORT TO CONGRESS, NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS 2017-2021 ("NPIAS") v, 2 (2016), https://www.faa.gov/airports/planning_capacity/npias/reports/media/NPIAS-Report-2017-2021-Narrative.pdf (Note that NPIAS does not include 1,804 existing public-use airports because they do not meet NPIAS entry criteria).

10. *Id.* at 4.

11. *Id.* at 48.

12. *Id.* at 4.

13. *Id.* at 5 (The FAA refers to boardings as "enplanements").

14. Press Release, Bureau of Transp. Statistics, BTS 18-16 2015: U.S.-Based Airline Traffic Data, (March 24, 2016), https://www.bts.gov/sites/bts.dot.gov/files/legacy/bts18_16.pdf.

15. NPIAS, *supra* note 9 at v.

16. FED. AVIATION ADMIN., AIRPORT IMPROVEMENT PROGRAM (AIP) GRANT PAYMENT AND SPONSOR FINANCIAL REPORTING POLICY 26 (2015), https://www.faa.gov/airports/aip/grant_payments/media/AIP-Grant-Payment-Sponsor-Financial-Reporting-Policy.pdf; *See also* 49 U.S.C. § 47107 et seq. (2016) (The Airport Improvement Program); *see also* FED. AVIATION ADMIN. ORDER 5300.38D, CHANGE 1, AIRPORT IMPROVEMENT PROGRAM HANDBOOK ("AIP HANDBOOK") (2019) (detailing requirements of the AIP program).

payment rate of 0.0004) for FAA aviation grants to local entities.[17] The analysis below calls this assessment into question and focuses mainly on the manner in which the FAA Western Pacific Region Office near Los Angeles, California has overseen the development of McClellan-Palomar (Palomar) Airport in north San Diego County, about 100 miles south of the FAA regional office. In 2016, Palomar handled 156,606 flights, 50,056 passengers, and was classified by the FAA as a primary airport with the FAA location identifier "CRQ."[18]

In 2016, GAO noted a FAA 2013 budget of $3,933,000,000 and improper payments of $2,750,000.[19] This data highlights one fact: if the FAA improperly awarded just one airport improvement program (AIP) grant of $10 million, its improper error rate would increase about 360%. If the FAA improperly awarded just one $50 million grant, its improper error payment rate would increase 1800%. Hence, because of the large sums at stake, it is imperative that the oversight agencies ensure that future grants are awarded correctly beforehand. Moreover, when federal grants match or exceed local grants for a specific project and such local grants contain performance requirements (such as project completion times, costs, and production levels), the federal grants should include penalties if the local agency fails to meet its self-identified performance requirements by a "substantial" amount, as identified in the federal grants. In 2016, GAO reported that DOT had not fully complied with OMB IPERA Compliance Reports in 2011, 2012, 2013, or 2014.[20]

In short, FAA (and all government transportation agencies) can save considerably more money in far less time with far less effort by modifying grant award scrutiny procedures.[21]

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17. FED. AVIATION ADMIN., FISCAL YEAR 2015 ANNUAL PERFORMANCE AND ACCOUNTABILITY REPORT 112 (2015), https://www.faa.gov/about/plans_reports/media/2015-faa-par.pdf.

18. NPIAS, *supra* note 9 Appendix A (2016 traffic data); *see also Operation Count*, SAN DIEGO DEPT. OF PUB. WORKS, http://www.sandiegocounty.gov/content/sdc/dpw/airports/airportsmain/operations.html (Newest traffic data).

19. U.S. GOVT. ACCOUNTABILITY OFFICE, GAO-15-87R OIG, IMPROPER PAYMENTS: INSPECTOR GENERAL REPORTING OF AGENCY COMPLIANCE UNDER THE IMPROPER PAYMENTS ELIMINATION AND RECOVERY ACT ("INSPECTOR GENERAL REPORT") 15 (2016) http://www.gao.gov/assets/670/667332.pdf (drawing from the 2013 DOT Office of Inspector General's Improper Payments Performance Accountability Report).

20. U.S. GOVT ACCOUNTABILITY OFFICE, GAO-16-554, IMPROPER PAYMENTS, CFO ACT AGENCIES NEED TO IMPROVE EFFORTS TO ADDRESS COMPLIANCE ISSUES, 15, 25 (2016) http://www.gao.gov/assets/680/678154.pdf (Table 5: "Instances in Which CFO Act Agencies' IGs Did Not Include High-Level Summaries in Their Fiscal Year 2014 Compliance Reports as Directed by OMB Circular No. A-123, Appendix C").

21. INSPECTOR GENERAL REPORTING, *supra* note 19 does not detail particulars. Presumably, the FAA audited many projects and reviewed hundreds, perhaps tens of thousands of records, to identify improper amounts.

What is the main requirement that federal agencies including the FAA use to award grants? Benefit cost analyses. Specifically, the FAA assesses by how much a proposed project's benefits outweigh its costs over the expected project life using the FAA 1999 Benefit Cost Analysis Guidance Manual (BCA Manual).[22]

THE BENEFIT COST RATIO

In 1994, President Clinton decreed that federal projects should be evaluated based on a BCA.[23] The still current FAA BCA Manual cites the executive order in Appendix B-1:

> "Principles of Federal Infrastructure Investment—Requires Federal agencies to develop and implement plans for infrastructure investment and management consistent with the following principles: systematic analysis of transportation infrastructure project benefits and costs; efficient management of infrastructure; greater private sector participation in infrastructure investment and management; and project decision making at the appropriate level of government."[24]

If proposed project benefits exceed costs, the project has a BCA ratio greater than "1" and may qualify for FAA funding. If a project will create $100 million in benefits ("B") and its construction, operating, and maintenance costs ("C") over the next 20 years equal $100 million, then its B/C ratio is 1. Calculations for AIP projects typically assume a 20-year project cycle.[25] Federal grant awards weigh financial and social factors. After calculating a BCA, an agency might then ask if social policies enhance a ratio.[26]

Three key FAA documents lay out which projects require an FAA BCA calculation: the BCA Manual, the AIP Handbook, and the FAA Airport Design Manual.[27] Generally, three project categories can avoid BCAs. Those involving grants less than $10 million, those funded by pas-

22. FED. AVIATION ADMIN., AIRPORT BENEFIT-COST ANALYSIS GUIDANCE MANUAL ("BCA MANUAL") (1999) https://www.faa.gov/regulations_policies/policy_guidance/benefit_cost/media/1999_faa_airport_benefit_cost_analysis_guidance.pdf (outlining how airports interested in obtaining AIP grants estimate the benefits and costs of such improvements). *See also* AIP HANDBOOK, *supra* note 16 (detailing when and how a BCA is applied to the AIP requirements).

23. Exec. Order No. 12893, 59 Fed. Reg. 4233 (Jan. 31, 1994).

24. BCA MANUAL, *supra* note 22 Appendix B-1 (citing Exec. Order No. 12893).

25. *Id.* § 3.5

26. *Id.*

27. FED. AVIATION ADMIN., ADVISORY CIRCULAR 150/5300-13: AIRPORT DESIGN ("AIRPORT DESIGN") (2014), https://www.faa.gov/documentLibrary/media/Advisory_Circular/150-5300-13A-chg1-interactive-201612.pdf. The circular states that its design recommendations are mandatory for AIP programs due to an Airport sponsor's acceptance of AIP grant assurance #34.

senger facility charges (PFCs), and those needed to increase airport safety.[28]

What "Benefits" and "Costs" Should a Planned Project Include in its BCA Ratio?

Projects that increase airport capacity can benefit airports in three ways.[29] More capacity means more flights and more airport revenues. More passenger capacity can reduce aircraft delays by replacing many small aircraft with fewer larger aircraft.[30] Less time on the airport tarmac speeds passengers on their way, reduces missed connecting flights, and lowers aircraft fuel burn. Less fuel reduces air carrier costs and air pollutant emissions. To calculate reduced airport delay benefits, the FAA has undertaken many studies and provides cost factors that BCA preparers may use.[31] As discussed below, The FAA BCA Manual cautions BCA preparers to focus on airport user and customer benefits in preparing the BCA ratio, not on macroeconomic analysis benefiting off airport economic improvements associated with airport expansion. Calculating airport improvement costs can usually follow more objective criteria. Construction costs continue for only a few years; benefit costs stretch over the improvement life.

How does the FAA Evaluate BCA-Supported Projects?

To apply for a FAA "federally-funded" grant, a local sponsor must first have an approved FAA Airport Layout Plan (ALP). Often, a local sponsor will file an ALP after preparing a 20-year airport master plan supported by a National Environmental Policy Act (NEPA)-compliant environmental document assessing the impacts of constructing and operating airport master plan improvements. FAA AIP grants supporting airport projects broadly fall into two categories: airport planning/design and airport improvements. Two major FAA restrictions bind grant applicants: they must comply with FAA consultant/contractor requirements

28. AIP HANDBOOK, *supra* note 16 at 3-10.

29. An airport's capacity differs from its actual use. An airport may be able to handle many more aircraft than currently served. McClellan-Palomar Airport, the subject of this article, handled about 292,000 flights in 1999 but only about 156,606 in 2015. NPIAS, *supra* note 9 Appendix A.

30. If an airport serves aircraft carrying 200 rather than 100 passengers, the overall airport passenger use can remain the same even if the flights dropped by half.

31. The FAA has developed many tools and models to assess delays in transport modes and their environmental impacts. *See, e.g. Total Airspace & Airport Modeller (TAAM) Simulation Analysis*, FED AVIATION ADMIN., https://www.faa.gov/airports/airport_development/omp/aasm_re_eval/taam/; *runwaySimulator Airport Capacity Model*, FED. AVIATION ADMIN., https://www.faa.gov/airports/planning_capacity/runwaysimulator/.

and must accept the standard FAA Grant Assurances.[32] As discussed below in more detail, these assurances tie the airport's hands in various ways.

Accordingly, grant applicants should expect significant federal strings on monies received. As to its approval of specific airport improvement project grants, the FAA acts behind closed doors; the FAA has said (1) it does not want the public participating in its approval process, (2) public comment to a local airport sponsor when a project is considered is sufficient, and (3) the FAA does not want to "extend its existing review and evaluation process."[33] States and local entities typically have so-called Sunshine Laws to encourage review of public projects at public meetings; in contrast, the federal Government applies its Sunshine Act only to federal agencies headed by "collegial bodies," not to the FAA, which is headed by an Administrator.[34]

Forecasting economic benefits and revenues and project costs is often difficult. For instance, in 2016, the San Diego Association of Governments (SANDAG) projected that voter ballot Measure A, raising the sales tax, would raise $18 Billion over 40 years to fund transportation projects. A watchdog group noted in 2017:

> "Emails obtained by VOSD (Voice of San Diego) reveal that top SANDAG officials were told the agency's economic forecasts — and therefore the numbers it showed voters about last year's Measure A — were way off almost a year before the 2016 election. Instead of acting, the agency continued to rely on numbers they'd been told were faulty, misleading voters in the process and keeping important information from potential watchdogs."[35]

The SANDAG Board has now called for an investigation into the

32. *See* AIP HANDBOOK, *supra* note 16, Chapter 2; For the list of standard grant assurances, see FED. AVIATION ADMIN., ORDER 5190.6B FAA AIRPORT COMPLIANCE MANUAL ("FAA COMPLIANCE MANUAL") Appendix A (2009), https://www.faa.gov/airports/resources/publications/orders/compliance_5190_6/media/5190_6b.pdf.

33. When the FAA solicited comments on its "Federal Aviation Administration Policy and Final Guidance Regarding Benefit Cost Analysis (BCA) on Airport Capacity Projects for FAA Decisions on Airport Improvement Program (AIP Discretionary Grants and Letters of Intent (LOI), 64 Fed. Reg. 70107, Dec. 15, 1999, two persons asked to comment on FAA BCA analyses (p. 70111). The FAA rejected the request. Additionally, The FAA rejected direct community involvement in Airport planning matters in its 2016 Draft Advisory Circular No: 150/5050-4A: *Community Involvement in Airport Planning,* https://www.faa.gov/documentLibrary/media/Advisory_Circular/draft-150-5050-4A.pdf.

34. For sample "sunshine open meeting" provisions, see CAL. GOV'T CODE § 54950 et seq. for the Ralph M. Brown Act, commonly called the open meeting law. For the Government in the Sunshine Act see 5 U.S.C. 552b, "Open Meetings" at https://www.gsa.gov/portal/getMediaData?mediaId=217779.

35. Andrew Keatts, *'OMG,' 'WTF': Emails Show SANDAG Knew Forecasts Were Wrong, Went to Voters with False Promise,* Voice of San Diego, (Feb. 6, 2017), http://www.voiceofsandiego.org/topics/government/omg-wtf-sandag-knew-its-forecasts-were-wrong-went-to-voters-with-false-promise-anyway-emails-show//.

soundness of the economic forecasts made.[36] SANDAG is the regional agency coordinating transportation plans in San Diego County including those related to McClellan-Palomar Airport.[37] The SANDAG experience shows the difficulty in forecasting benefits and costs of government action, and confirms the view of Congress that federal grants—which face may of the same issues with forecasting benefits and costs should be scrutinized for accuracy.

As seen above, IPERA oversight agencies have a difficult job. Adequate oversight begins with the FAA (and other transportation agencies) adopting consistent policies and regulations. The oversight agencies can determine whether a local airport sponsor grant applicant meets FAA criteria only if the FAA provides a detailed analysis showing how it arrived at its grant-award findings. Moreover, the federal government transportation grant process is fundamentally flawed. The government never asks for, and grant applicants never provide, data adverse to their requests. IPERA and the oversight agency regulations should require that grant applicants provide both favorable and unfavorable data. A transportation grant award or denial needs to be based on all the facts, not just the selected favorable ones. Such a requirement is similar to the disclosure requirement that applies to local agencies when they issue government bonds to finance a project. Wall Street expects complete disclosures. So should Congress and the IPERA oversight agencies. Lastly, Congress should assure that both transportation agencies and local grant applicants are penalized when complete disclosures are not made. This requirement also has local government sector precedents. Private contractors bidding on government contracts who engage in hijinks can be disqualified from future government contracts, permanently or temporarily.

36. Lynn Walsh and Andrew Keatts, *SANDAG Board Members Call for Independent Investigation Into Measure A Sales Tax Estimates,* Voice of San Diego (Feb. 21, 2017), http://www.nbcsandiego.com/investigations/SANDAG-Board-Members-Call-for-Independent-Examination-Into-Measure-A-Sales-Tax-Estimates-414399623.html.

37. SANDAG, REGIONAL STRATEGIC PLAN (RASP) AND THE MULTIMODAL ACCESSIBILITY PLAN (AMAP) (2011) http://docs.sandiego.gov/councilcomm_agendas_attach/2011/Rules_110216_1ppt.pdf.

PART I

TO ENSURE FAA'S IPERA COMPLIANCE, OMB AND THE GAO NEED TO SCRUTINIZE THE FAA'S COMPLIANCE WITH FAA POLICIES AND STANDARDS WHEN THE FAA AWARDS, NOT JUST ADMINISTERS, GRANTS TO LOCAL AIRPORT SPONSORS.

1. Basic requirements of the IPERA and AIP Programs.

Let's assume that Congress makes clear that IPERA requires the DOT Inspector General, GAO, and OMB to scrutinize grant awards prior to the time monies are transferred to local airport project applicants and grant expenditures after such transfers. How should an oversight agency employee scrutinize FAA grants?

Start with the OMB "Compliance Supplement."[38] The oversight compliance officer consulting the Supplement finds: Part 1: OMB has adopted Circulars to establish State and local entity audit requirements.[39] Part 2: The Supplement has a "Matrix of Compliance Requirement Types," broken out by federal departments including DOT.[40] Supplement Part 3 cautions the compliance officer to check for "*improper payments*" in accordance with the Improper Payments Elimination and Recovery Act and highlights the need to check whether activities are allowed and eligible for payment.[41] Part 3 also states: "*The specific requirements for eligibility are unique to each federal program and are found in the statutes, regulations, and the terms and conditions of the federal award pertaining to the program*" [emphasis added].[42] Part 4 details DOT FAA Improvement Program (AIP) criteria.[43] The OMB Compliance Supplement, Part 3 requires the compliance officer to identify the criteria that FAA uses to evaluate AIP grants. Because the 2018 OMB Compliance Supplement in Parts 3 and 4 already commands oversight officers to identify FAA AIP requirements and compliance with them, it appears that IPERA, as written today, allows scrutiny of FAA grant awards prior to the time monies are awarded to local airport sponsors.

Thus, to ensure compliance, an examination must be made of 1) the FAA AIP grant requirements and 2) how the FAA has or has not applied

38. OFFICE OF MGMT. AND BUDGET, 2 CFR PART 200, APPENDIX XI, COMPLIANCE SUPPLEMENT (2018), https://www.whitehouse.gov/wp-content/uploads/2018/05/2018-Compliance-Supplement.pdf.

39. *Id.* at 1-1.

40. The 2018 Supplement indicates that it is to be used with the 2017 compliance supplement for part 2. OFFICE OF MGMT. AND BUDGET, 2 CFR PART 200, APPENDIX XI, COMPLIANCE SUPPLEMENT 2-6 (2017), https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/circulars/A133/2017/Compliance_Supplement_2017.pdf.

41. *Id.* at 3-9 (discussing improper payments, allowable costs, and activity eligibility).

42. *Id.* at 3.1-A-1.

43. *Id.* at 4-20.106-1 *et seq.*

these requirements. This article will use McClellan-Palomar Airport as a case study.

Three FAA "Manuals" Establish AIP Grant Requirements.[44] The FAA 1999 Airport Benefit-Cost Guidance Manual (BCA Manual) outlines the criteria to support an AIP project by informing airport project sponsors how to prepare a BCA justifying a project's suitability to receive FAA grants.

As explained above, the main purpose of the BCA is to show that project benefits exceed costs. In order to comply with this requirement, the manual details the timing and methodology of the BCA. The manual recommends the BCA be prepared at the airport master plan stage but will also allow a BCA for specific projects.[45]

The methodology section directs that an airport sponsor prepare a BCA for airport capacity improvements, but not for safety or environmental mitigation.[46] Additionally, the manual directs that the BCA should not include macroeconomic multipliers measuring benefits to the community as a whole, though such analysis may supplement the BCA ratio once it has been determined.[47] With those parameters in mind, the sponsor should, using the best data reasonably available, proceed to calculate the BCA by:

- Defining project objectives, assumptions, reasonable alternatives, and the evaluation period.[48]
- Examining all planning, permitting, construction, maintenance, and operating costs over the project improvement life.[49]
- Ensuring that the new project benefits and costs do not include benefits and costs that would exist in the absence of the new project resulting from natural growth with the existing, unimproved facility in place.[50]
- Valuing the benefits and costs to aviation users including monetary gains, lower operating costs, travel time reductions, and cash benefits to the local sponsor such as increased airport user fees.[51]
- Performing a "sensitivity analysis" by determining how benefits and costs change with assumptions, such as airport aviation

44. *See* BCA MANUAL, *supra* note 22; *see also* AIP HANDBOOK, *supra* note 16; AIRPORT DESIGN, *supra* note 27.
45. BCA MANUAL, *supra* note 22 at 1.3.
46. *Id.* at 1.2.
47. *Id.* at 10.6.3.
48. *Id.* at 3.
49. *Id.* at 8.1.
50. *Id.* at 3.3.
51. BCA MANUAL, *supra* note 22 at 3.7.

forecasts.[52]

- Defining environmental constraints.[53]
- Recognizing that benefits and costs depend on when funds are spent.[54]
- Using FAA aircraft forecasts, economic values of certain activities, and financial discount rates to calculate BCAs.[55]

For each of the above criteria, the Sponsor must show how and why each specific level of effort was selected and consult with the FAA ahead of time.

If the BCA provides the skeleton, the FAA AIP Handbook fleshes out the body. That document explains what projects can be funded, how the grant process works, and prohibited projects and unallowable costs. To receive an AIP grant, local sponsors must meet fifteen requirements.[56] They must show that a project is:

(1) *Eligible*: A project for planning, development, noise compatibility planning, or noise compatible development;[57]

(2) *Justified*: (a) Advances an AIP Policy including airport safety, security, capacity, FAA standards satisfaction, infrastructure preservation, environmental benefits, or noise reduction;[58] (b) Satisfies an actual, not speculative or temporary need;[59] and (c) Includes in the project scope only actual elements needed;[60] and

(3) Located on airport property.[61]

In addition to these three requirements, the AIP handbook includes further technical requirements that require a project:

52. *Id.* at 3.10.

53. *Id.* at 5.6.

54. *Id.* at 12.4.2.

55. *Id.* at 12.5. As for things a sponsor is directed not to do under the BCA manual, a project sponsor should not add new capacity to serve infrequent and short lived traffic peaks. Nor should the sponsor include any benefit resulting from compliance from compliance with FAA design standards. Puzzlingly, the sponsor's analysis of the demand a project may induce is optional, which given the wide range of positive or negative impacts that may result from such induced demand seems like a large oversight. BCA MANUAL, *supra* note 22 Appendix C-1.

56. AIP HANDBOOK, *supra* note 16 at table 3-1.

57. *Id.* at 3-2 (Citing 49 U.S.C. § 48103 (2016)).

58. *Id.* at 3-3 (Citing 49 U.S.C. § 47101 (2012)).

59. *Id.*; *see also* AC 150/5070-6B Change 2(Jan. 27, 2015) (regarding airport near term developments in Airport Master Plans).

60. *Id.*; for further detail see FAA Order 5100.39 (Aug. 22, 2000) discussing Airports Capital Improvement Plans.

61. *Id.* at 3-4.

(4) Be listed on an FAA Approved Airport Layout Plan;
(5) Results after intergovernmental and user reviews;
(6) Is supported by environmental findings;
(7) Creates usable airport elements;
(8) Is planned, designed, and constructed to FAA Standards; and
(9) Uses contracts complying with FAA Selection Criteria.[62]

In addition, a third category of requirements mandate that proposed project costs must:

(10) Satisfy allowable cost requirements;
(11) Be necessary;
(12) Be incurred after project approval;
(13) Be reasonable;
(14) Be distinct from other federal grant costs; and
(15) Be within the allowable federalshare.[63]

While the AIP handbook refers to fifteen requirements, an additional sixteenth is imposed by table 3-1 of the handbook: The local sponsor must also show that the proposed project can be completed within a reasonable time.[64] As detailed as the AIP Handbook is, especially in tables throughout that provide examples of both qualifying and non-qualifying grants, the AIP Handbook creates uncertainties of its own that require resolution.

2. The FAA needs to better document its grant award project findings to show projects are not disqualified and meet FAA justification and allowable and reasonable cost requisites.

To proceed with an FAA grant application, a local sponsor needs to know what FAA AIP Handbook and FAA BCA rules apply. To determine if the proposed project is grant-eligible, the public needs to know how the FAA will apply its Airport Design Standards to the proposed project. In turn, the DOT Inspector General, OMB, and GAO must be able to review the FAA key findings when reviewing a local sponsor grant to see if the local sponsor has complied with prior grant assurances and has sufficiently justified a new eligible airport project at a reasonable and allowable cost. As noted below, the existing FAA requirements are sometimes unclear and sometimes conflict, leading to issues determining

62. *Id.* at 3-1.
63. AIP HANDBOOK, *supra* note 16 at 3-1.
64. *Id.*

whether the sponsor has violated the AIP requirements of justification and allowable cost.

The FAA needs to clarify what runway and runway safety area (RSA) requirements existing airports must meet and when.

Airports are designed and built with paved runways and unpaved runway safety areas (RSA) around the runway perimeters to stop errant aircraft. Airports need to be designed and built to standards for the largest and heaviest aircraft the airports regularly serve. By "regularly serve," the FAA means that the airport handles aircraft or a group of aircraft of a certain size at least 500 times annually; the FAA refers to such aircraft as the "critical design aircraft" or "critical aircraft."[65] The FAA classifies aircraft by size and speed.[66] Once an airport identifies its critical design aircraft, the FAA assigns the airport an "Airport Reference Code" (ARC).[67]

An FAA ARC B-II rated airport handles B-II-rated aircraft with approach speeds between 91 and 121 knots and a wingspan between 79 and 118 feet; a C-III aircraft has approach speeds between 121 and 141 knots and a wingspan between 79 and 118 feet.[68] Aircraft wingspan is important because airport taxiways adjoin runways to maximize airport takeoff efficiency. The FAA needs to ensure that aircraft on the taxiway while a second aircraft uses the adjacent runway have sufficient separation to avoid wingtip collisions, especially if either aircraft veers off the runway or taxiway centerline. Aircraft weight and speed determine whether a RSA around the runway perimeter can stop an aircraft overshooting or landing short of or veering off a runway.

The FAA design standard for B-II aircraft requires an RSA 300 feet long and 150 feet wide beyond the runway departure end if visibility is not lower than ¾ mile.[69] In contrast, C-III aircraft require a RSA 1000 feet long and 500 feet wide beyond the runway departure end regardless of visibility.[70] Or, in lieu of a longer RSA, the FAA allows an airport sponsor to install special safety systems called Engineered Materials Ar-

65. AIRPORT DESIGN, *supra* note 27 ¶ 105.

66. *Id.*

67. *Id.* An ARC is defined as "An airport designation that signifies the airport's highest Runway Design Code (RDC), minus the third (visibility) component of the RDC. The ARC is used for planning and design only and does not limit the aircraft that may be able to operate safely on the airport. A RDC signifies the design standards to which the runway is to be built. *Id.* ¶ 102.

68. *Id.* ¶ 105 (Table 1.1).

69. AIRPORT DESIGN, *supra* note 27 Appendix 7, Table A7-4. The RSA length and width change to 600 feet and 300 feet respectively with less visibility.

70. *Id.* at Appendix 7, Table A7-9.

resting Systems (EMAS), which are approximately 350 feet long.[71] As discussed below, the FAA assigns Palomar a B-II classification, though Palomar has annually served more than 500 C and D classified aircraft since at least the year 2000.

While the FAA requirements on paper seem straightforward, there are three issues with them, one related to the language within the requirements themselves, discussed immediately below, and two with the actual application of those requirements. Because all three of these issues directly implicate the AIP Handbook justification element, the IPERA Oversight Agencies need to require the FAA to clarify its positions.

RSA Conflicts in the FAA Design Standards

The FAA Design Standards – though recognizing the FAA's ability to modify standards generally – expressly state as to RSA standards that such standards shall not be modified.[72] Additionally, the FAA AIP Design Manual says that airports receiving FAA grants must comply with the Manual.[73] The Manual begins by saying: "Existing airports. Every effort should be made to bring an airport up to current standards. It may not, however, be feasible to meet all current standards at existing airports, and in the case of federal assistance programs, funding of improvements may be subject to FAA criteria."[74] Yet the Manual also states:

> "Recent Changes. FAA recognizes that incremental improvements inside full RSA dimensions can enhance the margin of safety for aircraft. This is a significant change from the earlier concept where the RSA was deemed to end at the point it was no longer graded and constructed to standards. Previously, a modification to standards could be issued if the actual, graded, and constructed RSA could not meet dimensional standards. Today, modifications to standards no longer apply to RSAs. The airport owner and the FAA must continually analyze a non-standard RSA with respect to operational, environmental, and technological changes and revise the determination as appropriate. Incremental improvements are included in the determination if they are practicable and they will enhance the margin of safety. . . ."[75]

The foregoing provisions conflict, which creates confusion for the FAA and the project sponsor as to what the RSA requirements actually are. At Palomar, this confusion is exacerbated by the FAA's ongoing grants to the County of San Diego to rebuild and improve the airport despite the fact that Palomar's RSAs are not designed to handle the

71. *Id.* at 307(g).
72. *Id.* at 59-61.
73. *Id.* at 15.
74. *Id.* at 1-2.
75. AIRPORT DESIGN, *supra* note 27 at 59-60.

FAA-rated C&D aircraft that annually use Palomar. This conflict raises the second and third issues with the RSA standards. First, when existing airports like Palomar serve aircraft larger and faster than that for which the airport has been designed, but the airport is not proposing airport improvements, should the FAA ignore the increased safety risks by granting the airport a design modification without formal process and without notice to the public? Second, when such airports do propose improvements and seek FAA grants, should the FAA allow modifications to design requirements that compromise airport safety? The IPERA oversight agencies need to assure that the FAA clarifies its confusing FAA design standards language noted above and the ambiguous FAA design standards enforcement policies noted below to assure that the FAA satisfies its AIP justification requirement and to assure the FAA is not making grants that actually make airports more unsafe.

The FAA needs to explain why it awards AIP capacity grants for airports misidentifying the critical design aircraft using the airport so that the IPERA oversight agencies can determine if such grants can be justified.

The San Diego County-operated Palomar Airport sits in the city of Carlsbad, which is home to about 113,000 residents.[76] In 2011, Palomar handled 131,591 operations (takeoffs and landings).[77] Of these, 5,998 were corporate aircraft operations FAA-rated C & D[78] and 4,958 "air taxi" operations, which include "commuter airline operations as well as for-hire general aviation operations," mainly to Los Angeles, 100 miles to the north.[79] In 1999, Palomar handled 286,000 annual flights, including the corporate jets.

As mentioned above, the FAA classifies an airport's critical design aircraft as the aircraft or group of aircraft having at least 500 annual flights.[80] Because Palomar handles so many FAA-rated C and D aircraft, the county should have added a Palomar runway west end EMAS long ago. Yet the county's 2013 Runway Feasibility Study and 2017-2036 Palomar Master Plan (PMP) continued to classify the Palomar runway as B-II – even though it then recognized the need for an EMAS.[81] Additionally,

76. *Quick Facts Carlsbad City*, U.S. CENSUS BUREAU (2018), https://www.census.gov/quickfacts/fact/table/carlsbadcitycalifornia/PST045218.

77. KIMLEY-HORN AND ASSOCIATES, INC., FEASIBILITY STUDY FOR POTENTIAL IMPROVEMENTS TO MCCLELLAN-PALOMAR AIRPORT RUNWAY ("FEASIBILITY STUDY"), Table 3p, 3-26, (2013) http://www.sandiegocounty.gov/content/dam/sdc/dpw/AIRPORTS/palomar/documents/CRQ_FeasibilityStudy.pdf.

78. *Id.* at 4-4.

79. *Id.* at 3-29-30.

80. AIRPORT DESIGN, *supra* note 27 ¶ 105.

81. FEASIBILITY STUDY, *supra* note 77 at 0-1. At 2016 county workshops presented by county's consultant, Kimley-Horn & Associates, Inc. county continued to classify the Palomar runway as B-II.

the FAA gave county $8,807,450 dollars to dig up and replace Palomar's 4900-foot runway in 2009, the perfect time to assess the then-current Palomar use and to conform Palomar to FAA design standards for the critical aircraft being served.[82] Given the number of C & D aircraft, which have used Palomar for many years, why did Palomar classify itself as a B-II airport and why did the FAA accept this classification as reflected in the ALP on file with the FAA? In 2014, this article's author asked the FAA Western Pacific Region management those questions. The FAA responded that: (1) Aircraft pilots, not the FAA and not Palomar Airport, decide which airports to use, and neither the FAA nor airport can order an aircraft not to use the airport, absent perhaps a major safety concern; and (2) in the FAA's view, FAA-rated C and D aircraft can land safely at B-rated airports. Hence, a 300-foot RSA at the Palomar runway west end is safe for C & D aircraft even though the FAA design manual specifies a 1,000-foot RSA.[83] The FAA position is questionable for the following reasons.

The FAA has Sanctioned Indirect Measures to Control Pilots.

Though the FAA says it cannot ban aircraft from airports, the FAA nonetheless seems to sanction indirect local airport actions that may effectively deter larger aircraft from landing at airports not designed for their operations. The FAA Design Manual provides that when an airport's RSA is substandard (for aircraft of a certain size), the local airport not only can but should impose airport-operating restrictions, albeit with FAA concurrence.[84] For instance, the FAA allows airports to artificially shorten their runways by painting lines across the runway, which moves the threshold from its actual physical location to a distance further up (down) the runway.[85] Such artificial limits are called "displaced" thresh-

82. U.S. FED. AVIATION ADMIN., AIP GRANTS AWARDED IN FY 2009 BY STATE 127 (2009), https://www.faa.gov/airports/aip/grant_histories/media/fy2009-aip-grants.pdf (Grants 26 & 27 to rehabilitate the runway).

83. Conversation between author and FAA Western Pacific Region management.

84. AIRPORT DESIGN, *supra* note 27, ¶ 307a.(2) providing: ". . .Today, modifications to standards no longer apply to RSAs. The *airport owner and the FAA must continually analyze a non-standard RSA with respect to operational, environmental, and technological changes and revise the determination as appropriate* [emphasis added]. Incremental improvements are included in the determination if they are practicable and they will enhance the margin of safety." *See also* Fed. Aviation Admin., *A Quick Reference to Airfield Standards* Ch. 1 (2018), https://www.faa.gov/airports/southern/airport_safety/part139_cert/media/aso-airfield-standards-quick-reference.pdf.

85. See AIRPORT DESIGN, *supra* note 27, ¶ 102, Definitions, pp. 2-10, for ASDA (Accelerate-Stop Distance Available), LDA (Landing Distance Available), TORA (Take Off Run Available), and TODA (Take Off Distance Available). *See also* FED. AVIATION ADMIN., AAS-300, CERTALERT NO. 09-05 REPORTING DECLARED DISTANCES TO AERONAUTICAL INFORMATION SERVICES 2 (2009), https://www.faa.gov/airports/air-

olds. While installing a displaced threshold does not guarantee that pilots will honor thresholds, displacing the threshold can impose consequences on pilots who ignore them. For those aircraft using facilities leased from the airport, possibly placing the aircraft user in breach of the lease. For pilots in general, possibly voiding their insurance coverage for failure to comply with airport safety markings.

The FAA "Larger Aircraft Safety Argument" Ignores Pilot and Aircraft Problems

In 2011, the D.C. Circuit court upheld an FAA decision holding that Santa Monica, California could not close its runways to C & D aircraft due to concerns that large, fast aircraft might strike houses about 300-feet from the runway end.[86] The court relied on the FAA's findings that (1) larger, faster C & D rated aircraft have better safety equipment and records and (2) Santa Monica had the opportunity to install an EMAS system equivalent to a 1000-foot RSA but had neglected to do so. But the administrative record limited the court's scope of review.[87] The record relied on the unquestioned assumption that an FAA-rated C or D rated aircraft taking off or landing at Santa Monica was under the control of a physically capable pilot operating a mechanically sound aircraft. As the long running Smithsonian TV series *Air Disasters* has repeatedly shown, crashes result from many disabling human factors; a myriad of aircraft mechanical, electrical, and software problems; unsavory weather conditions; and airport runway conditions.[88] These facts undermine the FAA's and therefore the court's rationale for accepting a 300-foot RSA for C & D aircraft when the FAA Design Manual specifies either a 1000-foot RSA or 350-foot EMAS. Moreover, the FAA and court never answered the question: If 300-foot RSAs can so regularly and safely handle FAA-rated C & D aircraft, why did the FAA experts, presumably after substantial study, design 1000-foot long RSA standards for such aircraft?

The harm the FAA causes by its confusing Manual requirements and practices is illustrated by McClellan-Palomar's ongoing master plan odyssey. Even though the county is six years and nearly $2 million into its new twenty year 2017-2036 PMP study, the FAA has failed to inform the county or the public whether the county would qualify for a 800-foot run-

port_safety/certalerts/media/cert0905.pdf (stating in part: "In some cases, an airport operator may use declared distances to satisfy the requirement for a runway safety area off a particular runway end").

86. City of Santa Monica v. Fed. Aviation Admin., 631 F.3d 550, 554 (D.C. Cir. 2011) (affirming the FAA decision voiding the Santa Monica Ordinance attempting to ban FAA-rated C and D larger aircraft from Santa Monica Airport).

87. *Id.* at 555.

88. AIR DISASTERS (Smithsonian Channel 2011).

way extension estimated around $50 million. Further complicating matters, the extension's use of safety materials directly contradict the RSA requirements discussed above, calling into question both the justification requirement discussed above and the allowable cost requirement.

OMB and GAO Need to Assure that Airport Runway Extensions - Which Depend on the Airport Substituting a Shorter EMAS for a Longer RSA Requirement - Include the EMAS Costs in the BCA Runway Extension Calculations

Congress directed the FAA to make aviation safe.[89] One way to increase safety for airports with short RSAs serving fast, large and heavy C and D rated aircraft is to replace the unpaved 300-foot RSA with an approximately 350-foot engineered crushable material safety system (EMAS). But installing an EMAS can *reduce* aircraft safety in two ways. First, an EMAS benefits aircraft overshooting the runway on takeoff but may burden C & D aircraft landing short of a runway, which should have had a 1000-foot RSA, now shortened to 350 feet by the EMAS.[90] Second, the EMAS design presumes an aircraft overshooting the runway travels no more than an EMAS-designed speed, usually about 70 knots.[91] Deficient pilots, aircraft, weather, and runway conditions could easily cause an aircraft to exceed this speed, rendering the EMAS ineffective. Moreover, an aircraft overshooting the runway and deforming the EMAS results in the EMAS having to be repaired at substantial cost. EMAS rebuild has two costs. EMAS repair costs and airport out-of-service costs due to EMAS reconstruction. Keeping the 1000-foot RSA FAA Design Standard, rather than substituting an EMAS, avoids or mitigates the above problems.

How does the FAA treat airport improvements, which enhance either safety or airport capacity? The FAA exempts safety improvements

89. 49 U.S.C. § 40101(d) (2000) ("[T]he [FAA] Administrator shall consider the following matters, among others, as being in the public interest: (1) assigning, maintaining, and enhancing safety and security as the highest priorities in air commerce . . ."); 49 U.S.C. § 47101 (2012) ("[i]t is the policy of the United States that the safe operation of the airport and airway system is the highest aviation priority."); *See also* AIRPORT DESIGN, *supra* note 27 ¶ 101, p. 1.

90. As to aircraft runway undershoots, the FAA says in its advisory circular entitled *Engineered Materials Arresting Systems (EMAS) for Aircraft Overruns* that the runway safety area should provide adequate protection for aircraft that touch down prior to the runway threshold. Adequate protection is provided by either: (1) providing at least 600 feet (or the length of the standard RSA, whichever is less) between the runway threshold and the far end of the EMAS bed if the approach end of the runway has instrument or visual vertical guidance. FED. AVIATION ADMIN., ADVISORY CIRCULAR AC NO: 150/5220-22B ENGINEERED MATERIALS ARRESTING SYSTEMS (EMAS) FOR AIRCRAFT OVERRUNS 4 (2012), https://www.faa.gov/documentLibrary/media/Advisory_Circular/150_5220_22b.pdf.

91. *Id.* at 1.

from a BCA review; the FAA presumes safety improvements justify costs, even if the improvement enhances capacity incidentally.[92] Thus, the FAA will fund up to 90% of the cost of improvements, which will increase airport capacity provided the local sponsor (for projects exceeding $10 million) prepares a BCA showing that the project benefits exceed the project costs.[93]

Notice that the scenarios above presume improvements improve either safety or capacity but not both substantially. But sometimes airport capacity cannot be increased without safety improvements. Consider proposed Palomar Airport improvements as described by the County of San Diego in its 2017-2036 draft PMP.[94] Today, Palomar has a 4900-foot runway bookended by a 300-foot RSA on the runway west end and a 1,000 foot RSA on the runway east end - perfectly consistent with FAA Palomar's B-II rating – as long as the Palomar critical design aircraft are B, not C and D aircraft. A non-airport owned canyon borders the Palomar west end RSA, and about 1200 feet of soil– over a closed airport landfill – borders the RSA east end.[95]

As stated above, when an airport's critical design aircraft are C and D, the airport should have a 1000-foot RSA on each runway end if land is available.[96] Palomar could install a 1000-foot RSA at its west end if it shifted the runway to the east and perhaps added a retaining wall. In 2009, the FAA granted the County of San Diego monies to rehabilitate its runway, requiring excavation several feet deep.[97] When the runway was rehabilitated, the FAA did not require county to shift the runway nor did the FAA require County to substitute an EMAS for the west end 300-foot RSA. Even though Palomar subsequently handled far in excess of the number of C and D aircraft to trigger a revised Palomar classification,

92. BCA MANUAL, *supra* note 22 at 26, Table 10.1: "Benefits of Airport Projects," "Airside Safety . . . not subject to BCA," p. 26. Elsewhere in the BCA Manual, the FAA states, "A limited number of airfield projects intended to improve airport capacity may have a benefit of increasing the safety of airports that already operate in full conformance with FAA safety and design standards. This safety improvement is generally a consequence of . . . improvement of precision and/or reduced-obstacle approaches and applies only to airports experiencing an overall upgrade in precision." BCA MANUAL, *supra* note 22 10.3.1.6 p. 30.

93. *See* note 16.

94. In 2013, county spoke of extending the Palomar Runway from 4897 feet up to an added 900 feet at a then cost of $69.7 million. FEASIBILITY STUDY, *supra* note 77 at 0-2. Until 2015, county referred mainly to this option in its Palomar Master Plan Study workshops. In its 2016 workshop, county suggested that it would both extend its existing runway 200 feet in the "short term" but within the 20-year planning horizon relocate the runway 125 feet north and extend the runway to 5700 feet and also build a west end EMAS. See Slide 10, http://www.sandiegocounty.gov/content/dam/sdc/dpw/AIRPORTS/palomar/documents/CRQ_PW4_presentation.pdf

95. Search McClellan-Palomar Airport on Google Earth.

96. *Supra* note 80.

97. *Supra* note 82.

the FAA did not reclassify the airport; the County and FAA continued the fiction that Palomar was a B airport.[98]

The overall Palomar Airport property west-to-east dimension (for airport property west of El Camino Real) is about 6700 feet. County's 2017-2036 PMP proposes a 5700 feet runway within 20 years. To add a 1000-foot west end RSA and 1000-foot east end RSA, county would need 7700 feet. The only way the runway could be lengthened to 5700 feet would be two install two EMASs, each about 350 feet long, at both runway ends. Moreover, the FAA design standards provide that an EMAS installation presumes that an airport does not otherwise have the area needed to provide the 1000-foot standard RSA.[99]

The foregoing facts show why the FAA needs to rewrite its FAA Design Standards, FAA AIP Handbook, and FAA BCA Manual. Before county spent about $2 million and 7 years of study prior to applying for an FAA grant, county should have known (i) whether it would or would not qualify for FAA improvement grants and (ii) how to properly calculate an FAA-compliant BCA to justify the grant funds.[100] Moreover, county has not even waited to release its final 2017-2036 PMP to apply for FAA Palomar EMAS planning funds. It filed its EMAS planning application in 2016.[101] Questions raised by the above contradictions in terms and policies include the following, and should serve as a jumping off point for inquiry by the oversight agencies, as well as concerned members of the public.

1. Why should Palomar qualify for a 350-foot EMAS to substitute for a 1000-foot RSA and why should the FAA pay 90% of the cost of a $25 million EMAS when Palomar has sufficient area to create a west runway end 1000-foot runway safety area?

2. Why does Palomar need an EMAS now when (i) the FAA in 2009 gave County $8,807,450 to rehabilitate the runway, (ii) did not require an EMAS then or require shifting of the runway, and (iii) Palomar's air carrier traffic has been steadily falling since

98. FEASIBILITY STUDY, *supra* note 77 at 0-4-5; *see also* Palomar Airport Master Plan Workshop 4, Slide 4 (2016), https://www.sandiegocounty.gov/content/dam/sdc/dpw/AIRPORTS/palomar/documents/CRQ_PW4_presentation.pdf.

99. In relevant part, FAA states that, "EMAS, as discussed in paragraph 307.g, is an alternative that should be considered to mitigate overruns at airports when a full-dimension RSA is not practicable. EMAS may also be used to maximize runway length." AIRPORT DESIGN, *supra* note 27 ¶ 307.d, p. 61.

100. The county commissioned its $700,000 Palomar Runway Feasibility Study in 2011, *supra* note 77. After seven years of study, county will in 2018 release its final PMP.

101. *Application for Federal Assistance SF-424*, signed by County Airports Director Peter Drinkwater on 12-29-2016 requesting $180,000 for a Palomar EMAS runway 24 planning study.

1999?[102]

3. If County is eligible for an FAA grant, how should the BCA be calculated: with or without the $50 million for the cost of both the west end and east end EMAS that will be needed? The FAA rule appears to be that safety system installations do not need a BCA. But, as noted above, the Palomar west end EMAS installation is a condition precedent to extending the runway 800 feet (including the initial 200-foot incremental extension). Since the EMASs are needed to expand Palomar capacity, their cost should be included when calculating the cost side of the Palomar runway extension BCA ratio.

4. How will the county BCA calculate the costs of demolishing its soon-to-be extended runway with its new EMASs in order to relocate the entire runway north about 125 feet before 2036 - as the draft PMP proposes?[103] Recall the sequence the County proposes: Build a Palomar west end EMAS as soon as possible. Extend the Palomar runway 200-feet within a few years. Demolish the now 5100-foot runway and replace it with a 5700-foot runway about 150 feet to the north within 17 PMP-years.

5. When reviewing the county's runway extension BCA, how will the county apply its usual rule that improvements supported by grant monies must remain in place for 20 years?

PART II

TO ENSURE FAA'S COMPLIANCE WITH IPERA, OMB AND GAO NEED TO BETTER DEFINE HOW THE FAA WILL RESTRICT GRANTS TO LOCAL AIRPORT SPONSORS WITH HISTORY OF PAST VIOLATIONS OF FAA GRANT ASSURANCES.

Up to this point, this article assumes that local airport sponsors requesting FAA AIP grants have complied with their FAA grant assurances. Part II examines what should happen if the airport sponsor has violated its assurances in the past and argues that in considering a sponsor's application for FAA AIP grant funds, the FAA, OMB, and GAO should review the sponsor's history of grant compliance prior to the award of a new grant.[104]

102. *Supra* note 82 for grant information and note 14 for Palomar operational levels.

103. *See* Palomar Airport Workshop 4, Last Presentation Board entitled *"Conceptual Phasing Plan."* Same information will appear in the County 2017-2036 PMP to be released by Spring 2018.

104. IPERA regulations appear to already authorize the oversight agencies to review the

Five types of FAA grant programs exist; this article focuses only on AIP projects undertaken by airport sponsors.[105] FAA grants come with many conditions (Grant Assurances), including the requirement to keep the airport open for at least 20 years after FAA grants are received.[106] If a local airport sponsor uses FAA funds to acquire AIP land, the federal land obligations may remain in perpetuity. [107] The FAA BCA Manual and FAA AIP Handbook should expressly require a local airport sponsor to show its compliance with all past FAA Grant Assurances; unfortunately, they do not currently provide a mechanism to do so. The problems caused by the lack of such mechanism are exemplified by the County of San Diego's past violations of its grant assurances, discussed more fully below.

The County of San Diego's Past Violations of Grant Assurances.

The standard FAA AIP Grant Assurances 3, 19, and 20 respectively preclude the County of San Diego from (1) using airport property for non-airport uses without approval by the DOT Secretary, (2) using airport property for purposes that actually or potentially interfere with airport uses, and (3) using airport property for hazardous uses.[108] As will become clear, County has failed to abide by these assurances. In 1958, the County relocated an airport then located about 20 miles south in Del Mar displaced by a State highway project into an unincorporated County area.[109] In 1958, the county received an FAA grant to buy more land and improvements for this McClellan-Palomar Airport.[110] From 1962 to 1975,

sponsor's history of grant compliance. If, however Congress determines that agency IPERA regulations are insufficient, the regulations should be tightened. In addition, Congress and the oversight agencies need to review whether the "Grant Assurance" Agreements that the federal government enters into with the FAA and other transportation agencies sufficiently describe the penalties for breach of the Agreements.

105. Other AIAA grant programs include: planning studies and noise compatibility programs, planning studies undertaken by planning agencies, and noise compatibility programs undertaken by non airport sponsors. Grant assurances vary between the five groups. Fed. Aviation Admin., FAA AIRPORT COMPLIANCE MANUAL, *supra* note 32 4.5, 4.6(g)

106. *Id.* at 4-3.

107. *Id.* at 4-2. Conversely, "reconstruction, rehabilitation, or major repair of a federally funded airport project without additional federal aid does not automatically extend the duration of its useful life as it applies to grant agreements. Land, however has no limit to its useful life. As such obligations associated with land do not expire."

108. FAA COMPLIANCE MANUAL, *supra* note 32 Appendix A. The Standard FAA Airport Improvement Program Grant Assurances discusses penalties for improper use of airport revenues. The Grant Assurances Agreement could be improved by expanding the penalty provision to expressly cover breach of other GAA conditions.

109. CITY OF CARLSBAD, AGENDA BILL 15,841: PALOMAR EVALUATION ACQUISITION REPORT ("ACQUISITION REPORT") 6 (2000).

110. *Id.*

county allowed on-airport canyons to be filled with household trash. In 1974, County bought 225 more acres to expand the airport.[111] The City of Carlsbad subsequently annexed this unincorporated area into the city. A 2000 Carlsbad report evaluating Palomar Airport noted: "In total, it is estimated that the FAA, through numerous grants, has participated in more than 50% of the acquisition and development costs of McClellan-Palomar Airport."[112] From 1983 to 2005, county received $13.2 million more in FAA AIP grants.[113] In 2000, Carlsbad detailed many environmental problems that county had allowed on the Palomar airport site by allowing another county agency to create about 30 acres of trash landfills. Carlsbad's criticisms included:

> "According to the State Water Resources Control Board (SWRCB), . . . a 1995 SWRCB study found in 'active and inactive landfills in California . . . the percentage found to be polluting ground water with municipal solid waste (MSW) leachate ('garbage juice') was between 72% and 86%.'"[114] "A review of [Regional Water Quality Control Board] RWQCB and Department of Environmental Health files on the [Palomar] Landfill reveal (1) concerns about landfill gas emissions and the protection of ground water that date back nearly 10 years; and (2) the County Department of Public Works' (DPW) slow and inadequate responses to the requests of the environmental oversight agencies for measures to prevent environmental degradation and protect the public's health."[115] "Environmental hazards documented by the Air Pollution Control District, RWQCB and Department of Environmental Health include: (1) inadequate monitoring and control of methane gas emissions; (2) cracking of asphalt which allows infiltration of water into underlying wastes; (3) 'differential settlement' that (a) impacts drainage structures, (b) impacts side slopes (causing erosion rills which can result in exposed solid wastes), (c) impacts the integrity of structures, and (d) provides a pathway for the release of landfill gases into the atmosphere and structures, and which can compromise the integrity of the landfill gas collection system; and (4) methane emissions through asphalt fractures exceeding the 'lower explosive limit.' Documentation also includes (1) the Landfill is leaking and needs monitoring to assess the extent of contamination of ground water; (2) there are an insufficient number of monitoring wells to determine ground water flow direction; and (3) correspondence over inadequate responses, insufficient required reports from DPW, and the issuance of numerous notices of violation."[116]

Due to changes in the Carlsbad city council membership since 2000,

111. *Id.*

112. *Id.*

113. FAA COMPLIANCE MANUAL, *supra* note 32 at 4-11 (Table 4.4 entitled "Typical Grant History for a Specific Airport, McClelland-Palomar Airport, San Diego, California (CRQ)").

114. *Id.* at 30.

115. *Id.* at 31.

116. *Id.* at 31-2.

Carlsbad has not followed up on the county's Palomar Airport landfill problems, despite its imposition of other environmental regulations.[117] As recently as September 2016, the San Diego Regional Water Quality Control Board (Board) noted that the County regularly reports exceedances of the Board water quality objectives that the Board imposed in 1996, but county routinely fails to provide a plan to correct the exceedances.[118] This report also noted several other continuing county Palomar Landfill Unit 3 problems. Unfortunately, due to the factors discussed below, the situation since 2000 has only worsened.

A. Fires likely converted portions of Palomar Airport landfill trash to hazardous materials in the mid and late 2000s.

The Palomar Airport canyons, after filling, had an average trash depth of about 20 feet.[119] Between 1962 and 1975, the County Department of Public Works filled three different canyon areas on airport property with "household trash" creating landfill Units 1 (9 acres), 2 (5 acres), and 3 (19 acres) with Unit 3 near the Palomar 4900-foot runway east end.[120] Household trash included plastic milk bottles, Styrofoam, plastic bags, and tin cans; lead alkali batteries used in hundreds of thousands of portable radios, games, clocks, toys and household devices; and house remodeling debris such as floor and ceiling tiles, which, given the era in which disposal occurred, likely contained petroleum derivatives and/or asbestos.[121]

Trash landfills degrade over time creating methane gas, which has explosive properties.[122] Decaying trash creates a leachate—identified in the excerpt above as "garbage juice"—harmful to ground waters.[123] For this reason, modern practice requires proposed landfill canyon bottoms

117. *General Plan Update and Climate Action Plan*: Joint public hearing before Carlsbad City Council and Planning Comm., (2015), http://www.carlsbadca.gov/civicax/filebank/blobdload.aspx?BlobID=28592.

118. Letter from Susan Pease, RWQCB Environmental Scientist, Northern Cleanup Unit to Tony Sawyer, Unit Manager, County of San Diego Department of Public Works (September 13, 2016) (on file with the author).

119. ACQUISITION REPORT, *supra* note 108 at 31.

120. *Id.*

121. Plastic products account for 11.3% of all municipal solid waste generated in the U.S. *See Trash Facts,* THE LIVING COAST, http://www.thelivingcoast.org/wp-content/uploads/2012/05/TrashFacts.pdf. According to the EPA, each year Americans throw away more than three billion batteries. *Battery Statistics*, EVERYDAY-GREEN, http://www.everyday-green.com/html/battery_statistics.html.

122. In February of 2007, the County Department of Environmental Health noted "explosive methane at 28.1%," well above the regulatory limit of 5%. CTY. DEPT. OF ENVTL. HEALTH, CIWMB-188: CLOSED DISPOSAL SITE INSPECTION REPORT 2 (2007).

123. Even before landfill fires occurred in the Palomar Landfills, Carlsbad found (relying on

be lined with an at least 3-foot thick clay liner to prevent leachate material reaching ground waters.[124] The county did not install any landfill bottom liners to prevent leachate from reaching ground waters.[125]

When the materials noted above were placed in the Palomar landfills, they were chemically inactive. In the 2000s, several different fires burned in Palomar underground closed landfill units and the U.S. Attorney's Office charged a County of San Diego consultant with filing false landfill methane gas readings.[126] The large Unit 3 underground landfill near the runway east end burned for months.[127] To extinguish the fires, county pumped carbon dioxide and grout to fill underground voids created by the burning, decomposing trash. [128] County monitors the landfill annually.

Burning plastics, Styrofoam, tin cans, batteries, vinyl and ceiling tiles create hazardous materials, including heavy metals.[129] As unburned trash below the fire level continues to deteriorate, it creates leachate,

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the county consultant monitoring), "The results were typical leachate indicators. Several metals also exceeded applicable standards." ACQUISITION REPORT, *supra* note 108 at 33.

124. United States EPA, Landfills, *Geo-synthetic Clay Liners Used in Municipal Solid Waste Landfills*, U.S. EPA, https://www.epa.gov/landfills/geo-synthetic-clay-liners-used-municipal-solid-waste-landfills.

125. Geosyntec Consultants, SC0230: REPORT OF ADDITIONAL ENVIRONMENTAL EVALUATIONS: UNIT 3 PALOMAR AIRPORT LANDFILL CARLSBAD, CALIFORNIA 4 (2008).

126. The FBI charged a county consultant with preparing false landfill gas emission reports between Oct. 2004 and May 2007; the indictment noted: "On September 23, 2005, an underground fire was discovered at the Palomar Airport Landfill, although no unusual [methane gas] readings had been reported in the monitoring data from the methane extraction wells and migration probes at that location." Press Release, U.S. Attorney's Office for the Southern District of California Indictment Charges Technician with Preparing False Landfill Gas Emission Reports, (November 13, 2009), https://archives.fbi.gov/archives/sandiego/press-releases/2009/sd111309a.htm.

127. Correspondence in the summer of 2008 between county and consultants noted, "It will be months and maybe a year before temperatures reach a normal range – reporting on a detected underground landfill temperature above 217 degrees F about 25 feet below ground in an area about 40 feet in diameter." Email from Vicky Gallagher, San Diego Cty. Project Manager to John Snyder (July 17, 2008) (on file with the author).

128. *Id.*

129. It is well documented that burning trash creates of hazardous materials. *See Backyard Burning Fact Sheet*, GO BROOME COUNTY, http://www.gobroomecounty.com/files/planning/_pdf/BackyardBurningFactSheet.pdf ("Burning trash produces three exceptionally dangerous products: toxic gases, particulate matter (soot), and ash residue."); *See also* Minnesota Pollution Control Agency, *Backyard Garbage Burning Can Impact Your Health*, MINNESOTA POLLUTION CONTROL AGENCY, https://www.pca.state.mn.us/sites/default/files/w-hhw1-17.pdf ("If you're burning trash, you're making poison"); *See also Burning Of Trash*, MICHIGAN DEPT. OF ENVTL. QUALITY, http://www.michigan.gov/deq/0,4561,7-135-3310_4106_70665_70668-234558—,00.html (noting that: "Chemicals from the burning of household trash may include hydrogen cyanide, sulfur dioxides, polycyclic aromatic hydrocarbons, benzene, lead, mercury, and dioxin. . . . Long-term . . . exposure to some of the chemicals emitted during trash burning have been shown to impair neurodevelopment in children, the immune system, reproductive

which carries the hazardous materials created by the fires down to ground waters. If rainwaters soak the landfills for days at a time (as in Spring 2017), such waters may carry the materials down to the landfill bottom. Aviation fuel and other aircraft hazardous materials from a crashed aircraft into the field similarly would drain to the groundwater.

B. Crashes into the landfill cover would cause massive safety and environmental problems

As a 2013 report by SCS Engineers noted, large FAA-rated C and D aircraft contain many hazardous material sources besides the aviation fuel they carry; some sources even create radioactive waste.[130] In its October 2018 PMP Environmental Impact Report (EIR), the County of San Diego disavowed the 2013 SCS Engineers report.[131] The county recognized that the county had used SCS Engineers for many years to monitor the closed Palomar landfills but stated that SCS did not have sufficient aviation experience to write the report.[132] This disavowal seems odd for three reasons. First, engineers are trained professionals who have the competence to research issues – as SCS did as indicated in the bibliography at the end of its report. Second, at the very least, a local airport sponsor accepting FAA grant funds to hire (in the airport sponsor's opinion but not in this author's opinion) an incompetent consultant should qualify as an improper payment if in fact grant funds were used. Third, and most importantly, why would a local airport sponsor (i) identity a possible safety and environmental risk resulting from maintaining a closed landfill with a methane gas collection system a few feet below the unpaved east end Palomar RSA, (ii) hire and then disqualify a consultant to analyze the risk in 2013, and then (iii) between 2013 and 2018 not hire a qualified consultant to assess the risk?

Disavowal notwithstanding, firefighting equipment extinguishing a fire from a large aircraft crashing into the Palomar unpaved runway safety areas would pour several thousand gallons of water/chemicals on the fire. Without the landfill, firefighting water/chemicals and escaping

system, and thyroid function. Some pollutants have been shown to contribute to the onset of diabetes and cancer").

130. SCS ENGINEERS, EVALUATION OF POSSIBLE ENVIRONMENTAL IMPACTS OF A POTENTIAL AIRCRAFT CRASH INTO THE LANDFILL COVER AT PALOMAR AIRPORT LANDFILL, CARLSBAD, CALIFORNIA ("CRASH IMPACTS") 3 (2013). Other Hazards from a crash include: Spillage of flammable liquids, burning of solids, risk of grass fires, surface and subsurface fires, pipe ruptures, release of cryogenic liquids and pressurized liquid, and secondary effects such as air quality issues and offsite wildfires. *Id.*

131. Cty. Of San Diego Dept. of Pub. Works, SCH2016021105: FINAL PROGRAM ENVIRONMENTAL IMPACT REPORT MCCLELLAN-PALOMAR AIRPORT MASTER PLAN UPDATE ¶ 175-4 (2018).

132. *Id.*

aviation fuel would likely be trapped in clean soil within ten feet of the surface. After the accident, contaminated sand could easily, even if expensively, be hauled away to a distant hazardous landfill. But the Palomar landfill – comprised of many layers of deteriorating trash separated by a few inches of sand between trash layers and possibly retaining some voids from the six-month fire noted above and pierced by hundreds of pilings placed to support a runway extension would likely (1) double or triple the contaminated areas and (2) create enormous barriers to construction equipment trying to remove the hazardous contamination without simultaneously undermining the piles. In addition, the spaghetti-like network of methane collection piping within 4 to 7 feet of the surface would have to be removed and rebuilt. Though there is no transcript of the county workshop member discussions with individuals, the county runway and PMP consultant Kimley-Horn and Associates stated to this article's author that methane collection system removal and reconstruction was needed for two reasons: first, the risk of driving hundreds of pilings through the landfill and damaging the methane system was too great unless the system was first removed; and second, repeated passes by very heavy construction equipment over the unpaved RSA at the east end of the runway was similarly risky.

In short, county's use of Palomar Airport property for non-airport purposes (landfill creation) constitutes a violation of its past assurances and has spawned multiple financial, safety, and environmental risks to the County, FAA, and traveling public which should disqualify county from receiving any FAA grants to extend the Palomar runway. County's transfer of an interest to another county agency for landfill purposes violated Grant Assurances 3, 19, and 20 by interfering with Palomar's ability to operate the airport safely, by endangering the airport and surrounding community environment, by interfering with and increasing airport maintenance costs that its proposed runway extension over a landfill would cause if an aircraft crashed into or near the landfill, and – in a worst case scenario – by risking closure of the airport due to environmental problems too severe to economically clean up.

Given the above facts, a new FAA grant to county for Palomar would violate IPERA, for the simple reason that County's past violations are the reason it now needs future grants. The fact that as currently constructed there is no mechanism within the AIP program to force San Diego to reckon with this disaster is staggering and a clear gap in the existing laws. If the IPERA agencies conclude they lack the authority to penalize local airport sponsors for violating FAA grants in the past, then they should bring their concerns to Congress so that IPERA can be amended. It defies both common sense and IPERA's intent to say that a local airport sponsor can with impunity violate the basic FAA grant con-

dition of not using the airport land for a non-airport purpose, materially increasing the risk to airport safety and the environment, and greatly increasing the cost of future airport improvements in the process.

PART III

THE COUNTY IS NOT ELIGIBLE FOR AN FAA AIP GRANT FOR A PALOMAR RUNWAY EXTENSION OVER A CLOSED LANDFILL BECAUSE IT CANNOT SHOW THE LANDFILL CONSTRUCTION WILL NOT HARM SAFETY OR THE ENVIRONMENT, AND BECAUSE IT DOES NOT SATISFY THE AIP HANDBOOK REQUIREMENTS.

To this point, the article has largely concerned itself with gaps in the FAA guidelines and the issues of past violation of grant assurances. Part III details the ways that these gaps and failures support the examination of a future grant to Palomar Airport pursuant to IPERA.

The county draft 2017-2036 PMP proposes that County extend its sole existing 4900-foot runway up to 800-feet east over the Unit 3 (19 acres) closed landfill, which sustained the six-month fire.[133] The PMP recognizes that a conventional runway extension (placing aggregate base topped by concrete and totaling about 3-feet deep) risks continued runway extension distortion resulting from continued landfill subsidence.[134] Accordingly, the PMP proposes placing hundreds of pilings, each 10 to 30 feet deep, through the landfill to solid soil below the landfill.[135] The pilings would support grade beams, in turn supporting the runway extension.[136] Presumably, the grade beams would extend only a few inches above the soil to maintain proper runway grade. The cost of this extension was estimated in 2013 at $46 million dollars.[137] That cost likely does not include added costs to county in having to haul away "augured" land-

133. At a 2017 meeting, the PAAC chair announced that the PMP would not be released until about December 2017. Charles Collins, presentation to Palomar Airport Advisory Comm. (2017). In 2016, county acting through its PMP consultant Kimley-Horn & Associates, Inc. held workshops, which outlined Palomar improvement plans.

134. "Any potential future settlement of the existing landfill presents development challenges." FEASIBILITY STUDY, *supra* note 77 at 0-1. Note also that county has had to reduce its rent by 20% to airport tenants affected by continuing landfill settlement. See Palomar Airport Advisory Committee May 18, 2017 meeting agenda Item 6 and staff report related to rent renegotiation with Atlantic Aviation. County reduced Atlantic's rent by about $30,000 a year, a loss of $300,000 over ten years. County admitted at the meeting that other airport tenants also get the "landfill" discount.

135. The Palomar Acquisition Report states the average trash depth at Palomar is 20 feet. Some areas will be deeper, others shallower. ACQUISITION REPORT, *supra* note 108 at 31.

136. FEASIBILITY STUDY, *supra* note 77 Appendices, varied pages.

137. *Id.* Presumably, the cost of a conventional runway extension would be far cheaper than the county's proposed plan even before factoring the costs of hazardous site cleanup or removal because, for example, a conventional extension is far less technically demanding and uses less materials.

fill material to a distant hazardous waste landfill because county will not know the kind or amount of contamination until it actually drills the piling holes.

COUNTY CANNOT SHOW THAT LANDFILL CONSTRUCTION WILL NOT HARM SAFETY OR THE ENVIRONMENT.

The County PMP proposes drilling hundreds of holes with large construction augurs through the Palomar runway east end landfill to place the pilings. Such holes and pilings will create tens of thousands of feet of vertical surface for decaying landfill "garbage juice" – possibly converted to hazardous waste by past fires or natural deterioration of household batteries and remodeling materials – to drain into the ground and ground waters beneath the landfill, as well as to migrate laterally outside airport property.[138] Thus, even if an aircraft never crashed near the Palomar runway east end on takeoff or landing, the mere placement of thousands of feet of pile through the landfill endangers the ground waters under and near the airport, especially since county never installed a landfill bottom clay liner to prevent leachate from migrating.

Unfortunately, the FAA AIP Handbook, FAA BCA Manual, and FAA Design Manual fail to clearly state whether an airport wishing to expand over closed landfills or over otherwise contaminated soil will qualify for FAA grants, especially if an airport has violated the FAA Grant Assurances it accepted when receiving prior FAA grant monies. The FAA AIP Handbook Table C-2 ("Examples of Prohibited Projects/ Costs for Construction") does say:

> "(12) ENVIRONMENTAL REMEDIATION. Environmental remediation and removal of fuel farms, underground fuel tanks, hazardous waste, or contaminated soil. [Sponsors are not eligible for these costs] . . . because sponsors are required by the Comprehensive Environmental Response Compensation, and Liability Act (CERCLA) commonly known as Superfund, [which] provides that the responsible party causing the contamination can be accountable for recovery of cleanup costs, regardless of the level of negligence."[139]

Note that the above-quoted language establishes a general rule unrelated to a local sponsor's grant assurance violation and irrespective of local sponsor negligence. But in the Palomar Airport runway extension example, two issues arise from the presence of a landfill converted to hazardous waste: (1) how much hazardous waste needs to be removed

138. Hundreds of 18-inch diameter pilings averaging 30 feet in depth create vertical surfaces of 10,000 linear feet or more. Harmful landfill leachate can drain all around the 18-inch perimeters.

139. AIP HANDBOOK, *supra* note 16, Table C-2, p. C-6. The Table C-2 introduction states that the list of prohibited projects/costs is not comprehensive.

and (2) does AIP Handbook Table C-2 Item 12 bar an FAA grant only for the hazardous material removal or also bar a grant for the extraordinary cost of the runway extension caused by the presence of a landfill created by the local sponsor?

As to hazardous material removal at Palomar, the FAA should request state agencies (RWQCB, and Department of Health) to determine if the Palomar underground fires converted household trash to hazardous material, and if so, the effect on the aquifer. Presumably, the determination would be made by taking representative soil borings to a depth into and below the Unit 3 underground landfill fire and into likely migration areas. If the tests disclose hazardous materials to be removed, then the FAA and IPERA oversight agencies will have to determine whether contamination resulting from the use of airport land for non-airport purposes is a proper grant expense.

County cannot show that it meets the AIP requirements of justifiability or project scope limitation.

As to the extraordinary runway extension cost for a runway extension on pilings—about $44 million (in 2013) instead of the presumably much lower cost of a conventional runway extension, FAA AIP Handbook Chapter 3 sheds some light.[140] The AIP Handbook states that a project can be "justified" only if it advances an AIP Policy, is supported by actual need, and the project scope is appropriate.[141] County's PMP proposal to increase west end runway safety area (the predominant aircraft flight direction) should have been studied in 2009 when the FAA gave county a grant to rehabilitate the runway. Such a study would have shown whether county could have shifted the runway eastward to increase the west end RSA. If so, FAA could perhaps have avoided much of the $25 million EMAS cost that county now requests the FAA to incur to replace the west end RSA. For the following additional reasons, county does not satisfy the AIP Handbook justification requirement.

AIP Need: Community Opposition

In 1978, Congress adopted the Airline Deregulation Act (ADA) to

140. See Workshop #4, *supra* note 83. After county adopts its 2017-2036 PMP, county plans within the first seven years to extend the Palomar runway by 200 feet lengthening the runway from 4900 feet to 5100 feet toward and possibly into the landfill area. If, as planned, county relocates the entire runway about ten to fifteen years later, proposes to add another 600 feet bringing the runway to 5700 feet. The Runway Feasibility estimated cost of $44 million is arrived at as follows. The Runway Feasibility Study estimated a cost of $49.6 million for a 900-foot extension. The adjusted cost is $49.6 multiplied by the fraction 8 divided by 9 = $46.9 x 0.89 = $44 million. FEASIBILITY STUDY, *supra* note 77.

141. AIP HANDBOOK, *supra* note 16 § 3-9, Table 3-4, 3-7.

remove government-imposed entry and price restrictions on airlines.[142] The concept was simple: let the market determine which airlines should succeed and how big the airline industry should become. Let business and the people decide the services desired, their cost, and the trade-offs communities would bear to receive the services. To partially protect local communities around airports, Congress preserved in the ADA the right of communities to protect their proprietary interests.[143] In 1979, the city of Carlsbad adopted Carlsbad Municipal Code § 21.53.015 after the citizens circulated an initiative measure. This section provides that Carlsbad voters must approve a Palomar Airport Expansion requiring Carlsbad support.[144] The California Aeronautics Code declares that runway extensions are airport expansions.[145] Also in 1979, Carlsbad adopted Conditional Use Permit (CUP) 172 at the request of the County of San Diego; CUP 172 says that county may not change the airport use from that of a "general aviation basic transport" airport or expand the airport without Carlsbad permission."[146] Carlsbad residents in CUP 172 expressed their preference for a "General Aviation Basic Transport" airport. The FAA NPIAS report defines a "General Aviation Airport" as "A public airport that does not have scheduled service or has scheduled service with less than 2,500 passenger boardings each year."[147] In other words, Carlsbad residents wanted an airport with minimal regularly scheduled flights to preserve the nature of the community. In 1979, county voluntarily accepted Carlsbad's planning and zoning laws by requesting that Carlsbad rezone the Palomar Airport site within the city of Carlsbad and by requesting Carlsbad to grant the county Palomar operating authority in accordance with the terms of Carlsbad CUP 172; however, county still maintains that it has immunities from Carlsbad building and zoning laws.[148] Arguably, pursuant to Carlsbad MC § 21.53.015 and CUP 172,

142. ADA, 49 U.S.C. § 1371 et seq. (1978). The extent to which local entities can regulate prices and terms of airline service remains a disputed topic. See for instance, Northwest, Inc. v. Ginsberg, 134 S.Ct. 1422 (2014) (federal law preempted issues related to airline frequent flyer program).

143. *Id.* § 1371. This article only touches upon the issue of the extent to which federal aviation law preempts local law. The degree to which the federal government preempts local zoning law is a difficult one and such an issue should be *thoroughly* researched if a reader is examining the issue of whether an airport may expand beyond its existing borders.

144. CARLSBAD MUN. CODE § 21.53.015 (Ord. 9804 § 5, 1986; Ord. 9558 § 1, 1980), http://www.qcode.us/codes/carlsbad/view.php?topic=21-21_53-21_53_015&frames=ON.

145. The California Aeronautics Act, PUB. UTIL. CODE § 21664.5.

146. Carlsbad CUP 172, Condition 11, p. 3 of Carlsbad Planning Commission Resolution No. 1699.

147. *See* NPIAS, *supra* note 9 Appendix C.

148. A review of correspondence between Carlsbad and the county obtained by public record requests indicates that in 1979/1980 – after Carlsbad annexed Palomar Airport into the city of Carlsbad – county asked Carlsbad to rezone the airport property and also asked Carlsbad to adopt CUP 172. In its October 2018 Palomar Master Plan Program EIR, the county, while

Carlsbad and its voters retain powers consistent with those intended for the states by the Airline Deregulation Act as noted above. However, a California court would have to decide the respective powers of Carlsbad and county under state law given the issues noted above.

County cannot satisfy the AIP Handbook Actual Need Requirement: County's low future Aircraft Forecasts do not support an FAA Grant

In November, 2017 county forecasted future maximum Palomar traffic at 208,000 annual operations. Yet nearly twenty years earlier in 1999, county admitted that Palomar handled nearly 100,000 more flights (292,000).[149] County's only justification for spending tens of millions to extend the runway was the hope that some corporate jets could fly to China without having to stop to refuel at Lindbergh International Airport, thirty miles to the South.[150] Hence, Palomar already has substantial excess capacity and no runway extension is warranted.

The AIP Handbook Project Scope Limitation

Another FAA AIP Handbook precondition to a FAA grant award is that the proposed project not include elements not needed to achieve the project benefits. With an FAA grant, County rehabilitated the runway in 2009. County's 2017-2036 Palomar Master Plan proposes two major improvements within 7 years: First, adding a runway west end $25 million EMAS and Second, extending the east end runway 200-feet. County's PMP then calls for destroying the original runway and new improvements so that it can be relocated 120 feet north. In other words, even before county has amortized the cost of its 2009 grant improvements and amortized the cost of the post 2018 FAA-paid-for improvements, the county wants to destroy and relocate them. Moreover, San Diego International Airport Lindbergh Field lies 30 miles to the south of Palomar, and John Wayne International 50 miles to the north. Developing Palomar as an airport to handle national and international flights presumes that the major air carriers, who operate on a hub system, would encourage connecting flights through Palomar. County has never provided evidence of such

agreeing to voluntarily comply with CUP 172, claimed immunities from Carlsbad building and zoning laws. See County Comment L3-37 on EIR Attachment Page D-91 available at https://www.sandiegocounty.gov/content/sdc/dpw/airports/palomar/masterplan.html.

149. County, Agenda Item 7 presentation to the Palomar Airport Advisory Committee, Slide 6 (Nov. 16, 2017).

150. County's 2017-2036 PMP and PMP EIR fail to show how many corporate jets using Palomar Airport in the last decade left Palomar to refuel at nearby Lindbergh field in order to make international flights.

support. An FAA review of a county grant application should require county to provide this information.

For the foregoing reasons, Palomar's past history, operational needs, Carlsbad zoning restrictions, and safety and environmental problems suggest that a Palomar runway extension is not justified within FAA BCA Manual and FAA AIP Handbook requirements. When taken together with the Palomar landfill history discussed above, an OMB and GAO review of Palomar Airport would at a minimum answer the following questions:

Landfill Liners

Do the lack of Palomar landfill bottom clay liners, which would prevent the types of environmental harm discussed above, violate the prohibition against harming health or the environment for purposes of AIP grant requirements? Similarly, does drilling holes through the landfill trash into stable soils underneath the trash to place several hundred pilings for an FAA-grant funded Palomar runway extension violate the Grant Assurance prohibition against harming health or the environment?

Result of Underground Fires

Do the FAA AIP grant requirements require the County of San Diego to make findings concerning (1) the types and quantify of potential hazardous wastes at the Palomar Landfills and (2) how much of this potential waste was converted to hazardous waste by fires or by natural deterioration of landfill materials prior to receiving future FAA AIP grants?

Grant Assurance Violations

What FAA grants and grant assurances were in place during and after the multi-year period that county filled Palomar Airport canyons with trash? Did county request FAA permission to fill such canyons with trash, a non-airport purpose contrary to the standard FAA grant assurances? Has county violated the grant assurances at Palomar? What FAA penalty should county incur for violating the grant assurances including but not limited to loss of grant funds to build a runway extension over the Palomar Unit 3 landfill?

Project Allowability

Even if a proposed project could be justified and environmentally cleared, the FAA AIP Handbook requires the project cost to be "allowa-

ble."[151] The AIP Handbook defines "allowable" to require a showing that the costs are "necessary" and "reasonable."[152] All runway extension costs caused by county using the airport property for non-airport uses – namely for 14 years of trash disposal – do not quality as either necessary or reasonable given the disparity between a $44 million extension cost on pilings through a landfill compared to usual (and presumptively lower) construction costs over level land.[153] If county had wished to fill its airport canyons for future airport uses county could have limited canyon disposal to clean fill material that contractors constructing projects throughout the county needed. Moreover, as noted above, county (i) forecasts future Palomar operational levels much less than levels twenty years ago and (ii) comparatively few flights out of the projected 208,000 forecasted future flights that would and could fly further using a longer runway.

PART IV

The FAA's 2015 updated Grant Risk Evaluation Policy confirms the FAA grant award IPERA problems noted in this article

In November 2015 – likely as a response to OMB and GAO concerns that DOT was not sufficiently documenting its key grant award decisions to show IPERA compliance – the FAA updated its "Airport Improvement Program (AIP) Grant Oversight Risk Model Policy." (Grant Risk Policy).[154] However well intentioned, the Grant Risk Policy still fails to evaluate local sponsor pre-grant award project risk. In short, the FAA rates the sponsor's past behavior while ignoring the proposed project's conformance to the FAA BCA Manual, FAA AIP Handbook, and FAA Design Manual.

The Grant Risk Policy assigns local sponsor-grant-applicants a risk rating: nominal, moderate, or elevated.[155] Apparently all applicants receive grants no matter how high the risk because the noted FAA Oversight Risk Policy only speaks about increasing oversight and does not

151. AIP HANDBOOK, *supra* note 16 Table 3-39, 3-47.

152. *Id.* at 3-100, 3-71, 3-77.

153. Extending the Palomar runway over a closed hazardous material landfill will create three separate costs related to (1) runway extension design and construction, (2) increased safety risks related to Palomar handling larger, faster, more fuel laden aircraft, which will still be exposed to the methane-emitting closed landfill at the end of even the extended runway, and (3) increased environmental costs related to drillings hundreds of 20-foot to 40-foot landfill holes to place pilings.

154. FED. AVIATION ADMIN., AIRPORT IMPROVEMENT PROGRAM (AIP) GRANT OVERSIGHT RISK MODEL POLICY ("RISK POLICY"), (Original Release Date: Oct. 1, 2012, Rev. Nov. 30, 2015), https://www.faa.gov/airports/aip/media/aip-oversight-risk-model.pdf.

155. *Id.* at 6-7.

speak about disqualifying a local airport sponsor from applying for a new grant.

This approach gives rise to the first problem with the FAA's IPERA compliance policy: It has little deterrent effect on bad behavior. The most an adventurous grant applicant sponsor risks is increased oversight by an overworked FAA staff. While this is not ideal from the sponsor's point of view, it's hardly daunting.

To assign the risk rating, the FAA rates each sponsor applicant in three categories (1) Sponsor Information Technology (IT) (How well does the sponsor verify its oversight over consultants and contractors?), (2) Sponsor Past Performance (How well did the sponsor handle past project times, monies, and schedule?), and (3) Sponsor Personnel (How stable is the sponsor project management team?) Respectively, these three-category ratings count 15%, 75%, and 10% toward the local sponsor's final rating.[156] Sponsors want low scores; the higher the score, the greater the perceived IPERA risk. Nominal risk scores are 1-30, moderate risk ranges from 31 – 70, and elevated risk from 71-100.[157]

To rate risk, the FAA uses 10 criteria; 2 for IT, 7 for past performance, and 1 for personnel: (1) inadequate sponsor oversight policies; (2) poor IT and/or financial systems; (3) projects historically late; (4) past poor contracting compliance; (5) history of late payments and improper drawdowns; (6) requests for more (15%) project monies; (7) finding-records problems; (8) grant assurance violations such as paying contractors less than the law requires (Davis-Bacon Act);[158] (9) past bad audits, and (10) limited management staff or high turnover. [159]

It is from these factors that the FAA's second IPERA compliance problem arises: the FAA criteria ignore the accuracy of the BCA the local sponsor proposes for the new project, and ignore whether the FAA BCA Manual, FAA AIP Handbook, and FAA Airport Design Manuals support the BCA and the proposed project. This deficiency likely results from the IPERA oversight agencies tendency in the past to focus on improper payments made after FAA awards rather than on the more significant question: the local Sponsor compliance with FAA criteria before the award.

156. *Id.* at 3-5.

157. *Id.* at 6.

158. One issue the Oversight Agencies should explore is whether FAA review of local sponsor Grant Assurance violations focus only on compliance with government social policies (such as contractor diversity) or whether reviews of AIP eligibility, justification, and reasonable cost issues are also included.

159. RISK POLICY, *supra* note 145 at 4.

Conclusion

The greatest potential monetary loss to the United States and loss to the NPIAS transport system occurs when the FAA improvidently grants funds to non-qualifying local airport applicants for projects that have not been justified or projects whose costs are not reasonable or allowable. FAA practice of tracking improper expenditures after grant awards, though necessary, focus on recovering minimal amounts with maximum staff efforts. Meanwhile, maximum amounts are lost because review of pre-grant wards by FAA staff have been minimal and untimely.

IPERA directs the DOT Inspector General, OMB, and GAO to assure the FAA eliminates improper payments and recovers those made. OMB and GAO have adopted a raft of requirements to audit transport agency activities. Those requirements are crucial to audit post grant money payments. But they largely ignore airport sponsor grant eligibility criteria. To transition from a post-grant to a pre-grant audit focus, OMB, GAO, and DOT need to identify the federal agency grant award criteria and verify grant applicant conformance to the criteria.

Such a transition may be difficult. Transportation agencies are likely to argue that (1) their unique experience entitles them to solely determine whether grant awards are proper and (2) the Inspector General and GAO and OMB should limit their review to assuring grant monies spent conform to the requirements of the contracts awarded. That position makes sense if the transportation agencies have no self-interest and those agencies have ample personnel to look behind local sponsor claims. But year after year, transportation agencies return to Congress asking for more and more money as the list of faulty existing transportation infrastructure grows longer.

The U.S. infrastructure system is broken. It needs to be fixed. Congress may need to amend IPERA to ensure (1) each transportation agency sets clear criteria for awarding grants, which each oversight agency can easily understand and independently review; (2) each transportation agency makes detailed findings explaining how grant applicants have complied with all agency requirements; (3) local agencies applying for grants understand that they will incur severe penalties if the information they provide to the federal government to support grant requests is not 100% transparent and accurate; and (4) Congress, when setting transportation agency budgets, assures that the transportation agencies will lose funding if those agencies have not evaluated grant applications objectively and transparently. Congress should also amend IPERA to require local agencies seeking transportation grants to require consultants hired to support grant applications to include in their studies both the positive and negative evidence relevant to a grant issuance. Local agen-

cies and their consultants – asking the federal government to pay up to 90% of the cost of proposed transportation improvements – cannot be expected to provide an objective analysis when the local agency and consultant have so much to lose if the federal grant is denied.

DRAWING OF MCCLELLAN-PALOMAR AIRPORT RUNWAY DEPICTING LANDFILL METHANE GAS EXTRACTION SYSTEMS[160]

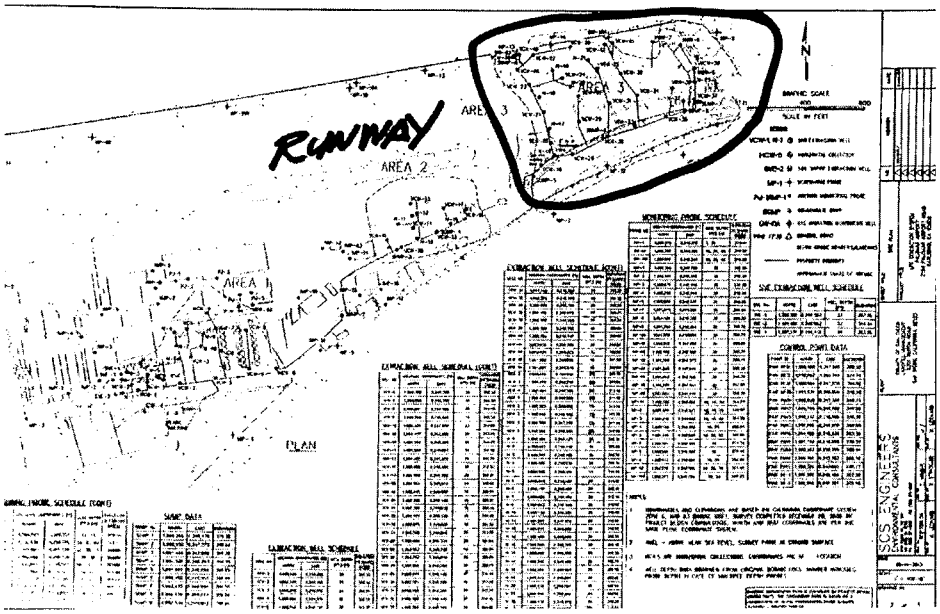
- Circled area shows Landfill Unit 3, location of Palomar Master Plan proposed 800-foot $44 million runway extension, on hundreds of pilings placed through landfill [exclusive of runway safety system (EMAS) cost];
- Landfill Units 1 & 2 adjoin the south west portion of the runway;
- Problems caused by landfill subsidence include (1) damage to structures near the landfill and (2) 20% reduction in rent for tenant parcels affected by landfill.[161]
- County says it can't landscape the several thousand feet of airport slopes due to the landfill even though slopes are within the Carlsbad scenic corridors.[162]
- Aircraft crashes into the runway east end RSA threaten safety and environment as described in the 2013 SCS Engineers Report to county.[163]

160. CRASH IMPACTS, *supra note* 131.

161. *See Rent Renegotiation*, Palomar Airport Advisory Comm. (2017) Agenda Item 6, "Rent Renegotiation – Atlantic Aviation, Leases 1, 4, and 5."

162. Eric Nelson, Presentation at Palomar Airport Advisory Comm. Meeting (August 20, 2015).

163. CRASH IMPACTS, *supra* note 131.


RUNWAY
AREA 2
AREA 3
AREA 1
PLAN