

FOR PUBLICATION

**UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT**

CITY OF LOS ANGELES, California,
Petitioner,

No. 21-71170

v.

OPINION

FEDERAL AVIATION
ADMINISTRATION; STEPHEN M.
DICKSON, in his official capacity as
Administrator; U.S. DEPARTMENT
OF TRANSPORTATION; PETE
BUTTIGIEG, in his official capacity
as Secretary,
Respondents,

BURBANK-GLENDALE-
PASADENA AIRPORT
AUTHORITY,
*Respondent-
Real Party in Interest.*

On Petition for Review of an Order of the
Federal Aviation Administration

Argued and Submitted October 18, 2022
Pasadena, California

Filed March 29, 2023

Before: Stephen A. Higginson,* Morgan Christen, and
Patrick J. Bumatay, Circuit Judges.

Opinion by Judge Higginson;
Dissent by Judge Bumatay

SUMMARY**

Federal Aviation Administration

The panel granted in part the City of Los Angeles’s petition for review challenging the Federal Aviation Administration (“FAA”)’s issuance of a Final Environmental Impact Statement (EIS) and Record of Decision (ROD) that let the Burbank-Glendale-Pasadena Airport Authority start constructing a replacement terminal at the Bob Hope “Hollywood Burbank” Airport (the “Project”).

The Airport Authority, which owns and operates the Airport, reached an agreement with the City of Burbank to build a new terminal. In 2016, Burbank voters approved that agreement as required by local law (“Measure B”). Before the FAA could sign off on the Project, the National Environmental Policy Act (“NEPA”) required the agency to prepare an EIS. In 2021, the FAA issued the Final EIS and ROD.

* The Honorable Stephen A. Higginson, United States Circuit Judge for the U.S. Court of Appeals for the Fifth Circuit, sitting by designation.

** This summary constitutes no part of the opinion of the court. It has been prepared by court staff for the convenience of the reader.

Los Angeles first challenged FAA's compliance with NEPA's requirement that an EIS include a "detailed statement" of "alternatives to the proposed action." 42 U.S.C. § 4332(2)(C)(iii). The panel denied the petition on this ground because the FAA considered a reasonable range of alternatives in the Final EIS. Here, the FAA drafted an adequate purpose and need statement and then narrowed the range of alternatives for detailed study based on rational considerations. Los Angeles failed to identify any reasonable alternative that FAA should have studied given the FAA's analysis of the relevant technical and economic constraints. The panel held that contrary to Los Angeles's argument—that the FAA improperly eliminated certain alternatives because they were not approved pursuant to Measure B—the FAA properly eliminated the new airport, remote landside facility, and southeast terminal alternatives based on rational considerations that were independent of Measure B. In addition, the panel held that even if the Measure B criteria foreclosed consideration of alternatives other than the Project, that would not be enough to establish an irreversible commitment to the Project. Here, the FAA could have picked the no action alternative after reviewing the Project's environmental impacts. Accordingly, the FAA's inclusion of the Measure B criteria did not predetermine the outcome of the FAA's NEPA review.

Next, Los Angeles challenged the FAA's analysis of construction-related impacts. The panel held that the FAA did not take a hard look at noise impacts from the Project because its analysis rested on an unsupported and irrational assumption that construction equipment would not be operated simultaneously. Because the FAA failed to take a hard look at construction noise impacts and based its cumulative impacts analysis on its inadequately considered

conclusions about construction noise, the panel granted the petition on these limited grounds.

The panel considered the rest of Los Angeles's objections to the FAA's impact analysis and found them meritless. On remand, the panel directed the FAA to address the deficiency in its construction noise analysis, the resulting deficiency in its cumulative impacts analysis, and the resulting deficiency in its environmental impacts analysis.

Dissenting, Judge Bumatay wrote that the majority ignored the FAA's reasonable assumptions about noise effects and should have deferred to the FAA's reasonable analysis. He would hold that the FAA's construction noise analysis was not arbitrary or capricious, and deny the City's petition challenging the FAA's construction noise analysis. Judge Bumatay agreed with those parts of the majority's opinion that rejected the bulk of the City's petition.

COUNSEL

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OPINION

HIGGINSON, Circuit Judge:

The passenger terminal at the Bob Hope “Hollywood Burbank” Airport is more than fifty years old and violates safety standards set by the Federal Aviation Administration (FAA). So the Burbank-Glendale-Pasadena Airport Authority, which owns and operates the Airport, reached an agreement with the City of Burbank to build a new terminal. In 2016, Burbank voters approved that agreement as required by local law. But before FAA could sign off on the project, the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq., required the agency to prepare an Environmental Impact Statement (EIS). In May 2021, the FAA issued a Final EIS (FEIS) and Record of Decision (ROD) that let the Authority start constructing the replacement terminal, and shortly after, the City of Los Angeles petitioned for review. Because FAA failed to comply with NEPA, we GRANT the petition in part and REMAND for FAA to redo the deficient parts of its analysis as specified in this opinion.

I.

A.

The Hollywood Burbank Airport spans 555 acres about twelve miles northwest of downtown Los Angeles. Approximately 455 of those acres are within Burbank, and the remaining 100 acres fall within Los Angeles.

The Airport opened in 1930 and was purchased by the Lockheed Aircraft Company a decade later. During World War II, the Airport was one of the largest commercial airports in the region. In 1978, Lockheed sold the airport to the Burbank-Glendale-Pasadena Airport Authority. The Authority was created by a Joint Powers Agreement between Burbank, Glendale, and Pasadena. Los Angeles is not represented by the Authority. Since 1978, the Authority has owned and operated the Airport.

Two intersecting runways divide the Airport into quadrants. The Airport's 14-gate passenger terminal is in the southeast quadrant. The southwest and northwest quadrants contain aircraft hangars, parking areas, and other facilities for airport operations. Only the northeast quadrant is undeveloped.

The existing terminal building occupies the site of the original 1930 terminal. After a fire in 1966, Lockheed rebuilt the terminal in the same spot. However, by 1980, the reconstructed terminal no longer complied with FAA standards.¹ In January of that year, FAA and the Authority

¹ Although FAA has determined that the existing terminal is safe to use, the building is located within certain object-free areas that are designated as such to reduce the risk of collisions between aircraft and vehicles,

began discussing how to replace the terminal building. It took FAA and the Authority more than three decades to find a solution.

Between 1981 and 1995, FAA and the Authority proposed three terminal concepts, none of which got off the ground. The first proposal failed when the Authority could not acquire the necessary land from Lockheed, and the second was abandoned when Lockheed announced that it planned to leave Burbank. In 1995, FAA issued an FEIS for a third proposal. Los Angeles and Burbank challenged that FEIS in this court and lost. *See City of Los Angeles v. FAA*, 138 F.3d 806 (9th Cir. 1998). But in 1999, a state court decision required the Authority to get approval for the project from Burbank. *City of Burbank v. Burbank-Glendale-Pasadena Airport Auth.*, 85 Cal. Rptr. 2d 28 (Cal. Ct. App. 1999). Instead of approving the project, Burbank residents adopted a ballot measure, “Measure B,” that required voter approval before the City of Burbank agreed to any relocation or expansion of the terminal. As a result of these decisions, any relocation or expansion of the terminal requires Burbank voter approval.

In 2015, Burbank and the Authority agreed to a term sheet for a replacement terminal that would let the Authority build a new 14-gate terminal between 232,000 and 355,000 square feet in size. The term sheet also specified that the project would be subject to review under the California Environmental Quality Act (CEQA). Burbank and the Authority subsequently entered into a development agreement that included 241 conditions of approval for the

objects, and buildings. In addition, the terminal violates current FAA standards that protect navigable airspace around the runways.

project. The Authority finished its CEQA analysis in July 2016.

Pursuant to Measure B, Burbank residents voted on and approved the project in the November 2016 election. The text of the 2016 ballot measure asked voters whether an ordinance should “be approved allowing no more than a 14-gate, 355,000 square foot replacement terminal and ancillary improvements to be built at the Bob Hope Airport . . . in exchange for governance changes that provide Burbank a greater voice in the future of the airport.”

Following passage of the ballot measure, the Authority submitted an Airport Layout Plan (ALP) for the proposed project to FAA. Because FAA approval of an ALP requires compliance with NEPA, FAA began to prepare an EIS in 2018.

B.

NEPA requires federal agencies to prepare an EIS for “major [f]ederal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(C). An EIS must consider direct, indirect, and cumulative impacts from the proposed action. 40 C.F.R. § 1508.25(c).² The agency must also analyze a range of reasonable alternatives to the proposed action, including the alternative of taking no

² The Council on Environmental Quality (CEQ) promulgates regulations implementing NEPA. 42 U.S.C. § 4342. In 2020, CEQ made substantial amendments to those regulations. *See* 85 Fed. Reg. 43,304 (July 16, 2020). But at the time that FAA started preparing the EIS for the Project, the updated regulations had not yet gone into effect, and so FAA followed the pre-2020 regulations. Because the parties do not dispute that the pre-2020 regulations govern the EIS, this opinion cites to and applies the pre-2020 regulations.

action. *See id.* § 1502.14. These requirements are procedural, not substantive. In other words, “NEPA itself does not mandate particular results, but simply prescribes the necessary process,” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) (citations omitted), for an agency to “take[] a ‘hard look’ at [the] environmental consequences” of a proposed action, *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976) (citation omitted).

On December 18, 2018, FAA announced its intent to prepare an EIS for the Replacement Passenger Terminal Building Project (the “Project”). In early 2019, FAA held two scoping meetings to identify potentially significant environmental impacts from the project. FAA released a Draft EIS (DEIS) on August 21, 2020. A forty-five-day comment period started running on that day. Following multiple requests for extensions, FAA added twenty-two days to the comment period. FAA received hundreds of comments by the deadline.

On May 21, 2021, FAA issued a combined FEIS and ROD for the Project. FAA also responded to the comments on the DEIS, including those submitted by Los Angeles.

C.

On July 12, 2021, Los Angeles filed a petition for review of the ROD in this court pursuant to the FAA Authorization Act of 1994, 49 U.S.C. § 46110.³ In relevant part, that statute provides for exclusive jurisdiction over petitions for review of certain FAA orders in the Court of Appeals for the District of Columbia Circuit or in the court of appeals for the

³ Los Angeles initially named the Authority as a respondent along with FAA. On the joint motion of the parties, the court redesignated the Authority as an intervenor.

circuit in which the petitioner resides or has its principal place of business. 49 U.S.C. § 46110(a), (c). The parties agree that the ROD is an FAA order reviewable under Section 46110 and that this court has jurisdiction over the petition. *See Ctr. for Cmty. Action & Env't Just. v. FAA*, 18 F.4th 592, 598 (2021).

II.

The Administrative Procedure Act (APA), 5 U.S.C. § 706(2)(A), controls judicial review of an agency's compliance with NEPA. *Bark v. U.S. Forest Serv.*, 958 F.3d 865, 869 (9th Cir. 2020). Under the APA, we may overturn agency action when it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). As the party challenging the agency's action, Los Angeles has the burden of persuasion. *Ctr. for Cmty. Action*, 18 F.4th at 599.

Agency action is arbitrary and capricious if the agency "relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *WildEarth Guardians v. EPA.*, 759 F.3d 1064, 1069-70 (9th Cir. 2014) (citation omitted). In reviewing agency action under the arbitrary and capricious standard, we may not substitute our judgment for the agency's. *Lands Council v. McNair*, 537 F.3d 981, 987 (9th Cir. 2008) (en banc), *overruled in part on other grounds by Winter v. Nat. Res. Def. Council*, 555 U.S. 7 (2008). An agency decision will be upheld if there is a rational connection between the facts that the agency found and its conclusions. *Barnes v. U.S. Dep't of Transp.*, 655

F.3d 1124, 1132 (9th Cir. 2011). But “[p]ost hoc explanations of agency action by appellate counsel cannot substitute for the agency’s own articulation of the basis for its decision.” *Arrington v. Daniels*, 516 F.3d 1106, 1113 (9th Cir. 2008).

We use the “rule of reason” standard to decide whether the agency’s discussion of environmental impacts is sufficiently thorough. *Audubon Soc’y of Portland v. Haaland*, 40 F.4th 967, 980 (9th Cir. 2022). The rule of reason “is essentially the same as an abuse of discretion analysis.” *Id.* (cleaned up). In other words, under the rule of reason, an agency acts arbitrarily and capriciously “only when the record plainly demonstrates that the agency made a clear error in judgment in concluding that a project meets the requirements of NEPA.” *Id.* (cleaned up).

III.

Los Angeles first challenges FAA’s compliance with NEPA’s requirement that an EIS include a “detailed statement” of “alternatives to the proposed action.”⁴ 42

⁴ FAA challenges Los Angeles’s standing to bring this suit, arguing that Los Angeles neither identifies any injury it would suffer from the Project nor offers any supporting evidence. But Los Angeles has pointed to sufficient evidence in the administrative record that the noise impacts from the Project could affect its neighborhoods and that the Project could increase the use of its roads and streets. See *City of Sausalito v. O’Neill*, 386 F.3d 1186, 1197 (9th Cir. 2004) (holding that a municipality must allege injuries to “its own ‘proprietary interests,’” including the “municipality’s responsibilities, powers, and assets”); *Cal. ex rel. Imperial Cnty. Air Pollution Control Dist. v. U.S. Dep’t of the Interior*, 767 F.3d 781, 790-91 (9th Cir. 2014) (allegations that federal action would undermine land management sufficient to establish standing); *City of Las Vegas v. FAA*, 570 F.3d 1109, 1114 (9th Cir. 2009) (similar). These threats to Los Angeles’s interests make this a “real controversy

U.S.C. § 4332(2)(C)(iii); *see id.* § 4332(2)(E); 40 C.F.R. § 1502.14. Since FAA considered a reasonable range of alternatives in the FEIS, the petition is denied on this ground.

A.

An EIS must “describe and analyze every reasonable alternative within the range dictated by the nature and scope of the proposal.” *Audubon Soc’y of Portland*, 40 F.4th at 981 (citation omitted). Consideration of alternatives “is the heart of the [EIS]” and agencies should “[r]igorously explore and objectively evaluate all reasonable alternatives.” 40 C.F.R. § 1502.14. But NEPA does not force agencies to “review remote and speculative alternatives,” *Protect Our Cmty’s Found. v. Jewell*, 825 F.3d 571, 580 (9th Cir. 2016) (internal quotation marks omitted), “only reasonable or feasible ones,” *City of Sausalito*, 386 F.3d at 1207 (citation omitted). “[T]he EIS need only ‘briefly discuss’ the reasons for eliminating an alternative not selected for detailed examination.” *Protect Our Cmty’s Found.*, 825 F.3d at 580 (quoting 40 C.F.R. § 1502.14(a)). “The rule of reason guides both the [agency’s] choice of alternatives as well as the extent to which the EIS needs to discuss each alternative.” *Audubon Soc’y of Portland*, 40 F.4th at 980 (cleaned up).

Because “[t]he range of alternatives that an agency must consider . . . is based on the purpose and need of the proposed agency action[,] . . . we begin by determining whether or not the purpose and need statement was reasonable.” *Id.* at 981 (cleaned up). Then, we determine whether the agency

with real impact.” *TransUnion LLC v. Ramirez*, 141 S. Ct. 2190, 2203 (2021) (citation omitted). The Constitution does not require more.

considered a reasonable range of alternatives based on its purpose and need. *Id.* at 982.

Here, FAA drafted an adequate purpose and need statement and then narrowed the range of alternatives for detailed study based on rational considerations. Indeed, Los Angeles failed to identify any reasonable alternative that FAA should have studied given FAA's analysis of the relevant technical and economic constraints.

B.

NEPA requires that an agency's purpose and need statement "briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." 40 C.F.R. § 1502.13. Agencies have discretion in drafting the purpose and need statement, *Env't Def. Ctr. v. Bureau of Ocean Energy Mgmt.*, 36 F.4th 850, 876 (9th Cir. 2022), but the statement must not "unreasonably narrow[] the agency's consideration of alternatives so that the outcome is preordained," *Alaska Survival v. Surface Transp. Bd.*, 705 F.3d 1073, 1084 (9th Cir. 2013); see *Nat'l Parks & Conservation Ass'n v. Bureau of Land Mgmt.*, 606 F.3d 1058, 1070 (9th Cir. 2010) (similar).

In the FEIS, FAA stated that its purpose and need were "to provide a passenger terminal building that meets current FAA Airport Design Standards, passenger demand, and building requirements as well as improve utilization and operational efficiency of the passenger terminal building," and "to ensure that the Airport operates in a safe manner" as required by the Airport and Airway Improvement Act of 1982 (AAIA), 49 U.S.C. § 47101(a)(1). FAA also noted its obligation to decide whether to approve the Authority's ALP pursuant to AAIA, 49 U.S.C. § 47107(a)(16). FAA

explained that its purpose and need addressed the Authority's goals of building an energy-efficient terminal in compliance with the Americans with Disabilities Act and state building codes, consolidating air facilities, and maintaining connections to rail and bus lines.

This purpose and need statement was sufficiently broad in light of the relevant statutory context. It is appropriate for an agency to draft a purpose and need statement with reference to the agency's statutory mandates. *See League of Wilderness Defs.-Blue Mountains Biodiversity Project v. U.S. Forest Serv.*, 689 F.3d 1060, 1070 (9th Cir. 2012); *Westlands Water Dist. v. U.S. Dep't of Interior*, 376 F.3d 853, 866 (9th Cir. 2004). FAA did just that. AAIA directs FAA to promote airport safety and efficiency, *see* 49 U.S.C. § 47101(a), (b), and the purpose and need statement incorporated those goals. Thus, FAA acted reasonably in limiting its inquiry to alternatives consistent with AAIA policies. *Cf. HonoluluTraffic.com v. Fed. Transit Admin.*, 742 F.3d 1222, 1230-31 (9th Cir. 2014) (finding purpose and need reasonable where stated objectives were consistent with authorizing statute).

Nor did FAA err in accounting for the Authority's goals. A private entity's goals may be relevant to an agency's purpose and need when the agency is deciding whether to approve a private project. *See Alaska Survival*, 705 F.3d at 1085; *Nat'l Parks & Conservation Ass'n*, 606 F.3d at 1071 (describing inquiry as whether the agency's purpose and need statement "properly states the [agency's] purpose and need, against the background of a private need, in a manner broad enough to allow consideration of a reasonable range of alternatives"). And here, inclusion of the Authority's objectives in the purpose and need statement did not unreasonably exclude alternatives that failed to meet those

objectives. See *Nat'l Parks & Conservation Ass'n*, 606 F.3d at 1072. Application of the purpose and need statement to the nine potential action alternatives at Step 1 of the screening process eliminated five options. In ruling out those options, FAA referenced components of the purpose and need statement drawn from FAA's statutory mandates. Accordingly, FAA probably would have eliminated those alternatives notwithstanding the Authority's goals.

FAA defined its purpose and need in the context of the applicable statutory framework and incorporated private goals without unreasonably eliminating alternatives from consideration. Therefore, its purpose and need statement was not too narrow to survive NEPA review.

C.

Next, we consider whether FAA considered a reasonable range of alternatives given the purpose and need statement. *Audubon Soc'y of Portland*, 40 F.4th at 982. As we explained, an EIS must "objectively evaluate all reasonable alternatives." 40 C.F.R. § 1502.14(a). We defer to an agency's technical expertise. *Alaska Survival*, 705 F.3d at 1087. However, "[t]he existence of a viable but unexamined alternative renders the environmental review conducted under NEPA inadequate." *Env't Def. Ctr.*, 36 F.4th at 877 (internal quotation marks omitted).

1.

Here, to identify reasonable alternatives for detailed study, FAA made a list of ten potential alternatives. Those alternatives included construction of a new airport on a

different site, construction of a remote landside facility,⁵ transfer of aviation activity to other airports, use of other modes of transportation like buses and rail, reconfiguration of runways, replacement of the terminal in each of the four Airport quadrants, and no action. Then, FAA used a two-step screening process to decide which of those alternatives to study in detail. At Step 1, FAA considered whether an alternative could achieve the purpose and need of the proposed action by meeting “current FAA Airport Design Standards, passenger demand, and state building requirements, as well as improving utilization and operational efficiency of the passenger terminal building.” Alternatives that could not satisfy those objections were eliminated. At Step 2, FAA ruled out alternatives that “would not be practical or feasible to implement from a technical or economic standpoint.” As FAA described in the FEIS, the criteria at Step 2 included “whether the alternative is consistent with the development agreement entered into by the City of Burbank and the Authority and ratification of Measure B by Burbank voters.”

At Step 1, FAA rejected transfer of aviation activity, use of other modes of transportation, airfield reconfiguration, and construction of a terminal in the southwest and northwest quadrants. Specifically, FAA found that FAA and the Authority could not require airlines to operate out of different airports and transferring those operations would not bring the existing terminal into compliance with FAA standards. FAA reached similar conclusions about the modes of transportation alternative. As to airfield

⁵ This alternative would involve construction of a remote terminal (“remote landside facility”) and construction of a separate facility located more proximate to the runways.

reconfiguration, FAA pointed to state law restrictions on changing the Airport's runways and noted that airfield reconfiguration would not bring the existing terminal into compliance with California's building standards or improve its efficiency. Finally, construction in the southwest and northwest quadrants would not meet FAA standards because it would increase the number of aircrafts required to taxi across active runways.

At Step 2, FAA eliminated all remaining alternatives except a northeast quadrant terminal, as proposed by the Authority, and the no action alternative. FAA screened out construction of a new airport at a different location because neither the Joint Powers Agreement nor Measure B authorized a new airport. Likewise, FAA eliminated the remote landside facility alternative because of a lack of authorization from Measure B. FAA also noted that the Authority would need to acquire property for the remote site and passengers would experience increased travel times. FAA ruled out a southeast quadrant terminal because of space limitations and the need to continue using the existing terminal during construction.

In sum, out of the four action alternatives that met the Project's purpose and need, FAA eliminated from detailed study three alternatives that "would not be practical or feasible to implement from a technical or economic standpoint" or that were inconsistent "with the development agreement . . . and . . . Measure B." FAA eliminated construction of a new airport or a remote landside facility and listed Measure B as one reason for their elimination. FAA eliminated the southeast terminal alternative without reference to Measure B.

2.

Los Angeles argues that FAA improperly eliminated the new airport, remote landside facility, and southeast terminal alternatives on the basis that those alternatives were not approved pursuant to Measure B.

But contrary to the premise of Los Angeles’s argument, FAA eliminated the new airport, remote landside facility, and southeast terminal alternatives based on rational considerations that were independent from Measure B.

First, FAA concluded that the new airport alternative was not feasible “because the Joint Powers Agreement that forms [the Authority] does not provide the authority . . . to construct a replacement airport and close the existing airport.” Although FAA also stated that the Measure B vote did not authorize a new airport, the fact that the extant Airport operator could not shut down the Airport and build a new one was an independent reason for FAA to conclude that new airport construction is too “remote and speculative” to study in detail. *Protect Our Cmty's Found.*, 825 F.3d at 580. Indeed, Los Angeles does not argue that the Joint Powers Agreement was an insufficient ground for FAA to eliminate the new airport construction alternative.

Second, FAA listed three reasons to eliminate a remote landside facility alternative aside from Measure B: (i) no space existed near the Airport for such a facility; (ii) “[s]ite selection would be limited by . . . the Authority’s inability to condemn or purchase property if the owners were unwilling to sell”; and (iii) travel time for passengers would increase. Los Angeles does not argue that those rationales were insufficient grounds to reject the remote landside facility alternative. At most, Los Angeles contends that FAA only said that implementation of a remote landside facility would

be “difficult” on account of those factors, not infeasible. Los Angeles cites no authority that FAA had to use the word “infeasible” to eliminate an alternative from consideration. *Cf. Env’t Def. Ctr.*, 36 F.4th at 877 (“Agencies do not have to consider . . . impractical alternatives.”). And all that NEPA requires is a brief discussion of the reasons for eliminating the remote landside facility alternative. *Protect Our Cmty’s Found.*, 825 F.3d at 581 (quoting 40 C.F.R. § 1502.14(a)). FAA’s analysis of the space, property acquisition, and travel time factors met that standard.

Finally, FAA did not rely on Measure B in eliminating the southeast terminal alternative, and Los Angeles does not argue that FAA’s stated reasons to eliminate that alternative were unreasonable. Los Angeles is therefore incorrect that FAA rejected a southeast terminal because of Measure B.

It is simply not the case, as Los Angeles argues, that FAA used Measure B to “guarantee[] no alternative could survive the EIS’s screening process,” or that FAA’s reference to Measure B “ensured that all reasonable alternatives . . . are rejected.” There was no alternative that FAA found “feasible to implement from a technical and economic standpoint” that FAA then rejected as inconsistent with Measure B. Rather, FAA cited technical or economic reasons to cull the alternatives from the field. Los Angeles does not explain why FAA acted arbitrarily and capriciously in doing so.

Moreover, Los Angeles has not met its burden, as a party challenging an agency’s failure to consider an alternative, “to show that the alternative is viable.” *Alaska Survival*, 705 F.3d at 1087; *Audubon Soc’y of Portland*, 40 F.4th at 983 (same).

In its opening brief, Los Angeles argues that the new airport and remote landside facility alternatives would meet FAA’s purpose and need—a conclusion that FAA reached as well—but does not explain how those alternatives were practical or feasible given FAA’s analysis. And in its reply, Los Angeles speculates that “[i]f Measure B . . . had not been part of the [calculus], [the remote landside facility alternative] might have been carried forward for detailed evaluation.” But Los Angeles does not respond to FAA’s analysis of available land for development, property acquisition issues, and travel time.

Los Angeles also argues that the “airfield reconfiguration alternative” outlined in its comment letter was a reasonable alternative. Los Angeles forfeited that argument by raising it for the first time in its reply brief. See *Martinez-Serrano v. INS*, 94 F.3d 1256, 1259 (9th Cir. 1996); *Barnes v. FAA*, 865 F.3d 1266, 1271 n.3 (9th Cir. 2017); *Kaffaga v. Estate of Steinbeck*, 938 F.3d 1006, 1018 n.8 (9th Cir. 2019); *Burlington N. & Santa Fe Ry. Co. v. Vaughn*, 509 F.3d 1085, 1093 n.3 (9th Cir. 2007). In any event, Los Angeles’s comment merely told FAA that it “should fully consider an airfield reconfiguration alternative that would also include upgrades to the existing terminal” without explaining why such an alternative would be practical or feasible. FAA did consider, and reject, an airfield reconfiguration alternative in the FEIS because state law restricted relocation or lengthening of the Airport’s runways. NEPA did not require FAA to consider further permutations of that alternative. See *Westlands Water Dist.*, 376 F.3d at 871-72; *Headwaters, Inc. v. Bureau of Land Mgmt.*, 914 F.2d 1174, 1181 (9th Cir. 1990) (“NEPA does not require a separate analysis of alternatives which are not significantly distinguishable from alternatives actually

considered, or which have substantially similar consequences.”).

In addition, Los Angeles argues that a “same size replacement terminal” alternative raised in the DEIS comments was viable. Like the airport reconfiguration alternative, this argument was newly raised in the reply brief and forfeited. Regardless, Los Angeles does not explain why a same size replacement terminal is practical or feasible or distinguish that alternative from those FAA did consider. *See Westlands Water Dist.*, 376 F.3d at 871-72; *Headwaters*, 914 F.2d at 1181.

Accordingly, Los Angeles “has not provided a sufficient basis for questioning [FAA’s] determination not to further consider” the new airport, remote landside facility, same size replacement terminal, and airfield reconfiguration options. *Audubon Soc’y of Portland*, 40 F.4th at 983.

Further, Los Angeles objects that FAA considered only the Project and the no action alternative. But “there is no minimum number of alternatives that must be discussed” in an EIS. *Imperial Cnty.*, 767 F.3d at 797 (quoting *Laguna Greenbelt, Inc. v. U.S. Dep’t of Transp.*, 42 F.3d 517, 524 (9th Cir. 1994)). We have approved of an agency’s decision to compare the proposed action to only a no action alternative where the circumstances justified that choice. *Imperial Cnty.*, 767 F.3d at 797-98; *Te-Moak Tribe of W. Shoshone of Nev.*, 608 F.3d 592, 602 n.11 (9th Cir. 2010). Other circuits have done the same. *See Webster v. U.S. Dep’t of Agric.*, 685 F.3d 411, 427 (4th Cir. 2012); *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 197 (D.C. Cir. 1991); *Tongass Conservation Soc’y v. Cheney*, 924 F.2d 1137, 1141-42 (D.C. Cir. 1991); *cf. Save Our Cumberland Mountains v. Kempthorne*, 453 F.3d 334, 345 (6th Cir. 2006)

(rejecting agency’s decision to only consider approval or disapproval of permit where agency claimed it had no authority to consider other alternatives). Given FAA’s unchallenged technical and economic analysis that led to elimination of all alternatives except the proposed action and no action—as well as Los Angeles’s failure to identify a viable alternative that FAA did not consider—the circumstances here justify FAA’s conclusions.⁶

3.

Finally, Los Angeles argues that because FAA’s screening process rejected alternatives that failed to meet the Project’s purpose and need and were inconsistent with Measure B, FAA predetermined the outcome of its NEPA review.

⁶ In addition, Los Angeles argues that FAA did not adequately consider the no action alternative. The FEIS studied the impacts of the no action alternative in detail because the regulations require it to do so. FAA asserted that the no action alternative would not meet the Project’s purpose and need because it would not remedy the facility’s nonconforming status. And in a table summarizing its analysis, FAA wrote “no” in a column that asked whether the alternative was practical, feasible, and consistent with Measure B. Los Angeles concludes that FAA “never considered the No Action Alternative a viable option.” But Los Angeles does not show that FAA predetermined its choice of the proposed action as the preferred alternative. Even assuming that FAA considered the no action alternative to be not practical or feasible, it does not follow that FAA would have granted the ALP application had the environmental impacts of the proposed action been significant as compared to the status quo. Indeed, the no action alternative serves as the benchmark against which an agency can compare the impacts of the action alternatives. See *Kilroy v. Ruckelshaus*, 738 F.2d 1448, 1453 (9th Cir. 1984). FAA made that comparison in selecting the proposed action as the preferred alternative, and Los Angeles does not suggest otherwise.

NEPA requires that an agency prepare the EIS “objectively” and “not as a subterfuge designed to rationalize a decision already made.” *Metcalf v. Daley*, 214 F.3d 1135, 1142 (9th Cir. 2000). An agency predetermines the outcome of its analysis in violation of NEPA when it makes “an irreversible and irretrievable commitment of resources” before finishing its review. *Id.* at 1143. The standard for predetermination is high and not met by mere partiality on the part of the agency. *See id.* at 1142 (“NEPA does not require that agency officials be subjectively impartial.” (cleaned up)); *see Forest Guardians v. U.S. Fish & Wildlife Serv.*, 611 F.3d 692, 714 (10th Cir. 2010); *Env’t Def. Fund v. Corps of Eng’rs of the U.S. Army*, 470 F.2d 289, 295 (8th Cir. 1972). Indeed, an agency “can formulate a proposal or even identify a preferred course of action before completing an EIS.” *Ass’n of Pub. Agency Customers, Inc. v. Bonneville Power Admin.*, 126 F.3d 1158, 1185 (9th Cir. 1997). And an agency can make statements favoring the proposed action, *City of Mukilteo v. U.S. Dep’t of Transp.*, 815 F.3d 632, 638 (9th Cir. 2016), so long as the agency does not select its preferred alternative until the end of its review, *Pac. Coast Fed. Of Fishermen’s Ass’ns v. Blank*, 693 F.3d 1084, 1101 (9th Cir. 2012).

Los Angeles has not met its burden to show that FAA predetermined its analysis prior to finishing the EIS. *Metcalf*, 214 F.3d at 1143. Los Angeles argues that FAA made “an irreversible and irretrievable commitment to the Project” by including Measure B in the screening criteria. But as we explained, FAA found that all action alternatives other than the Project were not feasible irrespective of Measure B, and Los Angeles has not identified any reasonable alternative that FAA did not consider. And the text of Measure B seems broad enough to admit alternatives

other than the Project, as evidenced by the fact that FAA did not reference Measure B in eliminating a southeast terminal alternative.

Even if it were true that the Measure B criteria foreclosed consideration of alternatives other than the Project, that would not be enough to establish an irreversible commitment to the Project. An irreversible commitment means that “the die already had been cast” in favor of the Project over other alternatives, *see Metcalf*, 214 F.3d at 1144, including the no action alternative. For example, in *Metcalf v. Daley*, the agency signed a contract committing it to support a proposed action before it had finished its review. *Id.* at 1143-44. Had the agency made “its promise . . . conditional upon a NEPA determination that the . . . proposal would not significantly affect the environment,” *id.* at 1144, the outcome might have been different since the agency still could have selected the no action alternative. Here, FAA could have picked the no action alternative after reviewing the Project’s environmental impacts. FAA made no promises to the Authority, and Los Angeles points to no evidence that FAA was blocked from denying the ALP. Accordingly, FAA’s inclusion of the Measure B criteria did not predetermine the outcome of FAA’s NEPA review.

III.

In its second issue, Los Angeles challenges FAA’s analysis of construction-related impacts. Because FAA failed to take a hard look at noise impacts from construction and based its cumulative impacts analysis on its inadequately considered conclusions about construction noise, we grant the petition on those limited grounds, for the reasons stated

in this section.⁷ Having considered the rest of Los Angeles’s objections to FAA’s impact analysis and found them meritless, we deny the petition on all other grounds.

A.

“NEPA requires that a federal agency consider every significant aspect of the environmental impact of a proposed action . . . [and] inform the public that it has indeed considered environmental concerns in its decisionmaking process.” *Earth Island Inst. v. U.S. Forest Serv.*, 351 F.3d 1291, 1300 (9th Cir. 2003) (internal quotation mark omitted). To accomplish that objective, NEPA “imposes procedural requirements designed to force agencies to take a ‘hard look’ at environmental consequences.” *Ctr. for Cmty. Action*, 18 F.4th at 598 (citation omitted).

However, in reviewing the FEIS, we do not “fly-speak” FAA’s analysis and “hold it insufficient on the basis of inconsequential, technical deficiencies.” *Audubon Soc’y of Portland*, 40 F.4th at 984 (citation omitted). We employ the rule of reason to determine whether the EIS contains “a reasonably thorough discussion of the significant aspects of the probable environmental consequences.” *Audubon Soc’y of Portland*, 40 F.4th at 984 (citation omitted). Ultimately, we “must defer to an agency’s decision that is fully informed

⁷ Los Angeles also claims that FAA failed to take a hard look at the environmental justice impacts of the project, and the parties agree that we review FAA’s study of environmental justice impacts under the APA. Since FAA’s conclusion that “there would be no disproportionate noise impacts on minority populations” is predicated in part on the agency’s inadequate study of construction noise impacts, FAA should reconsider this analysis after correcting the construction noise analysis. We need not reach Los Angeles’s other arguments regarding FAA’s environmental justice analysis.

and well-considered.” *Id.* (cleaned up). But the hard look standard is not satisfied when an agency relies “on incorrect assumptions or data in an EIS.” *Native Ecosystems Council v. U.S. Forest Serv.*, 418 F.3d 953, 964 (9th Cir. 2005).

B.

Building a terminal complex in the northeast quadrant and demolishing the southeast terminal is estimated to take six years. Construction of the new terminal building, parking structures, fire station, and maintenance and cargo buildings would happen during the first four years of the project. In the fifth year, “approximately 82,020 cubic yards . . . of concrete and asphalt” would be demolished in the southeast quadrant. During construction and demolition, workers would use excavators, graders, dozers, loaders, forklifts, tractors, haul trucks, jackhammers, scrapers, backhoes, compressors, generators, and pile drivers.

FAA did not take a hard look at noise impacts from the Project because its analysis rested on an unsupported and irrational assumption that construction equipment would not be operated simultaneously. As a result, FAA “failed to consider an important aspect of the problem,” *WildEarth Guardians*, 759 F.3d at 1069-70 (citation omitted): the combined noise impacts from construction equipment on nearby neighborhoods. And because FAA’s noise analysis was deficient, on remand, FAA should reconsider whether the Project is consistent with Los Angeles’s noise standards.

FAA divided its noise impact analysis into two parts. First, FAA considered potential noise impacts from Airport operations. For aircraft noise, the FEIS defined a significant noise impact as (i) a 1.5 decibel or greater noise increase for a noise sensitive area within a 65-decibel or greater noise contour, or (ii) a 1.5 decibel or greater noise increase that

results in a noise sensitive area falling within the 65-decibel or greater noise contour. Those decibel levels use a “Community Noise Equivalent Level” (CNEL) standard, which estimates sound levels over a 24-hour period. FAA concluded that Airport operations would not cause a significant noise impact if the proposed action were taken.

Second, FAA analyzed construction noise. The FEIS noted that FAA has not established a significance threshold for noise from construction equipment. To estimate noise from specific equipment at fifty feet, FAA borrowed data from the Federal Highway Administration (FHWA) Roadway Construction Noise Model User’s Guide. FAA reported those noise levels in terms of an “Leq” standard, not CNEL.⁸ The Leq standard “is the time-average of the total sound energy over a specified period.” Then, FAA calculated the noise levels from that equipment at 75, 100, 150, 450, 900, and 1,250 feet using “the inverse square law for sound,” which provides for an “inversely proportional relationship between source sound pressure and distance from [the] sound source.” According to FAA’s calculations, the loudest piece of equipment that FAA studied, a jackhammer, would produce 88 decibels at 50 feet and 64 decibels at 900 feet. Other land uses and noise sources were located between the construction and demolition sites and the closest noise sensitive land uses—residences that were 930 and 1,400 feet away from the sites, respectively. Those residences were also within the CNEL 70-decibel noise contour of the I-5 freeway. FAA also pointed out that construction and demolition noise would be temporary and

⁸ On appeal, FAA explains that the FHWA’s model relies on the L_{max} metric rather than the Leq metric, but this distinction does not affect our analysis.

intermittent. Given the distances between the residences and the Airport and the existing background noise, FAA decided that construction noise impacts would be minimal.

Los Angeles raises several purported errors in this analysis. The only one that has merit is Los Angeles's contention that FAA failed to account for the simultaneous operation of construction equipment, failed to consider whether a significant impact would likely occur because of the combined effects of sound sources, and failed to perform the necessary calculations to conclude otherwise.

In its noise analysis, FAA did not adequately "account for the fact that construction equipment would operate simultaneously," as Los Angeles argues, even though FAA acknowledged that "[i]f two sounds of the same level are added, the sound level increases by approximately [three] [decibels]." FAA calculated how loud different types of equipment would sound at various distances from the site. Yet FAA did not calculate noise levels from multiple pieces of equipment running at the same time. Instead, based on a chart showing noise levels from different categories of equipment, FAA concluded that "noise from construction and demolition equipment would attenuate to less than CNEL 70 [decibels] at the closest noise sensitive land use[s]." FAA's chart lists equipment in the singular, for example, "jackhammer," and the model from which FAA copied the data refers to sound from "each piece of construction equipment." Thus, FAA's conclusion rests on an implicit premise that construction noise would be generated by one piece of equipment at a time. This assumption defies common sense.

Nor does FAA support its implied assumption that construction equipment would run in sequence. FAA

observed that construction “would result in varying levels of noise generation subject to change based on the construction intensity and distance to a given receptor,” and explained that “construction and demolition noise would be temporary and . . . intermittent depending on the type of construction equipment needed.” These are not the kinds of expert scientific or technical judgments to which we defer. *Cf. Nat. Res. Def. Council v. U.S. Forest Serv.*, 421 F.3d 797, 803 n.13 (9th Cir. 2005) (deferring to Forest Service’s judgment on standard for wildlife viability). And even if both of those vague statements were true, it would still be the case that noise from construction equipment would overlap. This is especially true because the schedule shows that the terminal, parking structures, fire station, and equipment maintenance and airline cargo buildings will be constructed during the same five-year period. Indeed, while FAA claims that it did not have “specific construction details” when it drafted the FEIS, the record indicates that FAA relied on a “detailed construction schedule” including “phasing, equipment, [and] haul routes” for its air quality analysis. Regardless, a lack of details about the schedule does not give FAA the license to assume the site would be run in an illogical way.

The reason FAA’s flawed assumption matters is apparent from the record. In its background information about noise, FAA explained that “[i]f two sounds of the same level are added, the sound level increases by approximately [three] [decibels].” So two 88-decibel jackhammers would add up to 91 decibels of noise at the site. FAA does not even try to calculate the combined effects from multiple pieces of equipment or the attenuation of that noise at the nearest residence. This is not an “inconsequential[] technical deficienc[y],” *Audubon Soc’y of Portland*, 40 F.4th at 984, but appears to be a fundamental error in the agency’s noise

analysis, *see WildEarth Guardians v. Mont. Snowmobile Ass’n*, 790 F.3d 920, 927 (9th Cir. 2015) (“NEPA requires more” than an agency asking the court “to assume the adequacy and accuracy of partial data without providing any basis for doing so.”).

FAA’s hedging about noise from the I-5 corridor doesn’t change the equation. The FEIS states that the nearest residences fall within the CNEL 70-decibel noise contour of the I-5 freeway, and the FEIS concludes that construction noise would be minimal given that background noise. But FAA’s comparison of construction noise to the I-5 contour was based on calculations that failed to aggregate equipment noise, and it is unclear what FAA would have concluded had it found equipment noise to attenuate to more than 70 decibels at the nearest residence. Moreover, the FEIS reports equipment noise and I-5 noise in two different standards. Equipment noise was calculated in Leq, I-5 noise in CNEL. FAA never explains how, or whether, those standards can be mixed and matched to decide that certain Leq levels are not significant given certain CNEL levels.

Since FAA’s analysis studies only sound produced by equipment in isolation, the FEIS does not contain a “reasonably thorough discussion” of construction noise, *Audubon Soc’y of Portland*, 40 F.4th at 984 (citation omitted); *see Native Ecosystems Council*, 697 F.3d at 1051. The petition is granted on this basis.⁹

⁹ The dissent argues that in granting the petition, we rely on an argument that Los Angeles failed to raise before FAA. But FAA was put on notice about this defect in its analysis. Los Angeles’s comment letter said that “the DEIS should provide a more thorough assessment of cumulative construction effects. . . . [C]onstruction activities, which will all occur on the same site during site operations, will likely lead to combined . . .

Los Angeles also asserts that FAA failed to discuss inconsistencies between the Project and City noise standards. Under NEPA, agencies must “discuss[] [p]ossible conflicts between the proposed action and the objectives of . . . local . . . land use plans, policies, and controls.” 40 C.F.R. § 1502.16(c). “Where an inconsistency exists,” between “a proposed action” and “local . . . laws,” the EIS “should describe the extent to which the agency would reconcile its proposed action with the . . . law.” *Id.* § 1506.2(d). Still, “NEPA does not require an agency to list every way in which a project is consistent with . . . a land use plan.” *Crenshaw Subway Coalition v. L.A. Cnty. Metro.*

noise . . . effects, yet the DEIS does not address these combined effects.” Los Angeles also urged FAA to revise the DEIS “to properly explain its conclusion that noise will be attenuated such that there will not be adverse noise impacts.” Similarly, another comment letter says that “all construction equipment identified throughout the Air Quality Appendix (Appendix E) should be combined and assessed with existing airport operations.” Even assuming that the comment letters are inadequate, this flaw in FAA’s analysis was sufficiently obvious that FAA had to address it. In *Department of Transportation v. Public Citizen*, the Supreme Court said that “the agency bears the primary responsibility to ensure that it complies with NEPA, and an EA’s or an EIS’ flaws might be so obvious that there is no need for a commentator to point them out specifically in order to preserve its ability to challenge a proposed action.” 541 U.S. 752, 765 (2004) (citation omitted). We have “interpreted the ‘so obvious’ standard as requiring that the agency have independent knowledge of the issues that concern petitioners.” *Barnes v. U.S. Dep’t of Transp.*, 655 F.3d 1124, 1132 (9th Cir. 2011). Here, as we explained, the agency’s own reference materials instructed it to add together sounds from multiple sources. And the CEQA review did analyze simultaneous noise effects. FAA did not do so in its EIS. Finally, the government does not argue that Los Angeles failed to preserve this issue, and we should not take up administrative waiver *sua sponte*. The government “waive[d] waiver . . . by failing to assert it.” *Norwood v. Vance*, 591 F.3d 1062, 1068 (9th Cir. 2010) (cleaned up).

Transp. Auth., No. 11-CV-9603 (FMO), 2015 WL 6150847, at *20 (C.D. Cal. Sept. 23, 2015). Having concluded that construction noise would not cause a significant impact, FAA did not have to say that the proposed action would be consistent with Los Angeles’s standards. However, since FAA’s conclusion about noise impacts may be revised on remand, FAA should take another look at the proposed action’s consistency with those standards.

Los Angeles’s other challenges to FAA’s noise analysis, including FAA’s analysis of ambient noise from construction truck trips and construction-related vibration impacts are not persuasive, and we decline to grant the petition on those grounds.

C.

Among NEPA’s requirements, an agency must consider a project’s “cumulative impacts.” *Ctr. for Cmty. Action & Env’t Justice v. FAA*, 18 F.4th 592, 603 (9th Cir. 2021). Cumulative impacts are “the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions.” *Id.* (citation omitted). They “can result from individually minor but collectively significant actions taking place over a period of time.” *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1075 (9th Cir. 2002) (citation omitted).

The FEIS assumed that all “[e]nvironmental resource categories that would not result in potential adverse effects as a result of the . . . Project cannot result in cumulative impacts.” FAA listed “Noise and Noise-Compatible Land Use” as an impact category that would “not result in potential adverse effects.” But FAA’s determination that the proposed action would have minimal noise impacts was

based on a flawed study of construction noise. As we explained, FAA failed to take a hard look at the noise impacts from construction equipment on nearby residences. Since FAA did not properly analyze the possible effects of the proposed action, it was a clear error in judgment to conclude that the action would not have an “incremental impact . . . when added to other past, present, or reasonably foreseeable future actions.” *Ctr. for Cmty. Action*, 18 F.4th at 603 (citation omitted).

On remand, the agency must revisit its cumulative impacts analysis after taking a hard look at noise impacts from construction equipment.¹⁰

IV.

The petition for review is GRANTED in part and the case is REMANDED to the agency. On remand, FAA is directed to address (i) the deficiency in its construction noise analysis described in this opinion; (ii) the resulting deficiency in its cumulative impacts analysis; and (iii) the resulting deficiency in its environmental impacts analysis.

¹⁰ FAA argues that it “reasonably declined to conduct an extensive analysis of cumulative noise impacts, when it found that the Project would not produce any significant noise impacts.” This reflects a misunderstanding of the cumulative impact requirement. It is uncontested that multiple noise sources that individually fall short of a significance threshold may accumulate to surpass the threshold. FAA may only decline to consider cumulative noise impacts if it concludes either that the cumulative noise impact from relevant sources will not be significant or that the project’s impact is so small that consideration of its contribution would not provide an “informed analysis.” *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1082 (9th Cir. 2011); *Nw. Env’t Advocates v. Nat’l Marine Fisheries Serv.*, 460 F.3d 1125, 1140 (9th Cir. 2006).

BUMATAY, Circuit Judge, dissenting:

Our court grants the City of Los Angeles’s petition challenging the Federal Aviation Administration’s final environmental impact statement on the reconstruction of the Bob Hope Burbank Airport. The majority remands for the FAA’s reconsideration of the proposed project’s construction noise impacts. In doing so, the majority ignores the FAA’s reasonable assumptions about noise effects. Because the FAA’s construction noise analysis was not arbitrary or capricious, I respectfully dissent from granting the petition.

I.

Our court remands because the majority disagrees with the FAA’s assessment that the proposed project’s construction impact on noise quality would be “minimal.” *See* Maj. Op. 28–30. The majority says that the FAA erred in failing to “account for the simultaneous operation of construction equipment” in its analysis. *Id.* at 28. But, in reaching this conclusion, the majority relies on an argument not raised before the agency and fails to defer to the FAA’s reasonable assumptions.

An agency must take a “hard look at environmental consequences.” *Bark v. U.S. Forest Serv.*, 958 F.3d 865, 868 (9th Cir. 2020) (simplified). We are only looking for “a reasonably thorough discussion of the significant aspects of the probable environmental consequences.” *Audubon Soc’y of Portland*, 40 F.4th at 984 (simplified). So analytical perfection isn’t necessary. And we “refrain from acting as a type of omnipotent scientist and must defer to an agency’s decision that is fully informed and well-considered.” *Id.* (simplified).

A.

The record shows that the FAA thoroughly considered the environmental consequences of the project's construction noise. The FAA first identified the nearest "noise-sensitive land uses" that could be affected by construction noise—residential neighborhoods about 930 feet away from the airport's construction zone. And those neighborhoods are within the "noise contour" of the I-5 freeway—meaning that they are already impacted by ambient noise reaching 70 decibels. It then factored into its analysis the noise levels generated by various construction equipment at different distances:

TABLE 4.11-1
TYPICAL CONSTRUCTION NOISE LEVELS

Construction Equipment	Noise Level (dB, Leq at 50') ^{7a/}	Noise Level (dB, Leq at 75') ^{7b/}	Noise Level (dB, Leq at 100') ^{7b/}	Noise Level (dB, Leq at 150') ^{7b/}	Noise Level (dB, Leq at 450') ^{7b/}	Noise Level (dB, Leq at 900') ^{7b/}	Noise Level (dB, Leq at 1,250') ^{7b/}
Jackhammer	88	85	83	79	70	64	62
Dump Truck	87	84	82	78	69	63	60
Scraper	87	84	82	78	69	63	60
Dozer	86	83	81	77	68	62	59
Grader	84	81	79	75	66	60	57
Backhoe	84	81	79	75	66	60	57
Compressor	80	77	75	71	62	56	53
Loader	78	75	73	69	60	54	51
Generator	77	74	72	68	59	53	50

Putting this all together, the FAA concluded that "the noise from construction and demolition equipment would attenuate to less than . . . 70 dB at the closest noise sensitive land use[s]."

This is consistent with the data. Even the loudest construction equipment—the jackhammer—would generate

a noise level of less than 64 decibels at 930 feet away. In other words, the construction equipment would be quieter than the noise from the freeway. The FAA also noted that construction noise would be temporary and intermittent. With all this in mind—distance, existing freeway noise, and the temporary and intermittent nature of construction—the FAA ultimately concluded that the construction noise level impact would be “minimal for the closest noise sensitive land uses.”

Simply, the FAA “consider[ed] every significant aspect of the environmental impact of [the project] . . . and inform[ed] the public that it [had] indeed considered environmental concerns in its decisionmaking process.” *Earth Island Inst. v. U.S. Forest Serv.*, 351 F.3d 1291, 1300 (9th Cir. 2003) (simplified). And that’s all the law requires.

B.

To discard the FAA’s analysis, the majority relies on an argument that appears for the first time in one sentence of the City’s opening brief—that the FAA did not “account for the fact that construction equipment would operate simultaneously.” Maj. Op. 28. If the FAA analyzed the operation of two jackhammers at the same time, then, the majority assumes, construction noise would then be significant. But the majority only gets there by cherry-picking the data.

The FAA provided several assumptions about sound that it used to calculate noise impacts:

- If two sounds of the same level are added, the sound level increases by approximately 3 dB. For example: 60 dB + 60 dB = 63 dB.

- The sum of two sounds of a different level is only slightly higher than the louder level. For example: $60 \text{ dB} + 70 \text{ dB} = 70.4 \text{ dB}$.
- Sound from a “point source,” such as an aircraft, decreases approximately 6 dB for each doubling of distance.
- Although the human ear can detect a sound change as faint as 1dB, the typical person does not perceive changes of less than approximately 3 dB.
- A 10 dB change in sound level is perceived by the average person as a doubling, or halving, of the sound’s loudness.

The majority homes in on the FAA’s background assumption that when “two sounds of the same level are added, the sound level increases by approximately 3 dB.” Maj. Op. 29. The majority then concludes that this assumption shows that “two 88-decibel jackhammers would add up to 91 decibels of noise at the site.” *Id.* The majority then speculates that construction would necessarily require two jackhammers operating at the same time. The majority thus manufactures a scenario where construction noise could be “significant” in its view.

There are several problems with this scenario. First, it ignores the FAA’s conclusion that the closest noise-sensitive neighborhoods are 930 feet away from where the jackhammers would be operating. So, even if we were to add the sounds of two jackhammers running at the same time, it would only reach 67 decibels ($64 + 3 \text{ dB}$) at that distance. Thus, even under the majority’s scenario, the noise

level would *still* “attenuate to less than . . . 70 dB”—as the FAA already concluded. And thus, there’s no reason to accept that the FAA did not consider multiple construction equipment operating at the same time.

Second, applying those same assumptions to other construction equipment would result in even *less* noise than two jackhammers running at once. This is because “[t]he sum of two sounds of a different level is only slightly higher than the louder level.” As an example, merging two sounds of 60 decibels and 70 decibels would only result in a 70.4 decibel noise. So running a backhoe (60 dB) and a jackhammer (64 dB) at the same time would be only *slightly* louder than just running the jackhammer alone. And we shouldn’t speculate on what would happen if three jackhammers were to operate simultaneously because no party has explained how three sounds would accumulate. And really? Does the FAA really need to assume that three jackhammers would operate at the same time for its analysis to be “reasonably thorough”? *Audubon Soc’y of Portland*, 40 F.4th at 984.

Third, the majority disregards that the closest neighborhoods to the project are next to a major highway. The highway has a 70-decibel level under the Community Noise Equivalent Level (“CNEL”), which averages sound levels during a “24-hour equivalent.” Such a rating suggests that highway noise is high and sustained throughout the day. Meanwhile, the FAA reasonably assumed that construction noise would not run all day, every day. So the FAA assessed that construction noise would likely be drowned out by the highway noise and not have any impact at all during non-work hours.

And fourth, the majority never acknowledges that “the typical person does not perceive changes of less than approximately 3 dB.” And thus, even under the majority’s scenario, any noise change would barely be perceptible to the typical person.

Rather than picking and choosing the data we want, we should have deferred to the FAA’s reasonable analysis. I would have denied the City’s petition challenging the FAA’s construction noise analysis.

II.

The majority rightly rejects the bulk of the City’s petition. I agree with those parts of the majority opinion. I also agree with the majority that the City has standing to pursue this petition based on the proposed project’s impact on the City’s roads and tax base. But our court errs by granting the petition and remanding for reconsideration of the project’s construction noise impacts, cumulative impacts, and related assessments. Such a decision was based on faulty assumptions. I thus respectfully dissent.