

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND
SOUTHERN DIVISION**

MARYLAND CHAPTER OF THE SIERRA
CLUB, *et al.*,

Plaintiffs,

v.

FEDERAL HIGHWAY
ADMINISTRATION, *et al.*,

Defendants.

Civil Action No. DKC 22-2597

NORTHERN VIRGINIA CITIZENS
ASSOCIATION,

Plaintiff,

v.

FEDERAL HIGHWAY
ADMINISTRATION, *et al.*,

Defendants.

Civil Action No. DKC 22-3336

**PLAINTIFFS' JOINT MEMORANDUM
IN SUPPORT OF
THEIR MOTION FOR SUMMARY JUDGMENT**

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 - b. Exhibit B: Letter from N. Va. Citizens Ass'n to U.S. Army Corps' of Eng'rs re: MDOT I-495/I-270 Managed Lane Study (Sept. 28, 2022)
3. Declaration of Christopher Ecker
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9. Declaration of Ivan Zama

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GLOSSARY

Agencies	MDOT and FHWA
APA	Administrative Procedure Act
DEIS	June 2020 Draft Environmental Impact Statement
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
SDEIS	September 2021 Supplemental Draft Environmental Impact Statement
FEIS	June 2022 Final Environmental Impact Statement
FHWA	Federal Highway Administration
MDOT	Maryland Department of Transportation
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
PM _{2.5}	Fine particulate matter
ROD	August 2022 Record of Decision
VDOT	Virginia Department of Transportation

INTRODUCTION

In evaluating the damage to public health, historic resources, and the environment from a major highway expansion, the Maryland Department of Transportation (MDOT) and Federal Highway Administration (FHWA) failed to provide the complete and candid disclosure of project impacts mandated by federal laws. Their violations thwarted public engagement, dodged public accountability, and deprived themselves of critical information they needed to make a reasoned decision about whether to expand the highway at all.

MDOT wants to widen and add toll lanes to an approximately fifteen-mile stretch of I-495 (the Beltway) and I-270, running from McLean, Virginia to Gaithersburg, Maryland. Expanding these major highways into the dense network of communities, parks, and historic sites that line the project's route would cause significant harm to public health, to natural resources, and to our shared cultural heritage. Weighing those harms against the toll lanes project's purported benefits is the responsibility of MDOT and FHWA, which approved the project. But their discretion has limits. MDOT and FHWA (the Agencies) had to first take a close look at the harms the project would cause and the alternatives to it. And they owed the public a candid assessment of the damage from this multi-billion-dollar project before approving it. They failed on both counts. On several critical issues, the Agencies' review fell short of their obligations under federal law:

1. The Agencies violated the National Environmental Policy Act (NEPA) by failing to analyze the public health harms from the project's emissions of fine particulate matter—a pollutant that causes serious health harms, including heart attacks and premature death.
2. The Agencies violated NEPA by ignoring evidence that air pollution from the toll lanes project would disproportionately burden communities of color and low-income

communities, and by overlooking the significant environmental and public health burdens these environmental justice communities already shoulder.

3. The Agencies violated NEPA by withholding information about MDOT's traffic modeling necessary for the public to evaluate the Agencies' prediction that adding toll lanes to the Beltway and I-270 would reduce regional traffic congestion.

4. The Agencies violated NEPA by failing to disclose or evaluate the harms from building flyover ramps at the George Washington Memorial Parkway interchange in McLean, including the cumulative impact of significant changes to the interchange design made by the Virginia Department of Transportation without supplemental environmental evaluation.

5. The Agencies violated Section 4(f) of the Department of Transportation Act and Section 106 of the National Historic Preservation Act (NHPA) by approving the project without determining whether it would disturb graves in Morningstar Moses Cemetery, a 130-year-old African American burial ground adjacent to the Beltway. The Agencies also arbitrarily denied that widening the Beltway and potentially disturbing graves would exacerbate longstanding harms to the Cemetery from the initial construction of the Beltway.

6. The Agencies violated Section 4(f) by rejecting a viable project alternative that would have avoided harms to the biodiversity-rich and historic Plummers Island.

Despite spanning tens of thousands of pages, the Agencies' review of the toll lanes project still omits critical information about the project's harms to communities, historic sites, and the environment. Plaintiffs Maryland Chapter of the Sierra Club, Friends of Moses Hall, National Trust for Historic Preservation, Natural Resources Defense Council, and Northern Virginia Citizens Association thus ask the Court to vacate and remand the project approvals so the Agencies can reconsider their decision after a full evaluation of the project's impacts.

FACTUAL BACKGROUND

In 2017, then-Governor Larry Hogan announced his proposal to widen and add toll lanes to the Beltway and I-270. AR_055593. Two toll lanes—also called “managed lanes” or “high-occupancy toll (HOT) lanes”—would run on both the Inner and Outer Loops of the Beltway from the interchange with the George Washington Memorial Parkway in McLean, Virginia, across the American Legion Bridge, to the I-270 spur. AR_000286-87. I-270 would also receive two toll lanes in each direction running from the Beltway to the interchange with I-370 in Gaithersburg, Maryland.¹ *Id.*

Toll rates on the Beltway and I-270 would be “dynamic,” increasing when congestion worsens. AR_000309. Initial rates could go as high as \$5.64 per mile and would increase annually. AR_000311-12. Consequently, the toll lanes would be a “less feasible choice” for low-income drivers. AR_005256; AR_158691-93; AR_177823-24. Buses and cars with at least three passengers could travel without charge in the toll lanes. AR_000262-63.

MDOT would deliver the project through a public-private partnership, or P3, similar to the approach it’s taken for the Purple Line light rail project. AR_000674. A private developer would design and build the toll lanes, at a cost of about four billion dollars. AR_000262. The developer would then collect tolls on the highways for fifty years. *Id.*; AR_159158-59. At bottom, “[t]he financial success of [the toll] lanes depends on the operational failure of the adjacent general purpose lanes.” AR_056083. MDOT initially claimed the project would come at

¹ Governor Hogan initially proposed to widen and add toll lanes to nearly the entire Maryland portion of the Beltway, from the American Legion Bridge to a point near the Woodrow Wilson Bridge. AR_035732. MDOT dropped from consideration the approximately thirty-mile segment from the eastern I-270 spur to the Woodrow Wilson Bridge in the face of local opposition. *See* AR_027649, 27654.

no net cost to Maryland taxpayers, AR_000675, but now blames delays for cost increases that would require hundreds of millions of dollars in government subsidies, AR_179467.

MDOT's proposal to add new toll lanes to interstate highways required FHWA approval. Before it could approve the project, FHWA needed to review the project's effects on the environment, parks, and historic sites under NEPA, *see* 42 U.S.C. § 4332(2)(C);² Section 4(f) of the Department of Transportation Act, *see* 49 U.S.C. § 303(c);³ and Section 106 of the NHPA, *see* 54 U.S.C. § 306108. MDOT served as the co-lead agency for this review. AR_000242.

The Agencies published a Draft Environmental Impact Statement (DEIS) and Draft Section 4(f) Evaluation in 2020, a Supplemental Draft Environmental Impact Statement (SDEIS) and Updated Draft Section 4(f) Evaluation in 2021, and a Final Environmental Impact Statement (FEIS) and Section 4(f) Evaluation in 2022. AR_035712; AR_027632; AR_000222. Pursuant to Section 106 of the NHPA, the Agencies identified historic sites that would be harmed by the project, consulted with interested parties, and executed a Programmatic Agreement in 2022 setting out measures purporting to reduce and mitigate harm to some of the adversely affected sites. AR_000406; AR_014283. The Agencies' review of impacts to environmental and historic resources culminated in FHWA's August 25, 2022 Record of Decision (ROD) approving the project. AR_000001.

The toll lanes project would cause significant harm to the environment and communities. To widen fifteen miles of highway, MDOT would take property from hundreds of homes and businesses and pave 100 acres of land. AR_000359, 378, 440. It would damage 455 acres of

² Congress recently amended NEPA, including parts of 42 U.S.C. § 4332. *See* Pub. L. No. 118-5, § 321, 137 Stat. 10, 38 (2023). Those amendments are immaterial to this case. For the Court's convenience, Plaintiffs have attached to this brief an addendum of cited statutes and regulations.

³ Section 4(f) is also codified at 23 U.S.C. § 138(a)(3). To avoid redundancy, this brief cites only to 49 U.S.C. § 303(c).

forest, AR_000438; nearly eight linear miles of streams, AR_000425; thirteen national, county, and city parks, AR_000363-64; six archaeological sites, AR_000404; and at least four historic sites, AR_000400. Construction of the project would last at least five years and emit a significant amount of greenhouse gases and other air pollution. AR_000520, 522. Once in operation, the project would increase Maryland's greenhouse gas emissions by bringing more vehicles onto the highways and increasing total vehicle miles traveled. AR_000411. It would also create a two-tiered system where faster and safer travel in the toll lanes is reserved largely for drivers who can afford to pay. AR_177823-24.

Under NEPA, Section 4(f), and Section 106, the Agencies were required to take and consider comments from the public. Maryland Chapter of the Sierra Club (Sierra Club), Friends of Moses Hall, National Trust for Historic Preservation, and other commenters repeatedly pointed out flaws in the Agencies' assessment of traffic, air pollution, and environmental justice, as well as inadequately assessed harms to a neighborhood in McLean, the Morningstar Moses Cemetery, and Plummers Island. This lawsuit arises from the Agencies' failure to meaningfully address those flaws and to carefully consider those issues before committing Maryland to a multi-billion-dollar project with significant environmental, fiscal, and equity implications.

I. The Agencies withheld key information about MDOT's traffic modeling and disregarded expert comments

The primary purpose of the toll lanes project is to ease regional traffic congestion. AR_000009. To demonstrate the project's purported benefits, the Agencies pointed to MDOT's modeling of projected rush-hour traffic conditions in 2045 under two scenarios: one in which the toll lanes are built, and one in which they aren't. AR_000319, 325-326.

MDOT's modeling showed that adding toll lanes to the Beltway and I-270 would shift existing bottlenecks and worsen congestion in some areas. *See* AR_159738-39. Overall,

however, the modeling predicted that the project would reduce systemwide delay, even in the general purpose (or free) lanes. AR_000260; AR_000325-33. MDOT's assertion that drivers in the general purpose lanes would benefit from highway expansion, AR_000328-29, is particularly suspect: ample research demonstrates that widening highways does not reduce long-term congestion. Making room for more cars on a crowded road simply draws more cars onto that road, negating any congestion relief from the additional capacity—a phenomenon called induced demand. AR_158595-96, 158617; AR_193008.

Sierra Club submitted several rounds of comments from a traffic modeling expert who critiqued MDOT's traffic projections. AR_137028-70; AR_158583-625; AR_177776-85; AR_178647-70. Seeking data to inform those comments, Sierra Club twice requested that MDOT share the traffic modeling files underlying its analysis. AR_135914-16; AR_175918-20. MDOT, however, refused to disclose the files supporting the FEIS modeling unless Sierra Club paid more than \$21,000 up front. AR_189589; *see also* AR_135999 (MDOT's demand that Sierra Club pay \$6,294 to receive DEIS traffic modeling). Sierra Club declined that invitation.

Though hampered by MDOT's lack of transparency, AR_178649-50, Sierra Club's comments still highlighted critical flaws in MDOT's modeling. Most importantly, they showed that MDOT's modeling predicted unrealistically high traffic volumes on myriad road segments. AR_158586, 158590, 158593. Overestimating traffic volumes led MDOT both to overestimate congestion if the toll roads are not built and to overestimate congestion relief if the toll roads are built. AR_137028-34, 137040-46; AR_158590-93, 158600-01. MDOT and FHWA disregarded Sierra Club's comments on this issue. AR_023037-38.

And yet, after issuing the SDEIS, MDOT concluded that its model had overestimated the number of vehicles on a stretch of the Beltway near the Greenbelt Metro, leading the model

to overestimate congestion—an example of the very same problem raised by Sierra Club’s comments. AR_000132, 173. MDOT manually altered its model’s results to reduce the number of vehicles on the road and clear the backup, but without explaining why it wasn’t addressing the numerous other road segments identified by Sierra Club as also exhibiting unrealistic congestion. AR_000132, 173. Modeling experts at the U.S. Department of Transportation reviewed MDOT’s changes but could not determine their “plausibility” or “validity.” AR_000139.

II. The Agencies refused to assess health harms from the project’s fine particulate matter emissions

Particulate matter is the “[m]ixture of solid particles and liquid droplets in the air.” AR_044930. Particulate matter comes from many sources, including power plants, factories, and automobiles. *Id.* Particulate matter 2.5 micrometers or smaller in diameter—about 1/30th the diameter of human hair—is known as fine particulate matter, or PM_{2.5}. AR_196472.

PM_{2.5} pollution is a serious public health problem. Both short- and long-term exposure can damage the lungs and the heart, and cause aggravated asthma, heart attacks, and even premature death. AR_136988-89, 136993-94. Indeed, PM_{2.5} pollution kills tens of thousands of people in the United States each year. AR_193222. Recognizing these harms, the U.S. Environmental Protection Agency (EPA) regulates PM_{2.5} under the Clean Air Act’s National Ambient Air Quality Standards (NAAQS) program. 40 C.F.R. § 50.13.

Public comments implored the Agencies to assess and disclose the health impacts from the project’s PM_{2.5} pollution. AR_136992, 136997; AR_158671, 158675; AR_062446. The comments explained that the project would increase PM_{2.5} levels nearby. AR_136989-90, 136995-96; AR_158670-71. Cars and trucks emit PM_{2.5} from their tailpipes and through wear and tear on brake pads and tires. AR_177626; AR_177666. So, in general, the more cars on the road, and the worse the congestion, the higher the PM_{2.5} emissions. *See* AR_158672-73;

AR_177668-69.⁴ Because, as MDOT predicts, the project would increase both the number of cars on the Beltway and I-270, *see* AR_000325, and traffic congestion along some stretches of road, *see* AR_159738-39, it would also increase PM_{2.5} pollution near the highways, threatening the health of people living nearby, AR_136995-97; AR_158670-74. Given these facts, Sierra Club insisted that the Agencies assess the localized health impacts from the project's PM_{2.5} pollution. AR_136997; AR_158670-71. And when MDOT sought guidance from an environmental justice expert at the University of Maryland, he similarly advised them to consider the project's air quality and public health impacts "at a hyperlocal level." AR_186888.

The Agencies nonetheless refused to conduct any analysis of PM_{2.5} or its impacts. They claimed that, because the counties surrounding the project meet the current PM_{2.5} NAAQS, "no further analysis of PM_{2.5} was required." AR_000408. Sierra Club submitted studies documenting the scientific consensus that exposure to PM_{2.5} at levels below the NAAQS still causes serious health harms—including heart attacks and early death. AR_136988, 136993-94; AR_158671. The Agencies "acknowledge[d] the information," but offered no response. AR_022746.

III. The Agencies downplayed the project's harms to environmental justice communities

Communities of color and low-income communities in Maryland receive more than their fair share of polluting industries and infrastructure, including highways. *See* AR_000476-77; AR_137021. New projects can exacerbate existing pollution burdens in these communities and inflict cumulative harm to residents' health. AR_137020; AR_158688-89; AR_177818-19. Consequently, understanding the full impact of the toll lanes project requires consideration of environmental justice, including whether the project causes disproportionate harm to

⁴ *Accord EPA, Near Roadway Air Pollution and Health: Frequently Asked Questions 2* (2014), <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UKQS.pdf>.

communities of color and low-income communities. *See* USDOT Order 5610.2C ¶¶ 8-9 (2021), <https://tinyurl.com/2bzvtv9c>.

The Agencies identified sixteen environmental justice communities⁵ within a quarter mile of the project’s Limits of Disturbance. AR_000478; AR_005190. The Agencies then purported to evaluate the magnitude of several types of harm from the project—for example, property acquisitions and noise—and compared the harms to environmental justice communities against those to non-environmental justice communities. AR_000493-501. For each category of harm and the project as a whole, the Agencies concluded that the project would not disproportionately burden environmental justice communities. AR_000494-502.

The Agencies’ analysis, however, did not account for the pollution already burdening environmental justice communities in the project corridor. And, as to air pollution, it hinged on an erroneous factual finding. The Agencies claimed that exposure to air pollution from the toll lanes project “would be distributed along the [project’s] limits, regardless of [environmental justice] status.” AR_000496. But MDOT’s own modeling showed that the project’s air pollution would not affect all neighborhoods equally. MDOT predicted that the project would exacerbate traffic congestion around the toll lanes’ endpoints, including a stretch of I-270 in Gaithersburg surrounded by eight environmental justice communities. *See infra* 30-32. That increased congestion means more air pollution. *See* AR_000493; AR_027823; *see also supra* 7-8. Yet residents of those neighborhoods already breathe some of the most polluted air in Maryland.⁶

⁵ The Agencies defined environmental justice communities as census blocks with a percentage of non-white residents equal to or greater than the state average (49 percent), a median household income equal to or less than 80% of the area median income (\$69,850 for a family of three), or both. AR_000474-76.

⁶ *See* AR_005355 (showing that environmental justice communities in census tracts 7007.17-1, 7007.17-3, and 7008.16-1 in Gaithersburg are ranked in the 89th percentile or higher in the state

AR_158678; *see* AR_005355; AR_000480-81 (explaining EJSCREEN scores). The Agencies' simplistic environmental justice analysis accounted for neither MDOT's modeling nor those neighborhoods' existing pollution burdens. Public comments pinpointed these flaws, but the Agencies did not correct them. AR_158678-79, 158688-90; AR_177818-21.

IV. The Agencies failed to assess and disclose impacts from belated design changes to the George Washington Memorial Parkway interchange

The original project concept included two flyover ramps in McLean, Virginia to provide direct access between Maryland and the George Washington Memorial Parkway. These ramps were proposed for the interchange between the parkway and the 495 NEXT project⁷ near the American Legion Bridge and the adjacent Live Oak Drive Community. AR_189242-44; AR_189232. The DEIS issued in June 2020, however, depicted nested “slip ramps” rather than flyover ramps at the interchange to minimize impacts to National Park Service property. AR_036029; AR_189245-46. The SDEIS issued in October 2021 also described the interchange as including a “slip ramp” south of the bridge. AR_027674, 27701-02. The SDEIS gave no indication of significant interchange changes, asserting instead that the project “includes the same improvements proposed . . . in the DEIS . . . but limited to Phase 1 South.” AR_027827. The record makes clear that, at that point, the Live Oak Drive Community, a quiet residential community overlooking the Potomac River, would not have been impacted by the new ramps. AR_159975.

for environmental justice concerns relating to PM_{2.5}, ozone, diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard).

⁷ “495 NEXT” refers to the I-495 Express Lanes Northern Extension project in Virginia, a separate toll lane project underway in Virginia, under which the Virginia Department of Transportation proposed to construct toll lanes along approximately three miles of I-495 between Route 123 and the American Legion Bridge and approximately 2,500 feet east along the George Washington Memorial Parkway. AR_163467; *see also* VDOT, *495 ExpressLanes Northern Extension: Maps & Plans*, <https://tinyurl.com/2cn6kmc5> (last visited June 12, 2023).

However, at a public meeting held in McLean in June 2022, the Virginia Department of Transportation (VDOT) unveiled a radically changed design for the George Washington Memorial Parkway interchange, including revised maps prepared by MDOT for the toll lanes project. AR_174746; AR_174756; AR_177978. Instead of the slip ramps from the DEIS and SDEIS, or even the two flyover ramps from the original interchange concept, the redesigned interchange now would have five elevated ramps, including realigning and elevating the existing ramps connecting the Beltway's general purpose lanes to the parkway. AR_1786599-601; AR_177868; AR_189217-30 (3D renderings). Work by VDOT implementing that redesign has already deforested the surrounding wooded area, which had previously provided a substantial treed buffer between the Live Oak Drive Community and the parkway. *See* Butler Decl. ¶¶ 5-6; *see also* AR_189217-20 (showing wooded area before deforestation). The area where VDOT had promised greenscaping now consists of a denuded landscape, with the outermost ramp planned to be moved significantly closer to Live Oak Drive and narrowing Live Oak Drive itself. AR_163470; *see also* AR_163471, 163476.⁸ The forthcoming flyover ramps would be elevated from between 217 to 271 feet above sea level—towering up to 70 feet above the realigned Live Oak Drive—and would now expose the residents to the light, noise, and air pollution of the Beltway. AR_178599-601; *see also* Butler Decl. ¶ 6.

At no point in the NEPA process for the Maryland toll lanes project did the Agencies evaluate the totality of the impacts of the modified parkway interchange design. The FEIS for the toll lanes project, issued soon after VDOT publicly revealed the new design, largely refers to these modifications vaguely as “exchange ramps,” rather than flyover ramps or elevated structures, whose purpose is “to consolidate movements and provide coordinated movements

⁸ *See also* Mark Hand, *McLean Residents Sue to Stop Further Work on I-495 Toll Lanes Project*, PATCH (Mar. 21, 2023), <https://tinyurl.com/4jst7n4v>.

with the proposed improvements from the 495 NEXT project.” AR_000243; *accord* AR_000291. The Agencies’ only discussion of the impacts of these new flyover ramps is a single mention of “flyover ramps” in a technical appendix addressing visual impacts. AR_005717. Indeed, the FEIS does not even acknowledge the loss of ten additional acres of trees in Virginia resulting from the redesigned interchange. *Compare* AR_027782 (SDEIS estimating impacts to 40 acres of trees in Virginia), *with* AR_000438 (same in FEIS).

The administrative record provides no clear, consistent explanation of what aspects of the parkway interchange modifications in Virginia are being undertaken by MDOT as part of the toll lanes project, versus by VDOT as part of the 495 NEXT project. Documents released in separate litigation brought by the Northern Virginia Citizens Association against VDOT and FHWA, however, provide some insight. VDOT’s justification report for the interchange modification indicates that the work already done by VDOT is necessary primarily to facilitate the additional flyover ramps to be built by MDOT as part of the toll lanes project. Butler Decl. Ex. A att. 11 at 1. FHWA approved that justification report greenlighting the new flyover ramps in the vicinity of Live Oak Drive in January 2022—six months before the plans were made public and the Agencies released the FEIS. *See* Butler Decl. Ex. A ¶ 20 & att. 11. Neither VDOT nor FHWA prepared a supplemental environmental assessment or reevaluation for this design modification as part of the 495 NEXT project. Butler Decl. Ex. A ¶ 18.⁹ As a result, the impacts of these changes were not evaluated as part of the 495 Next project or in the NEPA documents for the Maryland toll lanes project.

⁹ Exhibit A to the Butler Declaration is a declaration filed by FHWA in Northern Virginia Citizens Association’s suit against VDOT and FHWA. *See* Nelson Decl., *N. Va. Citizens Ass’n v. FHWA*, No. 23-cv-356 (E.D. Va. Apr. 6, 2023), ECF No. 35-1.

What is clear is that the impact of these interchange design changes on the Live Oak Drive Community in Northern Virginia will be significant. In addition to the loss of over 10 acres of tree canopy shade, and exposing residents to increased noise, air, and light pollution, and adverse visual impacts, Live Oak Drive Community properties will experience increased stormwater run-off, impacting freshwater streams, aquifers, and drinking water. Butler Dec. ¶¶ 6, 12-14; *see generally id.* Ex. B (letter to Army Corps of Engineers and Maryland Department of Environment); AR_076279, 76282; AR_189234. Despite the toll lanes project's direct connection to the flyover ramps, there is no evidence in the administrative record that the Agencies considered these impacts in the NEPA process.

V. The Agencies did not finish their search for human remains that the project might disinter from Morningstar Moses Cemetery

Morningstar Moses Cemetery is a 130-year-old African American burial ground bordering the Beltway in Cabin John, Maryland. AR_013953-54, 13966; AR_198509 (map depicting Cemetery's location); AR_005651 (same). The Cemetery was established in the Black community of Gibson Grove in the late 1800s by members of Morningstar Tabernacle No. 88, a chapter of the African American benevolent society the Ancient United Order of the Sons and Daughters, Brothers and Sisters of Moses. AR_013952-54. This National Historic Register-eligible Cemetery is the resting place of nearly 400 people, including Sarah Gibson—who helped found Gibson Grove after escaping slavery during the Civil War—and Emma Jones—a midwife who helped run the household of Red Cross founder Clara Barton. AR_013938-39, 13941-42, 13951-52, 13997; AR_155848-49; AR_118985. Most of the Cemetery's graves are unmarked, AR_013966, 13976, and their exact number and locations remain unknown, AR_014228; AR_161430.

Morningstar Moses Cemetery abuts the Beltway because, in the 1960s, the State of Maryland and federal government routed that highway through the middle of Gibson Grove—an act they now acknowledge was the product of racial discrimination. AR_000476-77 & n.46. The State took land from the Cemetery to build the Beltway. AR_013961. The State claimed this land contained no graves.¹⁰ *Id.*

Decades later, as MDOT began to study whether the toll lanes project would harm the Cemetery, it stood by the claim that the State had avoided graves during the initial construction of the Beltway. “[T]he state roads commission engineers 60 years ago definitely denoted/delineated the grave boundaries” at the Cemetery, an MDOT official told Friends of Moses Hall in 2020. AR_117538. MDOT conducted a visual survey of the Cemetery and then once again opined that the land the State had taken from the Cemetery—now part of the highway’s right-of-way—probably did not have burials. AR_198500.

MDOT was wrong. A ground penetrating radar survey MDOT conducted in 2021 turned up fourteen “probable” burials and thirteen “possible” burials in a portion of the State-owned right-of-way. AR_014218, 14227, 14229. Those burials are separated from the rest of the Cemetery by MDOT’s chain-link fence. AR_014220, 14229. The Agencies adjusted the project design to steer clear of these graves, though just barely: the Limits of Disturbance are only five feet from the closest identified burial. AR_027750-51; AR_174411-12, 174454. MDOT then announced that the project would avoid the Cemetery completely. AR_006021-23, 6031.

MDOT’s declaration of complete avoidance was misleading. MDOT had yet to investigate all of the right-of-way adjacent to the Cemetery, including portions within the

¹⁰ Records from an eminent domain case for a property adjacent to the Cemetery that the State also took to build the Beltway indicate that the State paid several hundred dollars to a funeral home, suggesting that the initial construction of the Beltway may have disinterred graves from the Cemetery. AR_006387-90; AR_177814-15; AR_145073-75.

project's Limits of Disturbance. AR_014230-31. The agency acknowledged that this portion of the right-of-way might contain additional burials associated with the Cemetery. AR_000399; AR_014298. And yet, undaunted by its dismal track record attempting to predict the locations of graves buried in the Cemetery more than a century ago, MDOT asserted that the unsurveyed tract had "low potential" for human remains. AR_006023. MDOT proposed finding that the toll lanes project would have no adverse effect on the Cemetery and asked Maryland's State Historic Preservation Office, the Maryland Historical Trust, to concur. *See* AR_006007-08.

But the Maryland Historical Trust would not concur. AR_161430. It expressed its concern "about the potential for additional burials within the unevaluated portions of the [Limits of Disturbance]," and cautioned that "African American cemeteries often extend beyond contained boundaries." *Id.* The unevaluated portion of the Limits of Disturbance was just steps away from the newly discovered graves in the right-of-way. *Compare* AR_198511 (depicting area of Cemetery previously surveyed and area yet-to-be surveyed), *with* AR_174454 (depicting burials identified by previous survey). MDOT lacked sufficient evidence to support its claim that the project would not harm Morningstar Moses Cemetery.

At this point, MDOT could have settled the matter by completing its investigation of the Limits of Disturbance bordering the Cemetery. Friends of Moses Hall, including descendants of those buried in Morningstar Moses Cemetery, implored MDOT to finish the job. AR_156115-16; AR_189916-17; AR_006381-82. MDOT refused, claiming that the land in its own right-of-way wasn't "accessible." AR_014298. The Agencies approved the project without determining whether construction would disinter human remains from the Cemetery. AR_000033; AR_000401.

The Agencies, however, said they would complete the ground penetrating radar survey before starting construction on the project. AR_000067; AR_014296; AR_198506. That survey appears to have occurred in April 2023, eight months after the ROD issued. Plaintiffs await the results. If MDOT finds human remains and cannot modify the project to avoid those remains, the Agency will disinter them. AR_198507. MDOT officials agree that removing human remains from the Cemetery would constitute an adverse effect. AR_147665. And yet the FEIS and ROD declare over and over that the Agencies have avoided all adverse effects to the Cemetery, without having made the effort necessary to determine whether that assertion is true. AR_000031; AR_000252, 393, 534, 564, 610; AR_022329.

VI. The Agencies gave short shrift to an alternative that would have avoided Plummers Island

Just east of the American Legion Bridge, hugging the Maryland shore of the Potomac River, lies a forested, wild, tear-shaped island, home to more than 4,000 species on just 12 acres. AR_000466; AR_006435; AR_198354 fig. 1. Plummers Island is a biodiversity hotspot that for more than a century has lured scientists to study its multifarious flora and fauna—butterflies and bats, lichens and weasels.¹¹ See AR_000466. It is also “the most scientifically studied island in North America.” *Id.* Since 1901 and still today, that research has been stewarded by the Washington Biologists’ Field Club, a group of “influential and accomplished scientists.” AR_000403, 466. The Field Club deeded Plummers Island to the National Park Service in 1959, but conditioned that transfer both on the Island being maintained as “a natural wild area” and on the Field Club retaining the right to continue their research and meetings on the Island.

¹¹ Research on Plummers Island has identified 836 species of butterflies and moths, 5 species of bats, about 600 species of beetles, and about 900 species of vascular plants. AR_022576, 22579. A famous study linking declines in lichen diversity on the Island to the use of leaded gasoline in cars played an important role in the decision to phase lead out of gasoline. AR_022575; AR_146616; AR_146617-19.

AR_006417-20. Today, Plummerville Island is part of the Chesapeake and Ohio Canal National Historical Park. AR_000400.

MDOT's toll lanes project would rebuild and widen the American Legion Bridge, extending it onto the western end of Plummerville Island. AR_000403; AR_005644. Construction would destroy at least one long-term research site maintained by the Field Club. AR_0022926. It would also cut down trees and tear up rare, threatened, and endangered plants. AR_000468, 551. In addition, three new bridge piers would be sunk into the Island. AR_000370. Those and other piers could alter the river's flow and worsen flooding and erosion on the Island.¹² AR_006436; AR_174492-94. The expanded bridge would extend over top of Plummerville Island and cast a shadow over rare, threatened, and endangered plants, AR_000468, further disrupting the Island's "sensitive" ecology, AR_000369 n.5.

An alternative was available. MDOT assembled a "Strike Team" of "national and local experts on bridge design, natural resources, and cultural resources" whose charge included developing project alternatives to avoid or minimize harm to Plummerville Island. AR_000369 & n.5. The Strike Team concluded that shifting the bridge's alignment slightly to the west was a "viable" option and would avoid the Island entirely. AR_017698. But instead of thoroughly evaluating this west shift alignment, the Agencies summarily dismissed an opportunity to protect a unique natural and historical resource. *See* AR_017691.

STANDARD OF REVIEW

The Administrative Procedure Act (APA) provides the standard of review for Plaintiffs' NEPA, Section 4(f), and Section 106 claims. *Defs. of Wildlife v. N.C. Dep't of Transp.*, 762 F.3d 374, 393 (4th Cir. 2014); *Pye v. United States*, 269 F.3d 459, 464, 470 (4th Cir. 2001). At

¹² The Agencies acknowledged that the piers may affect flooding on the Island but deferred studying those impacts until final design. AR_022927; *see also* AR_00177-78.

summary judgment for such claims, courts decide, “as a matter of law, whether the agency action is supported by the administrative record and is otherwise consistent with the APA standard of review.” *Ctr. for Sci. in the Pub. Int. v. Perdue*, 438 F. Supp. 3d 546, 556-57 (D. Md. 2020).

The APA provides that a court shall “hold unlawful and set aside” agency action that is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A). The Agencies acted arbitrarily in approving the toll lanes project if they did not articulate a “rational connection between the facts found and the choice made,” “entirely failed to consider an important aspect of the problem,” or “offered an explanation for [their] decision that runs counter to the evidence before [them].” *See Motor Vehicle Mfgs. Ass’n v. State Farm Mut. Auto. Ins.*, 463 U.S. 29, 43 (1983).

ARGUMENT

I. Plaintiffs have standing

The toll lanes project is a massive undertaking that will permanently alter the environment and communities along its fifteen-mile path. Plaintiffs bring this suit on behalf of their members who live, work, or recreate near the project’s path and will be harmed by its construction and operation.¹³ *See Sierra Club v. U.S. Dep’t of Interior*, 899 F.3d 260, 282-83 (4th Cir. 2018). Some of those members are concerned about increased air pollution, flooding, deforestation, and noise from the project. *See Zama Decl.* ¶¶ 5-10; *Ecker Decl.* ¶¶ 3-8; *Butler Decl.* ¶¶ 5-6, 12, 14. Others worry about decreased enjoyment of their property and declining property values. *See Zama Decl.* ¶¶ 5-10; *Butler Decl.* ¶¶ 5-6. Still others are concerned about

¹³ While Friends of Moses Hall doesn’t have formal members, it serves constituencies—including the descendants of people buried at Morningstar Moses Cemetery—by promoting their shared interest in preserving the Cemetery. *Leighton Decl.* ¶¶ 5-11. Descendants and other constituents also guide and participate in the organization’s work. *Id.* Friends of Moses Hall thus “performs the functions of a traditional” membership organization. *See Hunt v. Wash. State Apple Advert. Comm’n*, 432 U.S. 333, 344 (1977).

harm the project will cause to vulnerable historic sites: Morningstar Moses Cemetery, where some members’ ancestors are buried, Baxter Decl. ¶¶ 3-13, and Plummers Island, where one member conducts research and appreciates nature, Soreng Decl. ¶¶ 4-17. The harms to these members’ interests constitute injuries-in-fact. *See Friends of the Earth, Inc. v. Laidlaw Env’t Servs. (TOC), Inc.*, 528 U.S. 167, 183 (2000); *Sierra Club*, 899 F.3d at 283. And those injuries are traceable to the Agencies’ approval of the project and redressable by the relief Plaintiffs seek—vacatur of the FEIS, Final Section 4(f) Evaluation, and ROD.¹⁴ *See Sierra Club*, 899 F.3d at 283-85. Plaintiffs thus have standing to bring this suit on behalf of their members.

II. The Agencies violated NEPA¹⁵

NEPA “declares a broad national commitment to protecting and promoting environmental quality.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989). Its purpose is “to sensitize” decisionmakers “to the environment in order to foster precious resource preservation.” *Nat’l Audubon Soc’y v. Dep’t of Navy*, 422 F.3d 174, 184 (4th Cir. 2005).

Under NEPA, federal agencies—and state co-leads, like MDOT—must prepare an environmental impact statement (EIS) before taking any major federal action that will “significantly affect[] the quality of the human environment.” 42 U.S.C. § 4332(2)(C). This serves two important purposes: it “ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental

¹⁴ Plaintiffs also satisfy the two other requirements for associational standing. *See Friends of the Earth*, 528 U.S. at 181. This case is germane to Plaintiffs’ organizational interests. *See* Leighton Decl. ¶¶ 5-12; Mayes Decl. ¶¶ 4-10; Trujillo Decl. ¶¶ 6-8; Tulkin Decl. ¶¶ 6-8; Butler Decl. ¶ 2. And neither the claims asserted nor the relief requested requires the participation of Plaintiffs’ members. *See Maryland v. Pruitt*, 320 F. Supp. 3d 722, 726 n.7 (D. Md. 2018).

¹⁵ All Plaintiffs except Northern Virginia Citizens Association join the arguments in Parts II.A, II.B, and II.C. Only Northern Virginia Citizens Association advances the argument in Part II.D.

impacts,” and it “guarantees that the relevant information will be made available” to the public so they may play a role in the decision-making process. *Robertson*, 490 U.S. at 349.

Courts review an EIS for compliance with statutory and regulatory procedures, and to ensure that the agency “took a ‘hard look’ at the environmental consequences of the proposed action.” *Webster v. USDA*, 685 F.3d 411, 421-22 (4th Cir. 2012). That review “requires a pragmatic judgment whether the EIS’s form, content, and preparation foster both informed decision-making and informed public participation.” *Id.* (cleaned up). While courts may not “flyspeak” an EIS, they are also not a “rubber stamp.” *Nat’l Audubon Soc’y*, 422 F.3d at 185-86. The “hard look” standard is “searching and careful,” *id.* (cleaned up), and requires “at minimum, a thorough investigation into the environmental impacts of the action and a candid acknowledgement of the risks that those impacts entail.” *Webster*, 685 F.3d at 421 (cleaned up).

A. The Agencies failed to take the required hard look at public health harms from the project’s PM_{2.5} emissions

1. PM_{2.5} is a dangerous pollutant that causes severe health harms, including early death, even at low levels

PM_{2.5} pollution is a pernicious public health problem. Both short- and long-term PM_{2.5} exposures increase the risk of serious health harms, including cardiovascular and respiratory problems, like heart attacks and asthma, and even premature death. AR_136988-89, 136993-94. EPA has concluded that this relationship for premature deaths is causal—that is, increased PM_{2.5} levels *cause* increased deaths in nearby communities. AR_136993; *accord* AR_196554-55.

Given these public health harms, EPA has regulated PM_{2.5} under the Clean Air Act’s NAAQS program since 1997. *See* 62 Fed. Reg. 38,652 (July 18, 1997). “Once EPA establishes NAAQS for a particular pollutant, the standards become the centerpiece of a complex statutory regime aimed at reducing the pollutant’s atmospheric concentration.” *Am. Trucking Ass’n v. EPA*, 283 F.3d 355, 358-59 (D.C. Cir. 2002). NAAQS, however, do not apply directly to

individual pollution sources, like power plants or highway projects. Instead, NAAQS apply to “air quality control regions.” 42 U.S.C. § 7407. States must prepare plans, subject to EPA review, explaining how they will achieve and maintain NAAQS for each region they control. *Id.* § 7407(a). FHWA, in turn, cannot approve transportation projects in regions currently or recently violating a NAAQS (called “nonattainment” and “maintenance” areas, respectively), unless it finds the project “conforms” to the relevant state plan. *Id.* § 7506(c)(1), (5). The purpose of this conformity requirement is to ensure covered projects don’t interfere with NAAQS compliance. *NRDC v. EPA*, 777 F.3d 456, 459 (D.C. Cir. 2014).

EPA has set both daily and annual NAAQS for PM_{2.5}. The primary (i.e., health-based) daily NAAQS is 35 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), and the primary annual NAAQS is 12 $\mu\text{g}/\text{m}^3$. 40 C.F.R. § 50.18.

Montgomery and Fairfax Counties, where the project is located, are complying with (and thus “attainment” areas for) the current PM_{2.5} NAAQS, based on data from three regional air quality monitors. AR_000408; AR_044935. Each of these monitors, however, is miles away from the parts of the Beltway and I-270 that the project would expand. AR_136990; *accord* AR_044937.

NAAQS attainment, while regionally important, doesn’t necessarily mean that local air quality is safe. AR_136989-90. This is so for two independent reasons. First, PM_{2.5} levels “can vary substantially within a metropolitan” region, AR_193107, and tend to be higher near highways, AR_136989-90, 136995-96. MDOT’s own data confirms this. A 2015 peer-reviewed study using MDOT monitoring data found that a temporary monitor located around 500 feet from the Beltway in Largo, Maryland, saw “consistently higher” PM_{2.5} levels than the NAAQS-compliance monitors miles from the Beltway. AR_193545. In fact, the readings from that near-

Beltway monitor would have violated the current annual NAAQS of $12 \mu\text{g}/\text{m}^3$. AR_193539; AR_136995.

Second, EPA isn't required to set NAAQS at levels "below which [a pollutant] is known to be harmless." *Am. Trucking Ass 'ns*, 283 F.3d at 360, 369-70; *see also LaFleur v. Whitman*, 300 F.3d 256, 270 (2d Cir. 2002). And for $\text{PM}_{2.5}$, EPA has not. *Am. Trucking Ass 'ns*, 283 F.3d at 360. Rather, EPA has consistently "recognize[d] that there is no discernible population-level threshold [for $\text{PM}_{2.5}$] below which [health] effects would not occur." 78 Fed. Reg. 3086, 3148 (Jan. 15, 2013); *accord* 88 Fed. Reg. 5558, 5625 (Jan. 27, 2023).

The scientific consensus—long accepted by EPA—is that $\text{PM}_{2.5}$ harms human health at levels well below the current NAAQS, and that, even at those lower levels, the relationship between $\text{PM}_{2.5}$ and serious health harms, like heart attacks and premature death, is "linear." AR_158671; AR_136993; *accord* AR_191874; AR_196543; 88 Fed. Reg. at 5582-83. This means that, even at levels below the NAAQS, "any incremental increase in $\text{PM}_{2.5}$ exposure produces an incremental increased risk of mortality and other health effects in the population exposed." *United States v. Ameren Mo.*, 421 F. Supp. 3d 729, 774 (E.D. Mo. 2019) (adopting U.S. government's argument on that point¹⁶). Simply put, there is *no known level* below which $\text{PM}_{2.5}$ pollution is safe. AR_158671.

Citing this scientific consensus, in 2021 EPA staff recommended that the agency lower its $\text{PM}_{2.5}$ NAAQS to better protect public health. *Id.* Earlier this year, EPA proposed a rule that would lower the primary annual $\text{PM}_{2.5}$ NAAQS from $12 \mu\text{g}/\text{m}^3$ to between 9 and $10 \mu\text{g}/\text{m}^3$. 88 Fed. Reg. at 5560.

¹⁶ See United States' Post-Trial Br. 34, *United States v. Ameren Mo.*, No. 11-cv-0077, 2019 WL 8808144 (E.D. Mo. May 23, 2019), ECF No. 1109 ("EPA has emphasized time and again that there is *no known safe threshold* below which incremental increases in [particulate matter] exposure do not create incremental increases in risk to human health and welfare.").

2. The Agencies refused to analyze localized health harms from the project's PM_{2.5} emissions

In its comments, Sierra Club described the overwhelming evidence of serious public health harms from PM_{2.5} levels below the NAAQS, citing EPA documents and recent peer-reviewed studies. *See* AR_136992-97; AR_158671-74. Sierra Club also identified studies showing that PM_{2.5} levels vary locally and are elevated near highways. AR_136989-90, 136995-96. Given these facts, Sierra Club insisted that NEPA required the Agencies to assess and disclose the health harms from the project's PM_{2.5} emissions for the people living closest to the project. *See* AR_136992, 136997; AR_158670-71.

In the FEIS, the Agencies “acknowledge[d] the information presented” in Sierra Club’s comments. AR_022746. But that’s all. They provided no further response to that information. *Id.* Nor, based on that information, did they try to assess the localized impacts from the project’s PM_{2.5} emissions. Instead, the Agencies stated that, because Montgomery and Fairfax Counties meet the current PM_{2.5} NAAQS, “no further analysis of PM_{2.5} was required.” AR_000408. As support, the Agencies cited the Clean Air Act’s conformity requirements, *id.*, and a 1987 FHWA Advisory, AR_014329.

3. The Agencies’ refusal to assess localized health harms from the project’s PM_{2.5} emissions violated NEPA’s hard look requirement

The Agencies’ NEPA obligation as to localized PM_{2.5} impacts is straightforward. PM_{2.5} causes serious health harms, including heart attacks and early deaths, and any additional PM_{2.5} in the air increases the risks of those harms. *Supra* 20-22. Highway expansions, like the project, increase PM_{2.5} levels in nearby communities. *Supra* 7-8. Given these facts, NEPA required the Agencies to, “at minimum,” conduct a “thorough investigation” into increased PM_{2.5} emissions from the project and provide a “candid acknowledgment” as to how those emissions would affect the health of people living closest to the toll lanes. *See Webster*, 685 F.3d at 421 (cleaned up).

The Agencies’ reason for refusing to fulfill this basic NEPA duty presents a narrow legal question: does *county-wide* compliance with the PM_{2.5} NAAQS permit an agency to ignore *localized* health harms from a project’s PM_{2.5} emissions? It does not.

The Agencies’ reliance on NAAQS compliance to avoid assessing the project’s localized PM_{2.5} impacts is misplaced legally and factually. As a legal matter, compliance with a substantive law—here, the Clean Air Act—does not excuse an agency from evaluating related impacts under NEPA. *Calvert Cliffs’ Coordinating Comm. v. U.S. Atomic Energy Comm’n*, 449 F.2d 1109, 1122-25 (D.C. Cir. 1971) (rejecting agency’s attempt to “exclude” from NEPA review impacts addressed by “standards of other agencies”). This is because a substantive law’s “basic purpose” often differs from NEPA’s. *See id.* at 1122. That’s the case for NAAQS. NAAQS are regional, not local, standards. *See* 42 U.S.C. § 7410(a)(1). And EPA isn’t required to set NAAQS at levels that avoid all health harms. *See Am. Trucking Ass’n*s, 283 F.3d at 360; United States’ Post-Trial Br., *supra* note 16, at 30-36. Since *regional* NAAQS compliance “does not specifically address the impacts of the project at issue,” that compliance alone can’t show that the project’s *localized* impacts will be so insignificant that they need not be addressed under NEPA. *Env’tl. Def. Ctr. v. Bureau of Ocean Energy Mgmt.*, 36 F.4th 850, 874 (9th Cir. 2022) (cleaned up).

The record here further confirms that regional NAAQS compliance isn’t a proxy for local PM_{2.5} impacts. PM_{2.5} levels vary within a region and tend to be higher near major roadways. *Supra* 21-22; *see also* 78 Fed. Reg. at 3127 (expressing EPA’s concern about “possible disproportionate PM_{2.5}-related health impacts” for populations that “live near major roadways”). So county-level NAAQS compliance doesn’t say much about local PM_{2.5} levels near the Beltway and I-270, much less how the project will affect those levels and related health impacts.

AR_177667 (explaining that NAAQS-compliance monitors many miles away from the project “do[] not accurately depict actual [PM_{2.5}] concentrations and exposures” near the project); AR_186888 (comment from environmental justice expert emphasizing the “importance of considering potential air quality and public health impacts from transportation projects at a hyperlocal level”). The 2015 study using MDOT data confirmed this: PM_{2.5} levels were “consistently higher” at the study’s near-Beltway air monitor than at the NAAQS-compliance monitors miles from the highway. AR_193538-39, 193545.

The record is also clear that the current PM_{2.5} NAAQS are not set at levels that prevent serious health harms.¹⁷ Indeed, PM_{2.5} causes serious health harms, like heart attacks and premature deaths, at levels well below the NAAQS. *Supra* 22. Any increase in PM_{2.5} in the air increases the risk of those harms for the surrounding community. *See* AR_158671; AR_136993; *accord* AR_196543; 88 Fed. Reg. at 5582-83.¹⁸

Given this undisputed record evidence, the Agencies should have “investigate[d] and acknowledge[d]” the localized health impacts from the project’s PM_{2.5} pollution. *Nat’l Audubon Soc’y*, 422 F.3d at 194. Instead, they merely “acknowledge[d] the information” in Sierra Club’s

¹⁷ The State of Maryland agrees. In 2020, Maryland joined a multi-state comment to EPA that argued there is “significant new evidence and information demonstrating harms to human health at concentrations lower than the current NAAQS,” and thus urged EPA to lower its primary annual NAAQS limit for PM_{2.5}. Comments of New York et al. 25, EPA-HQ-OAR-2015-0072-0972 (June 29, 2020), <https://tinyurl.com/4avz9akc>. When EPA didn’t, Maryland joined with other states and sued the agency. *California et al. v. EPA*, No. 21-1014 (D.C. Cir. filed Jan. 13, 2021). This March, Maryland again joined rulemaking comments insisting that EPA must lower its PM_{2.5} NAAQS to adequately protect public health. Comments of California et al. 1, 16-27, EPA-HQ-OAR-2015-0072-2307 (Mar. 28, 2023), <https://tinyurl.com/pak2e37m>.

¹⁸ *See also United States v. Westvaco Corp.*, No. 00-cv-2602, 2015 WL 10323214, at *9 (D. Md. Feb. 26, 2015) (“The majority scientific consensus, accepted by the Court, is that the harm from exposure to PM_{2.5} is linear, and there is no known threshold below which PM_{2.5} is not harmful to human health.”); *N.C. ex rel. Cooper v. TVA*, 593 F. Supp. 2d 812, 821 (W.D.N.C. 2009) (“PM_{2.5} exposure has significant negative impacts on human health, even when the exposure occurs at levels at or below the NAAQS.”), *rev’d on other grounds*, 615 F.3d 291 (4th Cir. 2010).

comments, *see* AR_022746, and quickly moved on—“sweeping [the] negative evidence under the rug,” *Nat’l Audubon Soc’y*, 422 F.3d at 194. This violated NEPA’s hard look requirement. *Id.*

Fourth Circuit precedent underscores the flaws in the Agencies’ approach to health harms from PM_{2.5} pollution. In *Friends of Buckingham v. State Air Pollution Control Board*, 947 F.3d 68 (4th Cir. 2020), the Fourth Circuit rejected a less-extreme version of the rationale the Agencies employed here. In that case, a Virginia agency approved a new compressor station for a natural gas pipeline in a historic, predominantly African American community. *Id.* at 71. The agency acknowledged that the station would increase local PM_{2.5} levels by up to 40% and that sensitive populations living nearby would breathe that air. *Id.* at 91. But, because it concluded that PM_{2.5} levels would not exceed the NAAQS, the agency claimed it did not need to further assess the health impacts the increased PM_{2.5} levels would have on the local community. *Id.*

The Fourth Circuit rejected the agency’s attempt to “fall[] back” on the NAAQS.¹⁹ *Id.* at 92. Record evidence showed that “even when NAAQS are not violated . . . exposure to PM_{2.5} will increase the risk of asthma, heart attacks, and death.” *Id.* “Indeed, any amount of PM_{2.5} in the system is harmful.” *Id.* The Court thus held that the agency’s failure to assess local PM_{2.5} health impacts was arbitrary and capricious.²⁰ *Id.* at 92-93.

¹⁹ There are out-of-Circuit cases that go the other way. But they’re not binding on this Court. And they’re either distinguishable on the facts, *see, e.g., San Juan Citizens All. v. U.S. Bureau of Land Mgmt.*, 326 F. Supp. 3d 1227, 1250-52 (D.N.M. 2018) (agency estimated increased levels of NAAQS pollutants, and plaintiffs did not argue below-NAAQS impacts), or they’re irreconcilable with the reasoning in *Friends of Buckingham* and EPA’s longstanding position that the PM_{2.5} NAAQS are not a health-impacts threshold, *see, e.g., Sierra Club v. FHWA*, 715 F. Supp. 2d 721, 741 (S.D. Tex. 2010) (upholding decision that relied solely on regional NAAQS compliance to justify not considering local PM_{2.5} impacts).

²⁰ Although *Friends of Buckingham* concerned a state statute, that statute, like NEPA, required the agency to assess public health impacts before approving a project. *See* Va. Code Ann. § 10.1-1307(E)(1). And the Fourth Circuit, in enforcing that statute, applied the same arbitrary and capricious review standard it applies when “reviewing federal administrative agency actions,” like this one under NEPA. *Friends of Buckingham*, 947 F.3d at 80-82.

So too here. Just as in *Friends of Buckingham*, the record shows the serious public health risks from increased PM_{2.5} levels, even below the NAAQS. *Supra* 22. And yet the Agencies relied on NAAQS compliance to justify their decision not to assess localized health impacts from the project's PM_{2.5} emissions.²¹ Compare AR_000408, with *Friends of Buckingham*, 947 F.3d at 91-92. Indeed, the Agencies did *less* than what the Fourth Circuit found lacking in *Friends of Buckingham*. There, the agency modeled the increase in local PM_{2.5} levels from the new compressor station; its error was not using those modeled levels to assess local health impacts. 947 F.3d at 91-93. Here, the Agencies couldn't even assess PM_{2.5}-related impacts for communities closest to the project because they outright refused to determine the project's effect on local PM_{2.5} levels. As in *Friends of Buckingham*, the Agencies' decision to forgo an analysis of localized PM_{2.5} health impacts, and instead "fall back" on the NAAQS, was arbitrary and capricious.

4. The Agencies' other reasons for refusing to consider localized health harms from the project's PM_{2.5} emissions were arbitrary and capricious

In the FEIS, the Agencies suggested that the Clean Air Act's conformity requirements and a 1987 FHWA Advisory supported their decision to ignore the project's localized PM_{2.5} health impacts. *See* AR_014329. The Agencies were wrong.

Conformity is a red herring. The Clean Air Act's conformity requirements, when implicated, limit federal agencies' authority to approve a project at all. *Supra* 21. For example, FHWA can't approve a highway project in a NAAQS nonattainment area unless the project "conforms" to the state's implementation plan. 42 U.S.C. § 7506(c)(1), (5). But, as the Agencies admit, the conformity requirements didn't apply here because the region is complying with the

²¹ As in *Friends of Buckingham*, the project's PM_{2.5} emissions also threaten disproportionate harm to the environmental justice communities "living closest to the" project. Compare *Friends of Buckingham*, 947 F.3d at 91, with *infra* Part II.B.

PM_{2.5} NAAQS. AR_014329. This didn't mean the Agencies could ignore the local impacts from the project's PM_{2.5} pollution under NEPA. It simply meant that, whatever those impacts might be, the Clean Air Act wouldn't *forbid* the project's approval. In the Agencies' words, "[f]ederal requirements for air quality analyses for transportation projects derive from NEPA and, *where applicable*, the federal transportation conformity rule." AR_021175 (emphasis added). It was arbitrary and capricious for the Agencies to conclude that the *inapplicability* of conformity requirements meant they were excused from complying with their distinct NEPA obligation to assess air quality impacts. *Cf. Sierra Club v. FERC*, 867 F.3d 1357, 1375 (D.C. Cir. 2017) ("[T]he existence of permit requirements overseen by another federal agency . . . cannot substitute for a proper NEPA analysis."); *Great Basin Res. Watch v. Bureau of Land Mgmt.*, 844 F.3d 1095, 1103-04 (9th Cir. 2016) (similar).

The Agencies' apparent—though unexplained—reliance on a 1987 FHWA Advisory was also misplaced. A guidance document like the Advisory "cannot give [the Agencies] discretion to ignore NEPA's 'hard look' requirement." *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 71 n.27 (D.D.C. 2019). But even if the Advisory could do so, it doesn't here. Indeed, the Advisory, which was issued almost a decade *before* the first PM_{2.5} NAAQS, doesn't discuss PM_{2.5} at all. *Compare* FHWA Tech. Advisory T 6640.8A (1987), <https://tinyurl.com/ycym59da>, with 62 Fed. Reg. at 38,652 (setting first PM_{2.5} NAAQS in 1997); *see also* AR_177667. Thus, as FHWA staff recognized, relying on the Advisory "doesn't make sense." AR_189877. The Agencies' decision to do so anyway was arbitrary and capricious.

* * *

The Agencies had decided by 2018 that they wouldn't assess the toll lane project's localized PM_{2.5} health impacts. *See* AR_062446. Apparently, no amount of public comment, *e.g.*, AR_136992-97, contrary scientific studies and EPA findings, *e.g.*, AR_158671-74, or guidance

from experts the Agencies consulted, AR_186888, could sway them otherwise, or even motivate a substantive response. The Agencies’ “head-in-the-sand approach” to localized PM_{2.5} impacts is the “antithesis” of NEPA. *See Am. Wild Horse Pres. Campaign v. Perdue*, 873 F.3d 914, 931 (D.C. Cir. 2017). By refusing to conduct a “thorough investigation” and provide a “candid acknowledgment of the risks” increased PM_{2.5} levels pose to the health of people living closest to the proposed toll lanes, the Agencies violated their core NEPA duty to take a hard look at the project’s impacts. *Webster*, 685 F.3d at 421 (cleaned up).

B. The Agencies failed to take the required hard look at the project’s adverse impacts on environmental justice communities

Throughout the 20th century, local, state, and federal governments routinely routed highways through low-income and minority neighborhoods. AR_000476-77; *see Jersey Heights Neighborhood Ass’n v. Glendening*, 174 F.3d 180, 195 (4th Cir. 1999) (King, J., concurring) (“As often happens with interstate highways, the route selected was through the poor area of town, not through the area where the politically powerful people live.” (cleaned up)). These decisions placed “the most adverse impacts and the fewest benefits” of the highway system on minority and low-income communities, creating a “racially and economically segregated” landscape that persists today. AR_000476. As a result, in Maryland, communities with “the greatest levels of [environmental justice] concerns” concentrate along the Beltway and I-270. AR_000477.

The Agencies failed to adequately consider how expanding the Beltway and I-270 would exacerbate the environmental and public health risks facing these already overburdened communities. An agency’s environmental justice analysis must comply with the APA’s mandate for reasoned decisionmaking, *see Vecinos para el Bienestar de la Comunidad Costera v. FERC*, 6 F.4th 1321, 1330 (D.C. Cir. 2021), and must take a hard look at whether “a project will have a

disproportionately adverse effect on minority and low-income populations,” *see Friends of Buckingham*, 947 F.3d at 87 (cleaned up). Here, the Agencies found that the toll lanes project will not have a disproportionate adverse effect. But this conclusion was born out of a flawed NEPA process where they disregarded evidence of disparate harm and failed to assess cumulative impacts to environmental justice communities.

1. The Agencies failed to take a hard look at evidence that the project would disproportionately increase air pollution in environmental justice communities

In the FEIS, the Agencies claimed that the project’s air pollution would not disproportionately harm environmental justice communities because “traffic-related air pollution . . . would be distributed along” the project corridor. AR_000496. But this claim—for which the Agencies provided no explanation—ignores record evidence that shows the project would disproportionately increase air pollution in environmental justice communities around the toll lanes’ endpoints. The Agencies’ failure to account for this evidence violated NEPA.

Air pollution would not be distributed evenly along the project’s path. All else equal, increased traffic congestion increases air pollution nearby. *Supra* 7-8. Indeed, the Agencies admit that carbon monoxide emissions—a “proxy for transportation emissions,” AR_044929—generally increase with decreasing vehicle speed and increasing traffic volume. AR_027823; AR_044946; *see also* AR_000493 (admitting that “[r]ecurring congestion” can “increase emissions and impact air quality”). While the Agencies claim the project would decrease congestion in general, *see* AR_000009, FHWA staff acknowledged this purported systemwide congestion relief wouldn’t be “equally distributed,” AR_166582.²² Instead, MDOT’s modeling suggests that the project would *increase* congestion—and thus air pollution—on stretches of road

²² *See also* AR_000259 (acknowledging bottlenecks on I-270 northbound and the I-495 inner loop despite “operational benefits” elsewhere in the project area).

surrounded by environmental justice communities. *See* AR_177668-69. This is because building the toll lanes would shift the current traffic bottleneck at the American Legion Bridge, where there are no nearby environmental justice communities, to the toll lanes' endpoints, where environmental justice communities are clustered.²³ AR_154637 (MDOT acknowledging that "bottleneck shifts" from American Legion Bridge to toll lanes' endpoints "may take place").

The project would worsen traffic around the I-270 toll lanes' northern endpoint in Gaithersburg, where most surrounding census blocks are environmental justice communities.²⁴ AR_005307. Two factors contribute to this increase in congestion. First, the project would create a new chokepoint on I-270 in Gaithersburg where vehicles in the toll lanes would have to merge back with heavy traffic in the general purpose lanes. *See* AR_158588.²⁵ Second, the project would exacerbate an existing bottleneck just north of Gaithersburg where I-270 narrows from seven lanes to two lanes over the course of a few miles.²⁶ The toll lanes would bring more northbound cars "more quickly" to this bottleneck, causing congestion to "spill[] back" to Gaithersburg and snarling traffic in both the toll lanes and the general purpose lanes.

²³ *See* AR_000479 (showing no low-income or minority communities surrounding the American Legion Bridge, and several low-income and/or minority communities concentrated around the I-370/I-270 interchange, where toll lanes on I-270 would end, and around the I-270 spurs, where toll lanes on I-495 would end).

²⁴ AR_159738-39 ("[T]he Preferred Alternative does not eliminate congestion in the corridors studied but instead shifts it from the vicinity of the [American Legion Bridge] . . . to other areas in Maryland. While some of these bottleneck shifts were expected, the degree of congestion resulting from the proposed project is severe on I-270 north of I-370 . . .").

²⁵ The former president of Transurban North America, the toll lanes project's original developer, explained that "the worst thing about the express lanes is where they end" because a "choke point" forms where the toll lanes merge with the general-purpose lanes. AR_160600.

²⁶ *See* AR_000714 (showing that I-270 northbound narrows from seven lanes to two between I-370 and MD-121); AR_001322 (describing an existing bottleneck and slow traffic on I-270 northbound past I-370 during evening peak hours, as local lanes merge with express lanes and as the number of lanes decreases).

AR_001624. The result would be “degrad[ed]” traffic speeds on the stretch of I-270 near the environmental justice communities in Gaithersburg. *Id.* According to MDOT’s modeling, average northbound speeds from 6 pm to 7 pm at the I-370 interchange (where the toll lanes on I-270 would end) would drop by around 30 mph if the toll lanes are built. AR_001719.²⁷

For similar reasons, segments along the I-270 spurs near the endpoints of the I-495 Inner Loop toll lanes would have worse, and indeed “failing,” traffic conditions under the project.²⁸ As FHWA observed, the project would worsen traffic in this area because of “the increase of demand with the addition of the [toll] lanes and the new bottleneck created at the [toll] lane terminus.” AR_167685. And, like in Gaithersburg, the increased traffic would occur on stretches of road that border environmental justice communities—this time in North Bethesda. AR_005206.

The connection between increased congestion and air pollution in environmental justice communities—described by commenters and apparent from the Agencies’ own data—receives no discussion in the FEIS. Instead, the Agencies “provided the public with erroneous information,” *N.C. Wildlife Fed’n v. N.C. Dep’t of Transp.*, 677 F.3d 596, 603 (4th Cir. 2012), claiming incorrectly that all communities along the highway would receive an equal share of air

²⁷ See also AR_001421 (showing slower speeds for a longer period of time in northbound general purpose lanes during afternoon peak hours between Shady Grove Road and MD-117 if the project is built); AR_001732 (showing decreased speed along I-270 northbound for the general purpose lanes from 5 pm to 6 pm between Shady Grove Road and MD-117 if the project is built); AR_001701 (showing generally higher vehicle densities and the worst level of service on I-270 northbound general purpose lanes between Shady Grove Road and MD-117, in particular from 6 pm to 7 pm, if the project is built).

²⁸ See AR_001643 (showing significant increase in travel time from 8 am to 9 am between I-270 West Spur and MD-187 where the toll lanes would end); AR_166582-83 (FHWA staff observing same); AR_001690 (showing degraded and failing traffic conditions on the I-495 Inner Loop during morning rush hour between I-270 West Spur and MD-187, between MD-187 and I-270 East Spur, and at MD-187 and I-270 East Spur Interchanges, if the project is built).

pollution, AR_000496. This misleading statement reflects the Agencies’ failure to “grapple with the likelihood that those living closest to” project-induced traffic congestion in Gaithersburg and along the I-270 spurs would “be affected more than those living in other parts of” the project corridor. *Friends of Buckingham*, 947 F.3d at 92-93. The Agencies did not “carefully consider” the data that connect congestion with higher air pollution in environmental justice communities near the toll lanes’ endpoints. *Robertson*, 490 U.S. at 349. The Agencies’ analysis instead “runs counter to the evidence before” them. *State Farm*, 463 U.S. at 43. This violated NEPA.

2. The Agencies failed to take a hard look at the project’s cumulative harms to environmental justice communities

Under NEPA, an agency must consider the cumulative impacts of a proposed project. 40 C.F.R. §§ 1502.16(a)-(b), 1508.27(b)(7) (2019).²⁹ Cumulative impacts are those that “result[] from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions,” regardless of who is responsible for those other actions. *Id.* § 1508.7. An EIS violates NEPA’s hard look requirement “when it consider[s] only the incremental impacts” of a project and ignores how those impacts may build upon existing harms. *Grand Canyon Trust v. FAA*, 290 F.3d 339, 341, 345-47 (D.C. Cir. 2002).

Consideration of cumulative impacts is critical in environmental justice analyses. This is in part because many minority and low-income communities are already overburdened by environmental, public health, and socioeconomic stressors, often due to past government actions, *see* AR_000476-77, making them more vulnerable to a project’s adverse effects. *See* AR_177819-20. Recognizing this, the Council on Environmental Quality—the White House

²⁹ The Council on Environmental Quality issued revised NEPA regulations in 2020 that applied to “any NEPA process begun after September 14, 2020.” 40 C.F.R. § 1506.13. Because the NEPA process for the project began in 2018, *see* AR_055593, Plaintiffs cite the Council regulations then in force, as reflected in the 2019 Code of Federal Regulations.

office created by Congress to oversee NEPA implementation, *see* 42 U.S.C. § 4344(3)-(4)—instructs agencies to account for “the historical patterns of exposure to environmental hazards.”³⁰ FHWA similarly requires environmental justice analyses to address cumulative impacts, including a disclosure of adverse effects that are “appreciably more severe or greater in magnitude than the adverse effect that will be suffered” by non-environmental justice communities. FHWA Order 6640.23A ¶ 5(f)-(g) (2012), <https://tinyurl.com/yd2tu3sr>; USDOT Order 5610.2C app’x ¶ 1(f)-(g).

The Agencies failed to take a hard look at cumulative impacts to environmental justice communities because they did not factor into their analysis the pre-existing pollution burdens and health vulnerabilities in those communities—burdens and vulnerabilities that are higher than those in non-environmental justice communities. Instead, the Agencies confined their analysis to the project’s incremental effects, claiming that, because each of the project’s impacts would not “be higher or more adverse” for environmental justice communities, the project would not have disproportionately adverse effects. AR_000494-03. This approach unlawfully analyzes the project’s incremental impacts “in a vacuum,” *Grand Canyon Trust*, 290 F.3d at 342, giving no consideration to the fact that, as the EPA pointed out in its comments, environmental justice populations “may face elevated susceptibility to impacts that may affect other populations less severely.” AR_158547.

Record evidence—compiled by the Agencies when defining which communities constitute “[environmental justice] populations,” AR_005207-09—confirms this elevated susceptibility. For example, these data show that environmental justice communities in Gaithersburg, in close proximity to heavy traffic on I-270 that the project would make worse, *see*

³⁰ Council on Env’tl. Quality, *Environmental Justice: Guidance Under the National Environmental Policy Act* 9 (1997), <https://tinyurl.com/49bfc4z>.

supra 9, 31-32, already breathe some of the dirtiest air in Maryland and face some of the highest levels of respiratory hazards and air toxics cancer risks.³¹ Additional air pollution from the project risks further exacerbating the disproportionate air quality burdens shouldered by these communities, whose members are likely to experience more adverse harms from incremental air pollution from the project.³² This is true even if the project’s air pollution would—contrary to the record evidence, *supra* Part II.B.1—be distributed evenly along the proposed toll lanes. Baseline pollution and health risk data matter for cumulative impacts; the Agencies compiled some baseline data, but then ignored them.

The Agencies did bury, deep in the FEIS, a one-sentence acknowledgement that environmental justice populations “*may* experience air quality impacts” from the project “more acutely” than non-environmental justice populations due to their “higher sensitivity and exposure to pollutants.” AR_000649-50 (emphasis added). But this tentative admission, with no accompanying quantitative or qualitative analysis, isn’t enough. Aside from being inconsistent with the Agencies’ claim of no disproportionate adverse effects, *see ANR Storage Co. v. FERC*, 904 F.3d 1020, 1028 (D.C. Cir. 2018) (finding “internally inconsistent” agency action arbitrary and capricious), this sort of “[c]onclusory” acknowledgment of possible cumulative effects falls short of NEPA’s hard look requirement. *N.C. Wildlife Fed’n*, 677 F.3d at 602. A NEPA analysis “*must* measure” cumulative effects, *id.*, and “not only disclose” but “also fully assess” risks,

³¹ See *supra* note 6, at 9-10 (explaining several environmental justice communities in Gaithersburg are at or above the 89th percentile in the state for environmental justice concerns relating to air quality).

³² There is much record evidence showing that exposure to higher levels of air pollution comes with higher health risks. See, e.g., AR_000668 (literature review concluding that “evidence is sufficient to support a causal relationship between exposure to traffic-related air pollution and exacerbation of asthma,” and finding “suggestive evidence of a causal relationship with onset of childhood asthma, non-asthma respiratory symptoms, impaired lung functions, total and cardiovascular mortality, and cardiovascular morbidity”); AR_136993-94.

California v. Bernhardt, 472 F. Supp. 3d 573, 620 (N.D. Cal. 2020). The Agencies did none of these things. They didn't attempt to "project[] cumulative levels" of air pollution from the project and the "existing environmental hazards in the same area." *Sierra Club*, 867 F.3d at 1370-71 (upholding analysis that did so). And they were silent as to how and to what degree environmental justice communities' "higher sensitivity and exposure" to air pollution, *see* AR_000649-50, "might amplify [the community's] experience of the environmental effects," *see Standing Rock Sioux Tribe v. U.S. Army Corps of Eng'rs*, 255 F. Supp. 3d 101, 140 (D.D.C. 2017) (finding "silen[ce]" on this issue violated NEPA). The Agencies' failure to take a hard look at the project's cumulative impacts to environmental justice populations violated NEPA.

C. The Agencies failed to disclose and explain important aspects of their traffic modeling

Traffic modeling conducted by MDOT predicted that the toll lanes project would reduce overall traffic congestion compared to taking no action. AR_000260, 325-33. This modeling served as the Agencies' primary evidence for their claim that the project would fulfill its core purpose of relieving traffic congestion on the Beltway and I-270. AR_000009; AR_000242-43, 258-60.

Despite traffic modeling's central role in the Agencies' assessment of the project's benefits, the Agencies ignored expert critiques of the modeling's reliability, refused to adequately explain MDOT's manual changes to modeling outputs, and withheld modeling files that would have shed light on aspects of the modeling the Agencies otherwise refused to explain. Taken together, these decisions shielded a key methodology from public scrutiny and thereby violated NEPA. *See N.C. Wildlife Fed'n*, 677 F.3d at 602-05.

1. The Agencies failed to respond to substantive comments from a traffic modeling expert

NEPA requires agencies to respond to “substantive comments,” 40 C.F.R. § 1503.4; 23 C.F.R. § 771.125(a)(1), and discuss “any responsible opposing point of view” in an EIS, 40 C.F.R. § 1502.9(b). This requirement ensures that agencies “internalize opposing viewpoints” and are “cognizant of all the environmental trade-offs that are implicit in a decision.” *California v. Block*, 690 F.2d 753, 771 (9th Cir. 1982).

Sierra Club submitted three rounds of detailed comments on MDOT’s traffic modeling. AR_137028-70; AR_158583-625; AR_177776-85; AR_178647-70. The comments were authored in part by Norman Marshall, a transportation modeling expert with more than three decades of experience. AR_178648. Marshall repeatedly raised a basic concern that the model made unrealistic assumptions that rendered its predictions unreliable—or, as he put it, “garbage in—garbage out.” AR_137043. The Agencies did not question Marshall’s expertise; they even made minor changes to their modeling in response to some of his narrower, technical criticisms. AR_023038; *see also* AR_141265 (comment from U.S. Army Corps of Engineers calling on the Agencies to revise the traffic model in response to Marshall’s comments). But when it came to Marshall’s fundamental critiques of the modeling, the Agencies refused to engage with his “responsible opposing point of view.” *See* 40 C.F.R. § 1502.9(b).

Marshall pointed out that MDOT’s modeling predicted unrealistically high traffic volumes on numerous stretches of road—numbers of cars far beyond what those roads have capacity to carry. AR_158586, 158590, 158593. Overestimating traffic volumes in turn caused MDOT’s modeling to predict extreme and implausible levels of gridlock. Those inflated estimates of congestion led to inflated estimates of the congestion relief that toll lanes could offer. AR_137028-34, 137040-46; AR_158590-93, 158600-01; AR_178663-67, 178669. This is

because, if one assumes, as MDOT did, that cars will continue piling onto the Beltway and I-270 even when traffic is already gridlocked, then the only way to ease that congestion would be to provide new lanes to carry the inexorable tide of vehicles.

But MDOT's assumption defies common sense: drivers do not ignore traffic conditions when deciding where and when to travel. Federal traffic modeling experts at the U.S. Department of Transportation's Volpe Center explained that, "in practice," when drivers encounter "extremely high localized delays" on roads, they "re-route around these areas." AR_000138. The Volpe Center found that MDOT's model failed to account for this important aspect of drivers' "real world" behavior." *Id.*

Marshall's SDEIS comments showed how MDOT's flawed approach produced absurd results. MDOT modeled evening rush hour traffic from 3 pm to 7 pm. AR_000319. Its modeling of traffic conditions in 2045 predicted that delays on the Inner Loop of the Beltway at the American Legion Bridge would increase right up to 7 pm. AR_158588; *see also* AR_028116 (percentage demand met by Preferred Alternative on Inner Loop at the American Legion Bridge falling from 97% from 3-4 pm to 39% from 6-7 pm). MDOT did not model traffic patterns for the rest of the evening, but Marshall showed that, under MDOT's assumptions, traffic backups on the bridge could grow until 10 pm and not clear until 3 pm. AR_158588-89. Modeling assumptions that would forecast rush hour traffic lasting past midnight call into question the model's reliability.

NEPA required the Agencies to offer a reasoned response to Marshall's substantive comments. 40 C.F.R. §§ 1502.9(b), 1503.4; 23 C.F.R. § 771.125(a)(1). Instead, the Agencies mischaracterized Marshall's comments, inaccurately claiming that he wanted MDOT to assume "zero growth" in traffic volumes. AR_023037. The Agencies then dismissed this strawman with

citations to portions of the DEIS and FEIS that do not discuss the issues raised by Marshall's comments. AR_023038 (responding to Marshall's comments about "over capacity assignments" by citing FEIS Chapter 9 and DEIS Appendix C). The Agencies' "response completely fail[ed] to address or refute the concern presented." *Ctr. for Biological Diversity v. U.S. Forest Serv.*, 349 F.3d 1157, 1167-68 (9th Cir. 2003); *see* AR_178664-66 (Marshall's critique of the Agencies' non-response). The Agencies' failure to address "the expert evidence furnished to" them regarding defects in their traffic modeling violated NEPA. *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 444-46 (4th Cir. 1996).

2. The Agencies failed to explain MDOT's manual alterations to modeling results

Despite ignoring Marshall's concern about the modeling's overestimation of traffic volumes, the issue surfaced again when MDOT made changes to its modeling between the SDEIS and FEIS. MDOT concluded that its SDEIS modeling overestimated traffic volumes at ramps connecting the Beltway to the Greenbelt Metro. AR_000132. "[F]orecasted volumes that well exceeded the capacity of the roadway" would cause traffic backups on the Beltway that MDOT deemed unrealistic. *Id.* So, for the FEIS, MDOT reduced traffic volumes on these ramps by hand to clear the backups. *Id.*; AR_000173; AR_000138 (identifying MDOT's "manual adjustment of volumes" in the area around the Greenbelt Metro as one reason estimated travel times changed between the SDEIS and FEIS).

The Agencies' explanation of these changes fell short of their obligations under NEPA in two respects. First, the Agencies didn't disclose enough information about their manual alterations to enable the public "to make independent judgments about the [Agencies'] action." *Izaak Walton League of Am. v. Marsh*, 655 F.2d 346, 369 (D.C. Cir. 1981). After reviewing MDOT's changes to its modeling results, traffic modeling experts at the U.S. Department of

Transportation’s Volpe Center explained that, because they “could not find a detailed explanation of the adjustments” MDOT made, they could not “assess their plausibility or validity.” AR_000139. If the federal government’s own traffic modeling experts could not evaluate the “plausibility or validity” of MDOT’s manual manipulation of model outputs, then how could the public? The Agencies withheld “relevant information” about their assessment of the project’s benefits, impairing the public’s ability to “play a role in the decisionmaking process.” *Hughes River*, 81 F.3d at 446.

Second, MDOT’s selective manual adjustments were inconsistent with its summary dismissal of Marshall’s comments. Marshall argued that MDOT’s modeling systemically overestimated traffic volumes, leading it to overestimate congestion. *See, e.g.*, AR_137030-33, 137040-42. MDOT ignored Marshall’s criticism, but then manually reduced traffic volumes at just the Greenbelt ramps because it found that its modeling had overestimated traffic volumes in this area, leading it to overestimate congestion. AR_000132. Nowhere did MDOT acknowledge that its alterations addressed one example of the precise problem raised by Marshall. Worse, nowhere did MDOT explain why it was reasonable to address the problem of unrealistically high traffic volumes for only one road segment when Marshall showed that this problem pervades the model. *See* AR_137033 (map from Marshall’s comments depicting myriad road segments where estimated traffic volumes exceed the road’s capacity). MDOT’s selective manipulation of model outputs raises questions about the reliability of the model’s predictions and the “scientific integrity[] of the discussions and analyses” in the FEIS. 40 C.F.R. § 1502.24; *cf. Nat’l Parks Conservation Ass’n v. EPA*, 788 F.3d 1134, 1141 (9th Cir. 2015) (An agency’s “internally inconsistent analysis is arbitrary and capricious.”). MDOT’s failure to explain its selective manipulation of model outputs violated NEPA.

3. The Agencies withheld traffic modeling files

The Agencies capped off their lack of transparency about traffic modeling by refusing to disclose computer files used for and created by MDOT's modeling. Sierra Club twice asked MDOT to release its modeling files as part of the NEPA process and let the public look under the model's hood. AR_135914-16; AR_175918-20. Twice MDOT refused. AR_135999; AR_189589. It would only share its work if Sierra Club paid more than \$21,000. AR_189589; *see also* AR_135999-6000 (refusing to produce DEIS traffic files without \$6,294 upfront payment). FHWA, for its part, claimed it could not release MDOT's modeling files because it never reviewed them. AR_136264; AR_136152

NEPA required the Agencies to make the data underlying their analysis of the project's effects "reasonably available for inspection by potentially interested persons within the time allowed for comment." 40 C.F.R. § 1502.21; *WildEarth Guardians v. Mont. Snowmobile Ass'n*, 790 F.3d 920, 925 (9th Cir. 2015). MDOT's refusal to release its modeling files "severely hampered" Marshall's analysis because it concealed important choices MDOT made in building and running its model. AR_178649-50. The information obscured from public view included some of the model's key parameters, MDOT's compliance with agency modeling guidance, and whether MDOT ran the model enough times to achieve reliable results. AR_178651-64, 178669.

MDOT's decision to withhold its modeling files compounded the harm to public understanding caused by its failures both to respond to Marshall's comments and to adequately explain its manual alterations to model outputs. Had it released the modeling files, independent experts would have had a chance to investigate questions about the modeling that the Agencies refused to answer. But proffering neither the files nor a reasonable explanation, the Agencies left the public in the dark regarding important aspects of how they arrived at their traffic projections.

* * *

No model is perfect, and the Agencies are entitled to deference for reasonable methodological choices they make. But they still had to disclose “relevant shortcomings in the data or model[.]” *N.C. Wildlife Fed’n*, 677 F.3d at 603 (cleaned up). “Perhaps the defendants’ [traffic modeling] projections are accurate, but unless members of the public are able to understand how the projections were produced, such that they can either accept the projections or intelligently challenge them, NEPA cannot achieve its goals of informed decisionmaking and informed public participation.” *1000 Friends of Wis. v. U.S. Dep’t of Transp.*, No. 11-c-0545, 2015 WL 2454271, at *7 (E.D. Wisc. May 22, 2015).

The Agencies frustrated, rather than facilitated, informed public participation regarding their traffic modeling. They ignored expert criticism, refused to explain manual alterations of model results, and withheld files documenting their work. The net effect was to “deprive[.]” the public of its “opportunity to play a role in the decision-making process.” *N.C. Wildlife Fed’n*, 677 F.3d at 603 (cleaned up). That violated NEPA.

D. The Agencies failed to take the required hard look at impacts from belated changes to the George Washington Memorial Parkway interchange design

1. The Agencies failed to take a hard look at the belated interchange design changes, which had significant impacts not disclosed in their NEPA documents

The modified George Washington Memorial Parkway interchange design impacting the Live Oak Drive Community resulted in significant new information and changed circumstances that required NEPA supplementation. *See* 40 C.F.R. § 1502.9(c)(1)(ii) (requiring supplementation when “[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts”). In reviewing whether a supplemental environmental document must be prepared to assess project changes or

new information, the Court must consider “whether the agency took a hard look at the proffered new information.” *Hughes River*, 81 F.3d at 443.

Here, the Agencies failed to take a hard look at the environmental impacts of the new flyover ramps in Virginia, including increased noise, light and air pollution, and visual impacts, removal of mature trees that served as a buffer between Live Oak Drive and the existing I-495 and parkway ramps, harm to water quality due to increased salt from run-off, petroleum, and petroleum by-products, and increased exposure to harmful air pollutants. *See* Butler Decl. ¶¶ 5-6, 12-14. The Agencies’ belated, vague, and cursory mention of this major design modification in the FEIS, without any accompanying impact assessment, deprived members of the public—particularly the Live Oak Drive Community—of any meaningful opportunity to understand and comment on the scope of the design changes, their impacts, or alternatives to mitigate those impacts.

As a result, the FEIS also failed to consider measures that would reduce or mitigate harm to the Live Oak Drive Community from the increased light and water quality impacts to the west of the new flyover ramps. *See* 40 C.F.R. § 1502.16(f), (h) (requiring discussion of mitigation of environmental impacts). Meaningful mitigation could have included re-vegetation of the forested area that has been cleared, mitigation to address flooding of septic fields and runoff into the Potomac watershed, and alignment shifts to reduce light and noise impacts on Live Oak Drive.³³

³³ While the administrative record reflects some discussions between MDOT and VDOT (but not FHWA) about noise walls that occurred outside of the NEPA process, AR_156196-97, noise walls are not included as binding mitigation in the ROD and may not be ultimately built. Likewise, while VDOT told the community that the developer would “comply with all applicable” Virginia laws to mitigate the loss of trees and forests, AR_169494, this promise was meaningless since, as the ROD concedes, in Virginia “there is no statewide forest regulation that requires mitigation off county or state parkland,” AR_000059. Accordingly, the Agencies cannot claim that the revealed impacts to the Live Oak Drive Community have been mitigated to a less-than-significant level.

The FEIS failed to consider any alternative designs, such as moving the interchange toward Tysons Corner, allowing commercial trucks to exit the 495 Express Lanes in Tysons instead of McLean, or eliminating the need for and reducing the footprint of some flyover ramps. The ROD likewise contains no commitments to protect the Live Oak Drive Community from the specific and new impacts of the modified interchange. And, because the new interchange design wasn't made public until the eve of the FEIS, the community had no meaningful opportunity to demand that the Agencies consider those alternatives or mitigation efforts. And they certainly had no reason to expect that the FEIS would disclose MDOT's new plan to build part of an enlarged interchange in Virginia as part of the Maryland toll lanes project.

The apparent position of the Agencies was that no assessment of environmental impacts from the design modification was needed because the interchange remained within the "Limits of Disturbance" for the toll lanes project, and therefore any design changes wouldn't affect the presumed impacts. AR_159972. However, it is not enough for the Agencies to generally assume that every feature in the Limits of Disturbance will be impacted; NEPA requires that an EIS study both the affected environment and "the environmental impacts of the alternatives including the proposed action," the significance of those impacts, and "any adverse environmental effects which cannot be avoided should the proposal be implemented." 40 C.F.R. § 1502.16. The Tenth Circuit has specifically rejected the Agencies' apparent view here, stating that "[w]e would not say that analyzing the likely impacts of building a dirt road along the edge of an ecosystem excuses an agency from analyzing the impacts of building a four-lane highway straight down the middle, simply because the type of impact—habitat disturbance—is the same under either scenario." *N.M. ex rel. Richardson v. Bureau of Land Mgmt.*, 565 F.3d 683, 707 (10th Cir. 2009). There is no evidence in the administrative record that the Agencies accounted for the unique

impacts from the belated interchange design modifications on the Live Oak Drive Community.

Nor can the Agencies rely on any assessment done as part of the 495 NEXT project since VDOT's post-NEPA memos provide no supplemental environmental analysis. These sorts of internal agency reports are no substitute for a public, supplemental NEPA document. *Price Rd. Neighborhood Ass'n v. U.S. Dep't of Transp.*, 113 F.3d 1505, 1510 (9th Cir. 1997). VDOT's Interchange Justification Report Addendum, approved by FHWA in January 2022, evaluated only the traffic and safety aspects of this interchange modification. *See* Butler Decl. Ex. A att. 11 at 2-4. Notably, this addendum makes clear that "these modifications are assumed to be provided as part of the Maryland project and as such will be subject to VDOT's review process as that project moves forward on a parallel but independent track." *Id.* at 1. Accordingly, the Agencies failed to take the required hard look at the impacts of the George Washington Memorial Parkway interchange modifications, including to determine whether a supplemental NEPA review was warranted.

2. The Agencies failed to consider the cumulative impacts from the belated modified interchange design

The Agencies also violated NEPA by failing to include in the FEIS any assessment of the totality of the impacts of the modified George Washington Memorial Parkway interchange. As noted above, NEPA required the Agencies to consider both the incremental effects and the "reasonably anticipated cumulative impacts of a proposed project." 40 C.F.R. § 1508.7, 27(b)(7).

The belated design modifications, undertaken long after the completion of the 495 NEXT NEPA studies, have already caused massive environmental impacts on the Live Oak Drive Community that had not previously been disclosed or evaluated under NEPA: The previously wooded area in the interchange between the Beltway and the parkway that buffered the Live Oak Drive Community from highway-related impacts has now been completely deforested by VDOT,

and the stormwater basins have been consolidated and enlarged to accommodate the additional flyover ramps MDOT plans to build as part of the toll lanes project. Butler Decl. ¶¶ 5-6 & Ex. B. As noted above, the environmental impacts of these changes were never evaluated as part of the 495 Next project, nor in the FEIS for the Maryland toll lanes project.

Even if VDOT's work so far on this interchange was done as part of the 495 NEXT project, the totality of the impacts of this interchange modification will be significant, and the Agencies failed to address them in the FEIS. Instead of the two flyover ramps as part of the original interchange design, the redesigned cloverleaf interchange now includes a total of five flyover ramps, including one wishbone-shaped ramp right by Live Oak Drive as well as realigned existing ramps between the Beltway general purpose lanes and the parkway. And what was previously depicted as a small pond surrounded by trees was changed into a massive, deep stormwater basin surrounded by a deforested moonscape. Butler Decl. ¶¶ 5-6. The totality of the changes in the interchange design cannot remotely be considered the sort of minor variations of the alternatives discussed in the SDEIS that could be approved without supplemental environmental review. *See Cascadian Wildlands v U.S. Forest Serv.*, No. 21-cv-1225, 2021 WL 6112546, at *6 (D. Or. Dec. 27, 2021) (finding plaintiffs likely to succeed on claims that a "shift in the planned logging from a general program of thinning to post-fire salvage logging also represents a substantial change to the proposed action that is relevant to environmental concerns and that this change triggers the need for supplementation"). And even short of supplementation, the Agencies needed to take a hard look at the cumulative impacts of the new design on the Live Oak Drive Community in the FEIS. The Agencies did neither; that violated NEPA.

III. The Agencies violated Section 4(f) and Section 106³⁴

NHPA Section 106 and Transportation Act Section 4(f) both express Congress’s intent to protect historic sites from unstudied and unnecessary damage.

“The purpose of the National Historic Preservation Act is to remedy the dilemma that historic properties significant to the Nation’s heritage are being lost or substantially altered, often inadvertently, with increasing frequency.” *Pye*, 269 F.3d at 468 (cleaned up). Section 106 of NHPA requires federal agencies, prior to funding or licensing a proposed project, to “take into account” the project’s effects on properties that are included or eligible for inclusion in the National Register of Historic Places. 54 U.S.C. §§ 306108, 300320, 300308, 300311. If a project will harm a historic site, Section 106 requires the agency to “seek ways to avoid, minimize or mitigate any adverse effects.” 36 C.F.R. §§ 800.1(a), 800.5(a), (d), 800.6(b).

Section 4(f) of the Department of Transportation Act goes beyond Section 106’s procedural requirements, imposing “substantive restraints” on FHWA’s authority to approve transportation projects. *Defs. of Wildlife*, 762 F.3d at 398. FHWA must give the protection of parks and historic sites “paramount importance,” *Citizens to Pres. Overton Park, Inc. v. Volpe*, 401 U.S. 402, 412-13 (1971), and “start with a strong presumption” against allowing transportation projects to damage those resources, *Hickory Neighborhood Def. League v. Skinner*, 910 F.2d 159, 163 (4th Cir. 1990) (cleaned up). Under Section 4(f), FHWA may approve a transportation project that “use[s]” a public park or significant historic site “only if (1) there is no prudent and feasible alternative to using that land; and (2) the . . . project includes all possible planning to minimize harm to the park . . . or historic site resulting from the use.” 49

³⁴ Friends of Moses Hall, Sierra Club, and National Trust for Historic Preservation join the argument in Part III.A. Sierra Club, National Trust for Historic Preservation, and NRDC join the argument in Part III.B.

U.S.C. § 303(c). If there is no prudent and feasible alternative that avoids the use of all Section 4(f) property, then FHWA must choose the alternative that “[c]auses the least overall harm in light of the statute’s preservation purpose.” 23 C.F.R. § 774.3(c)(1).

A. The Agencies violated Section 4(f) and Section 106 by approving the project without determining whether it would disturb graves in Morningstar Moses Cemetery

The Agencies admit that graves from the historic Morningstar Moses Cemetery may lie within the project’s Limits of Disturbance. AR_000399; AR_014298. Thus, among other impacts, building the toll lanes might disinter human remains from this 130-year-old African American cemetery. Section 4(f) and Section 106 required the Agencies to determine whether widening the Beltway would disturb graves *before* they approved the project. The Agencies could have done so and thereby fulfilled their legal obligations, respected the descendants’ concerns, and helped preserve a historic cemetery that has already lost so much to the Beltway. But the Agencies refused.

1. The Agencies’ failure to determine whether the toll lanes project will “use” Morningstar Moses Cemetery violated Section 4(f)

Section 4(f) requires FHWA to determine whether a transportation project will “use” parks or historic sites before approving the project. 49 U.S.C. § 303(c). In fact, that’s the first step in the Section 4(f) process,³⁵ and must be completed “as early as practicable in the development of the action when alternatives to the proposed action are under study,” 23 C.F.R. § 774.9(a). For a project subject to an EIS, FHWA “will make the Section 4(f) approval either in the final EIS or in the ROD.” *Id.* § 774.9(b). Thus, the “Section 4(f) evaluation of the entire project must be completed before the [ROD] is issued and before work on the project begins.”

³⁵ FHWA, *Section 4(f) Policy Paper* 62 (2012), <https://tinyurl.com/mr3uhmhr>.

Defs. of Wildlife, 762 F.3d at 400; accord *N. Idaho Cmty. Action Network v. U.S. Dep’t of Transp.*, 545 F.3d 1147, 1158-59 (9th Cir. 2008).

Contrary to the Section 4(f) regulations’ “crystalline command,” *Corridor H Alts., Inc. v. Slater*, 166 F.3d 368, 373 (D.C. Cir. 1999), the Agencies did not finish the Section 4(f) evaluation with respect to Morningstar Moses Cemetery before issuing the ROD. They admit that the project’s Limits of Disturbance may contain graves from the Cemetery. AR_000399; AR_014298. The project, therefore, might “use” the Cemetery by “permanently incorporat[ing]” its land into the Beltway and by disinterring human remains during construction. *See* 23 C.F.R. § 774.17. The Agencies, however, didn’t determine whether there are graves in the Limits of Disturbance. AR_014298. If they had found graves in the toll lanes’ path, that discovery would have triggered an obligation to avoid the Cemetery altogether or, barring that, to minimize the harm.³⁶ *See* 49 U.S.C. § 303(c); 23 C.F.R. § 774.3. But the Agencies cast off Section 4(f)’s “substantive restraints,” *Defs. of Wildlife*, 762 F.3d at 398, and issued the ROD without first determining whether the project would use the Cemetery or whether they could avoid or minimize the damage.

The Agencies’ promise to search for graves later, after issuing the ROD, AR_000067, isn’t enough under Section 4(f). Section 4(f) and FHWA’s implementing regulations prohibit the Agencies from deferring their reckoning with the project’s harms to the Cemetery. *See* 49 U.S.C. § 303(c); 23 C.F.R. § 774.9(a)-(b); *Defs. of Wildlife*, 762 F.3d at 399. Moreover, by delaying the search for human remains until after the ROD, the Agencies have tied their hands: they have already rejected project alternatives, severely constraining their ability to avoid or minimize harm to the Cemetery. Far from assigning “paramount importance” to the protection of

³⁶ Indeed, the Agencies conducted a detailed analysis of alternatives to avoid other Section 4(f) properties. AR_038757-861.

Morningstar Moses Cemetery, *see Overton Park*, 401 U.S. at 412-13, the Agencies’ approve-now, search-later approach is inimical to the statute’s purpose.

There is also no excuse for the Agencies’ failure. It was “practicable” for the Agencies to investigate the portion of the Limits of Disturbance that may contain graves before issuing the ROD, “when alternatives to the proposed action [were] under study.” *See* 23 C.F.R. § 774.9(a). The unsurveyed land is a short strip of state-owned right-of-way separating the Beltway from the rest of the Cemetery. AR_198511. The Agencies claim that they deferred searching for graves until after the ROD because of “accessibility” issues and the presence of plants that could interfere with the ground-penetrating radar. AR_014298; AR_022069. But even before approving the ROD, MDOT announced its plan to use ground-penetrating radar to search this area for graves before construction starts, AR_198505-06—a plan it has since executed. Site access and vegetation did not prevent MDOT from searching the area for graves eight months after the ROD was issued. The agency offered no valid reason why it could not have completed this investigation before approving the project. Whatever insights the survey ultimately yields should have been available to the Agencies, descendants, and the public before the Agencies approved the toll lanes project, when alternatives were still on the table. Section 4(f) demanded as much.

The only legal authorities the Agencies invoke to support deferring their use determination—regulations implementing Section 106 of NHPA—don’t help them. AR_014285 (citing 36 C.F.R. §§ 800.4(b)(2), 800.5(a)(3)). As FHWA has observed, the “NHPA is an entirely separate statute with its own implementing regulation promulgated by another Federal agency.” 73 Fed. Reg. 13,368, 13,386 (Mar. 12, 2008). Section 106 regulations, therefore, cannot loosen Section 4(f)’s “substantive restraints.” *Def. of Wildlife*, 762 F.3d at 398; *N. Idaho Cmty. Action*

Network, 545 F.3d at 1158-59. In any event, as discussed next, the Agencies’ approve-now, search-later approach also violated Section 106.

2. The Agencies’ failure to assess whether the project would adversely affect Morningstar Moses Cemetery violated Section 106

Agencies must take four steps to meet their Section 106 obligation to “take into account” a project’s effects “on any historic property.” *See* 54 U.S.C. § 306108.

1. “[I]dentify historic properties within the area of potential effects.”³⁷ 36 C.F.R. § 800.4(b) (emphasis added).
2. “Evaluate [the] historic significance” of those potentially affected properties by determining whether they are on the National Register for Historic Places or eligible for inclusion on that list. *Id.* § 800.4(c) (emphasis added).
3. “[A]ssess[]” whether the undertaking will have an “adverse effect” on each listed and National Register-eligible property. *Id.* § 800.5 (emphasis added).
4. “[R]esolve” those adverse effects by consulting with various parties and considering ways to avoid or mitigate harm. *Id.* § 800.6(a)-(b) (emphasis added).

The Agencies had to complete all four steps before taking actions, such as approving the ROD, that “restrict the subsequent consideration of alternatives to avoid, minimize or mitigate the [toll lane project’s] adverse effects on” Morningstar Moses Cemetery. *Id.* § 800.1(c).

The Agencies failed to do so. MDOT and FHWA did take the first two steps in the Section 106 process for the Cemetery —identification and evaluation. The Cemetery is within the project’s area of potential effects and is National Register-eligible. AR_000395, 398. But the Agencies approved the project without finishing the third step: assessing whether the toll lanes project would adversely affect the Cemetery by disturbing graves. AR_014298; AR_000067. They therefore didn’t “take into account” the potentially significant effects on the Cemetery before approving the toll lanes project. 54 U.S.C. § 306108.

³⁷ The area of potential effects is the geographic area within which the project could adversely affect historic properties. 36 C.F.R. § 800.16(d).

Section 106 regulations permitting a “phased approach” to assessing adverse effects do not apply. *Contra* AR_014285. The Agencies can defer such assessment only “[w]here alternatives under consideration consist of corridors or large land areas, or where access to properties is restricted.”³⁸ 36 C.F.R. § 800.5(a)(3). Neither circumstance is present here. The short strip of right-of-way that might contain burials from Morningstar Moses Cemetery isn’t a corridor or large land area. *See* AR_198511. And, as discussed above, the Agencies can access (and indeed have already accessed) that portion of the right-of-way to look for graves. *Supra* 16. Section 106 regulations, therefore, do not excuse the Agencies’ failure to determine whether building the toll lanes would remove human remains from the Cemetery. The Agencies violated Section 106.

3. The Agencies’ insistence that the project would have no cumulative effects on Morningstar Moses Cemetery was arbitrary

Like NEPA, Section 106 regulations require agencies to consider a project’s “cumulative” effects to historic sites. 36 C.F.R. § 800.5(a)(1). The toll lanes project would have cumulative impacts on Morningstar Moses Cemetery including air pollution, stormwater runoff, visual effects, construction impacts, and potentially disturbing graves. *See* AR_189917-18; AR_161297-98. These harms would exacerbate damage to the Cemetery from the initial construction of the Beltway in the 1960s. *See* 40 C.F.R. § 1508.7 (defining cumulative impacts to include the “incremental impact of the [proposed] action when added to other past . . . actions”).

³⁸ The other Section 106 regulation addressing a phased approach, 36 C.F.R. § 800.4(b)(2), applies only to deferring “identification” and “evaluation”—steps in the Section 106 process that the Agencies have already completed for the Cemetery. *See also City of Alexandria v. Slater*, 198 F.3d 862, 871-73 (D.C. Cir. 1999) (upholding agency deferral of the identification of historic properties that might be affected by a project); *HonoluluTraffic.com v. Fed. Transit Admin.*, 742 F.3d 1222, 1233-34 (9th Cir. 2014) (same).

The decision to route the Beltway through the heart of the African American community of Gibson Grove was an act of racial discrimination by the state and federal governments that devastated the Cemetery. AR_000476-77 & n.46. What had been a secluded resting place since at least the 1890s is now a stone's throw from an eight-lane interstate highway. *See* AR_006024 (existing view of Beltway from the Cemetery). Even worse, the State took land from the Cemetery that contains graves—graves that now lie in the highway's right-of-way. AR_013961, 14229. And the State may have disinterred human remains during initial construction of the Beltway as well. AR_177814-15. Further disturbance of graves in Morningstar Moses Cemetery by the toll lanes project would be a cumulative impact, as would additional air pollution from increased traffic, *see supra* 7-8, continued stormwater pollution, AR_006469, 6485; AR_148222, and construction within five feet of known burials.³⁹ AR_174411-12; *see Te-Moak Tribe of W. Shoshone of Nev. v. U.S. Dep't of Interior*, 608 F.3d 592, 602-07 & n.14 (9th Cir. 2010) (agency failed to consider project's cumulative impacts under NEPA to cultural resources—including burials—where plaintiffs showed “the potential for cumulative impact”).

The Agencies therefore erred in declaring that “there is not an adverse effect to the historic property based on ‘cumulative’ impacts.” AR_006023. That unqualified assertion is contradicted by their admission that the project might disturb human remains. AR_000399; AR_014298. As a result, the Agencies “entirely failed to consider an important aspect of the problem,” and their cumulative effects conclusion “runs counter to the evidence before [them].” *State Farm*, 463 U.S. at 43; *cf. N.C. Wildlife*, 677 F.3d at 602 (“Conclusory statements that the

³⁹ It is also possible that construction would disturb burials that have already been identified in the Cemetery. AR_153090 (FHWA official noting that MDOT cannot “make a commitment to total avoidance” of the Cemetery until after final design); AR_157199 (MDOT official noting that construction could harm the Cemetery).

indirect and cumulative effects will be minimal or that such effects are inevitable are insufficient under NEPA.”).

Nor does the fact that the Beltway’s construction preceded NEPA’s and NHPA’s enactments negate the Agencies’ obligation to consider cumulative effects. *Contra* AR_006023. The Agencies cited no statute or caselaw in support of this novel and troubling position, *see* AR_006407-09, and the Council on Environmental Quality’s definition of cumulative effects contains no such qualification, 40 C.F.R. § 1508.7 (referring broadly to “other past . . . actions”). Moreover, when presented with this position, the then-Acting FHWA Administrator noted that excluding pre-NEPA harms from a cumulative impacts assessment “would seem to be inconsistent with [FHWA’s] broad approach to equity and to issues of restorative justice.” AR_186884. Although the Beltway was constructed decades ago, it continues to harm the Cemetery today. Graves from Morningstar Moses Cemetery still sit behind a chain-link fence in the state-owned right-of-way. The Agencies had the data they needed about harms from the Beltway’s initial construction to assess the toll lanes project’s cumulative impacts to the Cemetery.⁴⁰ The NHPA doesn’t allow them to ignore these ongoing harms.

The intertwined history of the Beltway and the Cemetery—one of racial discrimination and the partial destruction of a community and its burial ground—is essential to both a full accounting of the project’s adverse effects and the selection of appropriate mitigation measures. *See* 36 C.F.R. §§ 800.5(a)(1), 800.6(b)(1)(i); AR_006246-47. The Agencies’ arbitrary assertion that the toll lanes project would have no cumulative effects downplayed both the ongoing harms

⁴⁰ *See* Md. State Hwy. Admin., *Indirect and Cumulative Effects Analysis Guidelines* 3 (2007), <https://roads.maryland.gov/OPPEN/SHA%20ICE%20Guidelines.pdf> (stating “data availability” is “key [to] establishing the past time frame” for a cumulative effects assessment).

from the initial construction of the Beltway and the new, incremental damage the project would cause. This violated Section 106.

B. The Agencies violated Section 4(f) by summarily dismissing an alternative that would have avoided Plummerville Island

The Agencies recognize that Plummerville Island—“the most scientifically studied island in North America”—has immense scientific, ecological, and historical value. *See* AR_000466. And yet, they rejected a “viable” alternative that would spare the Island’s research plots, unique habitats, and imperiled species, while still adding toll lanes to the American Legion Bridge. *See* AR_014952; AR_017698. The Agencies rejected this alternative—the “west shift alignment”—without conducting the seven-factor analysis required by FHWA regulations to determine whether the alternative would cause the “least overall harm.” 23 C.F.R. § 774.3(c)(1). Their cursory evaluation violated Section 4(f).

The Agencies concluded that there was no “prudent and feasible alternative” to the toll lanes project that would avoid the use of all Section 4(f) property. 49 U.S.C. § 303(c)(1); AR_000255, 544-47. Thus, to fulfill Section 4(f)’s mandate to undertake “all possible planning to minimize harm” to parks and historic sites, 49 U.S.C. § 303(c)(2), the Agencies had to select the project alternative that “[c]auses the least overall harm in light of the statute’s preservation purpose,” 23 C.F.R. § 774.3(c)(1); *accord Defs. of Wildlife*, 762 F.3d at 400-01.

FHWA’s regulations set out a rigorous, seven-factor balancing test for identifying the alternative that causes the least overall harm. The first four factors concern the relative harms to Section 4(f) properties from each alternative:

- (i) The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
- (ii) The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;

- (iii) The relative significance of each Section 4(f) property;
- (iv) The views of the official(s) with jurisdiction over each Section 4(f) property;

23 C.F.R. § 774.3(c)(1). The remaining factors direct FHWA to consider the project's goals, cost, and harm to non-Section 4(f) properties:

- (v) The degree to which each alternative meets the purpose and need for the project;
- (vi) After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
- (vii) Substantial differences in costs among the alternatives.

Id. FHWA must include its analysis of these least overall harm factors in the FEIS or ROD. *Id.* §§ 774.7(c), 774.9(b).

Here, however, the Agencies rejected the west shift alignment without conducting the seven-factor balancing test for determining least overall harm. *See* AR_014953; AR_017702. Indeed, they didn't even mention the west shift alignment in their least overall harm analysis. *See* AR_000556-62; AR_005647-48, 5695-700; AR_27838-42, 27878, 27880-86; AR_038757-883. They omitted this alternative despite their experts' conclusion that the west shift alignment was a "viable option." AR_017698. And they did so despite conducting detailed, factor-by-factor analyses for *other* location-specific alternatives that would have avoided the use of specific Section 4(f) properties. AR_038757-883; AR_000560-62. The Agencies' exclusion of the west shift alignment from their least overall harm analysis violated FHWA regulations, *see* 23 C.F.R. §§ 774.7(c), 774.9(b), and "failed to consider an important aspect of the problem," *State Farm*, 463 U.S. at 43.

The Agencies' cursory explanation for their rejection of the west shift alignment didn't satisfy Section 4(f)'s "stringent requirements" to "carefully examine[]" options for avoiding harm to protected land. *Druid Hills Civic Ass'n v. FHWA*, 772 F.2d 700, 718-19 (11th Cir. 1985). In parts of the FEIS that do not address the least overall harm analysis, the Agencies

declared that they discarded the west shift alignment because it would use more parkland than their preferred “on-center” alignment, require acquisition of a residential property, and require reconfiguration of a highway interchange. AR_000370; AR_014953; AR_017702. This explanation ignores the carefully structured balancing test mandated by FHWA regulations.

The Agencies’ corner cutting resulted in their failure to adequately address five of the seven regulatory factors.⁴¹ Most glaringly, the record contains no discussion of the “relative significance” of the Section 4(f) properties at issue. 23 C.F.R. § 774.3(c)(1)(iii). The Agencies asserted that the west shift alignment “would impact more [National Park Service] property” than their preferred “on-center” alignment, AR_017691, but they didn’t compare the ecological and historic significance of that National Park Service property to that of Plummers Island, *see* AR_017692-95. Not all Section 4(f) properties are created equal. Some “are worthy of a greater degree of protection than others,” especially those “that are unique or otherwise of special significance.” 77 Fed. Reg. at 42,809. Plummers Island fits that mold. It is “the most scientifically studied island in North America”: a biodiversity hotspot, research hub, and historic landmark. AR_000466; *see also* AR_000403; AR_006417. The Agencies’ failure to weigh the Island’s special significance against that of the parkland that would be used by the west shift alignment was contrary to law and rendered their Section 4(f) analysis arbitrary and capricious.

The Agencies also violated Section 4(f) by failing to compare the “relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection.” 23 C.F.R. § 774.3(c)(1)(ii). The Agencies’ preferred

⁴¹ The conclusion by the Agencies’ experts that the west shift alignment was a viable option addressed the fifth factor, showing that this alternative met the project’s “purpose and need.” *See* 23 C.F.R. § 774.3(c)(1)(v). The Agencies also documented “the views of the official(s) with jurisdiction over” Plummers’ Island—the Department of the Interior—which concurred with the Section 4(f) analysis. 23 C.F.R. § 774.3(c)(1)(iv); *see* AR_000079-80.

alternative would destroy “protected activities, attributes, [and] features” on the 12-acre Plummers Island, *id.*, including rare plants, research plots, and the Island’s natural landscape, AR_000403, 466, 468; AR_0022926. Yet, the Agencies offered no assessment of the “relative severity” of the harm that the west shift alignment would cause to other parts of the Chesapeake and Ohio Canal National Historical Park, a 184.5-mile-long park that would lose a handful of its 19,575 acres under the west shift alignment. *See* AR_017692; AR_005642; *see also* *Druid Hills*, 772 F.2d at 718 (rejecting a Section 4(f) evaluation that failed to “mention . . . the type of impact [on Section 4(f) property], the characteristic of the [Section 4(f)] property or the degree of harm that will accrue to the historic area”). Nor did the Agencies consider whether the west shift alignment’s impacts to Section 4(f) and non-Section 4(f) property could be mitigated. *See* 23 C.F.R. § 774.3(c)(1)(i), (vi); AR_000370. The Agencies conducted an initial comparison of harms from the on-center and west shift alignment in March 2021. *See* AR_017692. Over the course of the next year, they identified ways to mitigate harms from the on-center alignment, but there is no indication that they explored possible mitigation for the west shift alignment. *See id.*

Finally, the Agencies offered no analysis regarding “differences in cost” between the west shift and on-center alignments. *See* 23 C.F.R. § 774.3(c)(1)(vii). This omission contrasts with the specific cost estimates provided for other alternatives considered in their least overall harm analysis. *See, e.g.,* AR_038758, 38764, 38880-83.

In sum, the Agencies failed to explain their consideration and weighing—if any—of each of the regulatory factors and therefore failed to “follow[] all procedural requirements” of Section 4(f). *Defs. of Wildlife*, 762 F.3d at 401 (citing *Overton Park*, 401 U.S. at 417). Their cursory analysis rendered it impossible for this Court to determine whether their decision to use Plummers Island for the toll lanes project ““was based on a consideration of the relevant

factors” or “whether the factors actually support the [Agencies’] determination.” *Id.* (quoting *Hickory Neighborhood Def. League*, 893 F.2d at 61-62).

IV. The Court should vacate the Agencies’ unlawful actions

The APA provides that a “reviewing court shall . . . hold unlawful and set aside agency action” that is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A). The Fourth Circuit takes this directive seriously: Circuit panels don’t hesitate to vacate agency actions that violate APA standards and to require agencies to revisit those actions with a blank slate. *See, e.g., Sierra Club v. W. Va. Dep’t of Env’tl. Prot.*, 64 F.4th 487, 509 (4th Cir. 2023); *Appalachian Voices v. U.S. Dep’t of Interior*, 25 F.4th 259, 283 (4th Cir. 2022); *Wild Va. v. U.S. Forest Serv.*, 24 F.4th 915, 920 (4th Cir. 2022); *Friends of Buckingham*, 947 F.3d at 93; *Sierra Club v. U.S. Forest Serv.*, 897 F.3d 582, 587 (4th Cir. 2018). This Court should follow suit and vacate the unlawful FEIS, Section 4(f) Determination, and ROD for the toll lanes project.

CONCLUSION

For the above reasons, the Court should grant summary judgment for Plaintiffs and vacate the FEIS, Section 4(f) determination, and ROD for the toll lanes project.

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