Re: Comments on the Richardson Grove Project

Dear Director Brady,

On behalf of the Environmental Protection Information Center, Center for Biological Diversity, Natural Resources Defense Center, and Californians for Alternatives to Toxics (collectively “EPIC”), please accept this letter on the Richardson Grove Project. Our organizations are concerned that Caltrans has, yet again, failed to take an honest accounting of the likely impacts of the project. Without an honest accounting of the impacts, CEQA’s core purpose—informed self-government—is frustrated. Accordingly, we ask that Caltrans either remove the project for consideration or begin new project environmental impact analysis. As explained in greater detail below, we do not believe that the underlying EIR can be salvaged through another round of supplemental analysis.

Emailed on date shown below

November 19, 2021

Director Matthew Brady
P.O. Box 3700, Eureka, CA 95502
RichardsonGroveImprovement@dot.ca.gov
Attached to this letter are three reviews of the addendum and/or Yniguez (2015). The first is a declaration provided by Dr. Joe McBride that was completed for litigation against the revised EA/FONSI. Although concerned with the federal side of the impact analysis, given the hybrid NEPA/CEQA documents employed by Caltrans, the points contained still apply to the state CEQA documents at issue here. The second is a review of Yniguez (2015) and the addendum completed by Richard Campbell. The third is a review provided by Cody Dangerfield. In addition to these reviews, also attached to this letter are scientific studies referenced in the comment letter that are not already part of the administrative record for the project. Our organizations incorporates by reference in whole all studies cited.

I. CEQA Demands Honest Accounting of Environmental Impacts

*Sierra Club v. County of Fresno*, 6 Cal.5th 502 (2018) provides the most comprehensive statement of the standard of review for CEQA cases:

"CEQA is a comprehensive scheme designed to provide long-term protection to the environment." (*Mountain Lion Foundation v. Fish & Game Com.* (1997) 16 Cal.4th 105, 112 (*Mountain Lion Foundation*).) "The foremost principle under CEQA is that the Legislature intended the act "to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (*Laurel Heights I*, supra, 47 Cal.3d at p. 390, quoting *Friends of Mammoth v. Board of Supervisors* (1972) 8 Cal.3d 247, 259 [104 Cal.Rptr. 761, 502 P.2d 1049].) "With narrow exceptions, CEQA requires an EIR whenever a public agency proposes to approve or to carry out a project that may have a significant effect on the environment. [Citations.]" (*Laurel Heights I*, supra, 47 Cal.3d at pp. 390-391; see Guidelines, § 15002, subd. (f.)

The basic purpose of an EIR is to "provide public agencies and the public in general with detailed information about the effect [that] a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project." (Pub. Resources Code, § 21061; see Guidelines, § 15003, subds. (b)-(e.) "Because the EIR must be certified or rejected by public officials, it is a document of accountability. If CEQA is scrupulously followed, the public will know the basis on which its responsible officials either approve or reject environmentally significant action, and the public, being duly informed, can respond accordingly to action with which it disagrees." (*Laurel Heights I*, supra, at p. 392.) The EIR "protects not only the environment but also informed self-government." (*Ibid.*)
The standard of review in a CEQA case, as provided in sections 21168.5 and 21005, is abuse of discretion. Section 21168.5 states in part: "In any action or proceeding . . . to attack, review, set aside, void or annul a determination, finding, or decision of a public agency on the grounds of noncompliance with this division, the inquiry shall extend only to whether there was a prejudicial abuse of discretion." (See § 21005, subd. (a) [noncompliance with information disclosure requirements may "constitute a prejudicial abuse of discretion"]).

Our decisions have thus articulated a procedural issues/factual issues dichotomy. "[A]n agency may abuse its discretion under CEQA either by failing to proceed in the manner CEQA provides or by reaching factual conclusions unsupported by substantial evidence. (§ 21168.5.) Judicial review of these two types of error differs significantly: While we determine de novo whether the agency has employed the correct procedures, 'scrupulously enforc[ing] all legislatively mandated CEQA requirements' (Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553, 564 [276 Cal.Rptr. 410, 801 P.2d 1161]), we accord greater deference to the agency's substantive factual conclusions. In reviewing for substantial evidence, the reviewing court 'may not set aside an agency's approval of an EIR on the ground that an opposite conclusion would have been equally or more reasonable,' for, on factual questions, our task 'is not to weigh conflicting evidence and determine who has the better argument.' (Laurel Heights I, supra, 47 Cal.3d at p. 393.)" (Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova (2007) 40 Cal.4th 412, 435 [53 Cal.Rptr.3d 821, 150 P.3d 709] (Vineyard).)

This distinction between de novo review and substantial evidence review has worked well in judicial review of agency determinations. In most cases, the question whether an agency has followed proper procedures will have a clear answer. Did the agency provide sufficient notice and opportunity to comment on a draft EIR? (Pub. Resources Code, § 21092; Guidelines, § 15087.) Did the agency omit the required discussion of alternatives? (Guidelines, § 15126.6.) As to these legal requirements, the agency has no discretion, and courts will invalidate an EIR that fails to meet them. In that sense, judicial review is de novo.

But the question whether an agency has followed proper procedures is not always so clear. This is especially so when the issue is whether an EIR's discussion of environmental impacts is adequate, that is, whether the discussion sufficiently performs the function of facilitating "informed agency decisionmaking and informed public participation." (California Native Plant Society v. City of Santa Cruz (2009) 177
Cal.App.4th 957, 988 [99 Cal.Rptr.3d 572] [relying on Laurel Heights I, supra, 47 Cal.3d at pp. 404-405].) The review of such claims does not fit neatly within the procedural/factual paradigm.

This court’s decision in Laurel Heights I illustrates how a court should assess a claim of inadequate discussion. The case involved a challenge to an EIR’s discussion of alternatives to the proposed construction of the University of California, San Francisco’s (UCSF) Laurel Heights campus. This court concluded that the discussion was inadequate: “UCSF’s treatment of alternatives was cursory at best. The draft EIR identified three types of alternatives: no project anywhere, alternative sites on the UCSF Parnassus campus, and alternative sites off-campus. The three categories received a scant one and one-half pages of text in an EIR of more than 250 pages. The EIR stated the obvious conclusion that the ‘no project’ alternative, i.e., no relocation to Laurel Heights, would not have the environmental effects identified in the EIR. It then stated in a mere two-sentence paragraph that ‘. . . no alternative sites on [the Parnassus] campus were evaluated as possible candidates for the location of the basic science units of the School of Pharmacy.’ This is not a sufficient discussion of on-campus alternatives; it is merely an admission that such alternatives were not considered.” (Laurel Heights I, supra, 47 Cal.3d at p. 403.)

Laurel Heights I continued: “Even if the Regents are correct in their conclusion that there are no feasible alternatives to the Laurel Heights site, the EIR is nonetheless defective under CEQA. As we stated in a context similar to CEQA, there must be a disclosure of the ‘analytic route the . . . agency traveled from evidence to action.’ (Topanga Assn. for a Scenic Community v. County of Los Angeles [(1974)] 11 Cal.3d 506, 515 [113 Cal.Rptr. 836, 522 P.2d 12] [construing requirements of Gov. Code, § 65906 for zoning variances]; [citation].) The EIR prepared by UCSF contains no analysis of any alternative locations. An EIR’s discussion of alternatives must contain analysis sufficient to allow informed decision making. (San Bernardino Valley Audubon Society, Inc. v. County of San Bernardino (1984) 155 Cal.App.3d 738, 751 [202 Cal.Rptr. 423].)” (Laurel Heights I, supra, 47 Cal.3d at p. 404.)

In Laurel Heights I this court was clear that its inquiry was not a matter of reviewing the record for substantial evidence: “The Regents also contend the [project opponents] failed to point to any evidence in the record that demonstrates reasonable alternatives to moving the School of Pharmacy research units to Laurel Heights. This argument is somewhat disingenuous given the Regents’ own failure to provide any meaningful information regarding alternatives. It is the project proponent’s responsibility to provide an adequate discussion of
alternatives. (Guidelines, § 15126, subd. (d).) That responsibility is not dependent in the first instance on a showing by the public that there are feasible alternatives. If the project proponent concludes there are no feasible alternatives, it must explain in meaningful detail in the EIR the basis for that conclusion.” (Laurel Heights I, supra, 47 Cal.3d at p. 405.)

Recently, in Cleveland National Forest Foundation v. San Diego Assn. of Governments (2017) 3 Cal.5th 497, 514-515 [220 Cal.Rptr.3d 294, 397 P.3d 989] (Cleveland National Forest), this court made a similar point that the adequacy of an EIR's discussion of environmental impacts is an issue distinct from the extent to which the agency is correct in its determination whether the impacts are significant. "[A]n EIR's designation of a particular adverse environmental effect as 'significant' does not excuse the EIR's failure to reasonably describe the nature and magnitude of the adverse effect. (See Berkeley Keep Jets Over the Bay Com. v. Board of Port Cmrs. (2001) 91 Cal.App.4th 1344, 1371 [111 Cal.Rptr.2d 598] ['The EIR's approach of simply labeling the effect "significant" without accompanying analysis of the project's impact on the health of the Airport's employees and nearby residents is inadequate to meet the environmental assessment requirements of CEQA.']; Galante Vineyards v. Monterey Peninsula Water Management Dist. (1997) 60 Cal.App.4th 1109, 1123 [71 Cal.Rptr.2d 1].) An adequate description of adverse environmental effects is necessary to inform the critical discussion of mitigation measures and project alternatives at the core of the EIR. (See Guidelines, § 15151 ['An EIR should be prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences.'].)"

(Ibid.) However, there are instances where the agency's discussion of significant project impacts may implicate a factual question that makes substantial evidence review appropriate. For example, a decision to use a particular methodology and reject another is amenable to substantial evidence review, as Sierra Club concedes. But whether a description of an environmental impact is insufficient because it lacks analysis or omits the magnitude of the impact is not a substantial evidence question. A conclusory discussion of an environmental impact that an EIR deems significant can be determined by a court to be inadequate as an informational document without reference to substantial evidence.
Our Courts of Appeal have consistently recognized that adequacy of discussion claims are not typically amenable to substantial evidence review. As the court explained in *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 945-946 [91 Cal.Rptr.2d 66], "Substantial evidence challenges are resolved much as substantial evidence claims in any other setting: a reviewing court will resolve reasonable doubts in favor of the administrative decision, and will not set aside an agency's determination on the ground that the opposite conclusion would have been equally or more reasonable. [Citations.] A claim that an agency failed to act in a manner required by law presents other considerations. Noncompliance with substantive requirements of CEQA or noncompliance with information disclosure provisions `which precludes relevant information from being presented to the public agency . . . may constitute prejudicial abuse of discretion within the meaning of Sections 21168 and 21168.5, regardless of whether a different outcome would have resulted if the public agency had complied with those provisions.' (§ 21005, subd. (a).) [¶] A claim that an agency failed to act in a manner required by law presents other considerations. Noncompliance with substantive requirements of CEQA or noncompliance with information disclosure provisions `which precludes relevant information from being presented to the public agency . . . may constitute prejudicial abuse of discretion within the meaning of Sections 21168 and 21168.5, regardless of whether a different outcome would have resulted if the public agency had complied with those provisions.' (§ 21005, subd. (a).) . . . [W]hen an agency fails to proceed [as CEQA requires], harmless error analysis is inapplicable. The failure to comply with the law subverts the purposes of CEQA if it omits material necessary to informed decisionmaking and informed public participation. Case law is clear that, in such cases, the error is prejudicial. (*Sierra Club v. State Bd. of Forestry* (1994) 7 Cal.4th 1215, 1236-1237 [32 Cal.Rptr.2d 19, 876 P.2d 505]; *Fall River Wild Trout Foundation v. County of Shasta* (1999) 70 Cal.App.4th 482, 491-493 [82 Cal.Rptr.2d 705]; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 712 [270 Cal.Rptr. 650]; *East Peninsula Ed. Council, Inc. v. Palos Verdes Peninsula Unified School Dist.* (1989) 210 Cal.App.3d 155, 174 [258 Cal.Rptr. 147] (*East Peninsula*); *Rural Landowners Assn. v. City Council* (1983) 143 Cal.App.3d 1013, 1021-1023 [192 Cal.Rptr. 325].)" (Italics added.) The court in that case concluded that the EIR was insufficient because among other things it failed to adequately describe environmental baseline conditions. (*County of Amador*, at pp. 952-956.)

We also affirm that in reviewing an EIR’s discussion, we do not require technical perfection or scientific certainty: """"[T]he courts have looked not for an exhaustive analysis but for adequacy, completeness and a good-faith effort at full disclosure."""" (*California Native Plant Society v. City of Santa Cruz*, supra, 177 Cal.App.4th at p. 979; accord, *Laurel Heights I*, supra, 47 Cal.3d at p. 406; see Guidelines, § 15151 [""""An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible.""""])"
Three basic principles emerge from our decisions and those of the Court of Appeal: (1) An agency has considerable discretion to decide the manner of the discussion of potentially significant effects in an EIR. (2) However, a reviewing court must determine whether the discussion of a potentially significant effect is sufficient or insufficient, i.e., whether the EIR comports with its intended function of including "detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." (Bakersfield Citizens for Local Control v. City of Bakersfield (2004) 124 Cal.App.4th 1184, 1197 [22 Cal.Rptr.3d 203] (Bakersfield).) (3) The determination whether a discussion is sufficient is not solely a matter of discerning whether there is substantial evidence to support the agency's factual conclusions.

The ultimate inquiry, as case law and the CEQA guidelines make clear, is whether the EIR includes enough detail "to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." (Laurel Heights I, supra, 47 Cal.3d at p. 405; see Berkeley Keep Jets Over the Bay Com. v. Board of Port Cmrs., supra, 91 Cal.App.4th at p. 1356 ["Whether an EIR will be found in compliance with CEQA involves an evaluation of whether the discussion of environmental impacts reasonably sets forth sufficient information to foster informed public participation and to enable the decision makers to consider the environmental factors necessary to make a reasoned decision."]; Guidelines, § 15151 ["An EIR should be prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences."]) The inquiry presents a mixed question of law and fact. As such, it is generally subject to independent review. However, underlying factual determinations—including, for example, an agency's decision as to which methodologies to employ for analyzing an environmental effect—may warrant deference. (Cf. Mountain Air Enterprises, LLC v. Sundowner Towers, LLC (2017) 3 Cal.5th 744, 751 [220 Cal.Rptr.3d 650, 398 P.3d 556]; Crocker National Bank v. City and County of San Francisco (1989) 49 Cal.3d 881, 888 [264 Cal.Rptr. 139, 782 P.2d 278].) Thus, to the extent a mixed question requires a determination whether statutory criteria were satisfied, de novo review is appropriate; but to the extent factual questions predominate, a more deferential standard is warranted. (Connerly v. State Personnel Bd. (2006) 37 Cal.4th 1169, 1175 [39 Cal.Rptr.3d 788, 129 P.3d 1].)

II. The Project Will Result in Significant Impacts to the Environment
Caltrans must determine whether the proposed project may have a “significant effect on the environment” based on substantial evidence “in light of the whole record.” Pub. Resources Code, 21082.2(a); 14 § CCR 15064(a)(1). “Significant effect on the environment’ means a substantial, or potentially substantial, adverse change in the environment.” 14 CCR § 21068. The Guidelines define “significant effect on the environment” as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.” 14 CCR § 15382. In practice, what is “significant” escapes easy definition. The Supreme Court discussed the “chameleon” nature of defining “significant”:

While ... determination of the meaning of 'significant' is a question of law, one must add immediately that to make this determination on the basis of the dictionary would be impossible. Although all words may be 'chameleons, which reflect the color of their environment...’significant' has that quality more than most. It covers a spectrum ranging from 'not trivial' through 'appreciable' to 'important' and even 'momentous.'

No Oil, Inc. v. City of Los Angeles (1974) 13 Cal.3d 68, 83, fn. 16 (internal citations omitted).

The CEQA guidelines, at 14 CCR § 15064(b), likewise reflect the elastic nature of significance under the law:

The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data. An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area.

A project “may” have a significant effect on the environment if there is a “reasonable probability” that the project will have a significant environmental impact. Id. This “reasonable probability” also means a significant effect need not be one that is felt immediately, rather the concern is whether the effect is ultimately traceable to the project. City of Santa Ana v. City of Garden Grove (4th Dist. 1979) 100 Cal. App. 3d 521, 531-533.
Determining “significance” requires the consideration of direct, indirect, and “cumulative impacts” of a proposed action. “Cumulative impacts” are where “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” 14 CCR § 15355. The significance of the impacts from a project are assessed against the “baseline,” that is, the existing environmental conditions. Id. § 15125. In the cumulative impact context, where baseline conditions are significantly degraded, very minor—even “immeasurable”—amounts of pollutants can cause a significant impact. Kings County Farm Bureau v. City of Hanford, 221 Cal. App. 3d 692, 718 (1990). See also 14 CCR § 15064. (“An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting.”) California courts have roundly rejected “de minimis” and “comparative approaches” that trivialize a project’s impacts by focusing only on individual and incremental contributions:

[T]he relevant question . . . is not how the effect of the project at issue compares to the preexisting cumulative effect, but whether “any additional amount” of effect should be considered significant in the context of the existing cumulative effect. [Footnote omitted.] This does not mean, however, that any additional effect in a nonattainment area for that effect necessarily creates a significant cumulative impact; the “one [additional] molecule rule” is not the law. [Footnote omitted.] Moreover, the basic approach set forth in Guidelines section 15064, subsection (i)(1) seems sound—that is, in assessing whether a cumulative effect requires an EIR, the lead agency shall consider whether the cumulative impact is significant and whether the proposed project's incremental effects are cumulatively considerable. [In the end, the greater the existing environmental problems are, the lower the threshold should be for treating a project's contribution to cumulative impacts as significant.]56

Communities for a Better Environment v. California Resources Agency, 103 Cal. App. 4th 98, 119 (3d Dist. 2002). Instead, agencies are encouraged to take a broader view, looking at those contributions in light of the current background conditions and anticipated future conditions. Id. at 118-119.

A. Caltrans’ Threshold of Significance Changes Over Time

Because there is no defined qualitative or quantitative threshold of significance for impacts to old-growth redwoods, Caltrans is left to produce a project-specific definition of “significance” for this project. What does Caltrans define as a significant impact? It’s not clear because it changes over time.

The addendum states, “The proposed highway modifications are not of a sufficient magnitude to threaten the soundness or stability of any of the old growth redwood trees in the project area. Disturbances would be confined to a small percentage of
the root zones and would be well within the adaptive capabilities of the trees. Even in the absence of minimization measures, this project would not jeopardize the health or survival of any of the old growth redwoods.” Elsewhere, the addendum summarizes project impacts as such, “The proposed highway modifications are not of a sufficient magnitude to threaten the soundness or stability of any of the old growth redwood trees in the project area.” In other words, Caltrans demands likely tree mortality or a significant risk of it to be deemed significant.

Caltrans claims that their definition of significance doesn’t change across project documents. The addendum reports, “Based on the analyses documented in this addendum, the significance determinations reported in the CEQA Checklist section of the 2010 Final EIR have not changed.” However, the “jeopardize” standard seemingly applied in the addendum doesn’t match the more expansive definition employed in the 2010 EIR.

Tracing back the issue to the 2010 EIR, Caltrans appears to hold that the project will not produce significant impacts because “with the design as proposed with the minimization measures in place, the old growth trees would not be substantially adversely affected.” Subfindings to support this include that: “[T]he project would not have a substantial impact on availability of water to the old growth redwoods adjacent to the roadway in the construction areas”; “The proposed project is not anticipated to substantially increase the magnitude of compaction on old growth redwoods that presently exists as the edge of pavement in many instances is less than a foot away from the trunks”; “The existing root systems of old-growth trees will be almost entirely undisturbed by strategic additions to shoulder width and by minimal changes to road height”; and although trees are proposed for removal as part of the project, the trees removed are primarily small diameter and are no coast redwoods.

In other words, in the 2017 addendum, Caltrans seems to hold that a project would need to “jeopardize” old growth tree whereas in the 2010 EIR, the project would need to “substantially adversely affect” old growth trees. “Jeopardize” is a higher standard than “substantially adversely affect.”

Outside of the formal CEQA documents, Caltrans also discusses the relative significance of the project. In a “Information Brochure” on the project website, Caltrans states: “No old growth trees will be removed or threatened by this project.” On a separate fact sheet, Caltrans states somewhat similarly, “NO OLD GROWTH REDWOOD TREES WOULD BE REMOVED OR IMPAIRED BY THIS PROJECT” (all caps in original). In both, these statements are in a larger size font than the rest of the document, seemingly declaring these points as significant. These seem to be statements of the relative significance of impacts too, although a bolder claim as “impaired” and “threatened” are themselves lower standards that “jeopardize” or “substantially adversely affect.”
So, what is significant? Caltrans internally can’t keep it clear. As we explain below, however, that when the old-growth impacts are placed in the proper setting and when impacts are considered together with the cumulative impacts from past development, Caltrans effectively \textit{admits} there will be significant impacts to the grove.

\textbf{B. Caltrans Fails to Consider the Setting of Impacts}

In discussing the significance of the impacts, Caltrans routinely fails to consider the setting of Richardson Grove State Park, and thereby discounts the relative importance of impacts. Furthermore, Caltrans often “misses the forest for the trees” and improperly segments their consideration of impacts instead of looking at the grand total of impacts in the grove.

Richardson Grove State Park is important. This much is clear from the volumes of public comment and obvious public concern for impacts to the State Park. Why Richardson Grove State Park is important is obvious from those who have experienced it. It was one of the first redwood state parks, established in 1922. The Wild and Scenic Eel River runs through the park as does Highway 101. Although the Highway has negatively impacted the old-growth redwoods of the state park, it has also highlighted the majesty of the park, as the road weaves around large redwoods. Besides small portions of Jedediah Smith Redwoods State Park, Richardson Grove is the only park where old-growth redwood trees are so close to the road so that all who pass through are forced to appreciate the scenery. We could go on further but will save ink.

Because of the setting, the relative significance of impacts to the trees and the forest in Richardson Grove State Park are heightened, meaning that an impact to a redwood here somewhat “count” more than a similar impact to a tree elsewhere.

Caltrans also routinely attempts to focus impacts on individual trees. Rightly so, in many respects, as each individual old-growth redwood tree has its own inherent intrinsic value that is impossible to overstate. (These are trees that are older than our country, that have survived in some cases over a millennia, despite fire, earthquakes, wind storms, floods and other natural disasters.) The loss or impairment of a single tree is a significant impact. But in doing so, Caltrans misses impacts to the larger forest. Caltrans discounts that individual non-old growth trees will be removed because they are not old growth but fails to appreciate that old growth forests are known for their multi-species and multi-level canopy. Individual trees removed contribute to the overall forest in an important way that is not considered.
In total, the threshold for significant impacts has to be low—certainly lower than the “jeopardizing” standard that Caltrans appears to use for the addendum. We agree with Mr. Dangerfield, the “likelihood of extended growth declines, elevated water stress, and even potential crown dieback…would equate to a significant impact given the small extent old-growth redwoods remaining and the compounding effect that climate change might also have on those stands.” (Emphasis added.)

C. Caltrans Improperly Relies on “De Minimis” Nature of Impacts to Discount Cumulative Impacts

Caltrans also obscures the impact of the project by presenting impacts as “de minimis” relative to past impacts to the grove. The past highway construction, together with foreseeable future conditions in the state park, like climate change, form the “baseline” against which project impacts are to be examined. As explained in the *Kings County* case, where baseline conditions are significantly degraded, very minor impacts may produce significant results. As explained further in comments below, the impacts of the project are going to be cumulative with the impacts already felt by the grove. Proper consideration of impact analysis must consider both past and projected impacts together.

D. The Addendum Admits Significant Impacts

Assuming for the sake of argument that Yniguez (2015) represents sound science, the report documents that the project will result in significant impairment of old growth redwood trees. Significant impairment, remind you, is one of the ways that Caltrans has historically used to talk about the concept of significance. In his report, Yniguez admits that at least three old-growth redwood would experience some level of canopy dieback (or, in Yniguez’s words “short-term visible reduction in foliage density”). Even more trees would experience dieback absent mitigation measures. Canopy dieback, even temporary, is a significant impairment of an old-growth redwood tree.

Canopy dieback is beyond the point where growth is impaired and stress is externally apparent (although other impairment, like changes to growth patterns, may be difficult to discern with a naked eye, as Dangerfield (2020) and Dangerfield et al. (2021) discovered). It represents a very significant event in the life history of these ancient redwoods indicating severe stress on the trees.

By the language that Caltrans uses to describe the project to the public, it admits an impairment and threat to these old-growth redwood trees. As explained below, however, there are significant logical issues with Yniguez’s analysis that tend to underestimate potential impacts to these trees. If Yniguez is an optimistic guess at likely impacts, there are other conclusions based on substantial evidence that the impacts are likely to be more severe.
III. Conclusions Regarding Impacts to Old-Growth Redwoods Are Not Supported by Substantial Evidence

As provided in comments submitted by Richard Campbell and Cody Dangerfield, Caltrans has failed to consider new science concerning the impact of road construction on old-growth redwoods.

A. Choice of Analysis Area Unsupported by Substantial Evidence

In particular, EPIC is concerned about the analysis area for impacts to old-growth redwoods within Richardson Grove State Park. As outlined in comments by Mr. Campbell, Caltrans uses an analysis area derived from State Parks guidance for “protected trees” but fails to complete the full analysis.

In addition to Mr. Campbell’s comments, EPIC further reflects that Caltrans’ root analysis area is woefully divorced from the science that underlies it. The 2015 arborist report on page 11 cites to Smiley et al. (2002) and on page 12 cites the State Parks’ handbook as the basis for the root health zone analysis area. The State Parks’ handbook, in turn, also cites “tree failure research conducted by E.T. Smiley at the Bartlett Tree Research Laboratory.” In other words, E.T. Smiley at the Bartlett Tree Research Laboratory is seemingly at the root of the analysis areas. Smiley et al. (2002) doesn’t contain any information on “root health zone” or “structural root zone”—these terms appear to be the invention of the State Parks’ handbook based on our review—but it does provide this:

To assess the extent of root decay/root loss, the first step is to expose the buttress roots. This may require a root collar excavation. All buttress roots must be visible for a complete root evaluation. If root severance is suspected, excavation can follow roots out within the critical area (3-to-5 times [diameter at breast height (DBH)]). The distance from the trunk to the cut should be measured.

I have looked elsewhere for information from Smiley about the root zone area. In an undated publication titled “Root Pruning: Research Laboratory Technical Report” by Kelby Fite and E. Thomas Smiley helps to provide greater understanding of this root area:

The further from the trunk that root cutting occurs, the better, but generally root cuts made outside a normal dripline of a tree rarely cause permanent tree damage. The preferred minimum distance from the trunk to the closest root cut is 5 to 6 times the DBH.
For example, with a 12-inch (30 cm) diameter tree, the root cut distance should be 60 to 72 inches (5 to 6 feet, 1.5 to 1.8 m). At this distance, there should be minimal impact on the health or stability of most tree species with proper aftercare. For root cuts on only one side of a tree, the root cut distance can be somewhat closer to the trunk than cuts on more than one side. **The preferred minimum distance in this case is three times the DBH.** For example, with a 12-inch (30 cm) diameter tree, the distance would be 36 inches (3 feet, 0.9m) (Figure 2). This distance is too close if there is pavement over the other side of the root system, if the tree has root decay, is leaning or has other indications of root disturbance. These trees also need proper aftercare to reduce the risk of health problems.

![Figure 2: General guidelines for locating root pruning cuts](image)

In all cases, consider variables such as tree species, age, tree health, and soil characteristics (including the presence of underground root obstructions) when determining location of root pruning. Cuts made closer to the trunk may dramatically compromise stability and health and should be avoided. (Emphasis added.)

E.T. Smiley, in other words, would appear to be concerned using with project impacts within 5xDBH. That said, Smiley’s research may not be well-applicable to the redwoods. Fite & Smiley caution that “variables such as tree species” should be considered. Smiley appears to base his research primarily on hardwood trees from the Eastern United States (where the Bartlett Research Lab is primarily headquartered). Smiley et al. (2002), which the 2015 arborist report cites, appears to be based on “Common Trees in the Eastern US” (see page 39). Similarly, Smiley’s other research that incorporates the use of the 3-to-5 DBH guidance also looks at hardwood species more common to the Eastern US. In Smiley (2008), the 3-to-5 DBH root zone is incorporated into root severance and a pull test of willow oak. Smiley et al. (2014) performed a similar experiment to Smiley (2008), this time on red maple. (Imagine the size difference between a “young Willow Oak,” as in Smiley
(2008), average DBH of 12.6cm, and an ancient redwood, such as the 199” DBH redwood of Tree #20).

Other researchers have found that Smiley’s use of 5xDBH likewise might not be large enough to accurately predict impacts. In a study of impacts of root severance of mature Southern live oaks, Benson et al. (2019) found that “To avoid sustained water stress symptoms, linear root cutting on Q. virginiana should not be undertaken closer to trees than six times DBH, equating to ≈ 25% root system loss.”

In short, the research Smiley is either misapplied by Caltrans, as it fails to recognize that Smiley strongly discourages any cutting within 5x DBH of a tree, or is not strongly applicable, as it was developed for different forest types. Or perhaps it is both: Caltrans both fails to accurately portray research and that research is poorly applicable to this area. In either case, the analysis areas provided by Russell et al. (2000), as described by Mr. Campbell in his comment letter, or Dangerfield et al (2021), as described by Mr. Dangerfield and Mr. Campbell in their comments, is more applicable. In other words, Caltrans’ methodology for determining impacts deviates from ordinary and well-established science and is not supported by substantial evidence.

It is clear that Caltrans has invented its own methodology for considering impacts to old-growth redwoods. Not only is this methodology not consistent with the substantial evidence about how resource professionals ordinarily consider impacts to old-growth redwoods, Caltrans also fails to explain why it retreated from more objective standards (like that of the State Parks’ handbook, the PNW ISA methodology (as described by Mr. Campbell) or even those of Dr. Smiley, which the arborist report seems to claim it is complying with. Failure to explain why Caltrans deviated from other accepted methodologies is itself a separate violation of CEQA. See, e.g., Save Our Peninsula Comm. v. Monterey Cnty. Bd. of Supervisors, 87 Cal.App.4th 99, 125 (2001).

IV. EIR Process Fails to Aid in Meaningful Consideration of Impacts

As described by the California Supreme Court above, the whole point of environmental impact analysis is to provide useful information to decisionmakers and to the public:

The basic purpose of an EIR is to "provide public agencies and the public in general with detailed information about the effect [that] a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project." (Pub. Resources Code, § 21061; see Guidelines, § 15003, subds. (b)-(e).) "Because the EIR must be certified or rejected by public officials, it is a document of
accountability. If CEQA is scrupulously followed, the public will know the basis on which its responsible officials either approve or reject environmentally significant action, and the public, being duly informed, can respond accordingly to action with which it disagrees." *(Laurel Heights I, supra, at p. 392.)* The EIR "protects not only the environment but also informed self-government." *(Ibid.)*

The addendum fails in multiple ways to produce a document capable of allowing “informed self-government.”

**A. The Project Record Is Scattered and Confusing**

The project record is a mess. Richardson Grove Project has been spread out across a decade and the environmental impacts are considered through multiple different documents. The project itself has morphed and changed over time. As nearly every judge who reviewed the record has remarked, attempting to understand exactly what the project proposes and what has been considered has been “awful,” to crib the language of Northern District Court Judge Alsup. His explanation of his frustration in attempting to understand the project is produced below:

Mastering the administrative record has been awful. The 2017 EA/FONSI incorporated by reference the 2010 EA and the 2013 Supplement. These documents, along with the 2017 EA/FONSI became a "Revised EA" *(2017 AR 92, 94).* Other documents also incorporated by reference included Caltrans' expert report (the "2015 Tree Report"). With each presented document, however, the project substantively had changed. These layers upon layers of changes made it challenging to keep track of what information had been revised, edited, and struck with each passing phase of 885*885 the project. When analyzing the full scope of the different components of the 2017 EA/FONSI, it is nearly impossible to tell whether the information gleaned is still operative or has been either explicitly or implicitly struck.

For example, the 2017 EA/FONSI stated "[e]xcept for the minor changes and additional studies as noted in this document, all other information in the [2010] EA and the [2013] Supplement remains accurate" *(2017 AR 239).* Yet, Caltrans neglected to strike "Table 10" from the 2017 EA/FONSI. Located in Chapter 2 of the 2010 EA, Table 10 charted the precise amount of cut and fill (measured by the inch) in the root zones of 68 old-growth redwoods. That is, a little less than two-thirds of the old-growth trees impacted by the current project *(see 2010 AR 130-31).* The calculations in Table 10 were based on the measurements of the trees at the time of the 2010 project and had been referenced at length in the 2013 Supplement. After a great amount of
puzzlement in trying to understand how the data from Table 10 applied to this project, its inclusion simply turned out to be an error in drafting — a "scrivenor's error," as Caltrans eventually dubbed it.

Although Judge Alsup was clearly describing his process reviewing the federal EA/FONSI, the point stands for consideration of impacts under CEQA. Caltrans has chosen to pursue the project through a series of addendums and supplements and now, a decade after release of the original documents, it is difficult for any ordinary person “who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.” EPIC contends that this project is too broken, too complicated, too patched together, in order to enable informed decisionmaking. If Caltrans continues to pursue the project through further analysis of the likely impacts of the project, it must begin anew. No further papering over problems will suffice.

B. Inadequate Baseline Data

Yniguez (2015) fails to provide adequate description of baseline tree conditions to enable public understanding of the project. Yniguez describes all but three trees with a general description that he “observed the old-growth redwoods alongside Highway 101 appear to be in vigorous health.” He notes only three trees have signs of previous “spikes” from past disturbances. As explained in Dr. McBride’s declaration, this fails to provide necessary baseline information on the pre-project health of redwood trees. Additionally, Yniguez’s declaration is based on observations made most recently over five years ago. As Mr. Campbell points out, the region has been under a megadrought, including a particular severe low-water year in 2021. By re-releasing the 2015 report in 2021, Caltrans has deliberately failed to provide up-to-date information on tree health in the park.

C. Necessary Information Is Missing from Addendum

In the addendum, Caltrans announces that the scope of cut and fill for the project has changed. However, as Dr. McBride makes clear, Caltrans fails to provide information about the amount of cut and fill for each tree. This data was provided previously in the 2010 EA. Without this information, it is impossible to understand the impact of activities on old-growth trees. Further, as McBride highlights, it is not clear that Yniguez was provided this information, without which it is unclear how he could come to any defensible conclusions about project impacts.

D. The 2015 Arborist Report is Arbitrary and Subjective

Humboldt County Superior Court Judge Kelly Neal recognized that the arborist report introduced a rating system that “may or may not rest on a sound scientific footing. Without review and critique by others with expertise in the relevant fields,
this footing remained untested. Peer review is essential to sound science.” The 2015 arborist report, however, fails to produce a system of analysis that is capable of repetition. It is reliant entirely on the subjective opinions of one person hired by Caltrans. The arborist report misleadingly introduces a rating system that implies some kind of objective methodology capable of repetition. Each tree is afforded a grade based on impacts of the project (0-6, with 0 representing no impacts and 6 representing extremely severe impacts) and many of these grades are then modified based on the mitigation measures included in the project (for example, the addendum highlights that 18 trees would have a grade of 4, meaning “Effect of root zone disturbance may be a short-term visible reduction in foliage density that is still well within the adaptive capabilities of the tree,” but only 3 trees would have a score of 4 after implementation of mitigation measures).

As Dr. McBride finds:

[T]he Yniguez 2015 Report nowhere accounts for the current baseline vigor of old-growth redwoods in the Project area...but, instead applies a sui generis impact rating system that omits this factor as well as any quantification of root disturbance not impacts foliage density or tree health that would allow those with forestry expertise to make measurement to confirm or disagree with Yniguez ratings.

This, Dr. McBride explains, contrasts with other tree risk rating systems, like that employed in the State Parks handbook, which offers a more objective measure.

**E. Addendum and Arborist Report Replete with Misleading Information**

If the purpose of environmental impact analysis is to provide an accurate and honest accounting of potential impacts to allow for both better decisionmaking by the government and accountability by the public, then misleading information is problematic to CEQA’s core purpose. If the information contained within an EIR “is inaccurate, incomplete or misleading, the EIR does not comply with CEQA.” _San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus_ (1994) 27 Cal.App.4th 713, 729.

As made clear from expert comment, the addendum and arborist report are larded with significant irrelevant and misleading information. This distraction fails to present a good faith and honest accounting of potential impacts and threatens the very core of informed decisionmaking.

As Mr. Campbell describes, many portions of the addendum and arborist report highlight stressors to redwoods that are not present as part of the project, seemingly to build a narrative that redwoods are “resilient.” (As Judge Alsup humorously noted in his 2019 opinion, “The new centerpiece of Caltrans’ analysis
has been the theory that redwoods can sustain damage to their root system and still thrive due to a robust tendency to regenerate new roots. Over and again, redwood "resiliency" became the answer to virtually every question considered by Caltrans.

While fascinating in its own right, the sturdy redwoods’ resiliency against fire tells us nothing about its importance from root severance or from the changes in local hydrology from paving.

Dr. McBride highlights how other science, particularly Stone and Vasey (1962) and Zinke (1963) describe research entirely different than the conditions of this project. Stone and Vasey (1962) describe a disturbance where roots were cut but ultimately regrew, whereas here, that same regrowth would not be possible. Figure 2 from McBride is reproduced below:

![Figure 2. Differences in root regrowth after soil and root removal](image)

Similarly, Zinke (1963) described root response to sedimentation from flooding. While sediment buried roots deeper than before, eventually causing their dieback from lack of nutrients, water and oxygen, new roots above compensated for this loss. Unlike Zinke, paving and compaction related to the project would not allow for the same kind of root regrowth described. Again, I post graphics from McBride because they aptly show the problem.
Dr. McBride’s declaration contains more examples of science wrongly applied in the arborist report. While these articles are interesting and help, to some degree, in the understanding of redwood roots, as employed in the addendum and arborist report, they do greater damage to public understanding of the project.

V. Analytical Flaws Undermining Agency Conclusions

A. Failure to Account for Prior Construction on Tree Health

As Yniguez (2015) admits, prior construction and operation of Highway 101 through Richardson Grove State Park has resulted in impacts to redwood trees in the grove, including the cutting of buttress roots and dieback of crowns. Even where crown dieback is not present, as Dangerfield (2020) and Dangerfield et al. (2021) illustrate, these trees may have experienced reduced growth as a result of construction activities. This reduced growth may not be possible to see based on fly-over observations but represents a significant impairment in the life of an extremely long-lived tree.

As Dr. McBride and Mr. Campbell illustrate, other objective methodologies—like that in the State Parks handbook—require consideration of pre-existing impacts together with project impacts. Dr. McBride further does a significant amount of work that Caltrans has failed to do, to provide an estimate of combined impacts within the structural root zone of old-growth trees (see Table 6). As Dr. McBride
states, “While indeed redwoods are a resilient species they are not invulnerable.” Where spike-tops exist, Dr. McBride estimates that 25-35% of their structural root zone was paved over. Table 6 provided by Dr. McBride finds many trees in the project will ultimately result in a greater cumulative impact to their structural root zone based on past and project disturbance than this amount.

Particularly concerning is the failure by Caltrans to consider the cumulative root damage from historic highway construction together with the direct impacts from the project itself. Table 6 of Dr. McBride’s declaration does the work that Caltrans should have done. I have reproduced the table below.

<table>
<thead>
<tr>
<th>Tree #</th>
<th>DBH (in.)</th>
<th>Area of Structural Root Zone Impacted (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Previous Construction</td>
</tr>
<tr>
<td>3</td>
<td>80</td>
<td>6.8</td>
</tr>
<tr>
<td>4</td>
<td>51</td>
<td>17.9</td>
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<tr>
<td>20</td>
<td>199</td>
<td>33.6</td>
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<td>25</td>
<td>119</td>
<td>6.2</td>
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<tr>
<td>33</td>
<td>118</td>
<td>0</td>
</tr>
<tr>
<td>34</td>
<td>125</td>
<td>4.6</td>
</tr>
<tr>
<td>36</td>
<td>144</td>
<td>1.0</td>
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<td>39</td>
<td>90</td>
<td>20.6</td>
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<td>41</td>
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<td>29.6</td>
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<td>42</td>
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<td>15.7</td>
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<td>55</td>
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<td>73</td>
<td>76</td>
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</tr>
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</tr>
<tr>
<td>Ave.</td>
<td>104</td>
<td>17.3</td>
</tr>
</tbody>
</table>

**B. Impacts to Local Hydrology from Project Construction**

The 2010 EIR admits that construction activities would impact hydrology:
Construction activities would likely result in additional compaction of the soils within the structural root zone of some redwoods, while realignment could result in a decrease in compaction in other areas within the project by moving the roadway further from the trees and removing the existing roadbed. Compaction typically alters soil structure and hydrology by increasing soil bulk density; breaking down soil aggregates; decreasing soil porosity, aeration and infiltration capacity; and by increasing soil strength, water runoff, and soil erosion.

The EIR further admits some project design elements will impact the flow of water through the project, including the diversion of water to culverts (and not into the forest duff to be intercepted). However, the EIR does not consider the effects of this diversion on the amount of available water to individual trees.

Changes to the project likewise have the potential to create impacts to local hydrology, such as creation of soldier pile walls. Yet again, Caltrans does not consider impacts to local water flow from these changes.

Caltrans provides no meaningful analysis of the impact of road construction on localized hydrology. The discussion that does exist in the EIR is limited to the following:

The proposed project would not make substantial changes to existing drainage patterns but would make a small increase in total amount of impervious surface area (0.3 acres) within the project limits. This increase in impervious surface occurs as a result of the wider shoulders in and outside the park as well as some additional increase in roadbed surface with the realignments. Both the Caltrans arborist and the Save The Redwoods League arborist determined that the project would not have a substantial impact on availability of water to the old growth redwoods adjacent to the roadway in the construction areas.

Caltrans analysis in the EIR does not provide the tree-specific analysis required by past court decisions. Subsequent project documents, including the addendum and 2015 arborist report, do not cure this deficiency. Yniguez (2015) describes only how the use of “Cement Treated Permeable Base” would allow for additional permeability (page 15) and the use of a water sprayer during construction (page 19) as project features or mitigation measures that would lessen harm from the project.

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1 The addendum highlights that changes to the project have reduced this to .23 acres. That said, please refer to the section on the confusing nature of the documents impacting the ability to understand the project.
First, the use of a water sprayer during construction mitigates only for impacts during construction and not impacts that occur after construction. In the life of a Coast Redwood tree, the length of time required for construction pails in comparison to the length of time after construction.

Caltrans’ use of impervious surface increases to wave away impacts to water availability is illustrative of their larger failure to provide tree-specific consideration of changes to hydrology. While Caltrans indicates that the total amount of increased impervious surface is low, it fails to provide the specific analysis required for individual trees. For instance, while the road will move away from Tree #23 by 10 feet and impacts from previous road development may be lessened for this tree, the road will move towards Tree #24 by 17 feet. Clearly, the level of impact to these two trees would be quite different. However, the extent of the “evaluation” in Caltrans’s EIR is limited and does not consider changed water flow patterns that could individually impact these trees. The EIR says, in total: “Evaluation: Effect of root zone disturbance is very slight and there would be no decline in foliage density or tree health.”

Dangerfield et al. (2021) highlights the risk of this skimpy “evaluation”:

In areas adjacent to the Pacific Ocean redwoods can occupy all topographic positions; however, farther inland and southern redwoods are constrained to valley floors and adjacent toe slopes of the coast range mountains. Growth of these inland redwood sites is most closely tied to spring and summer Palmer Drought Severity Index (PDSI) (Carroll et al., 2018a) and these trees presumably have greater reliance on shallow groundwater flow from adjacent slopes compared to sites where fog is more prevalent. Therefore, human disturbances, such as road expansion projects that could injure redwood roots or locally alter hillslope hydrology, threaten to compound ecohydrological stresses imposed by long-term declines in fog frequency (Johnstone and Dawson, 2010) and increasing aridity across the Western U.S, associated with anthropogenic warming (Williams et al., 2020).

Indeed, roads have been found to contribute to sub-surface flow interception (Jones, 2000) that would be expected to exacerbate water stress in trees that had become acclimated to the pre-road hydrological regime.

VI. **New Information Required to be Incorporated in Environmental Impact Report**
A. Impacts to Old-Growth Redwoods from Road Construction and Operation

Dangerfield (2020) and Dangerfield et al. (2021) are the only peer reviewed studies of impacts from road construction and road use on old-growth redwoods. Accordingly, they are obviously significant to the project. Comments from Richard Campbell and Cody Dangerfield, attached to this letter, help illustrate the importance of this new research. Importantly, Dangerfield rebuts many of the “observational” musings contained in Sturgeon (1964) and others that Caltrans heavily relies upon in its evaluation of impacts.

B. Climate Change and Additional Stressors on Redwoods

On one hand, climate change is not “new” information—Caltrans has been aware of it for many years and indeed considered the impacts of the project on greenhouse gas emissions. Caltrans, however, has failed to incorporate the effects of climate change into the baseline against which project impacts are considered. Here, Caltrans has an obligation to consider the impact of the proposed action together with the impact of climate change on the grove.

The “baseline” for a project must include projected future conditions when consideration of project impacts against “existing conditions would be either misleading or without informative value to decision-makers and the public.” 14 CCR § 15125. Failure to consider climate change’s impacts on the grove would be “misleading” and negatively impact the usefulness of the analysis.

Comments submitted by Campbell and Dangerfield likewise suggest that climate change is a stressor that will further contribute to stress experienced to redwoods experienced in Richardson Grove State Park. Climate change is part of the “baseline” conditions for the project. Failure to include climate projections, including loss of summer fog, increased summer temperatures and likely reductions in streamflow are all considerable flaws in the analysis that demand correction. Caltrans must incorporate the best available science concerning impacts from climate change on interior redwoods, like those at Richardson Grove State Park, into their baseline analysis.

C. Increases in Truck Traffic from Multiple Route

In July 2017, after the initial release of the addendum, the Coalition for Responsible Transportation Priorities released a study that suggests that the project is likely to result in increased truck trips (hereafter “CRTP, 2017”). This information is significant because it calls into question the conclusions of the original EIR that found that the project is unlikely to cause an increase in truck traffic.
The study examined truck traffic point count data provided by Caltrans for various road segments in California. Particularly, the study examined the truck traffic rates for “throughway Terminal Access” routes (where STAA traffic has multiple ways of accessing an area), “dead end Terminal Access” routes (where STAA traffic is confined to one way in and out, as opposed to the multiple route potential from “throughway” routes), and non-Terminal Access routes (where there is no STAA access). The study found that “For almost all measures of truck traffic and rates of growth in truck traffic, throughway Terminal Access (TA) segments had higher median values than either dead end TA segments or non-TA segments. The only exception was in the annualized growth rate of all truck traffic, where the throughway TA segments had a lower rate than either non-TA or dead end TA segments.”

The study likewise explains why it is a better gauge of truck traffic than the information Caltrans relies upon for its conclusion that no truck traffic increases were likely as a result of the project. I have reproduced portions of that discussion below:

The Final Environmental Impact Report and Finding of No Significant Impacts (Final EIR/FONSI) for the Richardson Grove Operational Improvement Project on US 101, as well as a more recent memorandum on the subject published by Caltrans, have relied largely on a series of assumptions and qualitative assessments to conclude that truck traffic would not increase (Caltrans 2010, 42-50; Tucker 2016). The report on which these assessments were mostly based (Gallo 2008) was intended to be an economic impact assessment, and its traffic assessment was largely incidental. Gallo’s data for the assessment came from a limited number of anonymous business survey responses. Respondents indicated that they expected truck trips for their businesses to decline if the project were completed, which Gallo attributed to the idea that they could ship the same volume of goods in fewer loads using STAA trucks. To reach his conclusion that there would be “no impact” on truck traffic, Gallo assumed that this projected decline “is likely to be entirely offset by the positive effect of reduced transportation cost on local economic activity” and thus on volume of goods shipped (Gallo 2008).

The basis for the truck traffic assessment found in the Final EIR/FONSI for the 197/199 Safe STAA Access Project (Caltrans 2013) is somewhat more rigorous, as in this case the consultant collected baseline traffic data (Fehr & Peers 2010). However, the Fehr & Peers assessment of any possible changes to the baseline data is also based solely on interviews with local businesses.
The projections of local businesses of their own future truck trips provide useful information to be incorporated into a more comprehensive or quantitative assessment. However, on their own, these projections are of limited use. The responses of local business owners and representatives are necessarily somewhat speculative. Furthermore, their responses pertain to their businesses alone. Such responses may not be broadly generalizable to other businesses and may also fail to account for a range of traffic-influencing factors such as throughway trucking, induced growth, and other secondary or synergistic effects.

Moreover, no assessment of the cumulative truck traffic impact of the two projects (or of the three projects, to include the one on SR 299) has been attempted to date. The projects combined would create potential throughways for STAA truck traffic. Optimization of truck routes has been the subject of extensive research in recent decades, and combining human (driver) behavior with the application of complex and often dynamic algorithms means that it is not possible to easily predict routing decisions in advance (see for example Pillac et al. 2013). However, it may be reasonably hypothesized that because changing the functional nature of a truck route changes the options available to drivers and to routing algorithms, such actions will have some effect on routing decisions and thus on truck traffic. In particular, throughway routes may have a different impact on truck traffic than current “dead end” routes as a result of the greater potential use of throughway routes for dynamic re-routing to avoid delays on other roadways, static re-routing to reduce deadheading, etc. It is not sufficient to dismiss this hypothesis out of hand with no quantitative analysis, as the Richardson Grove Final EIR and recent Caltrans memorandum both did, by simply asserting on the basis of a brief qualitative analysis that “it is not likely that truck traffic would be diverted from the I-5 corridor” into Humboldt and Del Norte Counties when the projects are completed (Caltrans 2010, 47; see also Tucker 2016).

Comparing truck traffic on a variety of road segments throughout the existing state highway system provides a stronger basis for assessing the likely truck traffic impact of creating throughway TA routes, as these two projects propose, than speculative survey responses. Therefore, the purpose of this study is to compare current truck traffic and changes in truck traffic over time on throughway TA routes and dead end TA routes, both of which allow STAA truck traffic, as well as state highway segments which are not TA-designated and thus do not allow STAA truck traffic.
Gallo (2008) argues that direct STAA truck access will lower the price of goods in Humboldt and Del Norte Counties and acknowledges that this would have the effect of inducing some additional truck traffic. Gallo’s analysis examined only one TA access route and did not take into account the US 199 and SR 299 projects and those resultant throughway TA routes. However, following Gallo’s reasoning, direct STAA truck access from multiple points on the National Network or other TA routes may cause an even greater increase in truck traffic than he projected.

Cevero (2003) emphasizes that highway expansion projects do not induce vehicle trips directly. Rather, it is the increased speed of travel resulting from expansion projects which induces more traffic. Cevero and most other researchers have focused on the impacts of adding lane miles rather than on other types of highway expansion, and mostly do not differentiate among vehicle types in their analyses of traffic impacts. However, Gallo (2008) argues that one of the primary benefits of the Richardson Grove Operational Improvement Project is to reduce trucking delays resulting from the need to shift freight from one type of truck to another. If the two projects under examination reduce trucking delays and thus effectively increase the speed of travel for trucks, then Cevero’s analysis supports the idea that they may induce truck traffic.

If CRTP (2017) is correct and that the project is likely to result in additional truck traffic, there are then additional conclusions within the environmental analysis that require reexamination. Again, to quote liberally from CRTP (2017):

Trucks emit more of most pollutants than do passenger vehicles (US Environmental Protection Agency 2008a & 2008b), and truck traffic density is correlated with air pollution-related health impacts in major transportation corridors (California Air Resources Board 2005). The Final EIR/FONSI for the Richardson Grove Operational Improvement Project claims exemption from an analysis of “Mobile Source Air Toxics” (MSAT) impacts based on the contention that the project “will not result in any meaningful changes in traffic volumes, vehicle mix...or any other factor that would cause an increase in emissions impacts” (92). Similarly, the Final EIR/FONSI for the 197/199 Safe STAA Access Project concludes that the project has “low potential MSAT effects” based on the conclusion that it would generate minimal additional truck traffic (2.2-47). This study calls these contentions into
question and demands that MSAT impacts and air quality impacts generally be reexamined.

Truck traffic produces more noise than car traffic, and Federal Highway Administration guidelines state that “heavier traffic volumes, higher speeds, and greater numbers of trucks increase the loudness of highway traffic noise” (2012). The Final EIR/FONSI for the 197/199 Safe STAA Access Project asserts that the project “does not qualify as a Type I project” for the purposes of noise-related impacts (2.2-56), where Type I projects include those that “increase the volume or speed of traffic” (2.2-53). The Final EIR/FONSI for the Richardson Grove Operational Improvement Project similarly excludes that project from most noise impact analyses (95 et seq.). However, this study suggests that the projects will likely result in a significant increase in truck traffic and thus demands a new assessment of the projects’ noise-related impacts.

The rate of fatal accidents is disproportionately high for large trucks. Large trucks account for only 4% of registered vehicles and 9% of miles traveled, but 11% of deaths in traffic accidents and 23% of car occupant deaths in multiple-vehicle crashes (Insurance Institute for Highway Safety 2015). The Final EIRs/FONSI for both projects claim that the projects will increase traffic safety and do not contain any assessments of potential negative safety impacts of the projects. The potential for substantial increases in truck traffic demonstrated by this study demands a new assessment of the projects’ traffic safety impacts, particularly in light of the mandatory design standard exemptions found in both projects for curve radius and other safety parameters (see for example Smith 2012).

Trucks contribute disproportionately to damage done to roads and bridges. Doubling the weight borne by a vehicle axle is estimated to increase some pavement damage by a factor of 15 to 20, and a heavy truck axle may bear 20 times more weight than the average passenger vehicle (Federal Highway Administration 2014). Thus, this study highlights the potential for the projects to increase the rate of deterioration of local and regional transportation infrastructure. Such potential impacts were not considered in either Final EIR/FONSI, but they clearly deserve serious consideration by both Caltrans and local public agencies.

Dr. McBride likewise highlights that trees within the grove have scars from vehicular collisions and changes to the project may result in higher speeds by motorists through the grove, as the sinuous road will likely be able to be
driven at higher speeds. McBride also highlights potential changes to microclimates within the grove from increased air movement.

In sum, CRTP (2017) is substantial evidence concerning the likely impacts from the project and needs to be incorporated into the analysis for the project.

D. Completion of Buckhorn Summit Project is Significant New Information That Must Be Considered

The Richardson Grove Project is one of three STAA-access projects that Caltrans has attempted to move forward. One other, 197/199 Project, is stalled in similar litigation. The third, Buckhorn Summit, was completed and is open to STAA traffic. STAA access through Buckhorn Summit is significant new information that both raises the likelihood that multiple route combinations and dynamic routing of trucks may increase the total number of trucks that pass through Richardson Grove State Park, as discussed above, but it also calls into question the purpose and need of the project.

The “Purpose and Need” statement of a project helps to define the scope of alternatives analysis, as alternatives must satisfy the purpose and need for the project to be considered. Courts have wisely determined that by artificially constraining the purpose and need of a project, the lead agency can disregard a robust alternatives analysis as they can write a purpose and need statement to only functionally support their preferred course of action. For that reason, courts recognize that it is inappropriate to construct an” artificially narrow” purpose and need statement.

The “Purpose and Need” of the Richardson Grove Project was originally narrowly written: to “adjust the roadway alignment so that two STAA trucks passing in opposite directions can be accommodated.” However, an underlying examination of the rationale to support this purpose and need statement finds a broader purpose to the project: to reduce barriers to STAA trucks, and therefore, goods movement into and out of the North Coast. This purpose and need is based in part on the 2008 Regional Transportation Plan, which in turn highlights both Richardson Grove State Park as well as Buckhorn Summit on Highway 299 as barriers to STAA transport.

The 2010 EIR take great effort to point out the long distance, some 725 miles, that an STAA truck from Oakland would need to travel to come into Eureka through an approved STAA route. Completion of the Buckhorn Summit project cuts this travel distance in half (only 362 miles, as I calculate it) and puts travel between the Bay Area and Eureka primarily on the I-5 corridor, where most trucking should be (as Highway 101 is only a terminal access route).
Caltrans is obligated to consider whether this significant new information—the completion of Buckhorn Summit and new STAA access satisfies the larger purpose and need of efficient goods movement in and out of Humboldt County.

References:


