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April 10, 2023

Ms. Brenda Mallory, Chair
c/o Jomar Maldonado, Director for NEPA
Council on Environmental Quality
730 Jackson Place NW
Washington, DC 20503

Re: Docket No. CEQ-2022-0005

Dear Ms. Mallory,

Thank you for the opportunity to provide comments on CEQ-2022-0005, the National Environmental Policy Act (NEPA) Guidance on Consideration of Greenhouse Gas Emissions and Climate Change. In this notice, the Council on Environmental Quality (CEQ) issued Interim National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change Guidance (“Interim Guidance”) and requested comments.

The Texas Department of Transportation (TxDOT) recognizes the importance of continuing progress on reducing greenhouse gas emissions and addressing associated climate impacts. We encourage CEQ to consider the time and resources needed to comply with the Interim Guidance’s copious instructions on how to address climate change in a project-level NEPA analysis in light of the meaningfulness of the outcome of such an analysis at the individual project level. The Interim Guidance seemingly acknowledges the insignificance of any one project’s impact on global climate conditions in most cases. However, instead of recognizing that this should preclude the evaluation of direct and indirect impacts under NEPA at the individual project level (40 CFR 1501.9(a), 1500.4(e), and 1502.2(b)), CEQ calls for analyzing project-level impacts from various perspectives and encourages surrogacy measures that outsize the project’s impact on climate conditions.

As a state department of transportation participating in the Federal Highway Administration’s NEPA assignment program, TxDOT conducts NEPA reviews of various types of transportation projects, primarily projects designed to improve the safety and operation of the highway system. TxDOT supports NEPA guidance that provides clarity, reduces litigation potential, and affords deference to federal agencies to develop guidance specific to their needs. TxDOT is concerned that this guidance misses those points, as outlined in the following pages.

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TxDOT appreciates the opportunity to comment. If you have any questions, please call me at (512) 305-9515 or you or your staff may contact Melanie Alvord, Director, Federal Affairs Section at Melanie.Alvord@txdot.gov or at (512) 944-5135.

Sincerely,



Marc D. Williams, P.E.
Executive Director

cc: Lance W. Simmons, P.E., Chief Engineer, TxDOT
Brian R. Barth, P.E., Deputy Executive Director for Program Delivery, TxDOT
Doug Booher, Environmental Affairs Division Director, TxDOT
Melanie Alvord, Federal Affairs Section Director, TxDOT
Al Alonzi, Texas Division Administrator, Federal Highway Administration

The Texas Department of Transportation's Comments on CEQ's "National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change"¹

First, the Texas Department of Transportation (TxDOT) wishes to convey that it appreciates and agrees with several points made by Council on Environmental Quality (CEQ) in the Interim Guidance. For example, TxDOT appreciates CEQ's acknowledgment that some issues like climate impacts and greenhouse gases (GHG) are better addressed programmatically, such as at the planning level, rather than at the project level.

TxDOT also agrees with CEQ that transportation resiliency/adaptation is appropriate to address within the project development process - although this is better addressed through planning, asset management, and emergency response that occurs programmatically prior to the National Environmental Policy Act (NEPA) review of a project, and final design that occurs after the NEPA review, rather than as part of the NEPA review itself.

Additionally, TxDOT agrees with the importance of public involvement and encourages NEPA to be used to receive public input on resiliency/adaptation measures that can be factored into final engineering and design considerations post-NEPA.

TxDOT also agrees with CEQ's determination to not establish a GHG significance threshold. An administrative agency like CEQ cannot establish a significance level that does not exist via an environmental law or enabling legislation for a given federal agency (such as transportation laws for USDOT), and NEPA does not provide such basis.

However, TxDOT also has serious concerns with many aspects of the Interim Guidance. Our concerns can be summarized in five main points:

1. CEQ should not issue guidance with implications of this magnitude as being effective immediately. (see pg. 2 below)
2. CEQ's guidance should separately address these two distinct issues: (1) the effect of a project on climate conditions and (2) the effect of climate change on a project. (see pg. 3 below)
3. The Interim Guidance is consistent with neither CEQ's own NEPA-implementing regulations nor CEQ's treatment of other types of impacts under NEPA. (see pg. 4 below)
4. CEQ's instructions for how to analyze and discuss GHG emissions in a project-level NEPA document are neither useful nor practical and would produce misleading results. (see pg. 7 below)
5. CEQ's instructions and references regarding the Paris Climate Accord Nationally Determined Contribution (NDC) and 2050 net zero goals are misleading, improper, not useful to analyzing a project's GHG emissions under NEPA, and would require their own Environmental Impact Statement (EIS). (see pg. 9 below)

Below we discuss each of these points in detail. TxDOT appreciates CEQ's consideration of these comments.

¹ 88 Federal Register 1196 (January 9, 2023), Docket No. CEQ-2022-0005.

1. CEQ SHOULD NOT ISSUE GUIDANCE WITH IMPLICATIONS OF THIS MAGNITUDE AS BEING EFFECTIVE IMMEDIATELY.

There are two main reasons CEQ should not issue immediately effective interim guidance, each of which is discussed separately below.

1.A. This is a “significant guidance document” under the Office of Management and Budget’s (OMB) “Final Bulletin for Agency Good Practices,” and therefore should be released as “proposed” guidance for public review and comment rather than as immediately effective interim guidance.

The Office of Management and Budget (“OMB’s”) January 25, 2007 “Final Bulletin for Agency Good Guidance Practices” (“Practices”) defines “significant guidance document” as follows (emphasis added):

“a guidance document disseminated to regulated entities or the general public that may reasonably be anticipated to: (i) Lead to an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; or (ii) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; or (iii) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (iv) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in Executive Order 12866, as further amended (emphasis added). Under the Bulletin, significant guidance documents include interpretive rules of general applicability and statements of general policy that have the effects described in Section I(4)(i)-(iv).”

The Practices further state:

“Guidance documents are considered “significant” when they have a broad and substantial impact on regulated entities, the public or other Federal agencies (emphasis added). For example, a guidance document that had a substantial impact on another Federal agency, by interfering with its ability to carry out its mission or imposing substantial burdens, would be significant under Section I(4)(ii) and perhaps could trigger Section I(5) as well.”

There is no doubt that the Interim Guidance is a “significant guidance document.” If Federal agencies were to attempt to fully implement the numerous recommendations in the Interim Guidance, particularly those recommendations regarding the Nationally Determined Contribution (NDC) and 2050 net zero goals. Additionally, it would require congressional action and would, based on reputable climate sources, require disruptive and transformative changes to society (see comment 5.A. for additional detail). For Texas alone, the cost of implementing all aspects of the Interim Guidance would likely exceed \$100 million annually when considering mitigation for GHGs (see bus and EV tax incentive cost examples in the Appendix to these comments) and/or resilience and adaptation, which may adversely and materially impact the economy or a sector of the economy.

Because the Interim Guidance qualifies under multiple criteria for “significant” guidance, it should be “proposed” and issued in accordance with the other procedural requirements contained in the Practices rather than being released as immediately effective interim guidance. If CEQ believes that the Interim Guidance does not meet the criteria for “significant” guidance, then an explanation should be provided under I(4)(i)-(iv) and I(5) of the Practices.

1.B. *Releasing the guidance as immediately effective interim guidance does not allow for appropriate deference to federal agencies, discourages public review and comment, and may needlessly increase litigation potential and the level of effort for NEPA compliance.*

On January 25, 2021, President Biden directed CEQ to rescind the 2019 Draft GHG Guidance and review, revise, and update its 2016 GHG Guidance, which had been previously revoked by CEQ. But this Interim Guidance bears little resemblance to the 2016 Guidance. It contains many substantive changes that agencies are not currently prepared to implement, at least not for transportation. Releasing this guidance as immediately effective Interim Guidance does not afford needed deference to federal agencies to apply the rule of reason and determine appropriate instructions to include in their own industry-specific guidance.

The Interim Guidance also creates uncertainty for federal agencies and NEPA project sponsors by presenting a myriad of issues which will need to be ironed out to effectively achieve the goal of assisting federal agencies when evaluating proposed major federal actions. Even the language used presents issues when you consider that the Interim Guidance uses some semblance of the terms “should” over 140 times, “encourage” 18 times, and “recommend” 13 times. And while TxDOT agrees that it is not appropriate for CEQ to establish a “significance” threshold via guidance or NEPA regulations, uncertainty exists in how to determine the significance of a proposed project’s GHG emissions because Congress has not directed any agency to set any kind of thresholds.

Additionally, CEQ’s approach in releasing this guidance does not provide NEPA practitioners and agencies sufficient time to provide meaningful comments to CEQ, as it is asking them to simultaneously evaluate the guidance and provide comments for CEQ’s consideration and immediately start implementing the guidance (i.e., flying a plane while building it).

It is also likely to result in increased litigation potential and require unnecessary triage throughout all sectors of the U.S. especially since federal agencies need time to assess and apply the rule of reason for their program areas.

This guidance should be re-released as “proposed” guidance with a considerable comment period, and then the final guidance should not be effective until 6-12 months after it is released to afford federal agencies at least minimal time to develop their own industry-specific guidance, with its own comment period.

2. **CEQ’S GUIDANCE SHOULD SEPARATELY ADDRESS THESE TWO DISTINCT ISSUES: (1) THE EFFECT OF A PROJECT ON CLIMATE CHANGE AND (2) THE EFFECT OF CLIMATE CHANGE ON A PROJECT.**

TxDOT has concerns about how the Interim Guidance treats the first issue, the effect of a project on climate conditions. For example, as explained in comments below, TxDOT is troubled by the broad-reaching extent of the “recommendations” regarding how to consider the effects of a project’s GHG emissions in the NEPA decision-making context.

However, TxDOT does not have concerns about how the Interim Guidance treats the second issue, the effect of climate conditions on a project (i.e., resiliency/adaptation), especially if the guidance continues to address that issue in the context of the overall project development process with NEPA being but one step in that process.

Issuing separate guidance on these two related, but fundamentally different issues would provide clarity to agencies.

3. THE INTERIM GUIDANCE IS CONSISTENT WITH NEITHER CEQ'S OWN NEPA-IMPLEMENTING REGULATIONS NOR CEQ'S TREATMENT OF OTHER TYPES OF IMPACTS UNDER NEPA.

There are five main reasons why the Interim Guidance is consistent with neither CEQ's own NEPA-implementing regulations nor CEQ's treatment of other types of impacts under NEPA, each of which is discussed separately below.

3.A. *The Interim Guidance acknowledges the "rule of reason" codified at 40 CFR 1502.21(d), but then ignores it by failing to recognize the insignificance of any one particular project's impact on global climate change in most cases.*

The Interim Guidance recognizes that inherent in NEPA and CEQ regulations is a "rule of reason." The rule of reason ensures that agencies are afforded the discretion, based on their expertise and experience, to determine whether and to what extent to prepare a particular analysis based on the availability of information, the usefulness of that information to the decision-making process and the public, and the extent of the anticipated environmental consequences. The Interim Guidance explains that "the rule of reason should guide the agency's analysis and the level of effort can be proportionate to the scale of the net GHG effects."² The Interim Guidance goes on to state that the concept of proportionality is fundamental to NEPA. It acknowledges the importance of concentrating on matters that are truly important to deciding on the proposed action and, additionally, that when assessing the potential significance of the climate impacts of their proposed actions, agencies should consider both context and intensity, as they do for all other impacts.

However, the Interim Guidance abandons these principles by prioritizing the evaluation of project-level GHG emissions over other environmental impacts and cautioning against agencies stating that project-level emissions are small relative to domestic or global GHG emissions. This contradiction is a fundamental flaw in the Interim Guidance.

In the case of climate change, no transportation project and only a few of the largest other sector projects or programs would likely result in a measurable effect on the global climate. Consider recent agency actions that did have considerable implications related to GHG emissions. In 2010, the National Highway Traffic Safety Administration prepared an Environmental Impact Statement (EIS)³ to analyze and disclose the potential environmental impacts of the proposed model years 2012-2016 Corporate Average Fuel Economy standards for the total fleet of passenger and non-passenger automobiles. These standards were estimated to reduce 61 billion gallons of fuel usage and 654.7 million metric tons of CO₂ emissions. In the EIS, there was a substantial discussion of GHGs and climate impacts that included modeling of the alternative scenarios that were being considered. Global temperature change across the alternative scenarios in the analysis concluded that for the year 2100, the reduction in temperature increase in relation to the No Action Alternative ranged from 0.013 °F to 0.032 °F. In other words, on a temporal scale of 100 years, the agency action has a potential effect on climate conditions that is measured in hundredths of a degree. To emphasize the large scale of this agency action it should be noted that the EIS indicated that 19.1% of total U.S. CO₂ emissions came from passenger cars and light trucks.

By far, except for a national rulemaking, most agency actions would have no measurable effect on climate conditions, and individual transportation projects do not reach the scale of impacting the

² 88 FR 1204-1205, Section (IV)(E), Paragraph 2, Sentence 5.

³ NHTSA EIS's for Corporate Average Fuel Economy Standards is available at: <https://www.nhtsa.gov/corporate-average-fuel-economy/cape-compliance-and-effects-modeling-system>. Click on each "EIS" for each standard that is listed on this page. Accessed on 02/14/2023.

world's climate. Agencies must consider how the analysis for a project is meaningful if the incremental effect of most agency actions is so small as to have an immeasurable effect on climate conditions. And we must then examine how that aids the agency decision-maker on that action. Without the concept of proportionality, agencies might also be expected to assess global deforestation for all actions that remove vegetation or to consider the health of the world's oceans for all actions that have storm water runoff.

Because the subject of climate change is global, for most projects it is unreasonable to expect that an analysis of any climate impacts resulting from the singular project being reviewed under NEPA will be practically useful to the agency decision-maker. Further, under the Interim Guidance, it is unclear at what level a project's GHG emissions are minimal enough to avoid quantitative analysis or, alternatively, more rigorous NEPA review. Therefore, contrary to several of the Interim Guidance's recommendations regarding project-specific analyses, agencies must be able to apply the rule of reason and concept of proportionality in determining whether and how to calculate the climate implications of their actions in the context of individual NEPA reviews.

3.B. *The Interim Guidance does not acknowledge the “unavailable and incomplete information” regulation codified in 40 CFR 1502.21.*

The Interim Guidance does not address “unavailable and incomplete information,” even though CEQ has an entire regulation explaining how to handle unavailable and incomplete information that is particularly applicable to the issue of climate change.

When it comes to climate change, there is a high degree of speculation when considering the preciseness of the input data, the margin of error within the modeling chains, and the ability to make accurate predictions up to 30-100 years into the future. Such predictions cannot accurately capture population movement, natural disasters, supply chain impacts, or technological advancements, for example. Additionally, downscaling global climate models to a given project level creates a level of uncertainty. Therefore, project sponsors cannot feasibly make accurate and meaningful predictions up to 30-100 years from now.

The recently released “U.S. National Blueprint for Transportation Decarbonization: A Joint Strategy to Transform Transportation” (“Blueprint”) indicates that most transportation reductions will be achieved via electrification. Sufficient forecast methods do not exist at the project-level to predict with accuracy of, when, and how that will be achieved. The Blueprint indicates hydrogen for heavy duty vehicles is also necessary, but this technology is in its infancy. Hydrogen has numerous challenges that must be overcome to make it viable, such as storage, distribution, and fuel costs. While the Blueprint may be useful for future scenario planning, at the project-level it confirms high degrees of uncertainty and speculation that fall under “unavailable and incomplete information.”

A project's impact on climate conditions falls under “unavailable and incomplete information” for transportation because it is not possible to quantify the global climate impact of a project's GHG emissions. Using surrogacy measures does not change that. TxDOT strongly encourages CEQ to develop an unavailable and incomplete disclosure statement for project-level climate effects to evaluate a project's impact on global climate conditions in lieu of using surrogacy measures. TxDOT recommends CEQ consider starting with Appendix C of the January 2023 release of FHWA Mobile Source Air Toxic (MSAT) Guidance that uses unavailable and incomplete information as the reason for not quantifying project level health impacts:

“While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how potential public health

risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA.”⁴

3.C. *It is beyond CEQ’s statutory authority under NEPA and inconsistent with its own regulations to instruct agencies to mitigate GHG emissions to the “greatest extent possible.”*

Under CEQ’s regulations, an EIS must discuss mitigation measures, but there is no substantive requirement to mitigate or offset an action’s environmental impacts. There are non-NEPA environmental laws that require minimization of emissions or other environmental impacts (e.g., the Clean Air Act’s best available control technology and maximum achievable control technology requirements); however, NEPA is not one of them. This is why NEPA is widely understood to be a procedural law as opposed to a substantive one. The Interim Guidance’s statements encouraging agencies to mitigate GHG emissions to the “greatest extent possible” is beyond the scope of NEPA and CEQ’s statutory authority.

3.D. *CEQ’s instruction to account for “upstream” emissions that occur prior to the initiation of the Federal action that is being reviewed under NEPA is inconsistent with the definition of “indirect effects” at 40 CFR 1508.1(g)(2) and is not capable of being practically implemented.*

In Section IV.E, paragraph 1, CEQ states, “Indirect effects generally include reasonably foreseeable emissions related to a proposed action that are *upstream* or downstream of the activity resulting from the proposed action” (emphasis added). However, indirect effects are defined in both the sentence preceding this one in the guidance and in the CEQ regulation (40 CFR 1508.1(g)(2)) as occurring “*later* in time or farther removed in distance.” In footnote 84, CEQ clarifies that (emphasis added):

“These indirect emissions are sometimes referred to as “upstream” or “downstream emissions,” described in relation to where in the causal chain they fall relative to the proposed action.”

Since a “causal chain” is necessarily temporal in nature (i.e., cause and effect), “upstream emissions” necessarily must occur *prior* to the federal action being evaluated under NEPA. This directly contradicts the definition of indirect effects as being “later in time.” The result is that CEQ is asking for inclusion of inappropriate indirect emissions into the NEPA evaluation, which would result in incorrectly inflating the project’s GHG emissions.

Further, consider other potential implications of having to account for “upstream” emissions in a NEPA analysis. For example, when the federal action is the proposed building of electric vehicle (EV) charging infrastructure, the upstream effects could be the effects of the extraction, processing, manufacture, and transportation of EV vehicle batteries. If it is not appropriate here, it is not for GHGs either.

Next, it would not be feasible to try and determine temporally upstream effects for all other potential impacts either. Imagine, for instance, trying to determine the upstream effects of extracting, smelting, refining, and manufacturing the ore into the steel used to build the construction equipment for projects. Then there are the upstream emissions for the construction of the buildings we work at

⁴ FHWA, Updated Interim Guidance on Mobile Source Air Toxic (MSAT) Analysis in National Environmental Policy Act (NEPA) Documents at: https://www.fhwa.dot.gov/ENVIRONMENT/air_quality/air_toxics/policy_and_guidance/msat/. See appendix C. Accessed on 2/10/2023.

or the computers we work on to prepare and review the NEPA documents. Such an endeavor would not be feasible, which is why trying to incorporate such upstream effects for one particular impact (GHG emissions and climate impacts) outsizes that impact in comparison to all other potential project impacts.

Finally, an agency does not have control over upstream and downstream emissions and the factors that affect those; nor does it necessarily know how and what market factors might affect their future emissions and when those market factors may happen. It would be sheer speculation on the agency's part (i.e., more incomplete and unavailable information).

3.E. *By providing dozens of pronouncements about how GHG should be analyzed in a project-level NEPA document, CEQ treats GHG differently than any other impact that may be analyzed in a NEPA document. Nothing in CEQ's regulations supports this distinction.*

No other resource area in the NEPA process is singled out for analysis by CEQ like that being implemented for GHG emissions in this Interim Guidance. This extraordinary treatment of GHG emissions in CEQ guidance chips away at the deference given to agencies under NEPA to adopt their own policies and procedures to comply with the Executive Order and to apply them in the NEPA process. Creating this special situation for GHG emissions will likely have the unintended consequence of more legal challenges, unnecessary analysis, and longer review times.

TxDOT understands that the Interim Guidance is just that, guidance. But it is fully expected that NEPA document reviewers and commenters will use this guidance in the future as an "expected standard of practice," and that legal challenges under NEPA may attempt to do the same. NEPA does not include a substantive mandate to implement mitigation consistent with achieving net zero goals nor does it require applying monetary values using the social cost of carbon, so the Interim and Final Guidance should tread lightly in these areas.

4. CEQ'S INSTRUCTIONS FOR HOW TO ANALYZE AND DISCUSS GHG EMISSIONS IN A PROJECT-LEVEL NEPA DOCUMENT ARE NEITHER USEFUL NOR PRACTICAL AND WOULD PRODUCE MISLEADING RESULTS.

There are three primary reasons why CEQ's instructions for analyzing and discussing GHG emissions in a NEPA document are problematic, each of which is discussed separately below.

4.A. *CEQ's instruction to use the social cost of greenhouse gases (SC-GHG) to calculate a monetary cost of a project's GHG emissions would be misleading as the other impacts or benefits of a project are generally not monetized in a NEPA document.*

In Section II, CEQ states that "in most circumstances" agencies should use the best available SC-GHG estimates to monetize a project's incremental emissions.⁵ CEQ asserts that the SC-GHG provides a valuable metric even if no other costs or benefits of a project are monetized because metric tons of GHGs can be difficult to understand and assess in the abstract.

However, CEQ's emphasis on calculating SC-GHG estimates "in most circumstances" is difficult to reconcile with NEPA's caution against agencies using monetary cost-benefit analyses where there are important qualitative issues at stake.⁶ CEQ also fails to disclose the SC-GHG's severe limitations in the context of a project-level analysis, where policy considerations such as the selection of one

⁵ 88 FR 1198, column 2.

⁶ See, e.g., 40 CFR. 1502.22.

discount rate among others can result in significantly divergent estimates. The SC-GHG tool is designed for relative comparisons between *policy* options, and generates nominal, not real, dollar-value estimates. Although CEQ cautions against using SC-GHG estimates that confuse the public, CEQ's own recommendation to highlight SC-GHG estimates without also calculating the monetized value of the social benefits of a project gives an incomplete and potentially biased view. Although CEQ's example of renewable energy projects may look very favorable under CEQ's proposed SC-GHG rubric, putting the agency's "thumb on the scale" during the analysis by monetizing only some of the costs and benefits is arbitrary at best.

4.B. CEQ should not discourage agencies from comparing a project's GHG emissions to domestic or global GHG emissions. In fact, that may be the most appropriate way to explain a project's actual contribution in the context of global climate change.

The Interim Guidance states:

*"NEPA requires more than a statement that emissions from a proposed Federal action or its alternatives represent only a small fraction of global or domestic emissions. Such a statement merely notes the nature of the climate change challenge; it is not a useful basis for deciding whether or to what extent to consider climate change effects under NEPA."*⁷

The Interim Guidance further states,

*"However, as explained above, NEPA requires more than a statement that emissions from a proposed Federal action or its alternatives represent only a small fraction of global or domestic emissions. Such comparisons and fractions are not an appropriate method for characterizing the extent of a proposed action's and its alternatives' contributions to climate change."*⁸

CEQ is precisely wrong in these assertions because describing the exact nature of the environment ("the climate change challenge"), and a project's actual contribution to it, is exactly what NEPA is about. The very first sentence of CEQ's NEPA regulations in 40 CFR 1500.1, "Purpose and Policy", indicates that NEPA is a process to determine the environmental impacts "of [federal agency] actions" (i.e., the project). What needs to be determined under NEPA is how much the GHGs associated with a project are contributing to climate change (i.e., the impact). To suggest we not evaluate the project in this context directly contradicts the NEPA requirement to determine the actual project impacts.

CEQ directs agencies to quantify the reasonably foreseeable direct and indirect GHG emissions of a project purportedly to evaluate the potential effects on climate conditions. But the Interim Guidance provides no clarity as to how drawing a connection between incremental GHG emissions from a single project and actual physical, environmental, or climate impacts is even possible at the project level. CEQ's guidance does not confront the reality that no methodology is available to attribute discrete, quantifiable, physical effects on the environment from a single project's GHG emissions.

In the absence of any such methodology for evaluating the actual project contribution to climate conditions, the Interim Guidance suggests alternative comparisons as surrogates. These alternatives include converting the GHG into dollars using the SC-GHG (Section IV.B) or comparing the GHG emissions based on how they "relate to climate action commitments and goals" (Section IV.A).

⁷ Section IV.A.

⁸ Section IV.B(2).

Neither of these options provides an evaluation of the project's actual contribution to climate impacts. But they both inflate the importance of the project's potential climate impact in relation to other impacts being evaluated under NEPA. Other considerations an agency and the public may have to contend with include safety, economic growth, quality of life, archaeological and historical concerns, as well as every other potential environmental impact evaluated under the NEPA umbrella.

To summarize, CEQ's lack of explanation regarding how, exactly, to quantify a single project's impacts on the climate is a tacit acknowledgement that it is not possible given the nature of climate. And the surrogates CEQ suggests are problematic for multiple reasons. Against this backdrop, it would seem to be perfectly appropriate for a federal agency to compare a project's emissions to global or domestic emissions to comply with its obligations under NEPA.

4.C. CEQ should allow agencies to determine the appropriate time span over which to analyze a project's GHG emissions rather than instructing that a "lifetime" approach be used.

If CEQ does not remove the lifetime GHG analysis or defer it to federal agencies, then TxDOT requests that CEQ allow a 20-year horizon for transportation projects, consistent with federal planning requirements. Transportation project lifespans are typically 30-100 years. Substantial speculation exists when forecasting 30-100 years in the future, especially at the individual project level. Long range transportation plans have a 20-year horizon period and must be updated at four- to five- year intervals to adjust for the latest planning assumptions. TxDOT encourages CEQ to defer to federal agencies on the time interval needed for GHG emissions analysis to align with agency-specific available tools, standard future forecasts methods, and current legislative planning requirements.

5. CEQ'S INSTRUCTIONS AND REFERENCES REGARDING THE PARIS CLIMATE ACCORD 2030 NATIONALLY DETERMINED CONTRIBUTION (NDC) AND 2050 NET ZERO GOALS ARE IMPROPER, MISLEADING, NOT USEFUL TO ANALYZING A PROJECT'S GHG EMISSIONS UNDER NEPA, AND WOULD REQUIRE THEIR OWN EIS.

The Interim Guidance states:

*"Accurate and clear climate change analysis ... [e]nables agencies to make informed decisions to help meet applicable Federal, State, Tribal, regional, and local climate action goals ... For example, the United States has set an economy-wide target of reducing its net GHG emissions by 50 to 52 percent below 2005 levels in 2030."*⁹

The Interim Guidance also states:

*"CEQ encourages agencies to mitigate GHG emissions associated with their proposed actions to the greatest extent possible, consistent with national, science-based GHG reduction policies established to avoid the worst impacts of climate change."*¹⁰

The Interim Guidance also states:

"Agencies also should discuss whether and to what extent the proposal's reasonably foreseeable GHG emissions are consistent with GHG reduction goals, such as those reflected in the U.S. nationally determined contribution under the Paris Agreement. Federal planning documents that illustrate multi-decade pathways to achieve policy

⁹ 88 FR 1197, column 3.

¹⁰ 88 FR 1197, column 2.

may also provide useful information, such as the Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050."¹¹

These instructions and references essentially incorporate the NDC and 2050 net zero goals into the guidance. TxDOT is not challenging the merits of these emission reduction goals, only the way in which they have been incorporated in this guidance. There are five main reasons why this is problematic, each of which is discussed separately below.

5.A. Congressional action and many other changes beyond the scope of NEPA would be needed to effectuate the NDC and 2050 net zero goals; therefore, CEQ's incorporation of the NDC and 2050 net zero goals into the Interim Guidance constitutes overreach by an administrative agency.

Transformative and disruptive changes are needed to achieve these national emission reduction goals. For the 2050 net zero goal, the Intergovernmental Panel on Climate Change ("IPCC") states:

*"Meeting climate mitigation goals would require transformative changes in the transport sector."*¹²

*"Combining mitigation with policies to shift development pathways, such as broader sectoral policies, policies that induce lifestyle or behavioral changes, financial regulation, or macroeconomic policies can overcome barriers and open up a broader range of mitigation options."*¹³

*"Ambitious mitigation pathways imply large and sometimes disruptive changes in economic structure, with significant distributional consequences, within and between countries."*¹⁴

*"Emphasis is placed on the enabling role of institutions (including markets, and formal and informal regulation). 1.5 °C-consistent pathways and adaptation needs associated with warming of 1.5 °C imply both incremental and rapid, disruptive and transformative changes."*¹⁵

¹¹ 88 FR 1203, column 2.

¹² IPCC, Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926.001, Executive Summary of Chapter 10: Transport.

¹³ IPCC, Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926.001, Summary for Policy Makers Headline Statements, Bullet E.2.2, page 49.

¹⁴ IPCC, Sixth Assessment Report WORKING GROUP III – MITIGATION OF CLIMATE CHANGE Climate Change 2022 Mitigation of Climate Change, https://www.ipcc.ch/site/assets/uploads/2022/06/SBSTA_IPCC_WGIII Presentation.pdf, accessed on 02/08/2023.

¹⁵ IPCC, Global Warming of 1.5 °C, chapter 4, Strengthening and implementing the global response; de Coninck, H., A. Revi, M. Babiker, P. Bertoldi, M. Buckeridge, A. Cartwright, W. Dong, J. Ford, S. Fuss, J.-C. Hourcade, D. Ley, R. Mechler, P. Newman, A. Revokatova, S. Schultz, L. Steg, and T. Sugiyama, 2018: Strengthening and Implementing the Global Response. In: *Global Warming of 1.5 °C. An IPCC Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change,*

The transformative and disruptive changes indicated by IPCC would require a combination of federal and state legislative action, private-business decisions, individual vehicle purchase decisions, local government land use changes, and lifestyle changes. Without congressional action, this Interim Guidance cannot be used to implement the transformative and disruptive changes across all U.S. sectors and personal choice decisions needed to achieve the NDC and 2050 net zero goals. CEQ guidance cannot change the reality that Congress has not enacted enabling legislation for federal agencies to: 1) develop and implement programs to achieve net zero by 2050, 2) direct agencies to establish project or programmatic significance levels, 3) provide funding, and 4) fundamentally transform transportation and other sectors to accomplish these GHG reduction goals.

On November 15, 2021, the Infrastructure Investment and Jobs Act (IIJA) was signed into law (Public Law 117-58). The IIJA contained dozens of references to GHG emissions, and carbon emissions specifically, and created several recent programs aimed at GHG emissions, such as new grant programs and programs related to carbon capture and sequestration. Subtitle D of Title I of the IIJA primarily focused on climate change and created new §175 to Title 23, which provides for a carbon reduction program that funds a variety of measures to reduce carbon emissions. However, nothing in this section or elsewhere in the IIJA links these measures to meeting the NDC or net-zero emission goals. Given that the IIJA made extensive revisions to many of the laws governing the Federal Aid Highway Program and devoted significant focus on issues related to climate change, it is telling that Congress had a recent and specific opportunity to incorporate goals associated with the NDC or net-zero emissions but did not.

A Federal agency's inability to establish GHG regulations in the absence of a clear Congressional directive has been well-established in case law, most notably in the U.S. Supreme Court's decisions in *Utility Air Regulatory Group v. EPA* (2014) and in *West Virginia v. EPA* (2022). Attempting to establish GHG reduction goals via guidance is equally limited, yet that is what CEQ has attempted to do by incorporating the goals into the Interim Guidance. The NEPA statute does not provide CEQ with this authority; therefore, references to these goals should be removed from this guidance.

5.B. *It is misleading, as well as arbitrary and capricious, for CEQ to incorporate the NDC and 2050 net zero goals into its guidance without considering and discussing the overall practicability of these goals.*

The International Energy Agency (IEA), a source cited by CEQ in the Interim Guidance,¹⁶ states:

“But the pledges by governments to date – even if fully achieved – fall well short of what is required to bring global energy-related carbon dioxide emissions to net zero

sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 313-444, doi:[10.1017/9781009157940.006](https://doi.org/10.1017/9781009157940.006); section 4.2.2; System Transitions and Rates of Change <https://www.ipcc.ch/sr15/chapter/chapter-4/>, accessed on 02/08/2023.

¹⁶ FR, page 1204, column 3, footnote 88: “For example, agencies may consider consulting information available from the U.S. Energy Information Administration, the International Energy Agency, the Federal Energy Management Program, or the Department of Energy. See, e.g., U.S. Energy Info. Admin., *Annual Energy Outlook 2022* (Mar. 3, 2022), <https://www.eia.gov/outlooks/aeo/>.”

by 2050 ... The report also examines key uncertainties, such as the roles of bioenergy, carbon capture and behavioural changes in reaching net zero.”¹⁷

These uncertainties raise concern as to what is possible to achieve by 2030 and 2050, including what is achievable in the United States. In the specific area of transportation, there are several specific challenges. While TxDOT does not have the time or resources to conduct detailed analyses for its comments on this Interim Guidance, we have prepared some quick cost and reduction estimates to explain why these goals are not currently achievable for transportation and have provided them for CEQ’s consideration as an Appendix to these comments.

Since CEQ is referencing the IEA report, CEQ should be aware that the 2050 net zero goal is likely not achievable. Referencing the IEA report, but not disclosing how difficult or impossible these goals are to achieve, is misleading and increases the potential for project-level litigation.

If CEQ wishes to refer to the NDC and 2050 net zero goals in the guidance (despite the concerns TxDOT is raising in these comments), then CEQ should disclose to the public the depth and breadth of what it would take nationwide to achieve them and how unlikely they are to be achieved. CEQ should address this through a national programmatic analysis for use as a reference for every project in every sector within the United States. In this programmatic analysis, CEQ should also disclose the personal choice decisions that would be needed to achieve these goals, from decisions on where to live and work, how to commute, and what to purchase or not purchase. For the transportation portion of this programmatic analysis, CEQ should consult with FHWA to determine what is realistically achievable by 2030 and 2050 nationwide through federal tailpipe and fuel controls and EV manufacturing projections.

5.C. *It is also misleading for CEQ to incorporate the NDC and 2050 net zero goals into its guidance without acknowledging that, for some sectors (such as transportation), only nominal reductions can be achieved at the project level.*

For transportation, most reductions for the NDC and 2050 net zero goals will be achieved by EVs and with other technological transformations (such as hydrogen fueled vehicles) yet to occur. Reductions for the transportation sector could also be achieved through a changing energy sector, upstream technological advances for materials and construction, local land use changes, individual business decisions on telework or other options that reduce travel needs, and personal choice commuting decisions. None of these are within TxDOT or other state DOTs’ control.

Consider the following points:

¹⁷ International Energy Agency (IEA), *Net Zero by 2050*, (May 2021), <https://www.iea.org/reports/net-zero-by-2050>.

- EPA, IPCC, DOE, HUD, and USDOT all indicate vehicle and fuel technological advancements will remain critical to achieving future transportation emission reductions.^{18,19,20,21}
- Electrification is an example of a nationwide programmatic approach that is better quantified nationwide by USDOT, rather than at the project-level (i.e., the hundreds of EAs and EISs that are prepared for individual transportation projects each year).
- Mode shift options at the individual transportation project level lack accurate forecasting methods; resulting in qualitative rather than quantitative emission reduction analysis when moving to transit, bicycle, pedestrian or telework would mostly be a qualitative rather than quantitative emissions analysis.
- Neither TxDOT nor other state DOTs have control over the following issues that will impact future emissions and emission analysis estimates:
 - the energy sector or upstream construction technological advances;
 - population or population changes within the State;
 - current and future generated upstream emissions;
 - current and future land use (in Texas, predominantly under local government jurisdiction);
 - current and future upstream energy consumption and energy sources;
 - current and future economics that impact person, public, and governmental policy decisions;
 - current and future businesses telework and other options that reduce the need to travel;
 - legislative authorities to ration roadway use (that do not currently exist);
 - legislative authorities on user fees, pricing, and/or tolling; and
 - other societal and/or technological advances that will change business practices and where people choose to live, work, recreate, receive goods, and travel.

¹⁸ EPA, A Wedge Analysis of the U.S. Transportation Sector, EPA420-F-07-049 October 2007, <https://nepis.epa.gov/Exe/ZyNET.exe/P10023OW.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2006+Thu+2010&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C06thru10%5CTxt%5C00000005%5CP10023OW.txt&User=ANONYMOUS&Password=anonymousex&SortMethod=h%7C->

<https://nepis.epa.gov/Exe/ZyNET.exe/P10023OW.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2006+Thu+2010&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C06thru10%5CTxt%5C00000005%5CP10023OW.txt&User=ANONYMOUS&Password=anonymousex&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>, accessed 08/03/2022 at 7:11 a.m., CdST.

¹⁹ IPCC, Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926.001, Summary for Policy Makers Headline Statements, Bullet C.8, page 36.

²⁰ Department of Energy, US Housing and Urban Development, USDOT, and EPA, *The U.S. National Blueprint for Transportation Decarbonization: A Joint Strategy to Transform Transportation*.

²¹ *The Long-Term Strategy of the United States - Pathways to Net-Zero Greenhouse Gas Emissions by 2050*, November 2021.

Further, an EPA study²² indicates that aggressively applying travel demand strategies, the only strategies examined for which TxDOT has control, would only reduce emissions by 0.2% per year (or a 1.6% reduction in 8 years by 2030). Keep in mind that this 0.2% reduction is spread across thousands of U.S. transportation projects annually.

This means that most transportation-related reductions needed for the NDC and 2050 net zero goals are not tied to a typical or even complex transportation project. Since vehicle and fuel technology is being addressed nationwide programmatically, it leaves extremely nominal reductions at the project level that should fall under “small” emissions mentioned in the Interim Guidance.²³ It is misleading for CEQ to incorporate the NDC and 2050 net zero goals into its guidance without acknowledging this fact.

5.D. CEQ’s instruction that agencies should discuss the extent to which a particular project’s GHG emissions are consistent with national emission reduction goals is not workable, at least not for transportation projects.

TxDOT is unable to determine how to compare an individual project to the NDC and 2050 net zero goals as it is well-documented that major GHG reductions are outside of TxDOT control and not capable of being analyzed at the project level. CEQ must clarify how to conduct that comparison or remove it from the guidance.

Recent policies acknowledge that a majority of GHG mitigation in the transportation sector will come from EV adoption, technological advancements, and other tailpipe emissions standards.²⁴ These factors are beyond State DOTs’ control. While there are certain measures that State DOTs and transportation project sponsors are taking that have the effect of mitigating the amount of GHG emissions associated with transportation, such as promoting alternatives to single-occupancy vehicle travel, TxDOT simply has no legal authority over the amount of GHGs emitted from the tailpipes of vehicles traveling on Texas roadways.

TxDOT continues to fund options that give travelers choices that reduce the need for vehicle miles traveled, including travel demand management (e.g., transit, bicycle, and pedestrian improvements) and traffic system management (e.g., incident response, intelligent transportation systems). However, as mentioned in the EPA study, aggressive travel demand management (TDM) such as transit or bicycle/pedestrian facilities, and traffic system management (TSM), such as pricing or intelligent transportation system strategies barely move the needle in annual emission reductions and if applying the rule of reason, these should not need to be quantified at the project level since they should meet the definition of “small.” In addition, there are challenges in forecasting mode shift to HOV, transit, bicycle and pedestrian mode choices that prohibit quantifying these reductions at the project level.

TxDOT understands hydrogen fueled vehicles are being considered to replace heavy duty diesel and are mentioned in the NDC and 2050 net zero goals. But hydrogen is, at best, in its infancy. It is not possible to speculate on when and if that will have market viability so that aspect of the NDC and 2050 net zero goals cannot be estimated at the project level.

²² EPA, *Potential Changes in Emissions Due to Improvements in Travel Efficiency - Final Report*, March 2011, EPA-420-R-11-003, page vii.

²³ 88 FR 1202, column 2.

²⁴ These policies include the transportation section of the NDC, the “Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050,” and the “U.S. National Blueprint for Transportation Decarbonization: A Joint Strategy to Transform Transportation.”

In FHWA Guidance released January 18, 2023, FHWA forecasts that U.S. Vehicle Miles Traveled (VMT) will increase by 31% between 2020 and 2060.²⁵ In the 2022 FHWA Forecasts of Vehicle Miles Traveled (VMT), FHWA forecast a total U.S. VMT increase of 22% from 2019 to 2049.²⁶ It is unclear how a state DOT would determine which project level VMT, emissions, or specific project design elements (such as high occupancy vehicle or bus rapid transit lanes, bicycle pedestrian facilities, transit, and rail) are or are not part of the NDC or 2050 net zero. TxDOT could not find this level of detail that would be needed to complete the recommended comparison. TxDOT cannot simply assume that any VMT increase is inconsistent or that it requires consideration of mitigation, especially since most transportation emission mitigation is not under TxDOT control. TxDOT does not have the tools to forecast exactly how technological advancements will play out over time, so we would be speculating on the future and that does not help the public or NEPA decisionmakers. Since we have no control, it would be inappropriate to be held accountable if EV targets are missed, especially if it is due to inadequate supply chain, lack of materials mined for equipment parts, or slower purchase of EVs than were forecast.

For all the above reasons, TxDOT is unable to determine how to compare an individual project to the NDC and 2050 net zero goals as recommended by the Interim Guidance. It is also misleading to require this comparison because it implies that an agency like TxDOT has control over the relevant factors, which it does not, as most on-road reductions needed to work towards the NDC and 2050 net zero goals will occur programmatically with EV adoption outside the context of a particular transportation project.

If CEQ's guidance continues to recommend that a project's GHG emissions be compared to the NDC and 2050 net zero goals, then CEQ must clarify how to conduct that comparison, especially for transportation. A better solution would be to work with FHWA to conduct a programmatic GHG analysis that can be referenced in transportation project EAs and EISs.

5.E. Before incorporating the NDC and 2050 net zero goals into its official guidance, a federal agency would first have to prepare an EIS analyzing the implications on the human environment, and the transformative and disruptive changes that would be needed to achieve such goals.

When the Federal government institutes a policy or takes another action that would significantly affect the human environment, an EIS is required under NEPA. As explained above, the NDC and 2050 net zero goals call for nationwide transformative and disruptive change to many aspects of the human environment. But to TxDOT's knowledge, no EIS has been prepared for these policies. Therefore, prior to incorporating the NDC and 2050 net zero goals into its guidance, CEQ would first have to prepare an EIS under NEPA.

If there is any doubt about the need for an EIS, consider that the National Highway Traffic Safety Administration (NHTSA) has prepared EISs for four rulemakings that would call for far smaller emission reductions than those needed to meet the NDC and 2050 net zero goals, as explained in the paragraph and table below.

²⁵ FHWA, Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, January 18, 2023, page 2, https://www.fhwa.dot.gov/ENVIRONMENT/air_quality/air_toxics/policy_and_guidance/msat/fhwa_nepa_msat_memo_randum_2023.pdf.

²⁶ FHWA, 2022 FHWA Forecasts of Vehicle Miles Traveled (VMT), https://www.fhwa.dot.gov/policyinformation/tables/vmt/vmt_forecast_sum.cfm#:~:text=FWHA's%20Spring%202022%20ong%2Dterm,over%20the%20next%2030%20years.

Using information from an email FHWA distributed on November 5, 2021, entitled: “INFORMATION: State On-road Carbon Dioxide (CO₂) Estimates,” the U.S. annual on-road CO₂ emissions were 1604.136 million metric tons (MMT) in 2019. A reduction of 802.07 MMT would be required by 2030 and another 802.07 MMT reduction would be required by 2050 to meet net-zero emission goals. Assuming the unlikely scenario of no VMT growth over this time-period throughout the U.S., the estimated “rounded” lifetime CO₂ reductions to the year 2100 (reference year used in other NHTSA rule EISs) would exceed 80,206 MMT.²⁷ This amount is far greater than the reductions from any previous NHTSA rulemaking for which EISs were prepared. TxDOT provides a summary of the lifetime reductions listed in EISs for four previous NHTSA rules in the table below.

Estimated GHG Reductions for NHTSA Rules

Vehicle Model Years	Lifetime National GHG Reductions (million metric tons)	Annual GHG Reductions (million metric tons)
2012–2016 (1)	20,700 – 47,300	232–543 (2)
2017–2025 (2)	29,800 –53,300	NA
2014–2018 (3)	6,700–12,500	11–63
2018–2029 (4)	5,000 – 14,200	NA

Sources: (1) NHTSA (2010). Final Environmental Impact Statement, Corporate Average Fuel Economy Standards, Passenger Cars and Light Trucks, Model Years 2012-2016. Washington, D.C.: National Highway Traffic Safety Administration, (NHTSA, 2010, pp. S-5, S-13, 3-85, 3-109).

(2) NHTSA. (2012). Final Environmental Impact Statement, Corporate Average Fuel Economy Standards, Passenger Cars and Light Trucks Model Years 2017-2025. Washington, D.C.: National Highway Traffic Safety, (NHTSA, 2012, pp. S-12, S-43, S-47, 2-41)

(3) NHTSA (2011). Final EIS, Medium and Heavy-Duty Vehicles Fuel Efficiency Improvement Program. Washington, D.C.: National Highway Traffic Safety Administration, (NHTSA, 2011, pp. S-6, S-19, S-20, 3-91, 3-114)

(4) NHTSA. (2016). Final EIS, Phase 2 Fuel Efficiency Standards for Medium and Heavy-Duty Vehicles. Washington, D.C.: National Highway Traffic Safety Administration. Administration. (NHTSA, 2016, pp. S-7, S-23, S-24, S-26)

Therefore, it is clear that CEQ would need to prepare an EIS prior to incorporating the NDC and 2050 net zero goals into its guidance. The scope of that EIS would be vast. It would need to assess what it would take for every sector of society to achieve the NDC and 2050 net zero goals. Societal implications, personal choice decisions and the full impacts on the human environment would need to be evaluated. The EIS would need to disclose the transformative and disruptive changes that are necessary and when the changes must occur. It would also need to disclose which of those changes need legislative action before initiation. For transportation, the EIS would need to include, at a minimum, the following considerations:

- The costs associated with the dramatic shift to public transit and/or active transportation, including necessary infrastructure;
- Issues related to increased EV purchases, including supply chain issues and other logistical concerns;
- Possible increases in telecommute options for employees, and other societal, business, and personal choice decisions;
- Funding and program issues beyond what is provided by the IJA;
- Land use changes;

²⁷ This estimate is based upon 1604.136 MMT x 50 years from 2050-2100 for comparison to the NHTSA rule EISs that carried reductions from their rules out to 2100. The amount does not include the annual compounding incremental reductions of 100 MMT needed between 2022-2030 for the 2030 Goal and the 40 MMT annual incremental compounding reductions between 2030-2050 to meet net-zero.

- Freight movement changes; and
- Differences in vehicle and transport needs for rural and urban areas.

CONCLUSION

An administrative agency's guidance is supposed to *clarify* what is not already clear in statute and regulation. Unfortunately, the Interim Guidance does not do this. Instead of providing practical and useful instructions for Federal agencies to apply in their analyses, it further muddies the waters with dozens of new recommendations, many of which are not capable of being practically implemented and would not be useful to the NEPA decision-maker, at least not in the context of a specific transportation project. TxDOT is concerned that if the Interim Guidance is finalized as currently written, Federal agencies will struggle with the burden created by the copious number of new recommendations, potentially resulting in project delays and increased litigation.

TxDOT appreciates CEQ's consideration of our comments and urges CEQ to substantially revise and re-issue the guidance to address our concerns. As explained above, the Interim Guidance should be re-issued as "proposed" guidance with a considerable comment period, and then the final guidance should not be effective until 6-12 months after it is released.

APPENDIX¹

TxDOT has prepared this Appendix to present quick cost and reduction estimates to illustrate why the 2030 NDC goal and 2050 net zero goal are not currently achievable for transportation.

Electric Vehicle (EV) Incentives. The NDC and 2050 net zero plans encourage incentives to increase EV purchases, especially in the early years of adoption. For sake of cost estimates, if the Administration's goal of 50% of EV sales were to start in 2023 rather than 2030, and every EV sold receives the current \$7,500 tax rebate between now and 2030, it would cost \$487.5 billion.² Due to a variety of issues, EVs sold in the U.S. in 2021 were about 5.8% of passenger vehicles sold.³ It would cost \$48.8 billion, if the U.S. achieves 10% of new vehicle sales of EVs from 2023-2030 and offers \$7,500 incentives for 50% of those sold. This appears to be more than what was allocated in the recent Inflation Reduction Act that included EV tax incentives.

Electric Buses. In 2021, electric transit buses cost about \$1 million each for the Capital Metropolitan Transportation Authority in Austin, Texas.⁴ Rounding down^{5,6}, TxDOT used 700,000 transit buses to be replaced with electric buses. Assume 50% of these buses need electric bus replacement to meet the NDC; it would cost \$350 billion dollars over 8 years, or \$43.75 billion annually. This exceeds the current funding levels under the Infrastructure Investment and Jobs Act (IIJA, Public Law 117-58), that provides about \$18 billion annually for all public transportation programs from Fiscal Years 2022 to 2026, not just electric buses. This is an annual shortfall of \$25.76 billion.

Below, TxDOT examines two approaches for achieving the NDC 2030 GHG reduction goal: one approach that would rely completely on EV adoption and another approach that would rely completely on VMT reductions. Please note TxDOT does not see any combination of the two that is feasible for achieving the NDC 2030 GHG reduction goals.

¹ This is an appendix to the Texas Department of Transportation's Comments on CEQ's "National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change," 88 Federal Register 1196 (January 9, 2023), Docket No. CEQ-2022-0005.

² Cost estimate uses the average national sale of new vehicles reported by Hedges and Company at <https://hedgescompany.com/automotive-market-research-statistics/auto-mailing-lists-and-marketing/>. The cost estimate was calculated by 16.25 million vehicles/year multiplied by 50% of EV vehicle portion multiplied by 8 years multiplied by \$7,500 incentive/vehicle.

³ Wall Street Journal, U.S. EV Sales Jolted Higher in 2022 as Newcomers Target Tesla, at: <https://www.wsj.com/articles/u-s-ev-sales-jolted-higher-in-2022-as-newcomers-target-tesla-11672981834>, accessed on 2/10/2023.

⁴ The Austin Bulldog. The Price tag for CapMetro buses tops \$1 million apiece, September 29, 2021, at: <https://theaustinbulldog.org/capmetro-bus-contract/>, accessed on 02/10/2023.

⁵ USDOT, Bureau for Transportation Statistics (BTS), 967,457 total buses exist in the U.S., and 170,000 are school buses, and 21,000 are charter buses; <https://www.bts.gov/content/bus-profile> accessed on 02/10/2023.

⁶ SmartCities, Deep Dive: More electric buses join transit fleets as costs and technology improve <https://www.smartcitiesdive.com/news/more-electric-buses-arriving-in-city-transit-fleets/617072/>, accessed on 02/10/2023.

Approach 1: Achieving the NDC 2030 GHG reduction goal through EV adoption or other clean vehicle technology.

Texas would need a 59.3% reduction in 2019 vehicles miles traveled (VMT), or an approximate 59.3% reduction in GHG emissions from 2019, using 2005⁷ base year VMT to meet the NDC's 2030 GHG reduction goal.

The NDC and 2050 net zero plans indicate EV or other non-fossil fuel clean vehicle technology such as hydrogen vehicles will reduce most on-road emissions. Even though TxDOT does not have the authority to mandate EV usage; if it were a strategy available to TxDOT and others, it is not possible to sell enough EVs in Texas in eight years to achieve a 59.3% reduction in GHGs by 2030.

TxDOT provides two base-case and several future-case EV scenarios to illustrate what is needed to achieve a 59.3% reduction from 2019 emissions. Scenarios include several potential future miles per gallon (MPG) options for internal combustion engines (ICE)⁸. The information in the table is based on the following information for Texas:

- Number of EVs Registered in Texas: 138,951 (as of July 26, 2022). Source: Texas DMV.
- Projected EVs in Texas by the end of 2022: 170,000 (as of July 26, 2022). Source: Texas DMV.
- 2005 VMT = 641,728,448, 50% VMT Reduction = 320,864,224 (2030 target)
- 2019 VMT = 789,662,266, 59.3% VMT Reduction from 2019 to meet 2030 target of 320,864,224.
- Approximately 1.5 million new vehicles are purchased in Texas per average year.⁹
 - The number of new vehicles purchased tends to be less than this average during high inflation, limited vehicle manufacturing, supply chain woes, and/or recession.
 - Currently, there are not 1.5 million EVs available for purchase in Texas per year, and TxDOT cannot predict with accuracy when that volume will be available for purchase in Texas. Sales will also depend on vehicle owner purchasing decisions.
 - For 2050 net-zero, electrification for transit vehicles and long-haul freight vehicles are needed.
 - Transit authorities are responsible for bus purchases, not State DOTs.
 - Long haul freight electrification remains in its development infancy.

In the table below, Scenario 1 represents a business-as-usual or the “current situation” case, with no additional EVs, except what is estimated for the fleet by year end 2022; and Scenario 2 is business-as-usual, but with increased internal combustion engine (ICE) MPG.¹⁰ By 2030, TxDOT anticipates it is possible for the Texas fleet ICE MPG to be in the 30s for light duty, therefore the range of 24.9 to 37 ICE MPG provides a wide range for baseline considerations. TxDOT anticipates the Scenarios 3, 5, and 6 of 44-52 ICE MPG for light duty is unlikely by 2030; these scenarios are to illustrate the ICE MPG ranges needed in concurrence with on road EVs to meet reductions equivalent to a 59.3%

⁷ 88 FR 1197, column 2.

⁸ Note this is internal combustion engine vehicles, and not overall corporate average fuel economy that applies nationally to the combination of ICE and EVs.

⁹ July 27, 2022, conversation with Texas Automobile Dealers Association representative.

¹⁰ Note this is internal combustion engine vehicles, and not overall corporate average fuel economy that applies nationally to the combination of ICE and EVs.

2030 GHG reduction goal. For example, Texas would only need 2.3 million EVs by 2030 if light duty ICE MPG was 45, and heavy duty was 7 ICE MPG. However, TxDOT anticipates this light duty ICE MPG is unlikely by 2030. In Scenario 4, it would take 7.9 million EVs if ICE MPG remains the same as estimated for the base-year business-as-usual case of 24.9 and 6 ICE MPG for light and heavy duty, respectively. Scenario 4 would require 5.3 years of the next 8 years of Texas new car sales be 100% EV purchases. Based on current global EV manufacturing, that is not realistic. Also, such sales exceed the Administration’s goal to have 50% of new car sales be EVs by 2030.¹¹

CO₂ Emission Reduction Scenarios to meet 2030 target of 50% reduction from 2005 levels (all roads)

Scenario	Predominant Fuel Type	ICE MPG Light Duty	ICE MPG Heavy Duty	Number of Zero Emission Light Duty Vehicles by 2030	Annual CO ₂ (million metric tons) 2030	Annual CO ₂ (million metric tons) 2050
1	Gasoline and Diesel	24.9	6	173,685	178.8	236.0
2	Gasoline and Diesel	37	6.5	173,685	134.9	178.0
3	Plug-In Hybrid	52	8.5	173,685	69.1	91.1
4	Battery Electric Vehicle (BEV)	24.9	6	7,908,437	70.2	0
5	Plug-In Hybrid/BEV	45	7	2,339,416	65.6	51.3
6	High MPG/BEV	44	8	4,659,841	69.9	-0.9

Prepared by TPP-Data Management August 1, 2022. Estimated diesel consumption is based on avg. fuel efficiency for trucks of 5.8 MPG (2015-2016) / 5.9 MPG (2017) / 6.0 MPG (2018; 2020) / 6.1 MPG (2019). (Source: U.S. Dept. of Energy). Estimated gasoline consumption is based on avg. fuel efficiency for light duty vehicles of 22.0 MPG (2015-2018) / 22.3 MPG (2019) / 22.2 MPG (2020). (Source: U.S. Dept. of Transportation). Estimated CO₂ emissions for trucks are based upon an estimated 3.862 (2015-2017) / 3.733 (2018) / 3.67919 (2019) / 3.74051 (2020) pounds of CO₂ emitted per VMT. (Source: U.S. Environmental Protection Agency). Estimated CO₂ emissions for light duty vehicles are based upon an estimated 0.9061 (2015-2016) / 0.890668 (2017-2018) / 0.87859 (2019) / 0.88254 (2020) pounds of CO₂ emitted per VMT. (Source: U.S. Environmental Protection Agency). Note: EPA and NHTSA rules require new light duty vehicles to be 49 MPG for model year 2026, but that is different from the overall fleet operating on the Texas transportation system that has multiple year models.

Approach 2: Achieving the NDC in 2030 goal through VMT reduction in Texas.

To achieve the NDC in eight years by 2030, Texas would need to reduce 2019 VMT by 59.3%. To provide a frame of reference, achieving the 2030 GHG reduction goal via a VMT reduction would require the equivalent of five to eight consecutive, compounding COVID-type pandemic lockdowns and associated VMT reductions over the next eight years. This is nearly equal to Texas 1981 VMT that was 327 million when the Texas population was 14.75 million, and gross state product (GSP) was \$247 billion.¹² Based on Texas 2019 VMT (the year before the pandemic lock-down), VMT was 789 million, population was 28.26 million, and GSP was \$1.79 trillion. It is unrealistic to expect a

¹¹ Executive Order on Strengthening American Leadership in Clean Cars and Trucks, August 5, 2021. E.O. 14037, 86 FR 43583.

¹² Gross state product (GSP) from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Analysis Division -- December 2004.

state to undo 40+ years of VMT growth in less than eight years, by 2030. To accomplish this goal, TxDOT would have to ration VMT or find massive funding and implement other modes of transportation that do not lie within TxDOT’s authority or funding. Data from the FHWA Highway Performance Monitoring System show that VMT tends to grow as the population increases for Texas and the U.S. making this goal increasingly more difficult.

The table below contains the U.S. Energy Information Administration (EIA) CO₂ data¹³ for all modes of Texas transportation and roadway emissions¹⁴ are about 85-88% of these total CO₂ emissions. This data aligns with the VMT estimates presented above: TxDOT 59.3% reduction and EIA reduction of 57.3% for 2019. However, with EIA, a 50% reduction in 2005 emissions would be approaching transportation emissions farther back in time to 1972-1973. This would be a 50+ year reduction in emissions growth within eight years. This simply is not doable in that timeframe.

Transportation Emissions by State (1970 - 2020)							
million metric tons of carbon dioxide							
State	1970	1972	1973	2005	2019	50% of 2005	% Reduction from 2019
Texas	84.6	95.1	104.2	194.4	227.9	97.2	57.3

Data source: U.S. Energy Information Administration (EIA), State Energy Data System and EIA calculations
Last 2 columns calculated by TxDOT.

Achieving the 2030 GHG reduction goal for on-road U.S. transportation.

The U.S. VMT was 298.9 billion¹⁵ in the year 2005. A 50% reduction in this would be 149.45 billion VMT, or a 53.7% reduction from the 2021 VMT of 322.8 billion.¹⁶ The last time U.S. VMT was this low was between 1977 and 1978, when VMT ranged between 146.3 and 154.8 billion,¹⁷ respectively. In eight years or less, the U.S. would need to undo 45-46 years of VMT growth or sell enough EVs to turnover more than 50% of the fleet in this time-period. While USDOT-NHTSA is responsible for establishing corporate average fuel efficiency standards, there are a variety of issues currently limiting EV manufacturing and sales.

According to the Hedges Company,¹⁸ in 2022 there were an estimated 289 million vehicles on U.S. roads, with an average age of 12.1 years. New car sales from 2012 to 2022 averaged 16.25 million.¹⁹ The Administration’s goal is to have 50% of new vehicle sales be EVs by 2030. Applying the 50% EVs sales beginning in year 2023, would add 65 million EVs by 2030. Assuming that EV percentages are roughly equivalent to VMT percentages, 65 million EVs would reduce VMT related

¹³ U.S. Energy Information Administration. Energy-Related CO₂ Emission Data Tables, available at: <https://www.eia.gov/environment/emissions/state/>, Transportation energy-related carbon dioxide emissions Available formats: XLS, accessed on 02/13/2023.

¹⁴ EPA, Fast Facts: U.S. Transportation Sector GHG Emissions (pdf) (EPA-420-F-22-018, May 2022.

¹⁵ FHWA, Traffic Volume Trends - December 2021, available at: https://www.fhwa.dot.gov/policyinformation/travel_monitoring/21dectvt/21dectvt.pdf, accessed 02/13/2023.

¹⁶ Ibid.

¹⁷ FHWA, Historical Vehicle Miles Traveled Report (ANA7), available at: https://www.fhwa.dot.gov/policyinformation/travel_monitoring/historicvmt.pdf, accessed 02/13/2023.

¹⁸ Hedges and Company, US VEHICLE REGISTRATION STATISTICS at <https://hedgescompany.com/automotive-market-research-statistics/auto-mailing-lists-and-marketing/>, accessed on 02/9/2023.

¹⁹ Ibid.

emissions by approximately 22.5% $[(65/289) \times 100\% = 22.5\%]$, or, assuming no increases in VMT between 2023-2030, VMT would be equivalent to about 250.2 billion in 2030. This means state DOTs nationwide would need to reduce VMT by a little over 100 billion in eight years to meet the 50% reduction of 2005 U.S. VMT, which is not possible with current federal and state enabling legislation and funding levels.

Also, in January 2023 Guidance, FHWA forecasts U.S. VMT will increase by 31% between 2020 and 2060.²⁰ The 2022 FHWA Forecasts of Vehicle Miles Traveled (VMT), FHWA forecast a total U.S. VMT increase of 22% from 2019 to 2049.²¹ These forecasted VMT increases would further increase the reductions needed in Texas and U.S. VMT and the EV market shares estimated above.

For any combination of EV and VMT reductions for Texas and the U.S., TxDOT is concerned that:

- It would require additional federal and state legislative action and local government action far beyond current TxDOT authority.
- It is beyond TxDOT authority to mandate VMT reductions.
- It would require reductions in on-road freight transport and transition to other modes like rail or new technologies such as drone delivery, which cannot be accomplished on the scale needed to meet the 2030 goal.
 - Annually Texas water freight carriers move 569 million tons of freight worth \$362 billion. That tonnage is 46% Foreign Export, 10% Domestic Outbound, 4% Domestic Inbound, and 13% Domestic Intrastate.²²
 - Annually, Texas air freight carriers move 2.1 million tons of freight and mail worth \$225 billion. That tonnage is 67% Domestic, 19% Import, and 14% Export.²³
 - Annually freight rail operators move 325 million tons of freight worth \$405 billion to, from, and within Texas. Another 132 million tons of freight worth \$369 billion passes through Texas. The breakdown is 43% inbound, 29% pass through, 15% outbound, and 13% within.²⁴
 - Annually, trucks carry 1.5 billion tons of freight worth \$1.2 trillion to, from, and within Texas. Another 195 million tons worth \$664 billion passed through Texas. The breakdown is 64% within, 12% inbound, 13% outbound, and 11% pass through.²⁵

For Texas and the U.S. with growing populations, it is not plausible to remove the equivalent of 59.3% or 53.7% of current roadway trips, plus the FHWA forecasted increase in VMT by 2030. TxDOT foresees no combination of EVs and VMT reduction that could reasonably or feasibly achieve such reductions, without a major disruption to transportation and cascading adverse

²⁰ FHWA, Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, January 18, 2023, page 2,

https://www.fhwa.dot.gov/ENVIRONMENT/air_quality/air_toxics/policy_and_guidance/msat/fhwa_nepa_msat_memo_randum_2023.pdf.

²¹ FHWA, 2022 FHWA Forecasts of Vehicle Miles Traveled (VMT),

https://www.fhwa.dot.gov/policyinformation/tables/vmt/vmt_forecast_sum.cfm#:~:text=FWHA's%20Spring%202022%20long%20term,over%20the%20next%2030%20years.

²² TxDOT, The Economic Role of Freight in Texas. May 2021, accessed on 08/20/2022 at

<https://www.txdot.gov/government/partnerships/freight-planning/economic-role-freight.html>.

²³ Ibid.

²⁴ Ibid.

²⁵ Ibid.

effects to society and the economy.