



COLORADO

Department of Transportation

PROPOSED Greenhouse Gas Pollution Standard

November 2021



- Background and outreach process
- Proposed regulation
- Revised rule & extension of public comment
- Next Steps



Background and Rule Development Process



Where Did the Requirement for This Rule Come From?

GHG Roadmap

- Policy first listed as one of several strategies to reduce transportation emissions.

Senate Bill 21-260

- Directed CDOT and its Commission to develop this rule and, further, to update our 10-yr plan to be in compliance with the rule by October 2022.
- Importantly, this legislation put the rulemaking effort (formerly under the Air Quality Control Commission) into CDOT's court.

SB260, Section 30

(3) EFFECTIVE AS OF JULY 1, 2022, THE DEPARTMENT SHALL ESTABLISH AND PROPOSE TO THE COMMISSION FOR ITS REVIEW IMPLEMENTING PROCEDURES AND GUIDELINES THAT REQUIRE THE DEPARTMENT AND METROPOLITAN PLANNING ORGANIZATIONS TO TAKE ADDITIONAL STEPS IN THE PLANNING PROCESS FOR REGIONALLY SIGNIFICANT TRANSPORTATION CAPACITY PROJECTS TO ACCOUNT FOR THE IMPACTS ON THE AMOUNT OF STATEWIDE GREENHOUSE GAS POLLUTION AND STATEWIDE VEHICLE MILES TRAVELED THAT ARE EXPECTED TO RESULT FROM SUCH PROJECTS. SUCH GUIDELINES AND PROCEDURES SHALL APPLY TO ADOPTION OF THE NEXT TEN-YEAR PLAN AND SUBSEQUENT PLANNING CYCLES



Year-Long Process

January 2021

Advisory Board Convened & Stakeholder Engagement

- Adv Board met regularly--as frequently as 2x a week--to discuss rule concepts)
- CDOT held 11 regional public meetings during this time; focused on transportation stakeholders.

August 2021

Draft rule issued for 60 day public review

- Nine public hearings across the state during the comment period.
- Each meeting held in a hybrid (in person/virtual) format.
- In total, approx 200 comments received in writing or via hearings.
- Vast majority of comments strongly supported the rule.

October 2021

Comment period extended another 30+ days and updated draft rule issued.

10th public hearing scheduled for November 10.

November/December 2021

Final Rule Development



Stakeholder Engagement to Develop and Vet Draft Rule Concepts

CDOT went to unprecedented lengths to provide opportunities for community and industry voices to be heard across the state, above and beyond the usual process for a rulemaking.

Rule Development

- Nine months of work with stakeholders preceded the rule's development as the department sought to ensure the rule's drafting included input from the beginning.
- Efforts included:
 - Immediate formation of a broad-based and bi-partisan Advisory Group to advise on rule development
 - Established a Technical Subcommittee to provide more in-depth discussion of modeling
 - 20+ regional stakeholder meetings and individual presentations to stakeholder groups



GHG Advisory Group Membership

Ashley Stolzmann - DRCOG Louisville
Christian Willis - Club 20
Christine Berg - CO Energy Office
Cindy Copeland - Boulder County
Clay Clarke - CDPHE
Cody Davis - Commissioner, Mesa County
Dana Brosig - Grande Valley MPO
David Schwietert - Alliance for Automotive
Innovation
Gail Klapper - Colorado Forum
Grace Rink - City of Denver
Greg Fulton - CMCA
Holly Williams - Commissioner, El Paso County
John Adams - Pueblo Area COG
John Liosatos - Pikes Peak MPO

Kathy Hall, Transportation Commissioner
Karen Stuart, Transportation Commissioner
Kristin Stephens - Commissioner, Larimer County
Lauren McDonnell - CDPHE
Matt Frommer - SWEEP
Matt Hopper - Summit Strategies
Medora Bornhoft - North Front Range MPO
Mike Silverstein - RAQC
Randy Drennen - CCA
Robert Spotts - DRCOG
Ron Papsdorf - DRCOG
Suzette Mallette - North Front Range MPO
Terry Hofmeister - Commissioner, Phillips County
Tony Milo - CCA



Proposed Rule

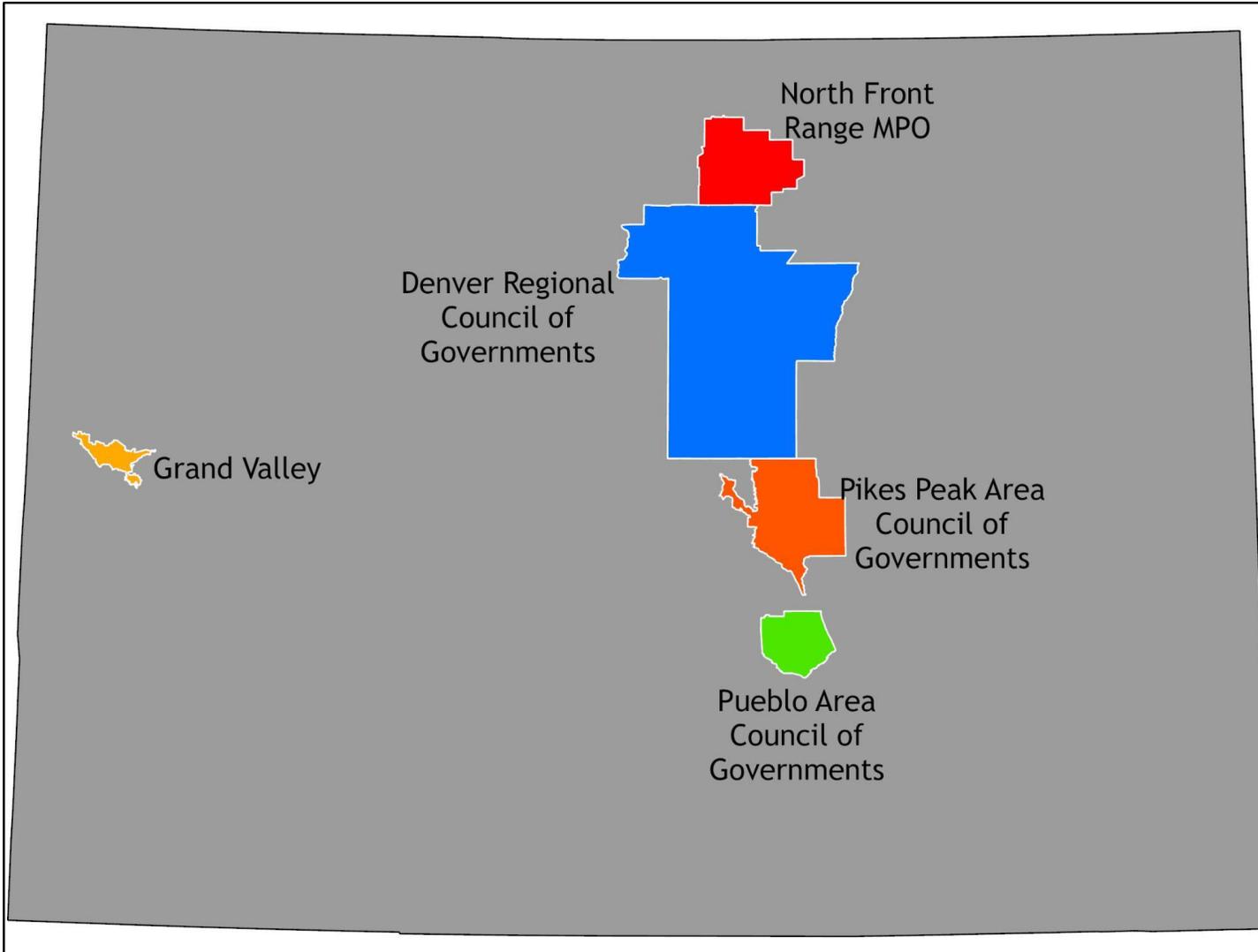


What Does the Rule Propose?

- CDOT and metropolitan planning organizations must adopt long-range transportation plans that reduce GHGs to set reduction levels.
- Compliance is demonstrated through modeling--using the very same models and approach used to determine compliance with air quality (e.g. ozone) requirements.
- Specific GHG reduction levels for each of four horizon years and for each agency (CDOT and MPOs).
 - 2025
 - 2030
 - 2040
 - 2050



Who Is Impacted?



The Colorado Department of Transportation and 5 “metropolitan planning organizations” that represent different regions of the state:

- Denver Regional Council of Governments (DRCOG)
- Grand Valley MPO (GVMPO)
- North Front Range MPO (NFRMPO)
- Pikes Peak Area Council of Governments (PPACG)
- Pueblo Area Council of Governments (PACOG)



Focusing on What Matters



- Not every project can be included and modeled and not every project should be.
- The proposed standard focuses on “regionally significant” projects that really impact how Coloradans choose to move.
- However, this focus does not mean capacity projects can't--or shouldn't--happen.



What if the GHG Standard Can't Be Met?

Standard allows for selection of optional GHG Mitigation Measures IF needed to demonstrate compliance.

Options could include:

- Addition of transit resources (infrastructure/service/funding)
- Improving pedestrian and bike access/resources
- Emission reductions on construction projects
- Encouraging equitable transit oriented development
- Improving first and final mile connections to transit
- Encouraging more efficient vertical land use and parking





What if the GHG Standard STILL Can't Be Met?

- If CDOT or an MPO can not demonstrate that these reduction levels are met, even after committing to Mitigation Measures, the draft standard requires that:
 - CDOT use 10-Year Plan funds on projects that reduce GHG emissions
 - MPOs that receive certain federal funds use those funds on projects or Mitigation Measures that reduce GHG emissions
- The Transportation Commission may waive the funding restrictions to allow specific projects to move forward.



Compliance Approach: Alignment w/SB260

SB260 restricts Multimodal Transportation and Mitigation Options Fund (MMOF) funds should CDOT, NFR MPO and DRCOG fail to update their transportation plans to be in compliance with GHG requirements by October 1, 2022.

Section 51

- On and after October 1, 2022, unless CDOT has adopted implementing guidelines and procedures that require it and metropolitan planning organizations to take additional steps in the planning process for regionally significant transportation capacity projects to account for impacts on statewide greenhouse gas pollution and statewide vehicle miles traveled as required by section 30
- Limits the use of money credited to the MMOF from some of the general fund transfers made pursuant to Section 7 and from the retail delivery fee pursuant to Section 35 to multimodal projects that will help bring CDOT's 10-year vision plan or, in specified circumstances a metropolitan planning organization's regional transportation plan, into compliance with section 30 requirements.



Compliance Approach: Alignment w/Federal Regulation

- 1- Federal regulation provides that DOTs have discretion to sub-allocate or expend certain federal funds
- Federal transportation funds are apportioned directly to State DOTs.
 - Certain FHWA programs, including the Surface Transportation Block Grant Program (STB-G), include provisions requiring a portion of those funds be suballocated to areas on the basis of population. (23 USC 133(d); 23 USC 133(h)); 23 USC 149(b))
 - For other programs, including CMAQ, the eligibility of funds is limited to certain geographic areas (i.e. Non-Attainment areas) which often overlap with Metropolitan Planning Organization (MPOs) boundaries.
 - Some states comply with these requirements by selecting and funding projects in urbanized areas (or Non-Attainment areas) directly. In other states, these funds are directed by Metropolitan Planning Organizations (MPOs).



Compliance Approach: Alignment w/Federal Regulation

2- FHWA uses same approach to achieve progress on priorities like safety (23 U.S.C. 148 (i))

- Federal safety dollars are directed annually to CDOT with the expectation that CDOT make progress toward specific safety performance measures (e.g. number of fatalities and serious injuries)
- Should CDOT fail to meet these measures; federal safety dollars are not withheld but rather restricted for use only on certain proven safety investments



In addition to rule itself; CDOT issued a suite of support documents to help explain the rule, how it was developed, and its impacts including:

- [Comprehensive cost/benefit analysis](#)
- [Regulatory analysis](#)
- [Frequently asked questions](#)
- [Fact sheet](#)



Cost Benefit Analysis Summary

- CBA assumes CDOT and MPOs will reach the pollution reduction targets in the proposed rule using an assumption of “net neutral” investment levels and a reprioritization of some dollars to GHG reducing projects
- Costs and Benefits are placed into the following categories for quantification and assessed in similar timeframes as the proposed rule
 - Vehicle Operating Cost - fuel and maintenance costs per mile driven
 - Social Cost of Carbon- Economic effects projects to result from global climate change
 - Air Pollution- Costs associated with health damage from air pollution
 - Safety (Crashes)- Costs associated with crashes resulting from fatalities or injuries
 - Traffic Delay- Hours of traffic delay reduced per VMT reduced
 - Physical Inactivity- Walking and biking reduce the costs associated with the lack of physical activity associated with increased mortality and other negative health outcomes



**Economic Benefits (Cost Savings)
 (Net Neutral Investment Levels after Mode Shift)
 (net present value, millions of 2021 dollars)**

Timeframe	Vehicle Operating Cost	Social Cost of Carbon	Air Pollution	Safety (Crashes)	Traffic Delay	Physical Inactivity	Total Social Cost Savings
2022 - 2025	\$(372)	\$(60)	\$(21)	\$(481)	\$(774)	\$(17)	\$(1,724)
2026 - 2030	\$(1,781)	\$(258)	\$(82)	\$(2,332)	\$(3,098)	\$(75)	\$(7,626)
2031 - 2040	\$(4,670)	\$(589)	\$(125)	\$(7,183)	\$(4,693)	\$(237)	\$(17,497)
2041 - 2050	\$(4,210)	\$(323)	\$(42)	\$(9,027)	\$397	\$(289)	\$(13,494)



Public Outreach & Rule Revisions



Outreach on Draft Rule

- Instead of holding one hearing, the minimum required by law, CDOT held nine hearings around the state, hearings that were held in local community centers and that ran late into the evening.
- Instead of the usual 30-day comment period, CDOT held a 60-day period. CDOT promoted attendance at these hearings through regional Facebook ads and via other social media channels as well as through blast emails to hundreds of stakeholders.

- 9 Initial Hybrid Hearings
 - ✓ Grand Junction, 9/17
 - ✓ Denver, 9/23
 - ✓ CO Springs, 9/24
 - ✓ Littleton, 9/27
 - ✓ Limon, 9/29
 - ✓ Fort Collins, 9/30
 - ✓ Glenwood Springs, 10/4
 - ✓ Firestone, 10/5
 - ✓ Durango, 10/7



Comments Received On Initial Draft Rule

- 103 oral comments from public testimony at all of the 9 hearings
- 121 written comments have been received
 - Posted on our [website](#)
 - 74% of comments supportive of the Rule
- These comments, which together include thousands of comments and suggested edits, ranged from broader statements on the rule itself to very specific line edits to requests for substantive changes.
- CDOT took this input and made hundreds of edits, both large and small, to provide clarity, improve implementation and intent, and find compromise amongst a diverse set of voices and suggestions.



Request	Result
Extend the Comment Period	Additional 30+ days and 10th hearing.
Publish updated draft rule in response to public comment.	Released October 19th.
Provide a technical memo to demonstrate methodology used to develop targets.	Tech support memo released Oct 19th. Also C/B analysis includes nearly 20 pages describing modeling behind reduction levels.
Create a process for regular evaluation of the baselines and GHG reductions.	Baselines pulled out of rule to allow for updating.
Modify the waiver process for more certainty and transparency.	Revised draft requires TC vote and sets a timeline for taking action.



Provisions that Remained the Same

Acknowledging Regional Differences Across the State

- Rule focus is on transportation projects that have a major impact on vehicle travel. These “regionally significant projects” (e.g. interstate widening, new interchanges) occur predominantly in urban areas). This focus is retained.
- Similarly, three regions of the state (Pikes Peak, Pueblo and the Grand Valley) were given more time in the rule to comply with reduction levels.
 - This recognizes the importance to build modeling and technical capacities.



Provisions with Minor Adjustments

Greenhouse Gas (GHG) Reduction Levels

- The new draft retains the GHG reduction levels as originally proposed, which ensure steady progress in pollution reduction across the 30-year horizon of the rule.
- However, baselines were removed from rule to allow for more regular updates to these numbers; particularly to reflect changes in Colorado's population growth.

Improving Aspects of Implementation

- While the rule's key enforcement provisions remain the same, the timelines and certain details are improved to better align with the Metropolitan Planning Organization's planning process and provide greater certainty on key issues.



Consideration of Vehicle Miles Traveled (VMT)

- Annual reporting on VMT per capita with requirement that the Transportation Commission consider the effectiveness of the rule after three consecutive years of data showing a lack of progress in reducing VMT.
- Preamble to rule states that traffic control and capacity expansion projects cannot be used specifically as mitigation for pollution impacts of projects.
 - While these projects often have immense value from the perspective of safety and traffic management, they can also lead to other inefficiencies including increased vehicle miles traveled per capita.



Mitigation Measures

- Draft [mitigation policy framework](#) to provide more detail, with final versions expected to be complete by April 2022
- The public will have the opportunity to propose ideas for other mitigation includes detail on:
 - Establishing a GHG Mitigation Advisory Group to continuously update the policies and review proposed measures.
 - Initial eligible and ineligible mitigation measures
 - Guidance on how Mitigation Action Plans must be developed and what must be included
 - Guidance for documenting impacts and benefits to Disproportionately Impacted Communities
- Begins to establish how to quantify and/or score measures based on GHG reductions, and summarizes resources to inform a more detailed approach.



Mitigation Measures: Principles

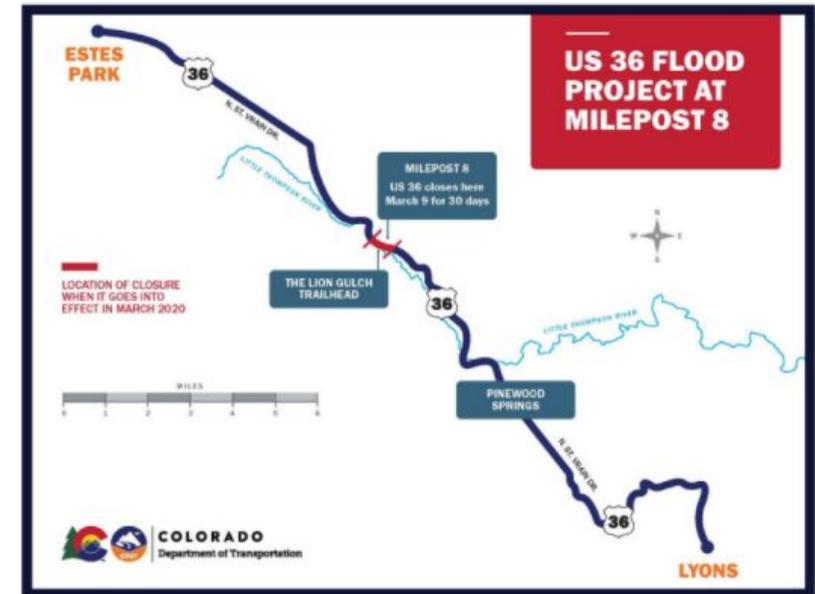
The following core principles, informed by state goals and input from stakeholders, guided the development of this Mitigation Policy Overview:

- Benefits to Disproportionately Impacted Communities
- Geographic nexus with impacts
- Holistic air quality planning
- Verification
- Reasonable scale



Case Study: Clean Construction at US 36 MP 8

- The US 36 Milepost 8 Project was able to reduce Greenhouse Gas emissions by **118 Metric Tons**, saved **6,600 cubic yards** of material from going to the landfill, and in the process saved **\$1.3 million** from a **\$9 million** project budget.
- This project was the final part of the 1976 and 2013 flood recovery and offered a permanent fix to meet long-term transportation safety and functional standards.
- CDOT worked with the U.S. Forest Service to restore the Little Thompson River to its natural alignment and return the channel to its historic ecological function. This was essential to minimize erosion damage and highway closures during future flood events, and to provide animal crossing beneath the highway to reduce wildlife strikes.
- This project in itself was not only a success, but it was also an **environmental achievement**:
 - With the cooperation of the US Forest Service, the project team was able to repurpose much of the material that was removed during this historic tunneling work. Some of the material was of good enough quality to work as riprap and the rest was used to fill in a channel that was naturally abandoned in the 2013 Flood.
 - Successes include reducing the planned full closure of US 36 from 30 days to 20 days, eliminating 54,000 miles of heavy truck travel, and utilizing an innovative tunneling practice to keep traffic moving on US 36 during construction
- This project received the Colorado Contractors Association's 2020 Project Management Award in the category of Emergency Projects.





Case Study: Traffic Congestion Relief at Floyd Hill

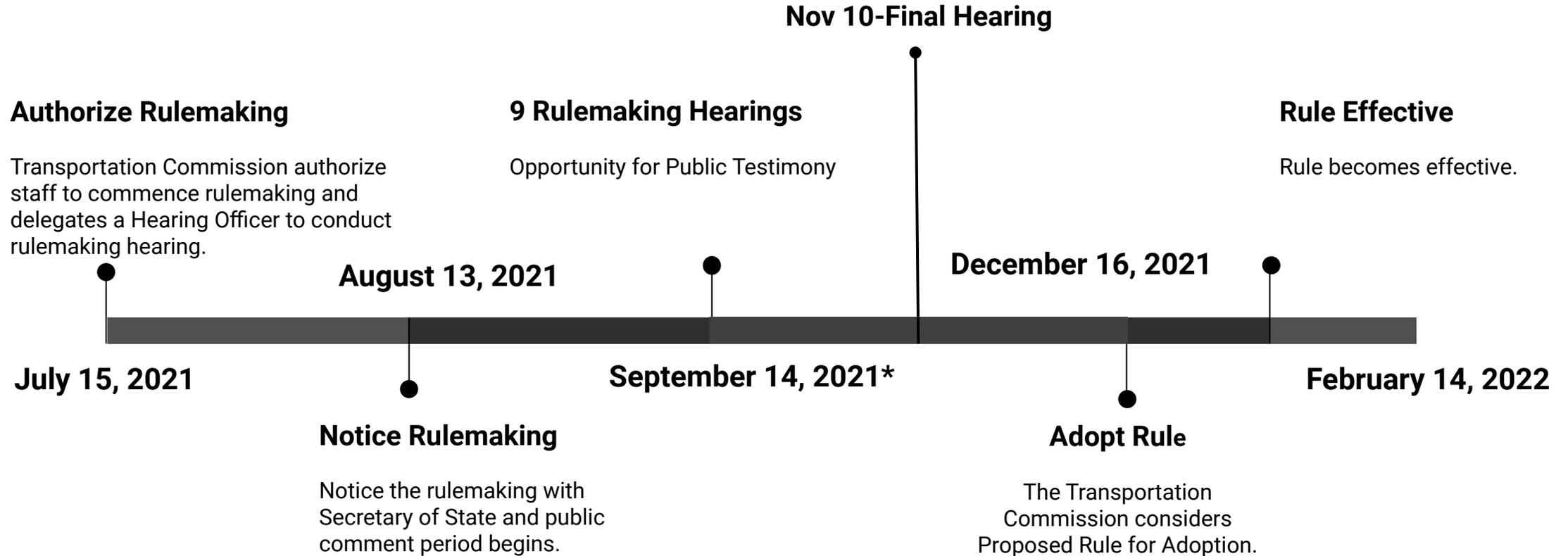
- In collaboration with the Federal Highway Administration (FHWA), the Colorado Department of Transportation proposed the I-70 Floyd Hill to Veterans Memorial Tunnel Project that will improve the environmental conditions in the area as well as reduce Greenhouse Gas emissions through projects like the Bustang Pegasus shuttle and other various measures.
- Major elements of the Project include implementing environmental mitigation for wildlife connectivity, air and water quality, stream conditions, and recreation. These improvements will save users more than an hour of travel time for summer and winter weekend trips and decrease the number and severity of crashes through more consistent traffic flow and speeds
- **The Bustang Pegasus** is a mountain corridor shuttle service that is planned to launch in December 2021. This shuttle service will reduce reliance on private automobiles on I-70. Furthermore, future plans for this service entail transitioning to electric vehicles for the shuttle service. The Bustang Pegasus will be a crucial part of reducing GHG emissions on I-70.
- **Planned measures include:**
 - New air quality monitors
 - Plans have been made to ensure impacts to high-quality wetlands and wildlife habitats are avoided and important riparian areas of Clear Creek will be restored
 - I-70 Corridor's first major wildlife crossings
- The thoughtful planning of this project is a great example of how successful planning can lead to an overall benefit on the environment and reduction in GHG emissions.





Updated Rulemaking Timeline

subject to change and refinement due to TC action and rulemaking development



**Hearings may be held on or after September 14, 2021. Hearings to be a mix of virtual/in-person and held in multiple locations around the state.*





Documents available on CDOT's website

- [Revised Rule text \(October 19, 2021\)](#)
- [DRAFT Mitigation Policy Overview \(October 19, 2021\)](#)
- [DRAFT Greenhouse Gas Modeling Process \(October 19, 2021\)](#)
- [GHG Presentation](#)
- [Proposed Rule text \(August 13, 2021 Version\)](#)
- [Notice of Proposed Rulemaking](#)
- [Cost-Benefit Analysis](#)
- [Regulatory Analysis](#)
- [Fact Sheet](#)
- [Press Release \(August 13, 2021 Version\)](#)
- [Presentation](#)
- [23 U.S.C. 133](#)
- [23 U.S.C. 148](#)
- [23 U.S.C. 149](#)

[GHG Program Page](#)

<https://www.codot.gov/programs/environmental/greenhousegas/opportunities>

[Rules Page](#)

<https://www.codot.gov/business/rules/proposed-rules>