



PROJECT TITLE

Development of Environmental Product Declarations (EPDs) for Sustainable Pavement Procurement

STUDY TIMELINE

January 2022 - February 2023

INVESTIGATORS

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FURTHER RESOURCES

Final Report link

1) https://urldefense.proofpoint.com/v2/url?u=https-3A_www.codot.gov_programs_research_arch_pdfs_2023-2Dresearch-2Dreports&d=DwMFaQ&c=sdnEM9SRGFuMt5z5w3AhsPNahmNicq64TgF1JwNR0cs&r=IPfP7Kl-loMW6kD1A8v8jpRRPIRSEowpVvlmw w1LZBI&m=GeLNUI326EH1jB89Fqqv81ett4rOSH3gzOLFif6AvVba5EBFRHS0_LZvAIB_qXCz&s=06fXodpSzeyFPTTi z1RunUGGGgiLoUiuyc2USOU4tIE&e=

2) <https://www.fhwa.dot.gov/pavement/sustainability/>

Development of EPD Protocols for “Buy Clean Colorado”

Introduction

HB 21-1303, the “Buy Clean Colorado Act” requires contractors to submit EPDs for asphalt and asphalt mixtures, cement and concrete mixtures, and steel installed on CDOT projects. Ultimately, the bill instructs CDOT to establish greenhouse gas (GHG) emission limits for these materials, and contractors on CDOT construction projects will need to comply with the specified limits. The objectives of this study were to assess the current state-of-the-practice of EPDs in construction material manufacturing; to educate stakeholders regarding life cycle assessment (LCA) and EPDs; and to help develop protocols uniquely suited to Colorado that CDOT and material producers can use to integrate EPDs into the framework of Buy Clean Colorado.

Action Taken

The tasks of this study included a literature review, workshops for CDOT and industry partners, and recommendations for development of EPD protocols. The first workshop focused on stakeholders internal to CDOT, including pavement and materials engineers, representatives responsible for procurement and environmental decision making, and project managers. The second workshop focused on external stakeholders, including contractors, materials producers, engineers, and trade associations. The notes from Q&A sessions and breakout sessions from both workshops are included in the final report. The communications and outcomes from the two workshops were used to help develop and refine the protocols and specifications for CDOT’s initial launch of their EPD program. The lessons learned will also help CDOT develop benchmark limits for the next stage of Buy Clean Colorado.

Next Steps

The next phase of the CDOT EPD program involves development of GHG benchmark limits for the key construction materials, which must be established by January 1, 2025 according to the bill. Establishment of limits will be difficult and faces several challenges as stakeholders have different opinions on how the rules should be created. Also, there are limited standards or published literature on the creation of environmental benchmarks for construction materials.

Potential Impacts and Benefits

The manufacturing sector is the U.S. is responsible for a third of U.S. GHG emissions, with the production of steel, concrete, asphalt, and flat glass accounting for nearly half of all U.S. manufacturing GHG emissions. Policies like Buy Clean Colorado will help to reduce the country’s emissions and mitigate environmental impacts. Colorado is the first state to embark on establishing GHG limits for concrete and asphalt, and the rest of the country is looking to Colorado for leadership and initiative on this important and timely aspect of transportation construction.