

**Low-Carbon Transportation Materials Program
Notice of Funding Opportunity**

U.S. DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Notice of Funding Opportunity for LOW CARBON TRANSPORTATION MATERIALS PROGRAM

AGENCY: U.S. Department of Transportation (DOT), Federal Highway Administration (FHWA).

ACTION: Notice of Funding Opportunity (NOFO)

SUMMARY:

The Inflation Reduction Act (IRA) (Pub. L. 117-169, Aug. 16, 2022) established the Low Carbon Transportation Materials (LCTM) Program, codified as Title 23, United States Code (U.S.C.), Section 179. It provides funding for the use of construction materials that have substantially lower levels of greenhouse gas (GHG) emissions. The program will distribute grants with the goals to increase the use of lower carbon materials and products that are used in projects funded under Title 23, facilitate the use of low carbon transportation materials while ensuring appropriateness for use in projects eligible under Title 23, promote technology transfer and enhance workforce development to increase the adoption of environmental quantification techniques used in decision making by transportation agencies, and encourage eligible recipients to begin LCTM activities and build successful low carbon transportation material identification frameworks.

Activities anticipated to be funded under this program are identification frameworks for eligible materials, work needed to determine their appropriateness for use on eligible projects, and the use of low carbon transportation materials on eligible construction projects.

The deadline to submit applications under this Notice of Funding Opportunity (NOFO) is on November 25, 2024. Other key milestones include the announcement of awards under the NOFO, anticipated in winter 2024/2025. Once the Grant Agreement is fully executed and funds are obligated, funds must be expended no later than September 30, 2031.

This NOFO is to solicit applications from eligible entities other than the State department of transportation (State DOT) and will result in the distribution of up to \$800 million. The actual amount available to be awarded under this notice will be subject to the availability of funds.

Eligible entities under this NOFO are:

- A unit of local government;
- A political subdivision of a State;
- A territory of the United States;
- An entity described in 23 U.S.C. 207(m)(1)(E);
- A recipient of funds under 23 U.S.C. 203;
- A metropolitan planning organization (MPO) (as defined in section 23 U.S.C.134(b)(2));
- A special purpose district or public authority with a transportation function.

State DOTs were eligible under a Request for Applications posted to FHWA's LCTM Webpage at www.fhwa.dot.gov/lowcarbon/funding.cfm, that closed on June 10, 2024.

Funds made available for Federal Fiscal Year (FY) 2022 for the LCTM Grant Program are to be awarded on a competitive basis for the use of substantially lower carbon materials on projects and necessary work to identify appropriateness for the use of these materials on eligible projects. This notice describes the application requirements, selection and evaluation criteria, applicable program and Federal requirements, and available technical assistance during the grant solicitation period.

DATES:

Applications must be submitted electronically through grants.gov no later than 11:59 p.m., Eastern Time, on November 25, 2024 (the "application deadline"). Applicants are encouraged to submit applications in advance of the application deadline; however, applications will not be evaluated, and awards will not be made, until after the application deadline.

FHWA has a range of resources available to potential applications and plans to conduct outreach regarding LCTM. Details of which will be posted to the program's Website at <https://fhwatest.fhwa.dot.gov/lowcarbon/outreach>.

ADDRESSES:

Applications must be submitted electronically through grants.gov. Refer to Catalog of Federal Domestic Assistance Number: 20.205 -- Highway Planning and Construction

FOR FURTHER INFORMATION CONTACT:

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Office hours are from 9:30 a.m. to 4:00 p.m., Eastern Time, Monday through Friday, except Federal holidays.

FHWA will not review applications in advance, but FHWA staff are available for general questions about the LCTM Program and NOFO. FHWA will not provide technical assistance to any applicant including providing guidance on how to address any information that should be included in an application. FHWA will post answers to questions and requests for clarifications at Grants.gov under this NOFO's page. To ensure applicants receive accurate information about eligibility or the program, the applicant is encouraged to contact FHWA directly, rather than through intermediaries or third parties, with questions.

SUPPLEMENTARY INFORMATION:

Each section of this notice contains information and instructions relevant to the application process for LCTM grants. The applicant should read this notice in its entirety so that they have the information they need to submit eligible and competitive applications.

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NOTE: This notice contains collection-of-information requirements subject to the Paperwork Reduction Act. The use of Standard Forms 424, 424A, 424B, 424C, 424 D, and SF-LLL has been approved by the Office of Management and Budget (OMB) under 2105-0520.

Notwithstanding any other provision of law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the Paperwork Reduction Act, unless that collection displays a currently valid OMB control number.

FHWA uses www.grants.gov for receipt of all applications. Applicants must register and use the system to submit applications electronically. Applicants are encouraged to register in advance of the submission deadline and to register to receive notifications of updates/amendments to this notice. Approval of user registrations for the site may take multiple weeks. It is the applicant's responsibility to monitor for any updates to this notice.

SECTION A - PROGRAM DESCRIPTION

1. Overview

The Inflation Reduction Act (IRA) (Pub. L. 117-169, Aug. 16, 2022) established the LCTM Program (23 U.S.C. 179), which provides funding for the use of construction materials that have substantially lower levels of GHG emissions.

The purpose of the LCTM Program is to reimburse the incrementally higher costs of using or provide an incentive¹ amount to eligible recipients for the use, in projects, of construction materials and products that have substantially lower levels of embodied GHG emissions, as described by the Environmental Protection Agency (EPA), associated with all relevant stages of production, use, and disposal as compared to estimated industry averages of similar materials or products, hereafter referred to as low carbon transportation materials.

The program will also serve to help eligible transportation agencies update or develop specification language and conduct identification activities needed to demonstrate materials are appropriate for use on Federal-aid construction projects.

Funds made available for the LCTM Program will be awarded for the use of substantially lower carbon materials and products on construction projects funded under title 23 U.S.C. and necessary work to identify appropriateness for use of these materials on eligible projects.

FHWA is requesting applications from eligible applicants other than the State DOTs. State DOTs were eligible to apply for LCTM funds under a Request for Applications, posted on FHWA's Webpage at www.fhwa.dot.gov/lowcarbon/funding.cfm.

As part of the LCTM Program, this notice will result in the distribution of up to \$800 million, subject to the availability of funds. This notice describes the application requirements, selection, and evaluation criteria.

For the purposes of this NOFO, materials/products available for reimbursement or incentives are those identified by the EPA Administrator². In alignment with the Administration's Federal Buy Clean Initiative, EPA released an Interim Determination (ID) in December 2022³ that outlined an approach to establish thresholds and data requirements for qualifying concrete (and cement), glass, asphalt mix, and steel materials/products that meet the substantially lower embodied carbon requirements. For purposes of this NOFO, these are the only materials/products categories that are currently eligible.

¹ 23 U.S.C. 179(b)(1).

² 23 U.S.C. 179(a).

³ Available from EPA. FHWA is closely monitoring updates to EPA ID. In the event of an update, EPA has acknowledged in the ID of December 22, 2022, "...that any revisions to this determination will apply only prospectively to contracts awarded..." As appropriate, FHWA will inform recipients of any changes to the program if the EPA ID is updated.

An agency shall determine the substantially lower embodied carbon thresholds (i.e., best performing 20 percent, 40 percent, and industry averages) for materials/products eligible for reimbursement or incentive under this program through the following options:

Option (1): An agency may reference the established thresholds as published on the FHWA Website⁴. Stakeholders from concrete, glass, asphalt, and steel industries are working to provide industry-average data to support implementation of the LCTM Program⁵.

Option (2): An agency may determine local or regional thresholds for concrete (and cement), glass, asphalt mix, and/or steel. In this option, the agency shall follow accepted International Organization for Standardization (ISO) standards to develop thresholds. Agencies shall disclose the Global Warming Potential (GWP), the methodology for determining the percentiles and averages, the source(s) used for each material/product, and the parameters (including performance specification) used to set the GWP.

Agencies may also use a combination of these two options for this program. Under this NOFO, the LCTM Program will provide funds directly to recipients that will implement the provisions of the EPA's ID for eligible low carbon transportation materials/products. Recipients may also be reimbursed for identification of eligible materials and work needed to determine their appropriateness for use on eligible projects, as discussed more in Section C Eligibility Information of this NOFO.

2. LCTM Program Goals

Program goals include, but are not limited to:

- Increase the use of lower carbon materials and products that are used in projects funded under Title 23.
- Facilitate the use of low carbon transportation materials while ensuring appropriateness for use in projects eligible under Title 23.
- Promote technology transfer and enhance workforce development to increase the adoption of environmental quantification techniques used in decision making by transportation agencies.
- Encourage eligible recipients to begin LCTM activities and build successful low carbon transportation material identification frameworks.

3. Administration Priorities and Departmental Strategic Plan Goals

The Department seeks to fund projects that advance the Departmental priorities of safety, climate change and sustainability, equity and environmental justice, and workforce development, job

⁴ These thresholds are not yet available. FHWA is currently engaging with relevant industry stakeholders to obtain industry average information. FHWA anticipates referencing this information to establish acceptable thresholds for the LCTM Program when it is available in fall 2024.

⁵ Industry stakeholders are expected to provide industry information for product/material types within the product categories complying with the EPA ID. For example, within the steel product category industry stakeholders may provide data based on function and other industry specific considerations.

quality, and wealth creation as described in the DOT Strategic Plan, Research, Development and Technology Strategic Plan, and in executive orders (E.O.). Administration priorities will be considered as described in Section A.3. Illustrative examples are provided in Section E.2.

i. Safety

DOT is committed to advancing safe, efficient transportation, including in the LCTM Program. Projects in the LCTM Program should provide substantial safety benefits (to commuters, workers, etc.) compared to existing conditions; mitigate to the extent practicable any significant safety risks that could result after the project's completion; and do not negatively impact the safety of the traveling public, and any relevant group applicable to the program.

ii. Climate Change and Sustainability

As part of the Biden-Harris Administration's whole-of-Government [Federal Buy Clean Initiative](#), and consistent with E.O. 14057, Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability (86 FR 70935), the EPA, the U.S. General Services Administration (GSA), and GSA/FHWA are closely collaborating to implement related efforts as part of IRA Sections 60112, 60116, 60503, and 60506. As FHWA and GSA implement programs to use and incentivize low-carbon materials, EPA is working to encourage increased Environmental Product Declaration (EPD) harmonization and availability through grant, technical assistance and carbon labeling programs for construction materials.

DOT seeks to fund activities and projects under the LCTM Program that reduce GHG emissions from materials used in the transportation sector. DOT also seeks to incorporate evidence-based climate resilience measures and features, avoid adverse environmental impacts to air or water quality, wetlands, and endangered species, and address the disproportionate negative environmental impacts of transportation on communities with environmental justice concerns, consistent with E.O. 14096, Revitalizing Our Nation's Commitment to Environmental Justice for All (88 FR 25251), and E.O. 14008, Tackling the Climate Crisis at Home and Abroad (86 FR 7619).

iii. Equity and Environmental Justice

DOT seeks to fund activities and projects under the LCTM Program that will create positive outcomes that will reduce, mitigate, or reverse how a community is experiencing disadvantage through increasing affordable transportation options, improving health or safety, reducing pollution, connecting Americans to good-paying jobs, fighting climate change, and/or improving access to nature, resources, transportation or mobility, and quality of life. Applicants are strongly encouraged to use the DOT Equitable Transportation Community Explorer (arcgis.com) to understand how their project area is experiencing disadvantage in any of five areas that transportation projects with a direct relationship. Also, to identify and implement programs and policies that ensure the benefits of investments while mitigating economic displacement economically susceptible residents and businesses. Some examples include the preservation and/or production of affordable housing; expanding affordable, safe transportation and mobility options to areas where good jobs are concentrated; and supporting entrepreneurship, small business growth, tourism and access to capital through local hiring. The applicant will engage the public, including disadvantaged communities, during all phases of the project, including

planning, design, construction, and implementation. For more information, see [Three Major Components of DOT's Justice40 Initiative](#).

iv. Workforce Development, Job Quality, and Wealth Creation

DOT intends to use the LCTM Program to support the creation of good-paying jobs with the free and fair choice to join a union including through the use of a project labor agreement and the incorporation of strong labor standards and training and placement programs, especially registered apprenticeships, in project planning stages, consistent with E.O. 14025, Worker Organizing and Empowerment (86 FR 22829), and E.O. 14052, Implementation of the Infrastructure Investment and Jobs Act (86 FR 64335). Applicants are encouraged to review the Grant Application Checklist for a Strong Transportation Workforce and Labor Plan, that can be found on the DOT Navigator. DOT also intends to use the LCTM Program to support wealth creation, consistent with the DOT Equity Action Plan by adopting local and economic hiring preferences for the project workforce or include other changes to hiring policies and workplace cultures to promote the entry and retention of underrepresented populations; and through the inclusion of local inclusive economic development and entrepreneurship such as the use of the Disadvantaged Business Enterprises, Minority-owned Businesses, Women-owned Businesses, or 8(a) firms. DOT also intends to use the LCTM Program to support Made in America goals consistent with E.O. 14005, Ensuring the Future Is Made in All of America by All of America's Workers (86 FR 7475).

SECTION B – FEDERAL AWARD INFORMATION

1. Award Amount Available

For FY 2022, up to \$800 million is available for LCTM awards under this notice. Subject to the availability of funds, the Administrator may distribute funds for a grant under this program as the Administrator determines to be necessary. FHWA reserves the right to make no awards under this NOFO.

2. Award Size

FHWA does not have a requirement for a minimum or maximum award amount.

3. Type of Award

The LCTM funds will be awarded upon the execution of a grant agreement or project agreement with FHWA. A determination will be made if the successful applicant will administer the grant, or at the request of the successful applicant, an applicable State DOT will administer the grant. If a State DOT will serve as a pass-through entity to a non-State DOT entity, program funds will be awarded upon the execution of a project agreement, which is a type of grant agreement for the administration of funds to a State DOT in the Fiscal Management Information System (FMIS).

4. Availability of Funds

All awards of FY 2022 LCTM funds are available for obligation until September 30, 2026, and must be expended before September 30, 2031.

5. Period of Performance

The period of performance for the award is anticipated to be 1 to 6 years from the effective date of the agreement. The start of the period of performance will begin on the date that an agreement is fully executed. Once the grant agreement is fully executed and funds are obligated, funds must be expended by the period of performance end date or no later than September 30, 2031, whichever is sooner.

If a State DOT will serve as a pass-through to a non-State DOT entity awarded a grant, the DOT Payment System will be “Current Bill” in the “FMIS” and the start of the period of performance will begin on the date LCTM funds are obligated in FMIS and end on the project end date in FMIS.

If a grant recipient will be a non-State DOT entity, DOT Payment System will be “DELPHI eInvoicing” and the start of the period of performance will begin on the date the grant agreement is executed by the FHWA, which will obligate the LCTM and end on the period of performance that is listed in the grant agreement.

6. Special Statutory Funding Limitation

LCTM funding shall not be used for projects that result in additional through travel lanes for single-occupant passenger vehicles. [23 U.S.C. 179(b)(4)(C)].

7. LCTM Implementation Process Report

An Implementation Process Report (IPR) shall be developed to document a process(es) for how the recipient plans to implement LCTM activities and increase the adoption of low carbon transportation materials. Recipients must receive approval of the IPRs before FHWA will issue the authorization to proceed or obligate LCTM funding for use on a construction project. Section F.3.iii of this NOFO includes the minimum contents of an IPR. The recipient may choose to develop multiple IPRs to meet the requirements for different processes or activities undertaken with LCTM funds.

SECTION C – ELIGIBILITY INFORMATION

To be selected for a grant, an applicant must meet the eligibility requirements under this Section C including: Eligible applicant and Eligible Projects. Applications that do not meet these threshold eligibility requirements will not be evaluated under the merit criteria in Section E.

1. Eligible Applicants

Eligible Applicants

Low-Carbon Transportation Materials Grants

(23 U.S.C. 179(c)(2))

- (B) a unit of local government;
- (C) a political subdivision of a State;
- (D) a territory of the United States;
- (E) an entity described in 23 U.S.C. 207(m)(1)(E);
- (F) a recipient of funds under 23 U.S.C. 203;
- (G) a MPO (as defined in section 23 U.S.C. 134(b)(2));
- (H) a special purpose district or public authority with a transportation function.

2. Cost Sharing or Matching

If a reimbursement is provided under this LCTM Program, the total Federal share payable for the incremental costs or incentive amount shall be 100 percent. Identification of eligible materials and work needed to determine their appropriateness for use on eligible projects can be considered as wholly incremental, i.e., the work would not have been done except for the availability of this program, and an application could request reimbursement for 100 percent of these costs.

While LCTM funds are eligible for up to 100 percent Federal share, LCTM funds may only be applied to eligible activities associated with the use of the low carbon transportation material. The program is not intended to fund entire construction projects. This program may reimburse an amount equal to the incrementally higher cost of using eligible materials and products or an incentive amount equal to 2 percent of the cost of using low-embodied carbon materials.⁶

3. Number of Applications

An eligible applicant shall only submit one application; however, one application can include the process development activities related to multiple transportation materials and can include project bundling to facilitate implementation of different classes of eligible materials on multiple construction projects.

4. Eligible Projects

The LCTM Program will not fund entire construction projects, but provides funds for eligible activities highlighted in Section C.5, including the use of eligible materials on construction projects funded under 23 U.S.C., including projects on:

- Federal-aid highways;
- Tribal transportation facilities;
- Federal lands transportation facilities; and
- Federal lands access transportation facilities.

Funds are also available to use for activities required to develop a process to demonstrate

⁶ 23 U.S.C. 179(b)(2)

materials meet the standard of ‘substantially lower embodied carbon’ and are appropriate for use. For purposes of this program, eligible materials categories⁷ are concrete (and cement), glass, asphalt mix, and steel.

5. Eligible Activities

Agreements under this program are not intended to provide funds that fully fund construction projects. Under 23 U.S.C. 179(b)(2), funds may be used for incentives or incremental costs. Specifically, eligible recipients that use low-embodied carbon construction materials and products on a project funded under Title 23 may receive an incentive equal to 2 percent of the cost of using low-embodied carbon construction materials and products on the project. Alternatively, eligible recipients that use low-embodied carbon construction materials and products on a project funded under Title 23 may receive amount of reimbursement equal to the incrementally higher cost of using such materials relative to the cost of using traditional materials, as determined by the eligible recipient and verified by the FHWA.

Identification of eligible materials and work needed to determine their appropriateness for use on eligible projects can be considered as wholly incremental, i.e., the work would not have been done except for the availability of this program, and an application could outline a 100 percent reimbursement of these incremental cost amounts. For the use of eligible materials on eligible construction projects, the reimbursement shall not exceed either the incremental cost of using or the incentive amount. The recipient will need to demonstrate how the corresponding reimbursement amount is calculated as part of the reimbursement request. For the purposes of the application, an estimate can be provided.

The applicant could choose to achieve LCTM goals outlined in Section A.2. LCTM Program Goals in a variety of ways. This could include, but not be limited to, the series of activities outlined in the table below. An applicant may also elect a reimbursement mechanism for incrementally higher costs of using materials or an incentive cost, depending on the activity. FHWA will not consider previously incurred costs or previously expended or encumbered funds for reimbursement.

⁷ Please note that any materials funded under this program would need to meet other applicable requirements, including Buy America (23 U.S.C. 313) and Build America, Buy America Act (BIL Sections 70901-52).

Low Carbon Transportation Materials Identification Process Development		
Categories of Activities	Example Eligible Activities (non-exhaustive)	Funding Method ⁸
Process for Substantially Lower Embodied Carbon	<ul style="list-style-type: none"> Development of Implementation Process Report(s) <i>Example: Agency contracts with entity to assist in development of IPR(s) on selected materials or processes.</i> Academia or Consultant support to identify eligible materials, training needs, additional data, and special provision development. <i>Example: Agency enters into a contract with a consulting firm to identify materials (concrete (and cement), glass, asphalt mix, and steel) that are eligible and available in the region.</i> Industry Outreach and Coordination. <i>Example: Agency conducts listening session(s) or partnering meetings with industry.</i> Development of process to collect and store EPDs. <i>Example: Agency contracts with entity to create and host an EPD database.</i> Identification of ‘substantially lower’ embodied carbon thresholds that meet ISO acceptable practices.⁹ <i>Example: Agency contracts with consultant to identify thresholds from relevant industry reports containing region-specific information.</i> <i>Example: Agency contracts with consultant to conduct a benchmarking analysis to identify their Agency-specific regional thresholds.</i> LCTM Training. <i>Example: Agency conducts or hires an entity to conduct training for staff, consultants, and contractor personnel on the relevance of low carbon transportation materials, EPDs, and any new Agency-specific processes.</i> 	Incremental amount
LCTM Quality Assurance (QA) and LCTM Specifications	<ul style="list-style-type: none"> Development of Implementation Process Report(s). <i>Example: Agency contracts with entity to develop IPRs detailing new QA processes</i> 	Incremental amount

⁸ “Incentive amount” and “Incremental amount” are defined specifically for this NOFO in Section C.2.

⁹ The published industry thresholds may be used, or the Agency may develop their own local or regional thresholds as defined by EPA. The Agency shall develop a process to compare their thresholds to the identified benchmark.

	<p><i>and/or implementation steps for new material special provisions or specification updates.</i></p> <ul style="list-style-type: none"> • Development of QA plan(s) and/or Performance Monitoring Plan for the material. <i>Example: Agency develops QA plan or a Performance Monitoring Plan for projects constructed with low carbon transportation materials.</i> • Industry Outreach and Coordination. <i>Example: Agency hosts listening sessions with industry on new QA processes or new special provisions</i> • Update of existing material specifications or development of new special provision to facilitate use on projects. <i>Example: Agency contracts with a university to test asphalt mixture combinations that meet the requirements of “substantially lower embodied carbon” and meet Agency engineering performance criteria. The University then develops a new special provision for appropriate mixtures.</i> • Preliminary mixture design and testing to evaluate materials. <i>Example: Agency enters into a contract with a consulting firm to identify data gaps or conduct additional testing needed to ensure satisfactory performance on an eligible Federal-aid project</i> <i>Example: Agency contracts with university to conduct testing and evaluation on a wide combination of mixtures of materials likely to meet low carbon definition to ensure they are appropriate for use on eligible Federal-aid projects.</i> • Testing Equipment to properly accept and verify LCTM. <i>Example: Agency purchases test equipment they do not currently have but is needed to properly assess engineering performance and accept low carbon materials, such as a new asphalt cracking performance test device.</i> • LCTM Test Strips. <i>Example: Agency places short sections of a concrete pavement with an eligible mixture to ensure the mixture is placeable and appropriate for use on eligible Federal-aid projects.</i> 	
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	<ul style="list-style-type: none"> • Development of a verification process for LCTM and EPDs. <i>Example: Agency contracts with consultant to develop a process to collect EPDs and other required information on a project and determine if the materials meet eligibility requirements.</i> <i>Example: Agency develops a process to calculate the incremental cost or incentive amount to request as Federal reimbursement.</i> • Training. <i>Example: Agency contracts with university to conduct training on their low carbon QA processes and new special provisions targeted at Agency staff and consultants.</i> 	
Construction Project Identification	<ul style="list-style-type: none"> • Development of Implementation Process Report(s). <i>Example: Agency contracts with consultant to develop an IPR detailing how eligible materials will be implemented on eligible construction projects.</i> • Identify Construction Projects. <i>Example: Agency identifies eligible projects that would be appropriate for inclusion of eligible materials.</i> • Develop a plan for incorporation of LCTM on construction projects. <i>Example: Agency develops a plan to incorporate eligible materials on eligible construction projects.</i> • Development of project-specific construction contract language. <i>Example: Agency modify its special provision for project specific criteria.</i> • Industry Outreach and Coordination. <i>Example: Agency conducts outreach to industry and construction contracts and material suppliers to communicate activities, requirements, and special provisions.</i> • Training. <i>Example: Agency contracts with a university to conduct Agencywide training for Agency staff and consultants on the low carbon QA process and material special provision.</i> 	Incremental amount
Use of Eligible Materials on Construction Projects (non-exhaustive)		

Categories of Activities	Example Eligible Activities	Funding Method
Use of LCTM on Projects	<ul style="list-style-type: none"> • Identification of eligible Federal-aid projects. <i>Example: Agency contracts with a consultant to identify construction projects that would make the most sense on which to incorporate low carbon transportation materials (most likely included in the State's Statewide Transportation Improvement Program (STIP) or Capital Improvement Plan)</i> • Estimation of costs of LCTM. <i>Example: Agency contracts with a consultant to estimate costs of eligible materials.</i> • Comparison of LCTM costs and traditional material cost. <i>Example: Agency contracts with a consultant to compare costs of low carbon transportation materials with conventional materials.</i> • LCTM Bid Items (added solely to facilitate use of LCTM). <i>Example: Agency pays for additional line items that are needed to implement low carbon transportation materials effectively and appropriately on construction projects.</i> 	Incremental amount or incentive amount
Substantially Lower Embodied Carbon	<ul style="list-style-type: none"> • EPD Bid Item. <i>Example: Agency adds a pay item for a line item for EPDs collection in order to determine if a material meets low carbon material definition.</i> • Collection of Energy Star Performance Score. <i>Example: Agency request reporting of Energy Star performance scores by material suppliers, as required by EPA's ID.</i> • Quality Incentives for environmental performance. <i>Example: Agency offers quality incentives for eligible low carbon materials to contractors as part of the special provision(s).</i> • Other costs for the use of substantially lower carbon materials. <i>Example: Agency incurs additional costs to implement low carbon transportation materials and requests reimbursement in accordance with all Federal regulations and cost control provisions (e.g., costs are not included as part of overhead expenses.)</i> 	Incremental amount or incentive amount

QA and Acceptance	<ul style="list-style-type: none"> • LCTM test strip. <i>Example: Agency places short sections of low carbon transportation materials to ensure they can be produced at production scale, are placeable, and meet engineering requirements in a production environment.</i> • Additional testing equipment and/or testing required to accept low carbon materials. <i>Example: Agency purchases resistivity test equipment to assess low carbon concrete in accordance with their special provision.</i> <i>Example: Agency contracts with consultants to conduct additional testing necessary to accept low carbon transportation materials (as outlined in the special provision).</i> • Verification that material placed meets thresholds for substantially lower carbon. <i>Example: Agency contracts with consultants to conduct analysis to ensure materials meet criteria for low carbon transportation materials.</i> • Verification of engineering properties of the LCTM. <i>Example: Agency contracts with consultants to conduct additional testing necessary to assess if in-place low carbon materials meet design criteria.</i> • Quality Incentives for engineering performance. <i>Example: Agency offers quality incentives to facilitate low carbon transportation material usage.</i> 	Incremental amount or incentive amount
Use of Materials and Products on Construction Projects	<ul style="list-style-type: none"> • Development of Project-specific Performance Monitoring Plan. <i>Example: Agency contracts with university to develop a project-specific plan to monitor and assess long term performance of low carbon transportation materials.</i> • Construction and placement costs of using eligible materials on eligible projects. <i>Example: Agency implements the use of concrete maturity testing to minimize traffic opening delays when using eligible materials.</i> • Reporting of results from Long Term Performance Monitoring Plan. 	Incremental amount or incentive amount

	<i>Example: Agency contracts with university to develop a project-specific long term reporting mechanisms on LCTM.</i>	
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SECTION D - APPLICATION AND SUBMISSION INFORMATION

1. Address to Request Application Package

All application materials may be found on Grants.gov at <http://www.grants.gov>.

Once at Grants.gov, select the Search Grants tab. Then enter one of the following:

- Opportunity Number: 693JJ325NF00002
- Opportunity Name: Low Carbon Transportation Materials Program
- Assistance Listing Number: 20.205 Highway Planning and Construction

When at one of these pages, select the Opportunity, which will open to a page with several tabs. The first tab is a synopsis of the opportunity. Select the Application Package tab to download the forms needed to submit an FY 22 LCTM Grant Application Package.

For a Telephone Device for the Deaf, please call (202) 366-3993. If potential applicants are unable to download the application package from the internet, they may send a written request for a paper copy to the below address. Requests should be sent to:

Veronica Jacobson
Agreement Officer
Office of Acquisition and Grants Management
Federal Highway Administration
U.S. Department of Transportation
1200 New Jersey Ave., SE.
Washington, DC 20590
Email: FHWA^{LowCarbonMaterials}@dot.gov
Phone: 720-963-3020

Alternate:

Hector R. Santamaria
Agreement Officer/Team Leader
Office of Acquisition and Grants Management
Federal Highway Administration
U.S. Department of Transportation
1200 New Jersey Ave., SE.
Washington, DC 20590
Email: FHWA^{LowCarbonMaterials}@dot.gov
Phone: 202-493-2402

2. Content and Form of Application Submission

i. Application

All applications must be submitted electronically through grants.gov.

NOTE: DOT may share application information within the DOT or with other Federal Agencies if the DOT determines that sharing is relevant to the respective program’s objectives.

The application package must consist of the following in this order:

Part	Page Limit
SF-424, Application for Federal Assistance	None
SF-424C, Budget Information for Construction Programs	None
SF-424D, Assurances for Construction Programs	None
Disclosure of Lobbying Activities (SF-LLL)	None
Volume 1: Technical Application (<i>Attach to SF-424, Item 15</i>)	15 pages
Volume 2: Budget Application (<i>Attach to SF-424, Item 15</i>)	None
Additional Supporting Documentation (As needed) (<i>Attach to SF-424, Item 15</i>)	15 pages

(a) Standard Form 424 (SF-424)

NOTE: Applicants may leave fields 5a, 5b, 6, 7, and 13 blank on the form.

NOTE: A number of separate PDF flat files must be attached in Item 15 to provide required project information that is not included in the body of the SF-424.

Instructions for adding Item 15 Attachments:

- Click on “Add Attachments” in Item 15 to open the first pop-up window. Click “Add Attachment” and a second pop-up File Explorer/Directory window will appear, from which you can choose files to attach. Attachments can be added one at a time or all at once by holding down the CTRL key and selecting multiple files. Select “Open” to add the selected files as attachments.
- Click “Done” to finalize the attachments.
- Click “View Attachments” to see a list of files that have been added as attachments.

Required attachments: the following files must be added as Attachments to Item 15 of SF-424:

- (a) Volume 1 Technical Application, as described in detailed below.
- (b) Volume 2 Budget Application, as described in detail below.
- (c) Additional Supporting Documentation (as needed).

(b) Required Forms for Construction Projects

Applicants should include estimated construction-related activities, and must submit the following forms:

1. Standard Form 424C (Budget Information Construction Programs); and
2. Standard Form 424D (Assurances for Construction Programs).

NOTE: All Standard Forms (SF) of the 424 family are available for download at <https://grants.gov/forms/forms-repository/sf-424-family>

(c) Disclosure of Lobbying Activities (SF-LLL)

(d) Volume 1 – Technical Application

The Technical Application should thoroughly address, with as much detail as possible without exceeding the page limit, the information necessary for the FHWA to determine that the activities proposed under the application satisfy requirements described in Sections B and C and to assess the Merit Criteria in Section E.

Applicants are encouraged to incorporate how the planned activities included in their application support Administration priorities, outlined in Section A.3, into the narrative in the Technical Application.

To the extent practicable, applicants should provide supporting data and documentation in a form that is directly verifiable by FHWA. FHWA may, but is not required to, request additional information, including additional data, to clarify supporting data and documentation submitted in an application, but FHWA encourages applicants to submit the most relevant and complete information they can provide. FHWA also encourages applicants, to the extent practicable, to provide data in a form that is publicly available or verifiable. To ensure a fair and unbiased evaluation of applications submitted under this notice, the FHWA will not request additional information to perfect incomplete applications.

FHWA recommends that the application be prepared with standard formatting preferences (i.e., a single-spaced document, using a standard 12-point font such as Times New Roman, with 1-inch margins). Tables are permitted. Text in tables may be smaller than 12-point font but must be legible. The technical application should not exceed 15 pages in length. Appendices may include documents supporting assertions or conclusions made in the 15-page technical application and do not count towards the 15-page limit. Front matter, back matter, and references do not count towards the 15-page limit. If possible, Website links to supporting documentation should be provided rather than copies of these supporting materials. If supporting documents are submitted, applicants should clearly identify within the application the relevant portion of the project narrative that each supporting document supports. FHWA recommends using appropriately descriptive final names (e.g., “Project Narrative,” “Maps,” “Memoranda of Understanding and Letters of Support,” etc.) for all attachments.

I. Cover Sheet

Low Carbon Transportation Materials Cover Page	
Organization Name	<i>Identify the legal name of the eligible entity submitting the application.</i>
Entity Type	<i>Clearly identify as an eligible Agency outlined in Section C.1.</i>
Application Description	<i>Provide a short overview of the application.</i>
Total LCTM Funding Request	\$
Funds for LCTM Process Development	\$
Funds for LCTM Construction Projects	\$

II. Technical Description:

The applicant should provide a concise description of the anticipated activities and scope of work of the application, including a discussion of any relevant Agency history or broader context the applicant deems relevant. Describe how the applicant proposes to meet one or more of the program goals, outlined in Section A.2. This section should include a description and scope of work, including planned major activities, milestones, and deliverables. The application can provide a technical and management narrative describing how the applicant proposes to carry out the planned work.

III. Applicant Information:

The application should include the lead applicant's demonstrated experience with receipt and expenditure of Federal-aid highway program funds under title 23, U.S.C. FHWA will consider the degree of experience as part of the readiness evaluation. If an application is rated Responsive under other criteria, but the applicant has no or limited experience with the receipt and expenditure of Federal-aid highway program funds, FHWA may contact the applicant prior to the final selection of FY 22 awards to discuss technical resources that may be available to assist the applicant in obtaining the capacity and expertise to ensure compliance with all applicable Federal requirements and timely delivery of the activities included in the scope of work.

The application could include information about the Agency's staffing structure and anticipated partners or other entities that will be engaged to support the scope of work described in the application.

The applicant should describe in detail all of the other public and private parties who are involved in delivering the project, including a specific description of the role of each entity in delivering the project.

The applicant should state whether or not a private or non-private entity will receive a direct and predictable financial benefit if the project is selected for award. This includes, but is not limited

to, private and non-private entities directly benefitting from completion of the proposed project. If this project directly involves or benefits a specific private corporation, a non-public entity, or a public entity, please identify the full name of each entity, separated by a comma.

IV. Overall Readiness:

The application should include information that, when considered with the budget information, demonstrates the applicant's ability to substantially execute and complete the full scope of work in the application before the expiration of funds. The applicant should demonstrate a sound, feasible, and achievable technical and management approach to successfully perform and complete the proposed scope of work. The application should articulate the likelihood of success for the project and include major activities and milestones. The application should include the basis for the cost estimate presented in the application, including the identification of contingency levels appropriate to any scope, schedule, and budget risk-mitigation measures.

- a. **Schedule:** The applicant should include a schedule that identifies major activities and associated milestones. The proposal should demonstrate that the work is ready to begin soon after the award is announced and to be complete before expiration of funds. Examples of such milestones include procurement authorization, and project partnership and implementation agreements. The project schedule should be sufficiently detailed to demonstrate that all necessary activities will be completed to allow LCTM Program funds to be obligated as indicated in the project schedule in the application, and all work tasks can be completed during the period of performance.
- b. **Project Risks and Mitigation Strategies:** The applicant should identify risks to the likelihood of successful initiation and completion of work (e.g., procurement delays or lack of legislative or administrative approval) and the strategies that the applicant and any project partners have undertaken or will undertake to mitigate those risks.
- c. **Required Approvals:** The applicant should demonstrate they are able to follow all applicable requirements for the applicable Federal-aid construction project(s) on which the applicant proposes to incorporate LCTM funds. This includes, but is not limited to, NEPA review and environmental impact assessment and Domestic Preference Requirements including Buy America and Build America, Buy America (BABA), further outlined in Section F.

V. Merit Criteria:

The applicant should describe how the proposal meets the merit criteria listed in Section E.1.i. Insufficient information to assess any criterion will negatively impact the project rating. Applicants should note that merit reviewers will focus on the technical application and will not be required to reference the other sections in the application package; therefore, all relevant information to demonstrate alignment with the merit criteria as described in Section E.1.i should be included in this section of the application. Applicants should describe the merit criteria in the order in which they are described in the NOFO and address each criterion separately. Guidance describing how FHWA will evaluate projects against the merit criteria is in Section E.1 of this notice. Applicants should review that section before considering how to organize their application.

VI. State and Local Approvals:

The applicant should demonstrate receipt (or the schedule for anticipated receipt) of State and local approvals on which the project depends, such as State and local environmental and planning approvals, and STIP or transportation improvement program (TIP) funding. Additional support from relevant State and local officials is not required; however, an applicant should demonstrate that the project has broad public support.

VII. Federal Transportation Requirements Affecting State and Local Planning:

The planning requirements applicable to the Federal-aid highway program apply to all LCTM projects.¹⁰ Applicants should demonstrate that a project that is required to be included in the relevant State, metropolitan, and local planning documents has been or will be included in such documents. If the project is not included in a relevant planning document at the time the application is submitted, the applicant should submit a statement from the appropriate planning Agency that actions are underway to include the project in the relevant planning document. Applicants should provide links or other documentation supporting this consideration.

Because projects have different schedules, the construction start date for each grant will be specified in the project-specific agreements signed by FHWA and the grant recipients, will be based on critical path items that applicants identify in the application, and will be consistent with relevant State and local plans.

VIII. Administration Priorities and Departmental Strategic Plan Goals

The application should describe how the project meets the Administration Priorities and Departmental Strategic Plan Goals as described in Section A.3.

(e)Volume 2 – Budget Application

I. Budget Application:

The Budget Application should be detailed enough to demonstrate that the scope of work satisfies the provisions of this NOFO and that it is sufficient yet reasonable to cover the scope of work of the application. If contingencies are anticipated, the application should include information showing that the applicant has budgeted sufficient contingency amounts to cover unanticipated cost increases. The Budget application should clearly identify that the funds are obligated and expended by the corresponding expiration date. FHWA encourages applicants to submit the most relevant and complete information they can provide; Historical bid data and/or an engineer's estimate can be used to support the requested budget.

¹⁰ In accordance with 23 U.S.C. 134 and 135, all projects requiring an action by FHWA must be in the applicable plan and programming documents (e.g., metropolitan transportation plan, TIP, and STIP). Further, in air quality non-attainment and maintenance areas, all regionally significant projects, regardless of the funding source, must be included in the conforming metropolitan transportation plan and TIP. Inclusion in the STIP is required under certain circumstances. To the extent a project is required to be on a metropolitan transportation plan, TIP, and/or STIP, it will not receive a grant until it is included in such plans. Projects not currently included in these plans can be amended by the State and MPO. Projects that are not required to be in long range transportation plans, STIPs, and TIPs will not need to be included in such plans to receive a grant.

FHWA is committed to considering project funding decisions holistically among the various discretionary grant programs available in the Bipartisan Infrastructure Law. FHWA also recognizes that applicants may be seeking funding from multiple discretionary grant programs and opportunities. An applicant may seek the same award amounts from multiple DOT discretionary opportunities or seek a combination of funding from multiple DOT opportunities.

The applicant should identify other DOT programs and opportunities they intend to apply for (or utilize if the Federal funding is already available to the applicant), and what award amounts they will be seeking, in the appropriate sections of this NOFO, including Section D.

Project budgets should show how different funding sources will share in each activity and present the data in dollars and percentages. The budget should identify other Federal funds the applicant is applying for, has been awarded, or intends to use. Funding sources should be grouped into three categories: non-Federal, current application LCTM and other Federal with specific amounts for each funding source.

II. Budget Table(s):

Provide a budget table that summarizes costs expected throughout the period of performance broken down by expected major component, deliverable, or stage. If the work will be completed in stages, e.g., identification and construction stages, the application can include estimated quantities for later stages. The applicant can elect to break down into additional tables if so needed.

NOTE:

FHWA reserves the right after an application is selected for award, to request additional supporting information and/or documentation for purposes of confirming costs proposed are allowable (2 CFR 200.403) Reasonable (2 CFR 200.404) and Allocable (2 CFR.405). If needed, FHWA may request additional budget information to clarify an application.

(f) Volume 3 – Additional Supporting Documentation

Additional supporting documents (e.g., technical information, letters of endorsement) may be submitted as Supporting Documentation to the application and do not count towards the 15-page Technical Application page limit but must not exceed 15 pages. If possible, Website links to supporting documentation should be provided rather than copies. If supporting documents are submitted, the Technical Application should clearly reference the relevant supporting document. FHWA recommends using appropriately descriptive final names (e.g., “Memoranda of Understanding and Letters of Support,” etc.) for all attachments. To the extent practicable, applicants should provide supporting data and documentation in a form that is readily verifiable by FHWA. FHWA may ask any applicant to supplement data in its application but expects applications to be complete upon submission.

3. Unique Entity Identifier and System for Award (SAM)

Applicants must use their Unique Entity Identifier (UEI), issued during the SAM.gov registration process, to do business with DOT. If your entity was actively registered, then your UEI was automatically assigned and is currently viewable in SAM.gov; there is no action for registered entities to take at this time to obtain your SAM UEI. If you are a new entity or your registration

has expired, you must register your entity in SAM.gov and you will be assigned a UEI.

Each applicant is required to:

- a. Be registered in SAM before submitting their application;
- b. Provide a valid UEI in their application; and
- c. Continue to maintain an active SAM registration with current information at all times during which the applicant has an active Federal award or an application or plan under consideration by a Federal awarding Agency.

FHWA may not make a Federal award to an applicant until the applicant has complied with all applicable UEI and SAM requirements. If an applicant has not fully complied with the requirements by the time the Federal awarding Agency is ready to make a Federal award, the Federal awarding Agency may determine that the applicant is not qualified to receive a Federal award and use that determination as a basis for making a Federal award to another applicant.

NOTE: SAM.gov requires the registrant to provide a UEI number to complete the registration. These processes can take several weeks to complete so should be started well before the application deadline.

4. Submission Dates and Times

Applications must be submitted electronically through grants.gov no later than 11:59 p.m., Eastern Time on November 25, 2024.

5. Funding Restrictions

- i. Unless authorized by FHWA in writing after FHWA's announcement of FY 22 LCTM awards, any costs incurred prior to FHWA's obligation of funds ("pre-award costs") are ineligible for reimbursement.
- ii. Grant funds may not be used to support or oppose union organizing, whether directly or as an offset for other funds.
- iii. In accordance with 23 U.S.C. 179(b)(4)(C), LCTM funding shall not be used for additional through travel lanes for single-occupant passenger vehicles.

6. Other Submission Requirements

- i. Scalable Project Options: Applicants are encouraged to identify scaled funding options in the event insufficient funding is available to fund an application at the full requested amount. If an applicant advises that an application is scalable, the applicant must provide an appropriate minimum funding amount that will fund sufficient work to achieve the objectives of the program and meets all relevant program requirements. The applicant must provide a clear explanation of how the project budget would be affected by a reduced award. FHWA may reach out to applicants to determine an appropriate reduced scale.
- ii. Sharing of Application Information: The Department may share application information within the Department or with other Federal Agencies if the Department determines that sharing is relevant to the respective program's objectives. If FHWA receives a Freedom of Information Act (FOIA) request for the information that the applicant has submitted, FHWA will follow the procedures described in its FOIA regulations at 49 CFR 7.29.

- iii. Submission Location: Applications must be submitted to *Grants.gov*.
- iv. Consideration of Applications: Only eligible entities who comply with all submission deadlines described in this notice and electronically submit valid applications through *Grants.gov* will be considered for award. Applicants are strongly encouraged to make submissions in advance of the deadline.
- v. Late Applications: An applicant experiencing technical issues with Grants.gov that are beyond the applicant's control must contact FHWALowCarbonMaterials@dot.gov prior to the application deadline with the username of the registrant and details of the technical issue experienced.

The applicant must provide:

- (1) Details of the technical issue experienced;
- (2) Screen capture(s) of the technical issues experienced along with corresponding Grants.gov "Grant tracking number;"
- (3) The "Legal Business Name" for the applicant that was provided in the SF-424;
- (4) The Point of Contact name submitted in the SF-424;
- (5) The UEI associated with the application; and
- (6) The Grants.gov Help Desk Tracking Number.

To ensure a fair competition of limited discretionary funds, the following conditions are not valid reasons to permit late submissions: (1) failure to complete the registration process before the deadline; (2) failure to follow Grants.gov instructions on how to register and apply as posted on its Website; (3) failure to follow all instructions in this NOFO; and (4) technical issues experienced with the applicant's computer or information technology environment.

After FHWA reviews all information submitted and contact the Grants.gov Help Desk to validate reported technical issues, FHWA staff will contact late applicants to approve or deny a request to submit a late application through Grants.gov. FHWA will not accept appeals of FHWA's decision to approve or deny a request for a late application. If the reported technical issues cannot be validated, late applications will be rejected as untimely.

vi. Compliance with Section 508 of the Rehabilitation Act of 1973

FHWA encourages applicants to submit documents that are compliant with Section 508 of the Rehabilitation Act of 1973. Section 508 guidelines are available at <https://www.access-board.gov/ict/>.

SECTION E - APPLICATION REVIEW INFORMATION

1. Criteria

FHWA will award LCTM funds based on an evaluation of the merit criteria Substantially Lower Embodied Carbon, QA and Materials Acceptance, Use of Materials on Construction Projects, and Schedule and Budget.

i. Merit Criteria

FHWA will evaluate FY 2022 LCTM Grant Application using the following four merit criteria.

Criterion #1: Substantially Lower Embodied Carbon Identification

Application shall identify how the recipient plans to investigate which materials the recipient will assess for inclusion in construction projects funded under 23 U.S.C and how those materials will be assessed for meeting the definition of “substantially lower embodied carbon” as defined by the EPA’s Interim Determination

Evaluation of this factor will include evaluation of the following factors:

- 1) Identification of eligible construction materials: The application describes the construction materials, within the eligible materials category as defined by the EPA ID (concrete (and cement), glass, asphalt mix, and steel), that will be investigated for potential inclusion onto construction projects as meeting the definition of Substantially Lower Embodied Carbon.
- 2) Energy Star Performance Score: The application describes how a process will be developed to collect Energy Star Performance Scores (if available) for upstream manufacturing facilities of eligible materials used on construction projects.
- 3) EPD Process: The application describes how a process will be developed to collect EPDs on eligible construction projects.
- 4) Substantially Lower Embodied Carbon Threshold: The application describes an approach for how they will determine substantially lower embodied thresholds.

Criterion #2: QA and Materials Acceptance

Applications should identify how the recipient intends to assess identified materials as appropriate for use on a Federal-aid project. FHWA will evaluate the QA and Materials Acceptance criterion on the following factors:

- 1) Material Specification: The application describes how a process will be developed to specify materials and products. This could include development of new, or the use of existing, specifications and special provisions.
- 2) Verification Process: The application describes how a process will be developed to assess that materials placed on construction projects (i) conform with engineering specification requirements and (ii) are assessed for conformance/compliance with the definition of “substantially lower embodied carbon” as defined by EPA.
- 3) Monitoring: The application can outline any additional engineering performance monitoring the applicant plans to conduct, recognizing that materials placed under this program might benefit from additional engineering performance monitoring.

Criterion #3: Use of Materials and Products on Construction Projects

A key requirement of the LCTM Program is implementing the assessment methodologies and processes for LCTM evaluation and specification described in Criteria #1 and #2 on construction projects. The application should outline how the recipient plans to facilitate the use of materials on eligible projects. FHWA will evaluate the Use of Materials and Products on Construction Projects criterion on the following factors:

- 1) General Approach: The application outlines a general approach of how LCTMs will be incorporated on construction projects.
- 2) Industry Outreach: The general approach to LCTM implementation recognizes the key role of industry in supplying low carbon transportation materials and providing the data that allows for proper assessment of a material’s embodied carbon content. The application outlines anticipated activities that are intended to increase the chance of

successfully incorporating eligible materials on construction projects given that information will need to be supplied by industry.

- 3) Calculating Incentive or Reimbursement for Materials with “Substantially Lower GWP” on Construction Projects: The application recognizes and describes how a process will be developed to address, during the construction phase of eligible projects, reimbursement amounts will be calculated.
- 4) Specific Construction Projects: The application identifies a range of potential and eligible construction projects and eligible materials for placement. Multiple construction projects using the same low carbon strategy (e.g., use of Warm Mix Asphalt produced at low temperatures) could be bundled together in the proposal.

Criterion #4: Schedule and Budget

FHWA will assess the Schedule and Budget criterion on the following factors:

- 1) The application shall include a description of start and end dates and an estimated budget for each major activity, milestone, and deliverable.
- 2) The estimated budget appears commensurate with the application’s technical narrative and conforms to applicable cost principles.
- 3) The application clearly identifies eligible activities as being completed by the expiration of funds.

ii. Overall Application Rating

FHWA will assign each eligible application an overall rating of “**Responsive**” or “**Not Responsive**”. The rating will be assigned by FHWA on the following basis:

A rating of “**Responsive**” will be assigned to a project that:

- Substantively addresses each evaluation factor and provides sufficient information to determine that the project meets statutory eligible application criteria.

A rating of “**Not Responsive**” will be assigned to a project that:

- Does not substantively address each evaluation factor and/or does not provide sufficient information to determine that the project meets statutory eligible application criteria.

2. Review and Selection Process

FHWA will conduct an application intake and eligibility review by providing an initial eligibility screening based on the criteria in Section C. Only eligible entities and eligible projects will be evaluated against the merit criteria in Section E. If an applicant/project is deemed ineligible, FHWA will notify the applicant that they are removed from consideration. The LCTM application evaluation and selection process consists of (1) a Technical Review, (2) an FHWA Senior Review and (3) Application Selections.

FHWA will complete eligibility screening and the merit criteria review and forward all responsive applications to the Senior Review Team (SRT). The SRT will prioritize applications based on whether the planned activities demonstrate support for the Administration Priorities and Departmental Strategic Plan Goals, outlined in Section A.3.

FHWA may also request applicants to reduce the scope of the project based on scalable options.

i. Technical Review

The evaluation of eligible applications will be conducted by a Technical Review Team who may consist of individuals from FHWA Headquarters and division offices. The Technical Review Team will evaluate each eligible application against the merit criteria in section E.1.i. and assign an overall application rating as defined under Section E.1.ii. Based on the outcome of these reviews, the Technical Review Team will assign an overall rating of “**Responsive**” or “**Not Responsive**” to each application.

ii. Evaluation of Administration Priorities and Departmental Strategic Plan Goals

The SRT will direct the Technical Review Team to determine whether the applications demonstrate the planned activities included in their application support the Administration Priorities and Departmental Strategies Goals described in Section A.3. Examples of these are provided below:

- Safety – Application describes how safety benefits will be realized by the construction projects using LCTM materials or products.
- Climate Change and Sustainability – Application describes adverse environmental or climate-related impacts that will be avoided or mitigated in construction projects using LCTM materials or products.
- Equity and Environmental Justice – Application describes plans for early and meaningful engagement with impacted community groups to help design the implementation of LCTM funding, how pollution or other environmental or health impacts will be reduced in disadvantaged communities by the construction projects using LCTM materials or products, and criteria for prioritizing construction projects that deliver benefits to local and disadvantaged communities via formal agreements (e.g., Community Benefits Agreements).
- Workforce Development, Job Quality, and Wealth Creation – Application describes plans for early and meaningful engagement with unions and labor representatives to help design the implementation of LCTM funding; plans to prioritize construction projects according to the criteria for creating good jobs and expanding workforce opportunities that are outlined in the Grant Application Checklist for a Strong Transportation Workforce and Labor Plan¹¹ (e.g., use of Project Labor Agreements, partnerships with unions, prevailing wages, family-sustaining benefits, registered apprenticeships, training for populations facing systemic barriers to employment, workplace health and safety standards); plans to prioritize construction projects that advance the DOT Equity Action Plan¹²; and how construction projects using LCTM materials or products will support Made in America Goals.

iii. FHWA Senior Review Team

The FHWA SRT consists of senior FHWA officials who have been requested to serve by the FHWA Administrator. The SRT will request that the Technical Review Team consider Administration Priorities and Departmental Strategic Plan Goals of safety, climate change and

¹¹ <https://www.transportation.gov/grants/dot-navigator/grant-application-checklist-for-strong-workforce-and-labor-plan>

¹² <https://www.transportation.gov/priorities/equity/equity-action-plan>

sustainability, equity and environmental justice, and workforce development, job quality, and wealth creation as described in Section A.3; make recommendations on applications to prioritize for awards based on whether the application demonstrates support for such priorities. The SRT will then advise the FHWA Administrator on making awards.

iv. Application Selections

The FHWA Administrator makes final selections and will select among the applications advanced by the FHWA SRT. The FHWA Administrator may elect to make awards as recommended by the FHWA SRT.

FHWA is not obligated to make any award as a result of this notice.

3. Additional Information

FHWA may, during the selection process, enter into discussions with an applicant that may include mutually agreeing upon a lesser amount of a potential award than originally requested in the application if necessary due to the quantity, size and scope of the applications received in response to this notice and the results of the application review process. Discussions may include scalable project options as described under Section D.7.i. of this notice.

Prior to award, each selected applicant will be subject to a risk assessment as required by 2 CFR 200.206. The review will include any information about the applicant that is in the designated integrity and performance system accessible through SAM (currently the Federal Awardee Performance and Integrity Information System (FAPIIS)). An applicant may review information in FAPIIS and comment on any information about itself that a Federal awarding Agency previously entered. FHWA will consider comments by the applicant, in addition to the other information in FAPIIS, in making a judgment about the applicant's integrity, business ethics, and record of performance under Federal awards when completing the review of risk posed by applicants.

SECTION F – FEDERAL AWARD ADMINISTRATION INFORMATION

1. Federal Award Notices

Following the evaluation outlined in Section E, the FHWA Administrator will announce awards by posting a list of selections at <https://www.fhwa.dot.gov/lowcarbon/>. Notice of selection is not authorization to begin performance or to incur costs for the proposed application. Following that announcement, FHWA will contact the point of contact listed in the SF 424 to initiate negotiation of the grant agreement or project agreement for authorization. Recipients of LCTM Grant awards will not receive lump-sum cash disbursements at the time of award announcement or obligation of funds. Instead, FHWA will reimburse LCTM Grant funds to recipients only after a grant agreement or project agreement has been executed, allowable expenses are incurred, and valid requests for reimbursement are submitted. Unless authorized by FHWA in writing after FHWA's announcement of FY 2022 LCTM awards, any costs that a recipient incurs before FHWA executes a grant agreement or project agreement for that recipient's project are ineligible for reimbursement.

2. Administrative and National Policy Requirements

All awards will be administered pursuant to the Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards found in 2 CFR Part 200, as adopted by DOT at 2 CFR Part 1201. Applicable Federal laws, rules, and regulations set forth in title 23, U.S.C., and title 23 of the CFR, shall apply to awards provided under this program.

In connection with any program or activity conducted with or benefiting from funds awarded under this notice, recipients of funds must comply with all applicable requirements of Federal law, including, without limitation, the Constitution of the United States; the conditions of performance, non-discrimination requirements, and other assurances made applicable to the award of funds in accordance with regulations of the DOT and FHWA; and applicable Federal financial assistance and contracting principles promulgated by OMB. In complying with these requirements, recipients, in particular, must ensure that no concession agreements are denied or other contracting decisions made on the basis of speech or other activities protected by the First Amendment. If FHWA determines that a recipient has failed to comply with applicable Federal requirements, FHWA may terminate the award of funds and disallow previously incurred costs, requiring the recipient to refund any expended award funds.

In particular, E.O. 14005 directs the Executive Branch Departments and agencies to maximize the use of goods, products, and materials produced in, and services offered in, the United States through the terms and conditions of Federal financial assistance awards. If selected for an award, grant recipients must be prepared to demonstrate how they will maximize the use of domestic goods, products, and materials in constructing their project. Any grant projects involving vehicle acquisition must involve only vehicles that comply with applicable Federal Motor Vehicle Safety Standards and Federal Motor Carriers Safety Regulations, or vehicles that are exempt from Federal Motor Vehicle Safety Standards or Federal Motor Carrier Safety Regulations in a manner that allows for the legal acquisition and deployment of the vehicle or vehicles.

i. Program Requirements

(a) Critical Infrastructure Security, Cybersecurity and Resilience

It is the policy of the United States to strengthen the security and resilience of its critical infrastructure against all hazards, including physical and cyber risks, consistent with Presidential Policy Directive 21 - Critical Infrastructure Security and Resilience, and the National Security Memorandum on Improving Cybersecurity for Critical Infrastructure Control Systems. Each applicant selected for Federal funding must demonstrate, prior to the signing of the grant agreement, an effort to consider and address physical and cyber security risks relevant to the transportation mode and type and scale of the project. Projects that have not appropriately considered and addressed physical and cyber security and resilience in their planning, design, and project oversight, as determined by the Department and the Department of Homeland Security, will be required to do so before receiving funds.

(b) Domestic Preference Requirements

As expressed in E.O. 14005, Ensuring the Future Is Made in All of America by All of America's Workers (86 FR 7475), the executive branch to maximize, consistent with law, the use of goods, products, and materials produced in, and services offered in, the United States. Funds made

available under this notice are subject to the domestic preference requirements at Pub. L. No 117-58, div. G §§ 70901–70927. FHWA expects all applicants to comply with those requirements.

The applicability of Federal requirements to a project may be affected by the scope of the National Environmental Policy Act (NEPA) reviews for that project. For example, under 23 U.S.C. 313(h), Buy America requirements apply to all contracts that are eligible for assistance under title 23, U.S.C., and are carried out within the scope of the NEPA finding, determination, or decision regardless of the funding source of such contracts if at least one contract is funded with Title 23 funds. As another example, Americans with Disabilities Act (ADA) regulations apply to all projects funded under this notice.

(c) Civil Rights and Title VI

As a condition of a grant award, grant recipients should demonstrate that the recipient has a plan for compliance with civil rights obligations and nondiscrimination laws, including Title VI of the Civil Rights Act of 1964 and implementing regulations (49 CFR § 21), the ADA, and Section 504 of the Rehabilitation Act, all other civil rights requirements, and accompanying regulations. This should include a current Title VI Plan, completed Community Participation Plan, and a plan to address any legacy infrastructure or facilities that are not compliant with ADA standards. FHWA Office of Civil Rights may work with awarded grant recipients to ensure full compliance with Federal civil rights requirements.

(d) Federal Contract Compliance

As a condition of grant award and consistent with E.O. 11246, EEO (30 FR 12319, and as amended), all Federally-assisted contractors are required to make good faith efforts to meet the goals of 6.9 percent of construction project hours being performed by women, in addition to goals that vary based on geography for construction work hours and for work being performed by people of color. Under Section 503 of the Rehabilitation Act and its implementing regulations, affirmative action obligations for certain contractors include an aspirational employment goal of 7 percent workers with disabilities.

The U.S. Department of Labor’s Office of Federal Contract Compliance Programs (OFCCP) is charged with enforcing E.O. 11246, Section 503 of the Rehabilitation Act of 1973, and the Vietnam Era Veterans’ Readjustment Assistance Act of 1974. The OFCCP has a Mega Construction Project Program through which it engages with project sponsors as early as the design phase to help promote compliance with non-discrimination and affirmative action obligations. The OFCCP will identify projects that are supported by LCTM Program awards under this notice and are required to participate in OFCCP’s Mega Construction Project Program from a wide range of Federally-assisted projects over which OFCCP has jurisdiction and that have a project cost above \$35 million. DOT will require project sponsors with costs above \$35 million that receive awards under this funding opportunity to partner with OFCCP, if selected by OFCCP, as a condition of their DOT award. Additional information on how OFCCP makes their selections for participation in the Mega Construction Project Program is outlined under “Scheduling” on the U. S. Department of Labor’s Website: <https://www.dol.gov/agencies/ofccp/faqs/construction-compliance>.

(e) Environmental Permits and Reviews.

As a condition of a grant award, grant recipients should demonstrate receipt (or the schedule for anticipated receipt) of all environmental approvals and permits necessary for all construction project(s) planned to incorporate LCTM funding, including satisfaction of all Federal, State, and local requirements and completion of the NEPA process. Specifically, an applicant may elaborate on the NEPA evaluation process. If the final Agency action with respect to NEPA occurred more than 3 years before the application date, the applicant should be able to describe a proposed approach for updating this material in accordance with applicable NEPA reconsideration requirements. This recipient should be able to demonstrate:

- Any information on reviews, approvals, and permits by other Federal and State agencies. An application should indicate whether the proposed project requires reviews or approval actions by other agencies, indicate the status of such actions, and provide detailed information about the status of those reviews or approvals and should demonstrate compliance with any other applicable Federal, State, or local requirements, and when such approvals are expected. Applicants should provide a Website link or other reference to copies of any reviews, approvals, and permits prepared.
- Environmental studies or other documents—preferably through a Website link—that describe in detail known project impacts, and possible mitigation for those impacts.
- A description of discussions with FHWA regarding the project’s compliance with NEPA and other applicable Federal environmental reviews and approvals.
- A description of public engagement about the project that has occurred, including details on the degree to which public comments and commitments have been integrated into project development and design.

(f) Project Signage and Public Acknowledgements

Recipients are encouraged for construction and non-construction projects to post project signage and to include public acknowledgments in published and other collateral materials (e.g., press releases, marketing materials, Website, etc.) satisfactory in form and substance to DOT, that identifies the nature of the project and indicates that “the project is funded by the Bipartisan Infrastructure Law.” In addition, recipients employing project signage are required to use the official Investing in America emblem in accordance with the Official Investing in America Emblem Style Guide. Costs associated with signage and public acknowledgments must be reasonable and limited. Signs or public acknowledgments should not be produced, displayed, or published if doing so results in unreasonable cost, expense, or recipient burden. The Recipient is encouraged to use recycled or recovered materials when procuring signs.

3. Reporting

i. Progress Reporting on Grant Activities

Each applicant selected for LCTM Grant Program grant funding must submit, at least annually, progress reports and Federal Financial Reports (SF-425) to monitor progress and ensure accountability and financial transparency in the LCTM Grant Program.

ii. Performance and Program Evaluation

As a condition of grant award, grant recipients may be required to participate in an evaluation undertaken by FHWA or another Agency or partner. The evaluation may take different forms

such as an implementation assessment across grant recipients, an impact and/or outcomes analysis of all or selected sites within or across grant recipients, or a benefit/cost analysis or assessment of return on investment. FHWA may require applicants to collect data elements to aid the evaluation and/or use information available through other reporting. As a part of the evaluation, as a condition of award, grant recipients must agree to:

- 1) make records available to the evaluation contractor or FHWA staff;
- 2) provide access to program records, and any other relevant documents to calculate costs and benefits;
- 3) in the case of an impact analysis, facilitate the access to relevant information as requested;
- 4) access to right-of-way to contractor or FHWA staff for long-term data and observation collection; and
- 5) follow evaluation procedures as specified by the evaluation contractor or FHWA staff.

Recipients and subrecipients are also encouraged to incorporate program evaluation including associated data collection activities from the outset of their program design and implementation to meaningfully document and measure their progress towards meeting an Agency priority goal(s). Title I of the Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act), Pub. L. No. 115-435 (2019) urges Federal awarding agencies and Federal assistance recipients and subrecipients to use program evaluation as a critical tool to learn, to improve equitable delivery, and to elevate program service and delivery across the program lifecycle. Evaluation means “an assessment using systematic data collection and analysis of one or more programs, policies, and organizations intended to assess their effectiveness and efficiency.” 5 U.S.C. 311. Credible program evaluation activities are implemented with relevance and utility, rigor, independence and objectivity, transparency, and ethics (OMB Circular A-11, Part 6 Section 290).

For grant recipients receiving an award, evaluation costs are allowable costs (either as direct or indirect), unless prohibited by statute or regulation, and such costs may include the personnel and equipment needed for data infrastructure and expertise in data analysis, performance, and evaluation. (2 CFR Part 200).

iii. LCTM Project Specific Reporting Requirements

Recipients must develop IPRs, which documents a process for how the recipient plans to implement the LCTM activities and shall submit the report as an Attachment to an SF-425 when completed. Use of LCTM funds for the development of IPR(s) is allowable. Recipients must receive approval of the IPR(s) before obligating LCTM funding for construction. The IPR (s) shall contain, at a minimum:

- A. Document how the recipient will meet conformance with EPA ID, including the use of Environmental Product Declarations described by EPA and the meeting of EPA-established process to determine thresholds for “substantially lower levels of embodied GHG”;
- B. Document material(s) that will be considered for inclusion in construction projects and describe how the engineering performance of eligible materials will be assessed.
- C. Document how the recipient will approve EPDs of materials eligible for use on construction projects;

- D. Identify list of eligible construction projects; and
- E. Describe methodology for calculating the incremental or incentive amounts for construction projects.

Additional detail on the minimum required contents within an IPR is provided in appendix A of this NOFO.

The recipient may choose to develop multiple IPRs to meet the requirements above for different processes or activities undertaken with LCTM funds.

On at least an annual basis, recipients shall submit an SF-425 that includes an attachment that details progress on the outcomes listed in their application and IPR(s) and performance indicators that include measurable goals or targets. Recipients shall report, in the attachment to the SF-425, the following to FHWA:

- Major activities conducted, deliverables accomplished, and milestones achieved during the period of performance and how they address their IPR(s);
- Number of EPDs collected;
- Supplier information as provided from the EPD;
- Location of construction projects;
- Materials construction quantities (Sq yds, cubic yards, tons, etc.) meeting the definition of substantially lower embodied carbon; and
- How, and if, the recipient has addressed Administration Priorities listed in Section A.3: Administration Priorities and Departmental Strategic Plan Goals.

Recipients are encouraged to include reporting that can be used to inform future programs or policies that might include environmental performance in an open and transparent format, e.g., a public-facing research report.

FHWA reserves the right to request additional information, if deemed needed, to better understand the status of the outcomes listed in their application and IPR(s). FHWA may use major deliverables developed by Recipients as an opportunity to illustrate the impact of the LCTM Program and to determine whether program outcomes have been achieved. FHWA anticipates developing technical assistance resources and building on identified best practices to support program outcomes beyond the life of the LCTM Program. Examples of such technical assistance activities may include best practice case studies and videos, and hosting workshops, Webinars, and peer exchanges.

iv. Reporting of Matters Related to Recipient Integrity and Performance

If the total value of a selected applicant's currently active grants, cooperative agreements, and procurement contracts from all Federal awarding agencies exceeds \$10 million for any period of time during the period of performance of this Federal award, then the applicant during that period of time must maintain the currency of information reported to the SAM that is made available in the designated integrity and performance system (currently FAPIIS) about civil, criminal, or administrative proceedings described in paragraph 2 of this award term and condition. This is a statutory requirement under section 872 of Public Law 110-417, as amended (41 U.S.C. 2313). As required by section 3010 of Public Law 111-212, all information posted in

the designated integrity and performance system on or after April 15, 2011, except past performance reviews required for Federal procurement contracts, will be publicly available.

v. Other

FHWA reserves the right to request additional information, if deemed needed, to better understand the status of the project. The successful applicant will provide additional financial reporting beyond the annual reporting, if such statements are necessary to address FHWA's Stewardship and Oversight responsibility of the funds. The successful applicant also agrees to allow periodic project inspections and FHWA will provide notice for such inspections.

SECTION G – FEDERAL AWARDING AGENCY CONTACTS

For questions concerning this NOFO and the LCTM Program, please contact:

Veronica Jacobson
Agreement Officer
Office of Acquisition and Grants Management
Federal Highway Administration
U.S. Department of Transportation
1200 New Jersey Ave., SE.
Washington, DC 20590
Email: FHWALowCarbonMaterials@dot.gov
Phone: (720) 963-3020

Alternate:

Hector R. Santamaria
Agreement Officer/Team Leader
Office of Acquisition and Grants Management
Federal Highway Administration
U.S. Department of Transportation
1200 New Jersey Ave., SE.
Washington, DC 20590
Email: FHWALowCarbonMaterials@dot.gov
Phone: (202) 493-2402

Alternate:

A TDD is available for individuals who are deaf or hard of hearing at (202) 366-3993.

Office hours are from 7:30 a.m. to 4:00 p.m., Eastern Time, Monday through Friday, except Federal holidays.

SECTION H – OTHER INFORMATION

1. Protection of Confidential Business Information.

All information submitted as part of or in support of any application shall use publicly available data or data that can be made public and methodologies that are accepted by industry practice and standards, to the extent possible. If the applicant submits information that the applicant considers to be a trade secret or confidential commercial or financial information, the applicant must provide that information in a separate document, which the applicant may cross-reference from the application narrative or other portions of the application. For the separate document containing confidential information, the applicant must do the following: (1) State on the cover of that document that it “Contains Confidential Business Information (CBI)”; (2) mark each page that contains confidential information with “CBI”; (3) highlight or otherwise denote the confidential content on each page; and (4) at the end of the document, explain how disclosure of the confidential information would cause substantial competitive harm. DOT will protect confidential information complying with these requirements to the extent required under applicable law. If FHWA receives a Freedom of Information Act (FOIA) request for the information that the applicant has marked in accordance with this section, FHWA will follow the procedures described in its FOIA regulations at 49 CFR 7.29. Only information that is in the separate document, marked in accordance with this section, and ultimately determined to be confidential under § 7.29 will be exempt from disclosure under FOIA.

2. Publication/Sharing of Application Information.

Following the completion of the selection process and announcement of awards, FHWA may publish a list of all applications received along with the names of the applicant organizations and funding amounts requested. Except for the information properly marked as described in Section H.1., FHWA may make application narratives publicly available or share application information within DOT or with other Federal agencies if FHWA determines that sharing is relevant to the respective program's objectives.

3. FHWA Feedback on Applications

Debriefs by FHWA are available to applicants not selected for an award to receive information about the evaluation of their application.

APPENDIX A. SUPPLEMENTARY INFORMATION FOR IPR CONTENT

Implementation Process Reports (IPR) document processes necessary for identifying, selecting, specifying, and using low-carbon materials for construction projects receiving FHWA Low-Carbon Transportation Materials Program funding. Recipients must submit IPRs for FHWA approval before FHWA issues authorization to proceed or obligates LCTM funds for a construction project. Approval is based on a recipient's conformance with the LCTM Program requirements. FHWA approval of an IPR represents FHWA determination that the process conforms to program requirements but does not represent endorsement by FHWA of a particular process or procedure or reflect an evaluation of the quality or merit of a process or procedure. The following list of information and processes constitutes the minimum requirements of the LCTM Program.

1. Process to ensure conformance with [EPA ID](#).
 - Documented procedures for identifying benchmarks for each material/product using one of the following acceptable approaches:
 - Option 1: Reference threshold(s) as indicated on the [FHWA Website](#).
 - Option 2: Agency determined local or regional thresholds following accepted International Organization for Standard (ISO) 21678. Procedures shall include the disclosure of the Global Warming Potential (GWP) as defined in the relevant Product Category Rule and methodology for determining percentiles and averages, the source(s) used for each material/product, and the parameters (including performance specification) used to set the GWP thresholds.
 - Documented procedures for qualifying materials/products for the LCTM Program including:
 - Process for collecting and using EPDs.
 - Process for collecting Energy Star Performance Score, if applicable.
 - Process for selecting materials/products using the threshold values.
 - Process to document and approve the use of materials/products if using better than average threshold values to qualify materials/products, including defining the cover area for project's location (i.e., vicinity/region).
2. Documented process for evaluating engineering performance of materials including:
 - Process for assessing if existing engineering specifications allow the use of LCTM eligible materials/products.
 - If recipient will develop new materials specifications or special provisions to implement the LCTM Program, description of additional activities such as, but not limited to: mixture design approval, laboratory testing, test equipment required, field test strips, and monitoring in-service performance.
3. Documented process for EPD acceptance including:
 - Process for requiring a supplier declaration of conformity that the EPD submitted corresponds to the materials to be supplied to the construction project.
 - Process for verifying that EPDs are facility-and material/product-specific cradle-to-gate Type III (third-party verified), published in accordance with relevant PCR, and within its period of validity.
4. List of construction projects.

- Recipient shall provide the project title and description of construction projects that will incorporate LCTM materials/products. If available, the Federal-Aid ID number should also be provided.
5. Documented methodology for budget.
- Recipient shall describe how the incremental or incentive amount will be determined for construction projects using LCTM funding.

Depending on factors such as the goals of LCTM implementation, organizational structure, and number and types of materials/products considered for eligibility, recipients may choose to develop more than one IPR to meet the minimum requirements. Individual IPRs can be submitted for approval as they are developed by the recipient. To demonstrate conformance with the LCTM Program requirements, recipients may submit final documents, such as technical specifications, directives, or standard operating procedures, OR detailed plans describing the processes.