

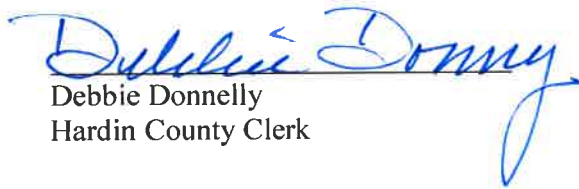
**HARDIN COUNTY FISCAL COURT
RESOLUTION NO. 2022-048**

BE IT RESOLVED, upon the recommendation of Judge/Executive Harry L. Berry, to approve the 2022 Waste Tire Market Development Rubberized Asphalt grant application and to authorize the Judge/Executive to sign all documents concerning the grant.

ADOPTED, by the Hardin County Fiscal Court in its regular meeting on 22 March 2022


Harry L. Berry
Hardin County Judge/Executive

ATTEST:


Debbie Donnelly
Hardin County Clerk

Hardin County Fiscal Court

150 North Provident Way
Elizabethtown, KY 42701

Rubberized Asphalt Grant Application



Prepared by: Michael Steck
Hardin County Road Department
501 Bacon Creek Rd
Elizabethtown, KY 42701
March 7, 2022

COMMONWEALTH OF KENTUCKY



2022 WASTE TIRE MARKET DEVELOPMENT RUBBERIZED ASPHALT GRANT APPLICATION



PURPOSE

This grant provides financial assistance to projects that further the goals of the Kentucky Waste Tire Program by promoting development of markets for rubber-modified asphalt using waste tires generated in Kentucky



**KENTUCKY ENERGY &
ENVIRONMENT CABINET**



GENERAL INFORMATION

The cabinet is accepting grant proposals for projects that will promote and assess the benefits of using recycled Kentucky waste tires in rubber-modified asphalt for chip seal and thin asphalt overlay projects. **Rubber-modified asphalt** involves amending standard asphalt with crumb rubber derived from recycled waste tires. **Chip-seal** is a pavement surface treatment that combines one or more layers of liquid asphalt with one or more layers of fine aggregate, while **thin asphalt overlay** consists of a new layer of asphalt applied over an existing asphalt surface. The thickness of an overlay for the purposes of this project should not exceed 1.5 inches.

Depending on its application, rubber-modified asphalt has numerous potential benefits including increased skid resistance, increased road life, and noise reduction, in addition to providing a valuable end use for recycled waste tires. The objective of this grant is to determine if rubber-modified asphalt can provide superior performance to standard asphalt in certain applications.

Tire derived crumb rubber is recognized by the Transportation Research Board to improve asphalt. The following is taken from *Chip Seal Best Practices, NCHRP Synthesis 342, National Cooperative Highway Research Program*, Transportation Research Board, AASTHTO, 2005, available at:
<http://www.trb.org/Publications/Blurbs/155807.aspx>

"Recognize that both hot asphalt cement and emulsified asphalt binders can be used successfully on high-volume roads. The selection of binders modified by polymers or crumb rubber seems to reinforce success."

Rubber is also discussed by various agencies to be used in thin overlays to make quieter and longer lasting pavements. The following excerpts are from *Thin Asphalt Concrete Overlays, NCHRP Synthesis 464, National Cooperative Highway Research Program, Transportation Research Board, AASTHTO, 2014*. The publication is available at <http://www.trb.org/Publications/Blurbs/171104.aspx>

"Reduce noise at the tire-pavement interface when fine graded mixtures are used"

"The analysis showed that the quietest one-third of the pavements were either OGFC pavements or pavements with crumb rubber included in the mixture"

Rubberized asphalts:

- *Resist pot hole formation*
- *Resist rutting*
- *Have shorter stopping distances*
- *Have longer useful lives*
- *Can be recycled and reused in additional pavement applications*

This grant will fund the installation of **either** chip seal **or** thin asphalt overlay utilizing rubber-modified asphalt. **Applicants are not eligible for both options and must choose between the chip seal or the asphalt overlay.** This grant will provide funding for:

The purchase and application of 24,000 square yards of material (rubber-modified asphalt and aggregate) to **chip seal** a county road. With a road that has the average lane-width of 10 feet, this amount of material is sufficient to apply one layer of chip seal over approximately four lane-miles, two layers over two lane-miles, or three layers over approximately 1.33 miles.

-OR-

The purchase and application of 12,000 square yards of material (rubber-modified asphalt and aggregate) to add a **thin asphalt overlay** no greater than 1.5 inches in thickness to a county road. With a road that has the average lane-width of about 10 feet, this amount of material is sufficient to apply an overlay over approximately 2 lane-miles (1 mile of road).

Grantees will be required to complete an equivalent area of paving using the same volume of material, conventional asphalt chip seal or thin asphalt overlay, on a section of road of similar age, condition, topography, traffic volume and type as the test section, for the purpose of comparison of standard asphalt to rubber-modified asphalt.

Grant Conditions:

1. Project documentation will include a Construction Completion Report, a Progress Report and a Final Progress Report documenting the condition of the road over five years. Reports will include a narrative description of road conditions, photographs, and any other relevant information.
2. Grantees will conduct no additional maintenance or repairs on either section during the five year monitoring period. If at any point repairs are deemed necessary for public safety, the county will contact the cabinet to receive written approval for maintenance over any unsafe sections.
3. The cabinet will fund only the costs associated with the installation of rubber-modified asphalt section of road, plus any associated testing and documentation performed by the cabinet or a third-party contractor.
4. The cabinet reserves the right to modify the scope of any project or otherwise add conditions to the awarded project grant.
5. Applicants may include only county or urban county governments.

6. The cabinet must approve the rubber-modified asphalt materials, contractor, and pavement specifications prior to the grantee entering into purchase agreements.
7. The applicant must follow state or federal chip seal or thin asphalt overlay specifications in a manner agreed upon with the cabinet.
8. The applicant must submit an itemized cost estimate with application.
9. The County will allow access to the finished project for inspection, testing, and placement of signage by the cabinet.
10. The cabinet reserves the right to alter or suspend the grant program to accommodate other programmatic needs or initiatives.
11. Failure to comply with reporting requirements may result in the grantee being required to reimburse the cabinet for all funds received, and ineligibility for future EEC grants.
12. Any change to the proposed project, after the grant is awarded, must be approved by the cabinet in writing before the change is made.
13. If a county or urban county government is out of compliance with its Solid Waste Management Plan, that county or urban county government is ineligible to receive this grant.
14. No contractor, subcontractor, consultant, vendor, or supplier, or any employee or representative thereof, shall be an employee of the applicant.
15. Funding for this grant is dependent upon the availability of funding, not otherwise obligated, in the waste tire trust fund established in KRS 224.50-880. This is a competitive grant and the cabinet expects to receive applications for many more projects than it is able to fund.

HOW APPLICATIONS WILL BE EVALUATED BY THE CABINET:

Applications will be prioritized by:

1. The most efficient projects that generate the best information for the cost.
2. The condition of the road that is to be chip sealed or thin asphalt overlaid: the cabinet will not award a grant for a project over a road that has a very poor base or surface conditions (Ex. Shoulder failure, large alligator cracking, large pot holes, and poor culvert crossings).

3. Similarity of rubber-modified and standard asphalt sections to be paved; in age, condition, topography, and traffic volume and type.
4. Projects that are geographically distributed across all areas of the state.
5. Previous experience with chip seal, thin overlay and/or rubber-modified asphalt projects by county or paving contractor.
6. The cabinet's assessment of the extent to which the proposed project will develop a market for Kentucky waste tires and protect human health, safety, and the environment. Some factors that will be used in this determination are those items outlined in the application, how many grants have previously been awarded in the county, and the project's costs and forecasted benefits.
7. Plans for advertising/signage on the road receiving the project informing the public that the pavement project is grant that if funding a 5 year RMA study.
8. Incomplete applications may not be considered.

1. APPLICANT PROFILE

To be eligible for this grant, applicants must meet the following criteria:

1. Have the legal authority to construct and operate the proposed project.
2. Have the ability to complete the project in compliance with the grant conditions.
3. The applicant and the person who will be managing the project shall not have received a final judgment or conviction of a state or federal environmental statute or regulation in the five (5) years before submitting the application and shall not have any outstanding violations of state or federal environmental statutes or regulations.

ALL APPLICANTS MUST ANSWER THE FOLLOWING QUESTIONS OR PROVIDE AN EXPLANATION OF WHY THE ITEMS ARE NOT APPLICABLE TO THE PROPOSED PROJECT. You may attach additional pages as required. This is a form field document.

County/Urban-County Government Name	Hardin County Fiscal Court		
Street Address	150 North Provident Way		
Mailing Address	P.O. Box 568		
City	Elizabethtown	Zip	42702
Project Contact	Michael Steck		
E-mail Address	msteck@hcky.org		
Phone	270-737-6046	Fax	270-737-6037
Applicant's Name	Hardin County Fiscal Court		
Federal Tax ID#	61-6000756		
Mailing Address	P.O. Box 568		
City	Elizabethtown	Zip	42702
Phone	270-765-2350	Fax	270-737-5590
E-mail Address	hberry@hcky.org		
Signature of Applicant's Authorizing Official		Date	22 Mar 2022
Typed or Printed Name of Official	Harry L. Berry		
Official Title	Judge Executive Hardin County		

Choose a Project:

Chip Seal

OR

Asphalt Overlay

2. STATUS OF APPLICANT

- A. Does the applicant have the legal authority to construct and operate the proposed project? Yes No
- B. Does the applicant have the ability to construct the project in compliance with the grant conditions? Yes No
- C. Has the applicant, or the person who will be managing the project for the applicant, received a final judgment or conviction of a state or federal environmental statute or regulation in the five (5) years before submitting the application, or have any outstanding violations of state or federal environmental statutes or regulations? Yes No

3. PROJECT DESCRIPTION

As attachment #1, provide the following information.

- Identify or map the approximate geographic area, or the community, that will benefit from the project.
- A map identifying each of the road sections that will be conventional asphalt and rubber-modified asphalt.
- Representative photos of the proposed sections of road. Provide at least 10 photographs of each proposed section.
- Daily traffic count and description of traffic type for each proposed section.
- Detailed description of the condition of road base for each proposed section.
- Description of prior chip sealing or thin asphalt overlay experience within the county.

4. PROMOTION DETAIL

As attachment #2, provide a plan to inform and educate the surrounding community about the project. You may attach examples of proposed newspaper articles, signage, or other media types intended to be used. (Pertinent facts for the suggested release may be found on our website at [Grants | Recycling and Local Assistance](#)).

5. MILESTONES

Please list a description of each key task and its approximate completion date. An example, is provided below. This is only an example. Please adjust the task description in your own grant application to describe the type of project you are proposing.

EXAMPLE* Rubberized Asphalt Chip Seal Project *EXAMPLE

Task Description	Estimated Completion Date
1. Prep roadway including pot-hole and structural repair	July 1, 2022
2. Award Contract for rubberized asphalt	July 15, 2022
3. Contact newspapers, television and radio	August 1, 2022
4. Project start, standard asphalt section	September 1, 2022
5. Project start, rubber-modified asphalt section	September 2, 2022
6. Project complete	September 15, 2022
7. Receive sampling documentation from contractor	October 15, 2022
8. Construction Completion Report #1 due	January 31, 2023
9. Progress Report #2 due	January 31, 2025
10. Final Progress Report #3 due	January 31, 2027

Project Name: _____

Task Description	Estimated Completion Date
1. Begin inspections and replacements of road tiles	7-20-2022
2. Award Contract for Rubberized Asphalt	8-5-2022
3. Contact Local Newspaper and Radio	8-19-2022
4. Prep Roadway for any pot hole and structural repairs	8-20-2022
5. Project start, Conventional Asphalt	9-14-2022
6. Project start Rubber Modified Asphalt	9-15-2022
7. Project Completion	9-29-2022
8. Receive Sampling Documentation from Contractor	10-29-2022
9. Construction Completion Report #1	1-31-2023
10. Progress Report #2	1-31-2025
11. Final Progress Report #3	1-31-2027

6. BUDGET DETAIL

Complete the budget table below. All construction work must be completed by December 31, 2022.

EXAMPLE* County Rubberized Asphalt Project *EXAMPLE

Rubberized Asphalt Estimate Summary		COST
RMA		
Application of rubber-modified asphalt (up to 24,000 square yards for Chip Seal); <i>Itemize as cost per yard; OR</i>		
Application of rubber-modified asphalt (up to 12,000 square yards for Thin Overlay not to exceed 1.5 inches in thickness); <i>Itemize as cost per yard.</i>		\$130,536.00
Tack Coat Cost <i>Itemize as cost per yard</i>		\$4,262.40
Contractor Testing Cost		\$852.48
Total Cost per Yard		\$12.73
Total RMA Grant Request		\$135,650.88
Conventional Asphalt		
Application of matching conventional asphalt for Chip Seal; <i>Itemize as cost per yard; OR</i>		
Application of matching conventional asphalt for Thin Overlay (Not to exceed 1.5 inches in thickness); <i>Itemize as cost per yard.</i>		\$66,493.44
Tack Coat Cost <i>Itemize as cost per yard</i>		\$4,262.40
Contractor Testing Cost		\$852.48
Total Cost per Yard		\$6.72
Total Conventional Asphalt Expense :		\$71,608.32

- *Insert the total cost from the itemized contractor estimate in the budget detail table above. Attach a copy of the itemized cost estimate.*

7. REPORTS

Construction Completion Report (Report 1)

Grantee must submit by January 31, 2023, a Construction Completion Report. This report should include:

1. A narrative description of project with photographs of each pavement type and pictures of any installed road signs
2. Copies of documents or electronic links to media coverage (news paper articles, social media, televised news reports).
3. Additional asphalt test reports.
4. All invoices and proof of payment.
5. Copy of the KYTC Superpave Specification for asphalt overlay OR Emulsion Specification for chip seal for the project (*get from contractor*).

Progress Report (Report 2)

The grantee must submit the Progress Report by January 31, 2025. This report should include:

1. Comments from administrators, project coordinator, officials, and other people knowledgeable about the outcome of the project.
2. A written description of any damage to either asphalt type (includes agricultural, utility, automotive, construction, etc.)
3. Pictures of rubber-modified asphalt section and standard asphalt section.

Final Progress Report (Report 3)

The grantee must submit the Final Progress Report by January 31, 2027. This report should include:

1. Comments from administrators, project coordinator, officials, and other people knowledgeable about the outcome of the project.
2. A written description of any damage to either asphalt type (includes agricultural, utility, automotive, construction, etc.)
3. Pictures of both rubber-modified section and standard asphalt section.

Project Reimbursement

Upon completion of the project, a Construction Completion Report (Report 1) with final invoice will be sent to the Division of Waste Management.

Upon receipt, the Division of Waste Management will issue a payment to the selected County covering the approved scope of the rubber-modified asphalt project. The Division of Waste Management will not reimburse for costs over the original projected cost in the application, or for costs associated with any activity other than the purchase and installation of rubber-modified asphalt product in the approved project.

Signature

The head of the applying entity should sign the grant request. For those projects that require official authorization (such as by the urban county government council or county fiscal court), enclose the minutes of the meeting approving the project.

ALL REPORTS SHOULD BE SUBMITTED TO THE ADDRESS BELOW

SUBMISSION

Grant applications must be received **in this office** by close of business (4:30 p.m.) on **May 1, 2022**. No applications will be accepted after **May 1, 2022**. One completed application and all supporting documentation must be submitted in order for the application to be considered. **Please do not bind or staple the application**. Mail deliver, or email your application to:

**Division of Waste Management
ATTN: Darin Steen
Recycling and Local Assistance Branch
300 Sower BLVD, 2nd Floor
Frankfort, KY 40601
Darin.Steen@ky.gov**

Direct grant questions to Darin Steen at 502-782-6039 or darin.steen@ky.gov.

Direct technical questions to Mr. George F. Gilbert, P.E. at 502-598-9860
George.gilbert60@gmail.com

2022 Kentucky Waste Tire
Rubberized Asphalt Grant
Application

Road Location and History

The Hardin County Fiscal Court proposes to construct an asphalt overlay on a 2.018-mile length road in Hardin County. The proposed road way is known as Flint Hill Rd (CR1274), Located in the southwestern portion of Hardin County in Magisterial District 6. Flint Hill Road was taken into county maintenance in the year of 1979. Like most roads in the county that were originally gravel, Flint Hill Road has a packed gravel base with no past history of subgrade failures, and has been chip sealed and paved several times since being taken in by Hardin County.

The attached photos indicate that Flint Hill Road is currently in good state of repair with minor cracking in isolated areas, and the drainage is in good condition. The current asphalt surface was applied in the fiscal year 2013-2014.

Hardin County purposes to construct at least one mile of the 2.018miles with a 1 ½” layer of rubberized asphalt, and the remaining mile of Flint Hill Road will be resurfaced with 1 ½” of conventional asphalt surface. Both sections of Flint Hill Road are continuous and have an average width of eighteen (18) feet.

Flint Hill Road most recent traffic counts indicated for a twenty-four (24) hour period that approximately four hundred (400) vehicles traveled this connecting road located between Kentucky State Highway seven two zero (720) and Kentucky State Highway two two four (224). Flint Hill Road serves as a connecting route for many residents of not only Hardin county, but both Grayson and Hart county also. The road is primary route for those who live in the Millerstown area and it supports light truck traffic, school bus traffic, and used by many farmers for transporting livestock and crops to market.

Hardin County Road Department Blacktop History

The Hardin County Road Department is responsible for the sole maintenance of approximately five hundred sixty-six (566) miles of rural and urban roadways in Hardin County. Traditionally in the past years, the Hardin County Road Department utilized its employees to construct the asphalt resurfacing, but with rising cost for employee benefits and through attrition, the county has had to reduce staff to approximately half, leaving the road department with inexperienced employees that are without asphalt knowledge. In the last few years, the Hardin County Road Department has contracted its resurfacing to a local contractor resulting in a better quality outcome of the finished asphalt surface. The Hardin County Road Department utilizes its employees to prepare the roads for new asphalt surfaces such as the replacement of cross tiles, shoulder, and ditch repair for improved drainage.

Application of Rubberized Asphalt Overlay

Scotty's Contracting and Stone LLC., a local asphalt contractor, will be used as the contractor to apply approximately one (1) mile of one and one half (1 ½") inches of rubberized asphalt as noted in this grant application. An estimate for the application is attached.

Application of Conventional Asphalt Overlay

Application of approximately one (1) mile of one and one half (1 ½") inches of conventional asphalt (1 ½") will be applied by Scotty's Contracting and Stone LLC.