**ALDOT CPRG Budget Narrative**

ALDOT will use EPA Grant Funds for three activities: Cold Central Plant Recycled Asphalt Mix, Warm Mix Asphalt with Reduced Temperature Requirement and Technical Assistance from The National Center for Asphalt Technology (NCAT). Details on these three activities have been outlined below.

1. **Cold Central Plant Recycled Asphalt Mix**

ALDOT will Identify and let projects using Cold Central Plant Recycled (CCPR) asphalt Mix Through ALDOT’s usual Project Scoping and letting process. We will use CPRG funds for all costs associated with these projects. Since these projects have not yet been identified and let, we cannot know exact costs. Costs have been estimated using information from Alabama Asphalt Pavement Association, Virginia Asphalt Pavement Association, and The National Center for Asphalt technology. Project cost was estimated at $3MM and increased using the average inflation rate for the last 5 years from BLS.gov to estimate future cost increases. The budget for CCPR trials and projects is provided in Table 8:

**Table 8: CCPR Trials and Projects**

|  |  |  |
| --- | --- | --- |
| **Year** | **Project** | **COST** |
| 2025 | Trial 1 | $   3,037,901 |
| 2026 | Trial 2 | $   3,153,949 |
| 2027 | Project 1 | $   3,274,430 |
| 2027 | Project 2 | $   3,274,430 |
| 2028 | Project 3 | $   3,399,513 |
| 2028 | Project 4 | $   3,399,513 |
|  | **Total CCPR** | **$ 19,539,736** |

1. **Warm Mix Asphalt with Reduced Temperature Requirement**

ALDOT will Scope and let projects through the usual scoping and letting process Using Warm Mix Asphalt with Reduced Temperature Requirement. Having the reduced temperature requirement will incur extra costs and risks over typical paving operations. For ALDOT there will be examples of extra costs include costs associated with developing a specification, monitoring the use of the specification, finding projects suitable for reduced temperature, accounting for CPRG funds, and reporting all these activities. For the contractor examples of increased cost include, adding warm mix technologies to existing asphalt plants, purchasing warm mix additives, risk associated with a specification what will penalize the contractor for production above the temperature limit, and inability to simultaneously produce mix at typical hot mix temperatures. ALDOT anticipates that these costs and risks will be reduced over time as both ALDOT and contractors become more accustomed to using the new specifications. Therefore, ALDOT will increase the percentage of projects each year that use a reduced temperature requirement while reducing the cost offset paid into each project that uses the reduced temperature requirement. ALDOT lets projects totaling approximately 4.4 million tons per year, a breakdown of our proposal for each year is in Table 9:

**Table 9: WMA Cost Offset**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year** | **Cost offset per Ton** | **ALDOT's Annual Tonnage** | **% of Annual Tonnage with Reduced Temperature Requirement** | **Total cost** |
| 2025 | $                       5.00 | 4,400,000 | 35% | $   7,700,000 |
| 2026 | $                       4.50 | 4,400,000 | 45% | $   8,910,000 |
| 2027 | $                       4.00 | 4,400,000 | 60% | $ 10,560,000 |
| 2028 | $                       3.50 | 4,400,000 | 60% | $   9,240,000 |
| 2029 | $                       2.80 | 4,400,000 | 60% | $   7,392,000 |
|  |  |  | **WMA TOTAL** | **$ 43,802,000** |

This cost offset funds will be managed by ALDOT’s Administrative section by placing the CPRG grant funds into an account representing the CRPG as a project, those funds will then be dispersed to individual projects based on the number of tons of mix on that specific project with a reduced temperature requirement.

1. **Technical Assistance from The National Center for Asphalt Technology (NCAT)**

NCAT and ALDOT Have partnered on several projects in the Past including FHWA’s Climate Challenge project. Assistance from NCAT will be critical to ALDOT in implementing these two technologies for developing specification, monitoring projects and generating reports. We are requesting $100,000 per year for 5 years, totaling $500,000 to compensate NCAT for this assistance. ALDOT currently has a contact with NCAT to in which NCAT teaches certification classes. NCAT will add relevant material to these classes with information about CCPR and WMA with reduced temperature requirements.

1. **Expenditure of Awarded Funds**

ALDOT’s Executive Leadership Team in the Administrative Bureau will oversee the expenditure of all CPRG Funds. The Funds associated with the CCPR projects will be dispersed through ALDOT’s typical project letting process, which is competitively bid. Funds for Technical assistance from the National Center for Asphalt Technology (NCAT) will be paid to NCAT through ALDOT and Auburn University’s usual process of billing on a per hour of assistance basis. Technical assistance funds will be managed by ALDOT’s Administrative Bureau, or ALDOTs Research and Development Bureau. CPRG Funds to be used for warm mix asphalt cost offsets will be managed by ALDOT’s Administrative Bureau by placing the funds in an account that represents the CPRG grant as a project, funds will then be dispersed to competitively bid construction projects based on the number of tons of asphalt mixture produced meeting the lower temperature requirement. ALDOT’s Construction program contacts the production of approximately 4.4 million tons of asphalt pavements annually. It will not be outside of ALDOT’s routine work to find projects where these processes can be used.

1. **Reasonableness of Costs**

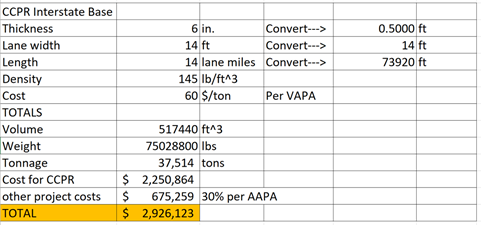
Costs for these projects were calculated based on information from several organizations including ALDOT, NCAT, Alabama Asphalt Pavement Association, and Virginia Asphalt Pavement Association.

The cost for one CCPR construction project was estimated in Table 10 as follows:

* **Project volume** = Thickness x Width x Length
* **Project Tonnage** = Volume x density / 2000 lb/ton
* **Cost per ton of CCPR material** = $60 per ton, according to Virginia Asphalt Paving Association
* **Density of CCPR** = 145 lb/ft3

Other Project costs are estimated to account for an additional cost of 30% over the project tonnage per Alabama Asphalt Pavement Association

**Table 10: Estimated Cost for One CCPR Construction Project**



The Total Cost is then increased by 3.82% per year to account for future inflation. 3.82% was calculated by averaging inflation in the last 5 years using data from BLS.gov.