

EFFICIENCY IN ASPHALT MATERIALS USE & CONSTRUCTION

Utilize Recycled Asphalt Pavement: Increasing the amount of RAP use is considered one of the most effective ways to reduce the cost of asphalt materials. The CDOT specification allows 20% RAP top mat and 25% in lower lifts. Eliminating the bans of RAP on top mat paving and in development work should be implemented. On mill and overlay projects the agency should transfer the ownership of the millings (or a portion of the millings) to the contractor.

Evaluate the Use of Warm Mix Asphalt: Warm mix asphalt (WMA) is an emerging technology that reduces the production and placement temperatures through the use of a foaming process or chemical/organic additive. WMA is a compaction aid, especially in marginal weather conditions and on projects having long haul distances. Cost/benefits of using WMA can best be evaluated by constructing and monitoring test and evaluation sections.

Evaluate the Use of Recycled Asphalt Shingles: Recycled asphalt shingles (RAS) is an emerging technology that is incorporated into asphalt materials to reduce the cost of virgin liquid asphalt binder. QC requirements and specification standards need to be followed to ensure that pavement performance is not hindered. replacement for asphalt binder and fine aggregate. Cost/benefits of using RAS can best be evaluated by constructing and monitoring test and evaluation sections.

Project Partnering: A contractors risk increase and project costs escalate when there is a lack of project partnering. Two of the primary objectives of partnering are to work together towards a common goal and to ensure decision making is done at the lowest level. Award winning projects are the result of a high level of project partnering and cooperation.

Constructability Reviews: Getting construction industry input prior to final design can lead to cost saving tips incorporated into project plans and specifications. Comments are generally related to project phasing, staging and traffic control. Also, there are best practices to bidding construction work items that can lead to cost reductions (lump sum, item-by-item, or incidental).

Uniformity and Consistency in Material Requirements: Even minor variations in material requirements from agency to agency can lead to increased costs to here is a continual need for changing and updating asphalt specifications to address field problems or to improve quality. However, there needs to be a thought out connection between specification changes and cost impacts. If changes lead to improved quality, safety, etc., the costs impacts need to be understood and justified.

Minimize Work Hour/Work Area Restrictions That Increase Cost: Agencies and contractors have worked hard to minimize the traffic disruption of paving projects. However, shorter work hour windows and the more restrictive traffic handling requirements result in higher costs. Generally, the industry favors the attitude of a “higher amount of construction impact for a shorter overall duration.”

Implement an Asphalt Binder Price Adjustment Clause (PAC) & Fuel Cost Adjustment Clause: An asphalt binder PAC is a tool to be used for longer duration projects. Without the clause, the contractor has to factor into his bid any and all future increases in cost. Benefit could also be gained by having a fuel cost adjustment provision for other construction operations.

Project Scoping: Evaluate project elements and consider cost saving alternatives. Mix selection for low volume roads, asphalt binder selection for shoulders and multi-layered pavements are a few of examples of areas to review closely to ensure the most cost effective project design.

Accurate Engineer’s Estimate: Additional costs are incurred by both the contractor and the agency when projects have to be re-bid. Accurate engineer’s estimates are critical to ensure that projects receiving competitive bids are awarded the first time without the need for a re-bid.