

# Superpave Implementation/Continuous Process Improvement Study Guidelines

## Design of Superpave Mixes

How are designers specifying the lift thicknesses for each type of mix? Are they staying with the recommended guideline of 3:1 the nominal maximum aggregate size? If not, what ratio for thickness was used?

Do designers have any guidelines available that will help them design lift thickness of pavement layers, specifying of the required traffic levels, or the ac binder for superpave mixes specified in the plans?

Do ..... guidelines allow the use of RAP in superpave mixes. Are contractors allowed to blend rap with manufactured sand to meet the minimum aggregate properties?

How do contractors submit the mix designs to the Materials section of the Contract Administration? Are contractor's using the recently released Superpave software?

Have any problems been experienced with mixes that have been in the "restricted zone?" What steps were taken to correct the gradation?

## Plant Operations

What type of plant is being used to produce the HMA?

What is the mixing temperature of the mix being produced? Does it fall within the range specified in the job mix formula? What is the length of haul from the plant to the jobsite? Are the delivery trucks using tarpaulins to keep the mix from cooling too quickly?

Is the contractor/producer using multiple bins to better manage the blending of the mix?

How is the mix loaded into the trucks?

Is HMA being stored in silos for any length of time? If so, has any draindown of the mixes been experienced?

Has the plant operator had to change procedures or make modifications to operations in order to produce the Superpave mix (compared to Marshall mixes).

Is the plant producing superpave mixes with more than one PG binder grade? If so, are multiple tanks being used for storage of the AC binder?

Has any Superpave mixes with RAP been produced? If so, what effects did the use of RAP have on the final mix?

As far as mix production, what are the differences between producing a superpave mix design compared to a Marshall mix design?

## Construction Operations

Briefly discuss the contractor's operations.(Equipment, materials, workforce)

What is the temperature of the mix upon delivery to the jobsite? Does this meet the specification

Have any tender zones been encountered while compacting the mix? If so, what was the temperature range the tender zone occurred?

What steps were taken to correct the tender zone?

How was compaction achieved?

Discuss compaction. Any difficulties achieving the required density? If so, what steps were taken in order to compact the mat to the required density?

Are test strips used by the contractor during the beginning of the placement operation to determine a roller pattern and compaction temperature to be developed?

Is the contractor having any problems with segregation. Is the segregation a factor of the course mix being used or can be attributed to the contractor's operations?

Does it appear there will be problems with permeability of the compacted mixes? If so, was the proper compaction of the mat achieved? Has the contractor experienced any problems with permeability on other projects?

### **General Operations**

What impact on your operations would changing to 100 percent superpave mixes on all projects have on your plant operations?

Would full implementation of Superpave have impacts on your aggregate suppliers? If so, what impacts would be expected?

What changes would you like to see made to the current Superpave specification?

Do you have any topics of research for superpave mixes dealing specifically with factors