



ASPHALT PLUS CASE STUDY: STATE ROUTE 57, WRIGHTSVILLE, GA

GA Route 57 is a heavily traveled highway in central GA. The roadway is located in a subtropical climate where stripping and rutting are significant issues for asphalt road construction. The region is exposed to extended periods of higher temperatures, humidity and rainfall.



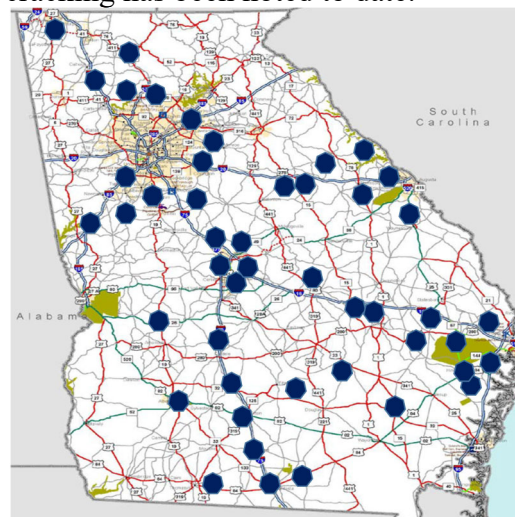
GA ROUTE 57 NEAR WRIGHTSVILLE,
GA

In 2008, GA DOT contracted for an experimental project on the use of elevated levels of RAP in rubberized asphalt. At that time, state DOT mix design RAP percentages had been limited to 20-25% due to over-stiffening of the mix. In this project, the DOT combined 40% RAP with 5% dry process rubber additions with the intention of determining whether the rubber additions would permit easier compaction while resisting accelerated cracking. The RAP added was unfractionated product, and the rubber was a thirty minus recycled tire crumb that had been chemically engineered for use in asphalt. This chemically

engineered rubber is now being marketed as Elastiko[®] ECR. The rubber and RAP additives were combined in a 1.5" milled overlay of dense-graded hot mix asphalt.

The mix design utilized 10 lbs. of ASTM minus 30 crumb rubber and a 64,-22 PG rated binder. After rubber and RAP additions, the PG rating improved to an average in excess of 80, -22. The road surface was installed without incident, and both plant and road production crews noted that the process was straightforward, forgiving and simple to implement. During placement, the CRM asphalt did not exhibit any of the stickiness typically found with other rubber addition processes. The hot mix product was placed and compacted with ease. Rutting and compaction evaluations of the plant production exhibited excellent results.

After eleven years of service, no evidence of rutting and unusual substrate or surface cracking has been noted to date.



DRY PROCESS RUBBER PROJECTS IN
GA: 2006-2018

More importantly, high RAP applications placed by GDOT without dry mix rubber in the same time period are showing significant amounts of longitudinal cracking. Product performance led to a state specification of dry mix asphalt in GA.