

The use of resources is increasing due to continuous increase in world population and rapid industrialization, while natural resources are being exhausted day by day. Usage of waste materials or by-products in highway construction has substantial environmental and economic benefits. In this study, the usage of cullet and waste glass bottle dust as mineral filler material in hot mix asphalt as an alternate to traditional crushed stone dust was investigated. Optimum bitumen content was determined by the Marshall mix design method by using six different bitumen contents (4.0%, 4.5%, 5.0%, 5.5%, 6.0%, and 6.5%). With the optimum bitumen content, three different mineral filler types (cullet, glass bottle waste, and stone dust) and six different filler ratios (4%, 5%, 6%, 7%, 8%, and 9%) were used to prepare asphalt mixture samples. Samples were performed using the Marshall stability test, and the results were compared. It is concluded that cullet and glass bottle waste can be used in asphalt mixtures as a mineral filler alternate to crushed stone dust if the economic and environmental factors favor it.