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March 25, 2021
3:00 P.M.
State Capitol, Teleconference

S.C.R. 239 / S.R. 199
URGING THE DEPARTMENT OF TRANSPORTATION TO INCREASE THE USE OF RECLAIMED ASPHALT PAVEMENT TO REPAVE, RECONSTRUCT, AND PRESERVE STATE STREETS, ROADS, AND HIGHWAYS AND EXPLORE USE OF OTHER PRODUCTS USING RECLAIMED ASPHALT

Senate Committee on Transportation

The Department of Transportation (DOT) **supports** the intent of S.C.R. 239 / S.R. 199 and offers comments. S.C.R. 239 / S.R. 199 urges the DOT to increase the use of reclaimed asphalt pavement (RAP) to repave, reconstruct, and preserve state streets, roads, and highways and explore use of other products using reclaimed asphalt.

The DOT would like to offer the follow comments. The DOT Highways Division currently allows up to twenty percent of RAP to be included in the hot mix asphalt pavement surface mix, and forty percent to be included in the hot mix asphalt base course.

In addition, DOT Highways Division has allowed up to fifty percent of RAP to be included in aggregate base, aggregate subbase, and various backfill applications. This percentage is based on a report by the University of Hawaii titled, "Application of Recycled Materials in Highway Projects," dated December 17, 2010. The report provided an evaluation of the behavior and characteristics of RAP for use as a base/subbase and fill. DOT Highways Division has also used up to one hundred percent RAP as fill under our bikeway and walkway projects.

We understand that Federal Highway Administration (FHWA) also promotes and encourages the use of RAP in asphalt pavement mixes.

FHWA has identified factors that should be considered before increasing RAP use in their publication titled, "Reclaimed Asphalt Pavement in Asphalt Mixtures: State of the Practice," dated April 2011

(<https://www.fhwa.dot.gov/publications/research/infrastructure/pavements/11021/11021.pdf>).

Some of the factors that we will need to consider include adjustments to the current mix design of asphalt pavement to incorporate RAP. Increasing the percentage of RAP increases the stiffness of the mix. We are currently moving towards implementing balanced mix design, which uses performance tests to evaluate distresses such as cracking or rutting. This approach will help us to evaluate the impact of RAP and potentially increase the amount of RAP allowed.

In addition, we will need to work with the asphalt industry for RAP quality control and processing at the asphalt plants. Currently, not all asphalt plants in the state (specifically on the neighbor islands) have equipment to incorporate RAP in the mix. However, even the asphalt plants with the appropriate equipment may have limitations on the amount of RAP that can be added to the mix. In general, we need to understand what changes to the plant are needed to incorporate a higher percentage of RAP.

We also understand that FHWA has recently published a report titled "Using Reclaimed Asphalt Pavement in Pavement-Preservation Treatments," dated December 2020 (<https://www.fhwa.dot.gov/publications/research/infrastructure/pavements/21007/21007.pdf>). As we continue to develop our pavement preservation program, we will look into the opportunities to incorporate RAP into these treatments.

We appreciate the opportunity to provide testimony for this resolution.

SCR-239

Submitted on: 3/25/2021 11:03:15 AM

Testimony for TRS on 3/25/2021 3:00:00 PM

| Submitted By | Organization | Testifier Position | Present at Hearing |
|---------------------|---------------------|---------------------------|---------------------------|
| Elisabeth Wilson | Individual | Support | No |

Comments:

In support of the expanded use of Reclaimed Asphalt, as it is an underutilized resource which could lower the cost of materials for paving and pavement preservation and reduce our dependence on aggregates mined from our islands for this use. There is a tremendous amount of information and specifications from Federal Highways as well as jurisdictions in the United States that are using significantly more of this resource in their paving projects. RAP (reclaimed Asphalt pavement) is considered "Black Gold" and can be used in many more ways than are currently addressed in Hawaii & Honolulu specification for highways and roads

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