



State Transportation Innovation Council (STIC)

2015 Fact Sheet

Recycled Concrete

Economical, Environmentally Responsible

At least 41 states recycle concrete pavements and use the crushed material in new pavement applications to produce approximately 140 million tons of crushed concrete aggregate (CCA). Pennsylvania currently limits its use of CCA to unbound applications in pavement structure, such as an aggregate source for sub-base material that meets PennDOT Publication 408 specifications. This initiative would review PennDOT's policies, specifications, design process, and any other constraint that hinders the broader use of CCA as an approved sub-base material. Although the objective of this initiative is to increase the use of CCA, processes must be established to ensure CCA material meets the same quality standards as aggregate from the quarry.

How does it work?

Existing concrete pavement is demolished and removed to a processing site. Initial processing removes steel, soil, and other contaminant material from the concrete. The demolished concrete is then crushed and sized by screening operations that result in an aggregate product that meets the specified grading requirements. Fine impurities, such as soil and loose cement mortar, are also removed by special crushing operations, washing, dry or wet screening, or hydraulic sizing. Lightweight contaminants, such as wood or porous chert, may require the use of other aggregate beneficiation methods, such as hydraulic separation. Except for removing steel, impurities, and contaminants, this process is identical to the process used to produce aggregate from virgin stone materials.

What are the benefits?

- Saves money since recycled material can produce lower bid amounts.
- Promotes recycling while maintaining the highest standards in the control and quality of material.
- Reduces waste and greenhouse gas production.
- Conserves natural resources.



Crushed concrete pavement is processed and used in new pavement applications. Pennsylvania currently limits the use of CCA to unbound applications in pavement structure.

Pennsylvania's State Transportation Innovation Council (STIC) has selected recycled concrete as an innovative technique for making pavement projects more economical and environmentally responsible. The Federal Highway Administration (FHWA) estimates the U.S. transportation industry's need for aggregates for pavements at about 700 million tons (630 million metric tons) per year. According to the FHWA's Office of Pavement Technology, there is a tremendous need to reduce the demand for virgin mineral resources in the nation's highway system, and one way of doing that is recycling.

What does the future hold?

In an effort to broaden the use of crushed concrete aggregate (CCA), the STIC's Construction Technical Advisory Group will review the policies and processes to make sure CCA material meets the same quality standards as aggregate from the quarry and will coordinate with PennDOT in promoting the use of CCA in applicable projects.

State Transportation Innovation Council (STIC)
(717) 214-8685 RA-pdPennDOTSTIC@pa.gov
www.moderndot.pa.gov

