

A winning scenario



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Increasing the use of recycled aggregates on municipal projects

Ontario municipalities like to see themselves as the grass roots stewards of environmental sustainability. Yet while their taxpayers diligently pick the banana peels out of their garbage for the green bins and make sure the Tim Horton's cups go to trash and not the blue bins, most continue to ignore the millions of tonnes a year of valuable recyclable asphalt and concrete aggregate dumped in their landfills as waste.

Increasing the use of recycled aggregates for their own construction projects offers a huge win-win-win opportunity for municipal governments; a chance to really impact on environmental sustainability on a scale that would make salvaging banana peels for the compost heap trivial by comparison. Municipalities win by demonstrating tangible commitment to real environmental change, the public wins by improving the environment and most importantly, the environment wins with another small but significant step taken to address climate change (a podcast on the issue can be found at www.rccao.com).

An independent research report commissioned in 2018 by the Toronto and Area Road Builders Association (TARBA) and supported by related industry associations such as RCCAO, OSWCA and HCAT found that few of the major municipalities contacted have any significant commitment to recycling aggregate. Most use some but not nearly enough and some like Peel Region allow virtually no recycled aggregate at all for their infrastructure projects. In 2020, this is no longer acceptable.

Ontario municipalities combined are the largest users of aggregate in the province, using about 70 million tonnes per year of the almost 200 million tonnes total used to build our transportation and civil infrastructures. In 2017, Ontario's Environmental Commissioner held up the Ministry of Transportation (MTO) as the model for aggregates recycling and said that if all users were to adopt MTO's policy/practice of using about 20 per cent recycled material it would replace about 33 million tonnes of virgin aggregate per year. Currently, the provincial level of recycling is only about seven per cent.

Ontario has a focused aversion to the extraction of virgin aggregates, especially close to urban centres where they are most needed. Understanding that, it defies logic and common sense to be filling our landfills with concrete and asphalt that can be recycled

as a value-added construction material. The environmental benefits are just too big to ignore.

First, increased recycling takes a big bite out of the GHG emissions and roads and bridges infrastructure damage associated with tens of thousands of loaded trucks hauling virgin material from sources that are moving further and further away from where they are needed. Using recycled aggregate reduces the need for virgin aggregate extraction, which uses considerable amounts of energy and is an ongoing source of aggravation to local residents. Recycling diverts a valuable resource from the waste stream and as icing on the cake, municipalities can usually save money by using more recycled aggregate.

A significant impediment to increasing municipal aggregate recycling is the reluctance of municipal and consulting engineers to specify it. They perceive a potential personal downside to recommending a recycled product when specifying virgin material seems safer to them. Some might recall having heard about instances in the long past where an out-of-spec product may have contributed to a problem.

Fears about the quality of recycled aggregate is a red herring that needs to be skewered right now. Like any other construction material, recycled aggregate is engineered and processed to meet specifications (OPSS 1010 Materials Specification being the primary authority). If not properly processed it can present problems just like any 'new' construction material like asphalt, concrete, steel, etc. When produced to specification the science says the performance of recycled aggregate is equivalent to virgin material. Testing exists to ensure the quality of recycled aggregate – again, just like any other manufactured construction material.

Municipal councils can show environmental leadership and change the historic dynamics and lack of commitment that are preventing greater use of recycled aggregate by making the responsible decisions and showing leadership by mandating the use at least 20 per cent recycled aggregate for their construction needs. There is no excuse for anything less.

Rob Bradford is executive director of the Toronto and Area Road Builders Association. To view the 2018 TARBA research study and for more information about the production, uses, quality control and benefits of using recycled aggregate, visit www.tarba.org.