Pervious Pavement

Pervious pavement is a porous surface material that allows rainwater to infiltrate into the underlying soil where it falls.

The transportation project may require more or less than one acre of stewardship, affecting the total cost of the stewardship type. Each cost includes the total initial capital costs and the maintenance costs annualized for one acre of the stewardship type.

Stormwater Benefits (Water Quantity/Quality of Runoff)

Reducing stormwater volume can reduce the capacity requirements for stormwater infrastructure, saving costs. Pervious pavement can reduce the amount of runoff flowing into stormwater management systems and can reduce costs of stormwater management by approximately $1,000 to $1,100 per acre per year.

Stormwater runoff, with its pollutant loads, adversely affects surface water quality. Pervious pavement may increase the water quality of runoff from transportation projects and may thus increase water quality in streams, rivers, and other waterbodies. Reduced nutrients in North Central Texas waterways may result in cost savings to jurisdictions that may otherwise have been required to reduce nutrient discharges.

For each acre of pervious pavement, the annual value of pollutant reduction is $3 to $4 for sediment removal, $4 to $107 for nitrogen removal, and $1 to $10 for phosphorous removal.

For each acre of pervious pavement, there may be a total annual stormwater benefit of $1,010 to $1,220.

Cost Range

The tool assumes pervious pavement would replace the same quantity of traditional pavement. As several sources indicate life-cycle costs of pervious pavement may be similar or less expensive to install and maintain compared with traditional pavement, the tool does not include a cost for pervious pavement.

Avoided Flooding

Permeable pavement may provide a small avoided flooding benefit. The largest effect of transportation projects is the facilitation (indirect effect) of increased development in a drainage basin. Although the direct effect from a single transportation project on its own may not be consequential, pervious pavement may provide a small benefit by helping to reduce peak flows and localized and downstream flooding, therefore reducing the associated damage costs. Reducing high-volume runoff and high-flow speed runoff can also reduce degradation of riparian and aquatic habitat.