ECONOMIC & ENVIRONMENTAL BENEFITS OF STEWARDSHIP TOOL

User Guide

North Central Texas Council of Governments
The Economic & Environmental Benefits of Stewardship tool can estimate the return on investment of implementing environmental stewardship to reduce the environmental effects of transportation projects. The tool can educate decision makers about the value of environmental stewardship. Benefits are quantified when possible.

The tool identifies:
- Environmental effects of new transportation projects
- Appropriate stewardship activities to reduce these effects
- Environmental and economic benefits of implementing stewardship activities

The tool was developed by the North Central Texas Council of Governments. It is designed to be applied to transportation projects in the 12-county Dallas-Fort Worth area, including new roadways, bridges, roadway expansions, park-and-ride facilities, and bicycle-pedestrian facilities. Some users may choose to apply the tool to other new development that increases impervious surface. The data report page contains the tool’s underlying data.
Three links on the home page provide information about using the tool and the stewardship options evaluated in the tool.

Additional links provide information about the benefits of environmental stewardship and the data behind the tool.
EVALUATE MY PROJECT

1. Draw Your Project Boundaries

Navigate to the location of your project by typing in an address, clicking and dragging on the map, and/or using the + and – tools.

Draw your project by clicking the polygon or polyline icon in the top right corner of the map and then clicking on the map to draw your project area. Double-click or click the first point to complete the polygon.

You can update your project area by clicking it again. The first click will give you a bounding box for scale, rotation, and movement of the entire shape. Clicking it a second time will allow you to edit each point of the polygon. When finished editing, click somewhere off of the polygon to submit your changes.
EVALUATE MY PROJECT
2. Tell Us About Your Project

For projects entered as polygons or rectangles, enter the project type and respond to the question about development. Select Run Analysis.

For projects entered as polylines, enter the project type. For roadway-related projects, entering the number of lanes estimates a project width based on Texas Department of Transportation design standards. Alternatively, a custom total width for the project can be entered. Respond to the question about development. Select Run Analysis.

Run Analysis
EVALUATE MY PROJECT
3. Your Project Analysis

The tool will overlay your project on layers of environmental data and identify the area of those layers, such as acres of wetland, your project intersects. Data layers include:

- 100-Year Flood Zone (Federal Emergency Management Agency)
- Streams (National Hydrography Dataset)
- Urban Land Use (Ecological Mapping Systems of Texas)
- Wetlands (National Land Cover Database, National Wetlands Inventory, Ecological Mapping Systems of Texas)
- Aquatic (Ecological Mapping Systems of Texas)
- Terrestrial (Ecological Mapping Systems of Texas)
- Tree Canopy (National Land Cover Database)
EVALUATE MY PROJECT
4. Potential Environmental Effect of Your Project

The tool translates the intersected environmental data layers into potential environmental effects of your project. You can choose to learn more about how transportation projects may affect the natural environment. You also can choose to make one or more environmental effects a priority in your analysis. Prioritizing an environmental effect will filter the stewardship options identified for your project.

- WATER QUALITY IMPACT
  - Learn More
  - Make Priority

- ALTERED HYDROLOGY
  - Learn More
  - Make Priority

- HEAT ISLAND EFFECT
  - Learn More
  - Make Priority

- VEGETATION REMOVAL
  - Learn More
  - Make Priority
EVALUATE MY PROJECT
5. Stewardship Options for Your Project

The tool identifies appropriate stewardship options based on the type of transportation project and the environmental layers affected. For example, pervious pavement is a stewardship option for bicycle-pedestrian facilities but not for new bridges.

You can select View Details to learn more about each stewardship option.

- **Bioswales**
  - Bioretention
  - Water Quality/Quantity of Runoff, Flood Regulation, Biodiversity, Aesthetic Value

- **Detention Ponds**
  - Stormwater Storage
  - Water Quality/Quantity of Runoff, Flood Regulation, Biodiversity, Aesthetic Value, Recreation
EVALUATE MY PROJECT
6. Stewardship Option Details

The tool describes the qualitative and quantitative (when available) benefits of the stewardship options. Data sources are described in the paper “Economic and Social Benefits of Mitigating Environmental Impacts of Transportation Projects,” found by clicking the Data Report link on the left side of the screen. The paper was developed by Highland Economics, LLC, following research and interviews with local environmental professionals.

Costs and benefits apply to one acre of effects or one acre of stewardship efforts. The tool does not adjust the results based on the size of the project, because costs and benefits may not be linear. Therefore, your project’s costs and stewardship benefits may be higher or lower than those described in the tool.
EVALUATE MY PROJECT
7. Compile Report

Clicking this icon will open a new window where all the stewardship options for your project are displayed. You may then download or print the report. This report can be used to educate decision makers about environmental stewardship options.

Compile My Custom Report
IF YOU EXPERIENCE TECHNICAL DIFFICULTIES OR HAVE QUESTIONS ABOUT THE EEBS TOOL

Please contact project staff at eebs@nctcog.org

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