

TxDOT User Manual

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# Introduction

TxCRCP-ME was developed under research project 0-5832, "Develop Mechanistic/Empirical Design for CRCP." This is a application that determines CRCP performance (punch-outs per mile) based on user inputs for location, traffic, concrete properties and support layers.

# How to use

TxCRCP-ME can be downloaded at <https://github.com/iDataVisualizationLab/TxDOT/tree/main/dist>

Use can use the portable version or the setup version. The current version is 2.6 and available at:

* [Portable](https://github.com/iDataVisualizationLab/TxDOT/blob/main/dist/TxCRCPME%202.6.exe)
* [Setup](https://github.com/iDataVisualizationLab/TxDOT/blob/main/dist/TxCRCPME%20Setup%202.6.exe)

# Step 1

T the beginning, the user can choose to fill the information manually or Load the input file (the excel exported from the previous session) by clicking on Graphical user interface, table

Description automatically generated button.

In Step 1, the user will be required to fill in general information about the project (Figure 1). The “District” field is required to calculate the temperature of the project area.

Graphical user interface, table

Description automatically generated

Figure . Step 1 interface

For District and County, users can select with the drop box or click on the Graphical user interface, table

Description automatically generated icon to open the map and select on it (Figure 2, Figure 3).

|  |  |
| --- | --- |
| Map  Description automatically generated  Figure . District map. | Figure . County map |

After fill all information, click on Graphical user interface, table

Description automatically generated to go to the Step 2.

# Step 2

In Step 2, there are 3 fields need to be filling in.

* Design life (years): need to be not less than 1
* Total number of lanes in one direction: between 1 and 10
* Total design traffic in on direction: between 1 and 500

To read more information about the input, click or hover on the Graphical user interface, table

Description automatically generated button.

Table

Description automatically generated

Figure . Step 2 interface

After fill all information, click on Graphical user interface, table

Description automatically generated to go to the Step 3.

# Step 3

Step 3 require the layer information: Subgrade and Treatment Information and Base Layer Information.

* Soil classification of subgrade: select one of 15 options (GW, GP, GM, etc. )
* Plasticity Index (PI): a measure of the plasticity of a soil need to be positive
* Subgrade treatment: select one of 7 options
* Subgrade treatment thickness (in.): need to be not less than 1
* Base type: choose between CRB, HMA and ASB
* Base layer thickness (inches): currently this field will automatically adjust base on the Base type input

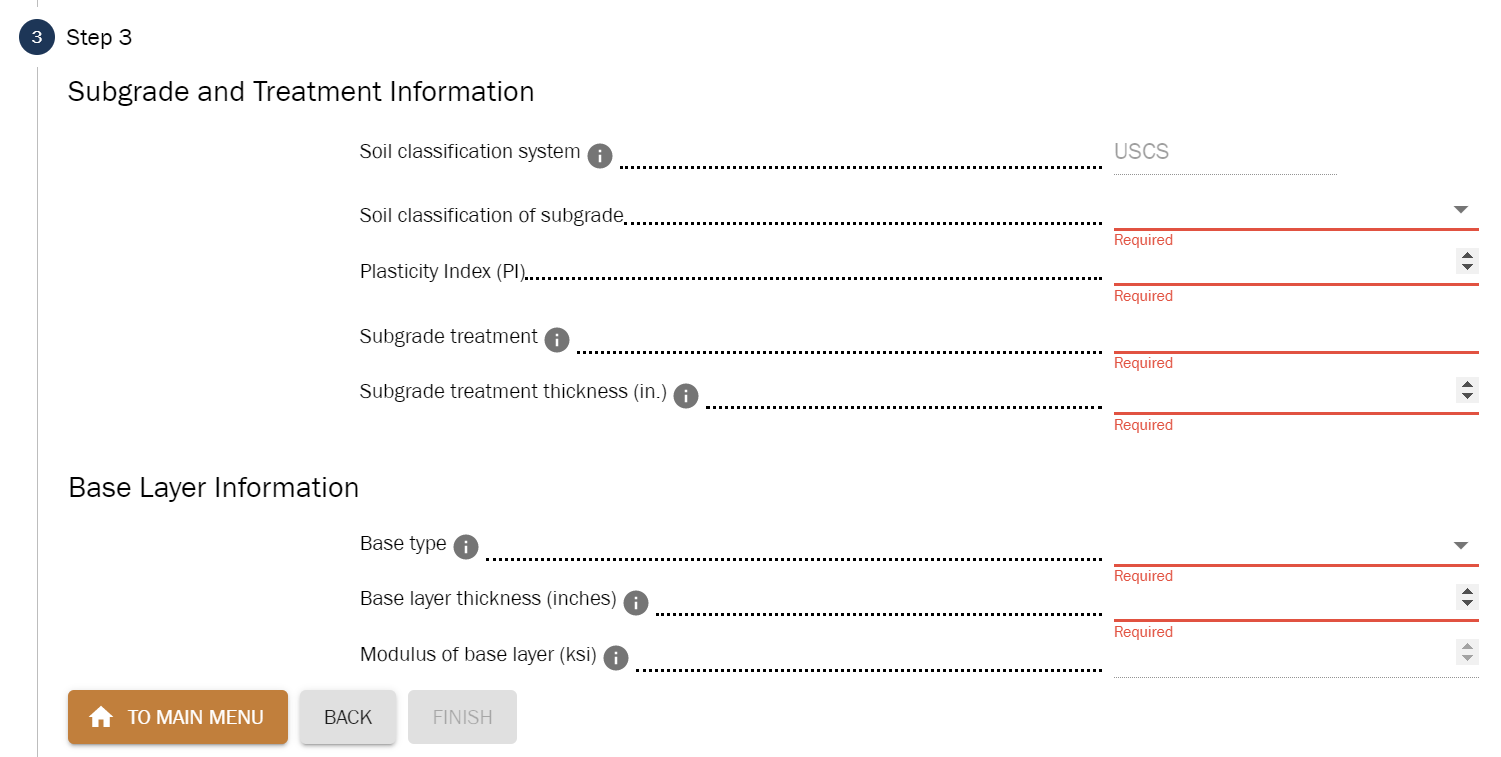


Figure . Step 3 interface

After fill all information, click on Text

Description automatically generated to go to the Result.

# Result

After finish all the previous step, the result will be displayed on this stage where input data is the user input and analysis result is the application calculation.

If user want to change the data input, use Graphical user interface

Description automatically generated button to go back to Step 3 or Graphical user interface

Description automatically generated button to jump to Step 1 or Graphical user interface

Description automatically generated button to clear all input data and go back to Step 1.

To Print the result, click on Graphical user interface

Description automatically generated button.

To export the result to the excel file and reuse when needed, click on Graphical user interface

Description automatically generated button

For the detail of analysis, user can view the chart by clicking on the Text

Description automatically generated button.

Graphical user interface, text, application, email

Description automatically generated

Figure . Example result