



# OpenRoads Design: Superelevation Exercises

## Exercise 1: S.R. 185 Superelevation

In this exercise we will define the superelevation sections for the State Route 185 Corridor.

- ✓ Open **ProjectWise Explorer**



- ✓ Browse to the folder containing the training data. The folder location will be provided by the instructor for each class.
- ✓ Browse to the **400-Engineering\Roadway\Basemaps\** folder.

Create new design files for the project using the **OHDOT Create Design Files** application. To create these files, one of the existing BK files may be opened.

- ✓ Select the **OHDOT Create Design Files** application to create the superelevation basemap design files for the project.
  - Create the file listed below

Design File name	Comments
123456_KS001.dgn	S.R. 185 Superelevation

- ✓ Open the file **123456\_KS001.dgn**, checking the current file back in to ProjectWise
- ✓ Attach the following reference files:
  - 300-Survey\Basemaps\123456\_FB001.dgn
  - 400-Engineering\Roadway\Basemaps\123456\_BK001.dgn
  - 400-Engineering\Roadway\Basemaps\123456\_KM001.dgn
- ✓ From the **Corridors** tab, select **Create Superelevation Sections**
- ✓ You are prompted to define the **Name** for the superelevation section. Use the same name as the horizontal alignment, CLP\_S185.
- ✓ Next you are prompted to select the alignment. Select the CLP\_S185 alignment
- ✓ Use the entire length of the chain for the start and ending stations by toggling on the **Lock to Start** and **Lock to End** options

Next, the software will step you through the process to define the pavement lanes.



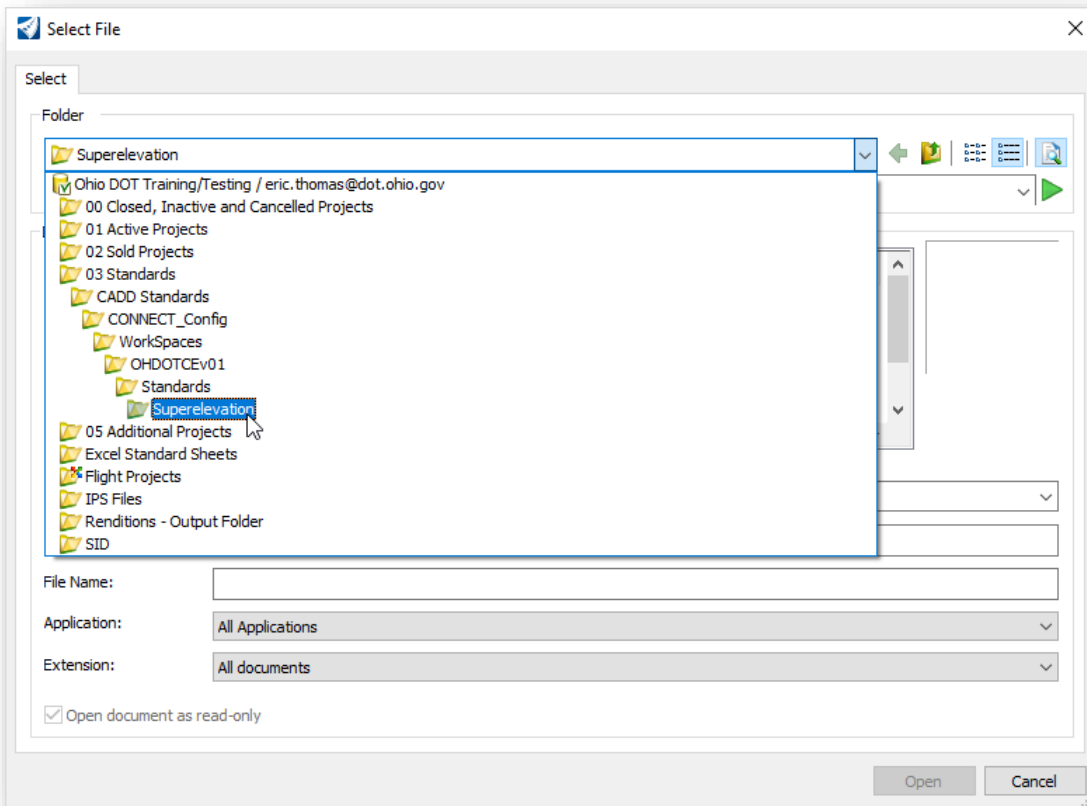
- ✓ Define two lanes for the superelevation as shown below

Name	Left-Lane1
Side Of Centerline	Left
Inside Edge Offset	0.000
Width	12.000
Normal Cross Slope	-1.60%

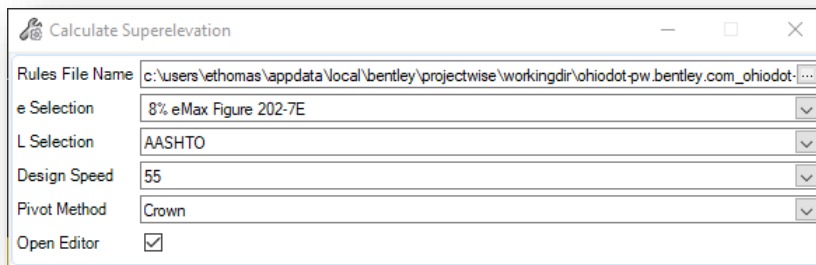
Name	Right-Lane1
Side Of Centerline	Right
Inside Edge Offset	0.000
Width	12.000
Normal Cross Slope	-1.60%

- ✓ After defining both lanes, right click to terminate the lane creation process. The *Calculate Superelevation* dialog is opened. Choose the **ODOT\_Undivided.xml** file by navigating to the following location in the OHDOT standards

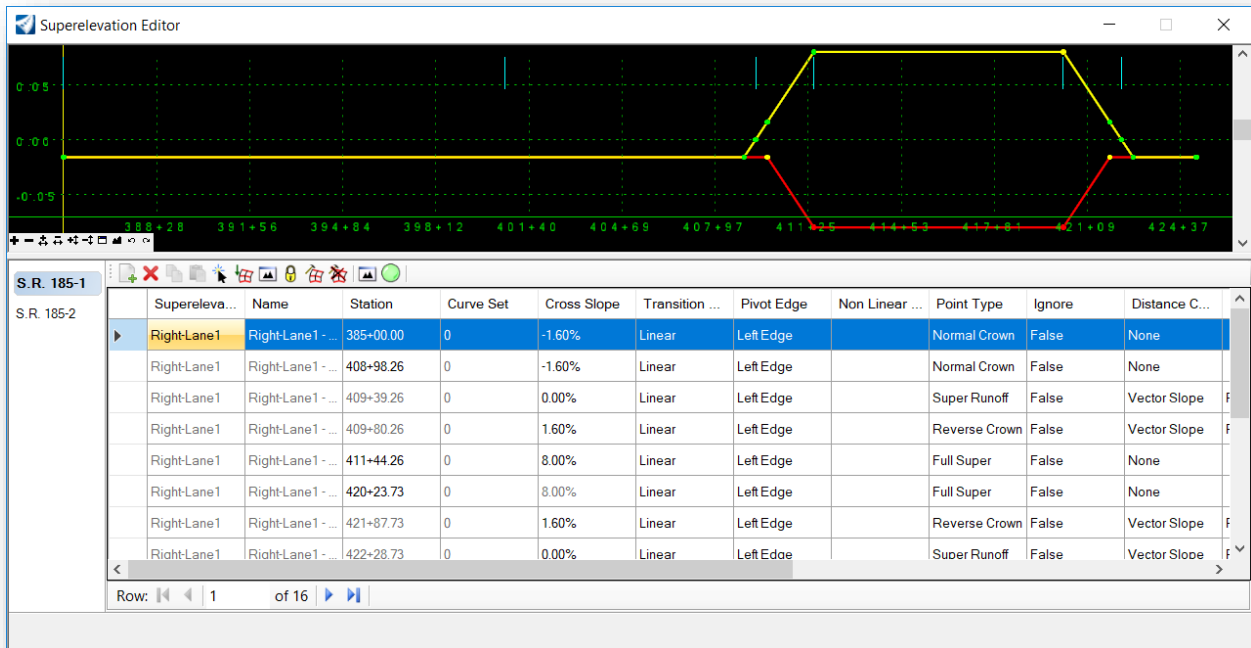
..\OHDOT\Standards\Superelevation\



Use the settings shown below.



- ✓ After accepting the dialog settings, the *Superelevation Editor* dialog is opened.

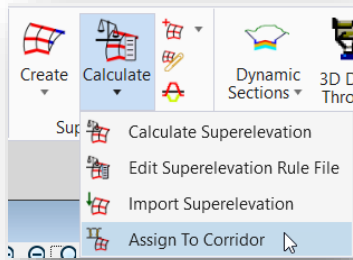


Review the superelevation parameters and close the dialog when completed. The maximum superelevation rate should be 8.0% for this alignment.

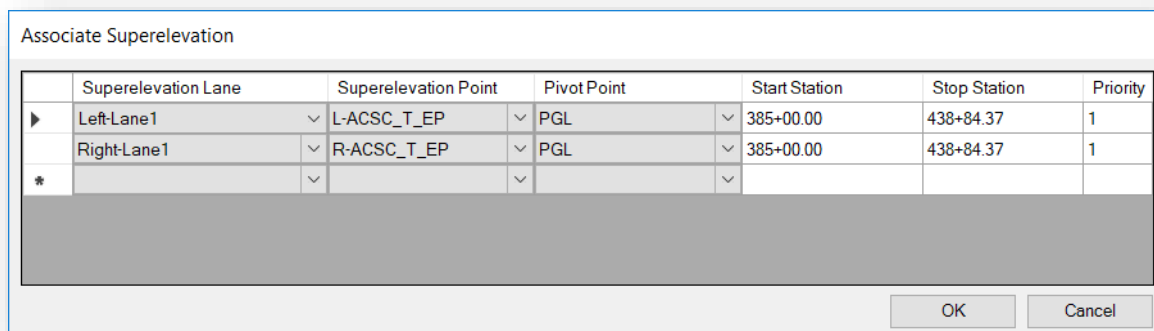
- ✓ Save settings in the superelevation design file

The **Assign Superelevation to Corridor** command is used to associate the superelevation settings with the corridor model and the template points. This assignment is made in the corridor design file.

- ✓ Browse to open the **12345\_KM001.dgn** file containing the corridor for S.R. 185. Be sure to check the superelevation design file back into ProjectWise.
- ✓ Attach the superelevation definition design file, **12345\_KS001.dgn**, to the corridor design file, **12345\_KM001.dgn**.
- ✓ From the Corridors tab, select the **Assign Superelevation to Corridor** command to associate the superelevation settings with the corridor model.

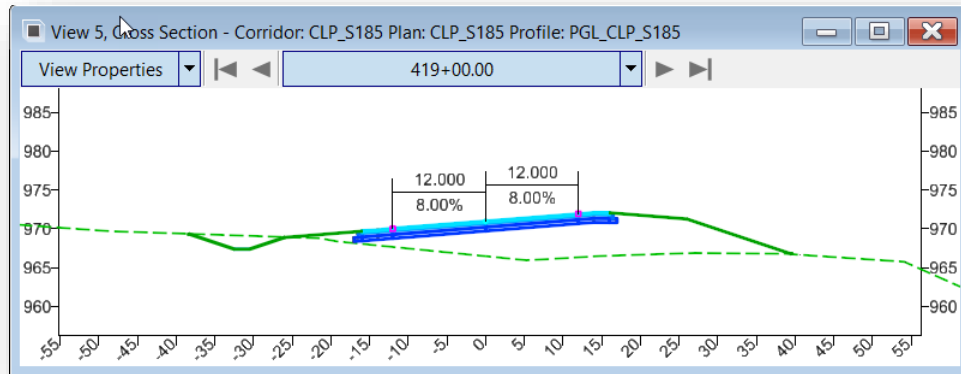


- ✓ Choose the graphics that were drawn for the boundary of both superelevation sections, and then right-click (reset) to accept the sections
- ✓ When prompted to **Locate Corridor**, select one of the handles for the S.R. 185 corridor boundary.
- ✓ The *Associate Superelevation* dialog is opened. The dialog should default to the correct settings, but it is good practice to review the settings before accepting them.



After associating the superelevation sections with the corridor, use the **Open Cross Section View** command to review the corridor.

- ✓ From the **Corridors** tab, select the **Dynamic Sections > Open Cross Section View** command
- ✓ When prompted, select the corridor and select a new view window to display the corridor.
- ✓ Add some temporary dimension lines to the cross-section view to facilitate reviewing the pavement width and cross slopes
  - Hold down the right-mouse button in the cross-section view.
  - Choose the **Place Horizontal Temporary Dimension** command
  - Identify the starting and ending points to add temporary dimension lines for each lane of pavement like the example below



After reviewing the corridor cross sections, close the cross-section view window.

This completes the work on S.R. 185. Exit OpenRoads Designer and check the file back into ProjectWise.



## OpenRoads Software Version

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This document was prepared using the following software version:

OpenRoads Designer CONNECT Edition – 2021 Release 1 Update 10 – Version 10.10.01.03

## Contacts

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For any questions, suggestions, or problems with this document please contact the ODOT Office of CADD and Mapping Services by use of the following form on the ODOT website:

[https://odot.formstack.com/forms/cadd\\_servicerequest](https://odot.formstack.com/forms/cadd_servicerequest)

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