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## Civil View – How Do I Use It?

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Walter P Moore



### Learning Objectives

- Import data into 3ds Max
- Set up a scene using Civil View plug-in within 3ds Max
- Add 3D content to model using Civil View
- Animate the scene using Civil View

### Description

A complete guide to using the Civil View plug-in within 3ds Max. Turn your boring road or site project into a real, animated scene. With just a few clicks, your project will turn from a plain Jane 2D model, into a robust, visually appealing scene in 3D. A basic knowledge of Civil 3D is recommended. You do not need to know how to use 3ds Max.

### Speaker

Mr. Todd Rogers is a BIM Manager for the Civil Infrastructure Group at Walter P Moore in Houston, Texas, with over 23+ years of experience in teaching, managing, and, providing hardware and software solutions for hundreds of engineering firms throughout the greater Houston, Texas area.

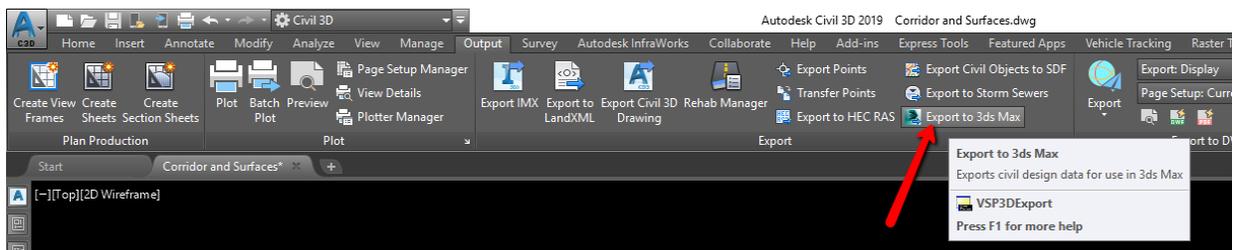
Todd holds the “Autodesk Expert Elite” status – a program to recognize individual community members who have made extraordinary contributions with helping customers by sharing knowledge, providing community leadership, and exemplifying an engaging style of collaboration that drives a healthy and valuable Autodesk customer community. He is also on the Autodesk Infrastructure Participatory Design Council, and an acting member of the Board of Directors for AUGI (Autodesk User’s Group International).

## Import Data Into 3ds Max

In order to be able to use Civil View, you need to have a basic understanding of Civil 3D. What you need from Civil 3D is an alignment, surface, corridor, and corridor surface. These will aid you in being able to place the different items in your scene.

We will start in Civil 3D. I have provided a drawing file for your use. This drawing was derived from a component road in InfraWorks. Once in Civil 3D, I then built a corridor surface for the top of pavement. Open the drawing file Road Design.dwg.

After you review the file, you can then export it out of Civil 3D. Click on the Output tab of the ribbon and choose Export to 3ds Max.



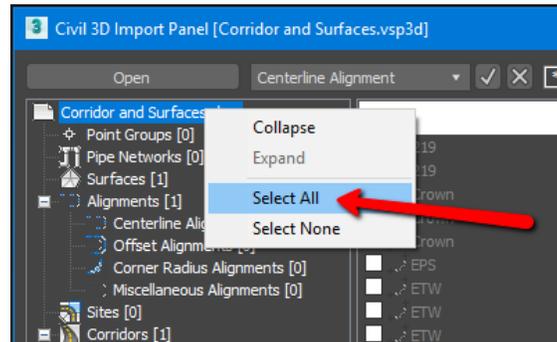
In the export dialog box, uncheck AIW\_Existing\_Ground, AIW\_Existing\_Transportation, and AIW\_Proposed\_Ground. Now, click Export.

Give your file a name and click Save. This will create a .vsp3d file.

## Importing Data into 3ds Max

In 3ds Max, if you have installed the Civil View plug-in, you will see Civil View in the ribbon. Click Civil View>Start Civil View. If this is the first time you have done this, then it will prompt you to restart 3ds Max. You will only have to do this one time. Once Civil View is started, there will be more options in the cascading menu.

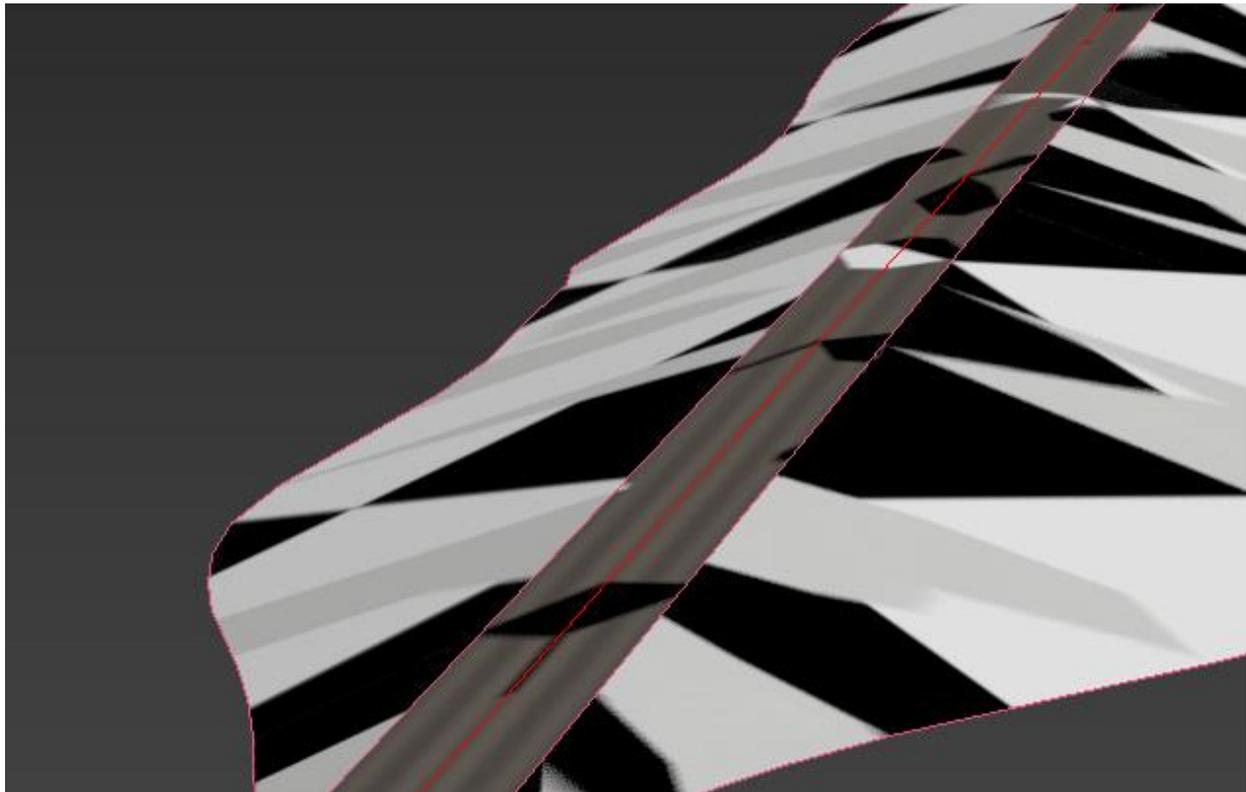
Click Civil View>Geometry Import>Civil 3D (VSP3D) File. Click the Open button in the upper left corner of the dialog box. Browse to the file you exported from Civil 3D. Right-click on the drawing name and choose Select All...



Click OK. Notice the dialog box about the Global Import Shift settings. You don't have to worry about this in this lesson. However, if you plan on importing back into InfraWorks, then this is important. Click Yes.

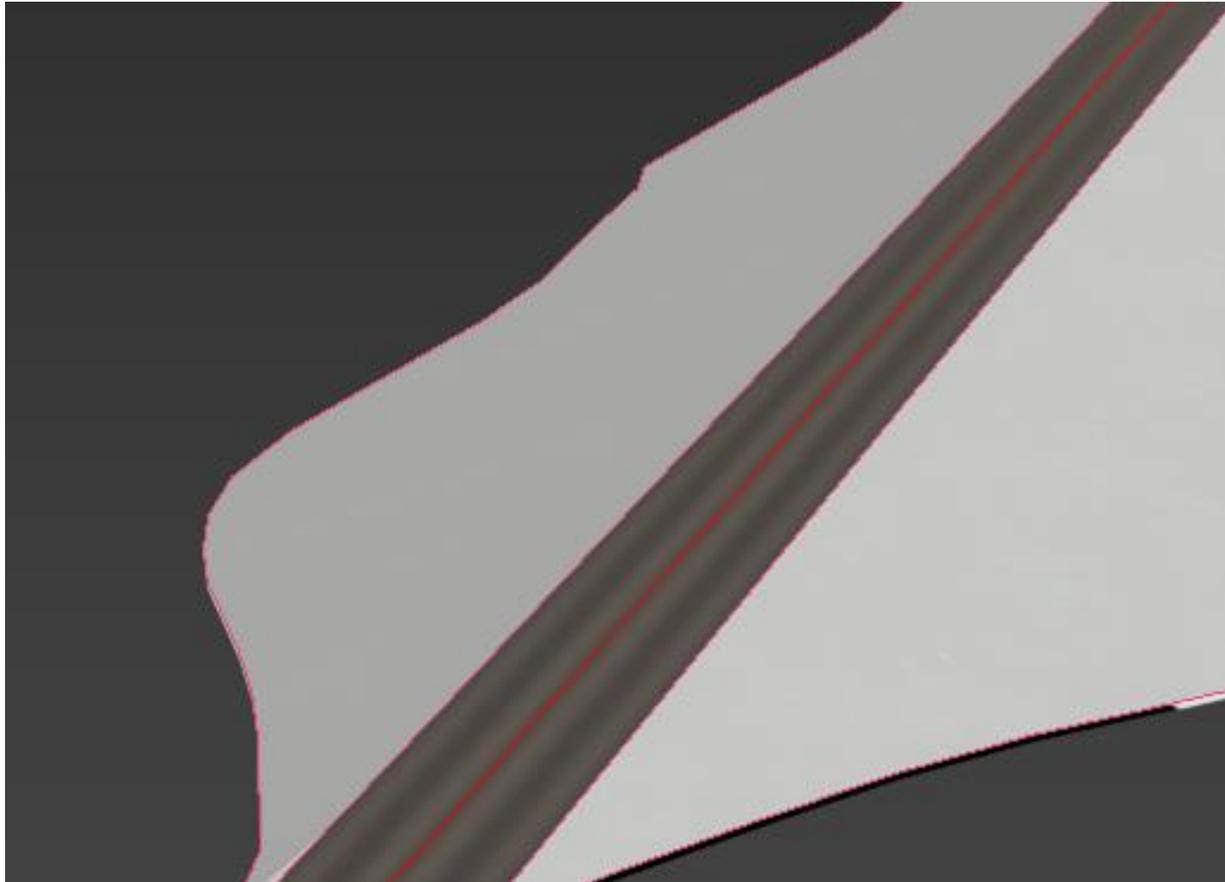
Now you will see yet another dialog box. This is for Feature Interpretation Style. Read, then click Yes.

You will now see your corridor from Civil 3D. It appears that the surfaces are “blending”.



I have found a way to fix this issue. If you click on the daylight area, then, in the ribbon, toggle on the Move icon. Once it is toggled on, right-click on it. Here you will see your X, Y, and Z

coordinates. For the Z value, round down to the nearest tenth. Notice how the road is much more visible, and the checkered part of the daylight is no longer there...



## Adding 3D Content Using Civil View

Now the fun starts. First, we are going to start by adding pavement striping. In the ribbon, click on Civil View>Civil View>Road Markings Style Editor.

Once the dialog box pops up, click on the Add New Element button 

To the right is where we add the values for the striping. We want a 4" stripe, a 4" gap and another 4" stripe. ( $4" = 0.33$ ). First, pick the button that says, Pick Shape Label >, then select the centerline of the road. Now, enter the following values...

Width = 0.99 ( $0.33 \times 3$ )

Mark Length = 100

Center Gap = 0.33

All other values stay the same; or enter 0.0 for them.

Click the color to open the color palette and change it to a Yellow color. Click Apply, then OK. Then, click No. You do not need to save this style once it has been applied.

You can always add more striping for shoulders and other features if you want.

We are now going to add some 3D features to the road.

In the ribbon, click on Civil View>Civil View>Object Placement Style Editor.

First, we are going to place street lights. Then, we will place traffic signs. After that, we will place moving cars. Finally, we place cameras for the animation.

Click the Add New Element button 

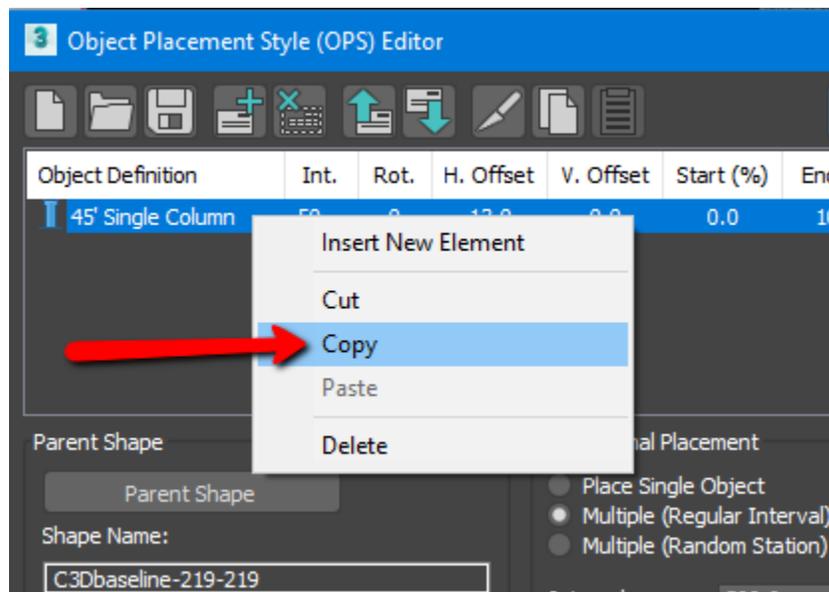
I have found that sometimes the corridor links do not come over correctly, as in this instance. So, we are going to place everything off the centerline of the road.

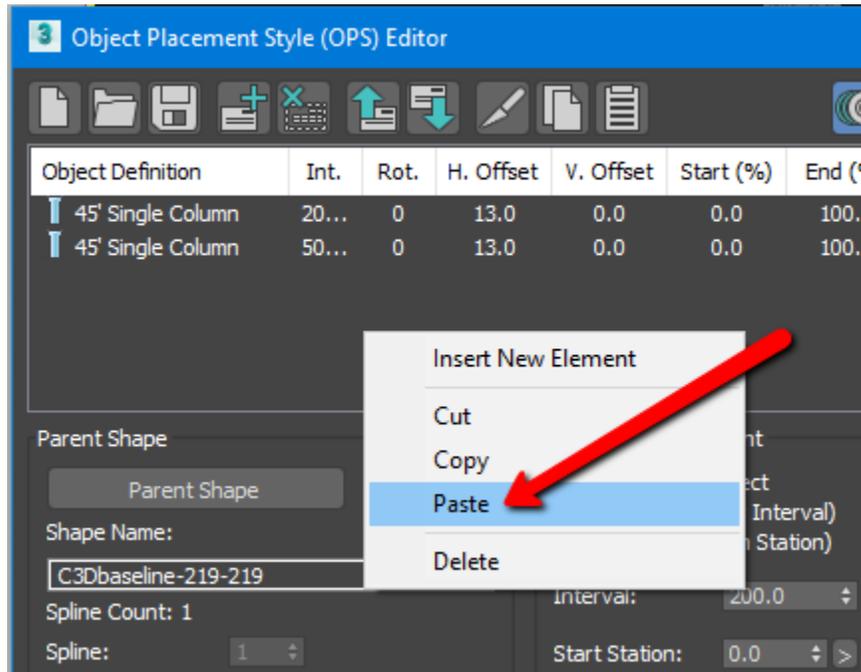
Click the Parent Shape button, then select the center of the road. Down toward the bottom of the dialog box, select the Furniture tab, then select the Lamp Columns. To the right, select the 45' Single Column.

Under Longitudinal Placement, toggle the radio button for Multiple (Regular Interval). For the Interval, type in 500.0.

Under Lateral Placement, set the Horiz Offset to 15.0, click Apply.

Back up top, right-click on your object, and use the Copy/Paste feature...





This duplicates what you already have. Now change the Horiz Offset to -15.0 (don't forget this is a negative value). Change the Rotation to 180. Click Apply, then OK. Do not save the current style when prompted.

Let's put in some road signage. This is the same steps and procedures as mentioned above. I will abbreviate some steps here.

Start with going to Civil View>Civil View> Object Placement Style Editor.

Click the Add New Element button.

Click the Parent Shape button, then select the center of the road. Down toward the bottom of the dialog box, select the Signs tab, then select Miscellaneous.

Up top, toggle the radio button for Multiple (Random Station). Keep the count at 20, or you can change it to another value. This is a long road, so you might need to add more.

Change the Horz Offset to 20.0.

Check the box next to Use random object(s) from the selected category.

**TIP: When you change a value, clicking on the Apply button will let you see the results.**

Do the copy and paste function as you did for the street lights.

Change the Horiz Offset to -20.0.

Change the Rotation to 180.

Click Apply, then OK. Do not save the style.

Next, we will add the cars.

Keep in mind, most “default” roads that come over from InfraWorks have a 11-foot lane width. Open the Object Placement Style Editor; Civil View>Civil View>Object Placement Style Editor.

Click the Add New Element button 

Click the Parent Shape button, and then select the centerline of the road. Down toward the bottom of the dialog box, select the Vehicles tab, then select the Cars.

Under Longitudinal Placement, toggle the radio button for Multiple (Random Station). For the Count, enter or number or leave it at 20.

Under Animation Options, you will see km/hr by default. If you want to change this, exit out of the dialog box and navigate to Civil View>Civil View>Preferences. Under the Localization tab, change the Distance Units from km to miles. Re-open the Object Placement Style Editor and re-enter the previous values.

For miles/hr, enter 50.

Under Lateral Placement, set the Horiz Offset to 5.5, click Apply. If you get a message stating that “One or more objects cannot travel the full specified...”, just click Yes. Move the scrubber bar to see the cars moving along the road...

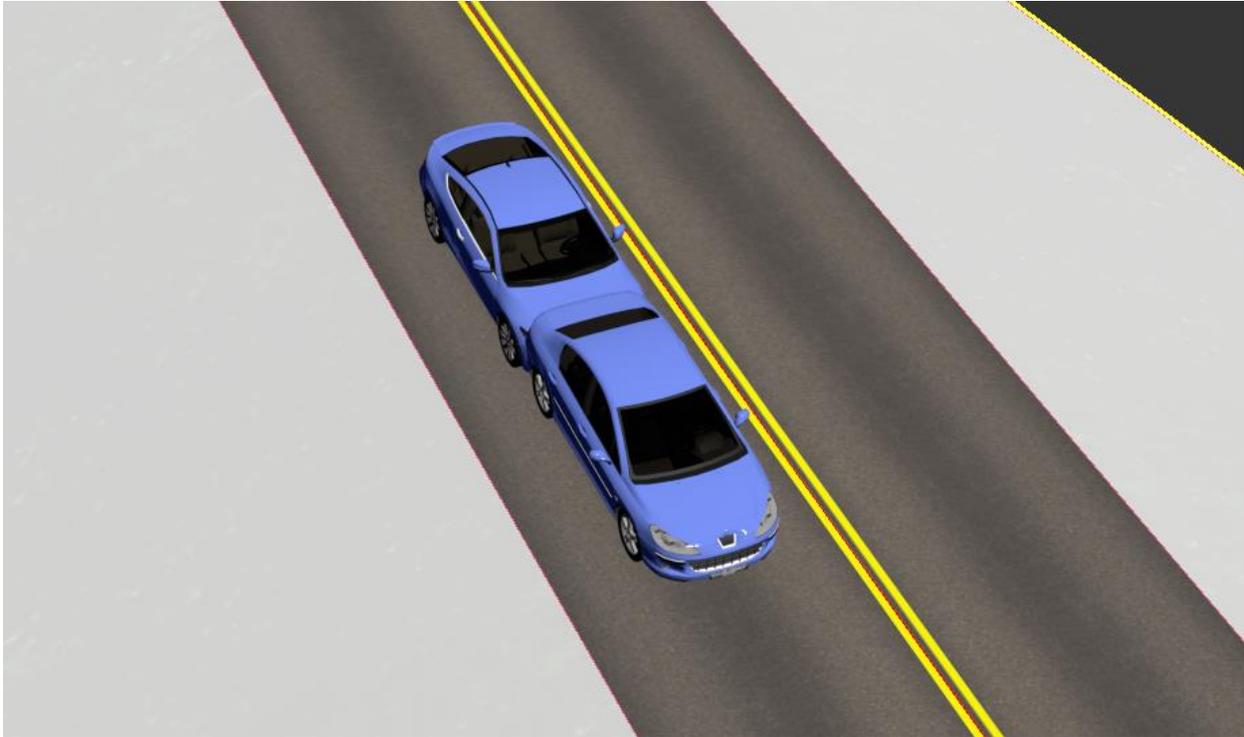
Under Other options, check the box to Use random object(s) from the selected category. Click Apply.

Back up top, right-click on your object, and use the Copy/Paste feature...

Once you have copied and pasted the element, change the miles/hr to a -50.0, the Horiz Offset to -5.5 and the rotation to 180.

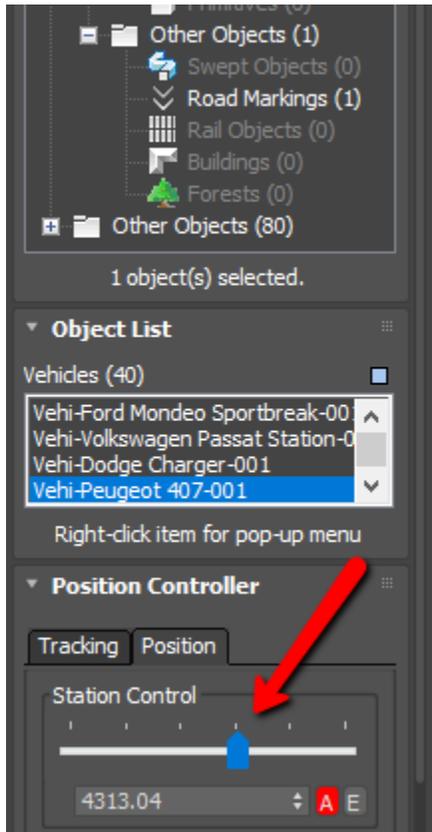
Click Apply, then OK. Do not save the style.

Check all your vehicles. You might find a situation where you have a car on top of another car...



Two things wrong with the above picture. One, the car is on top of the other, and two, they are both the same color. Highly unlikely for both. So, to fix this, navigate to Civil View>Civil View>Civil View Explorer. Double-click the heading and it will dock itself.

Click on the car you want to move. In the Civil View Explorer, you will see the car highlighted. Under that, you will see Station Control. You can manually type a station, or you can simply move the Station Control slider...



Check all your other objects and make sure you do not have any other overlapping objects. If so, fix them accordingly.

## Animating the Scene Using Civil View

Navigate to Civil View>Civil View>Object Placement Style Editor.

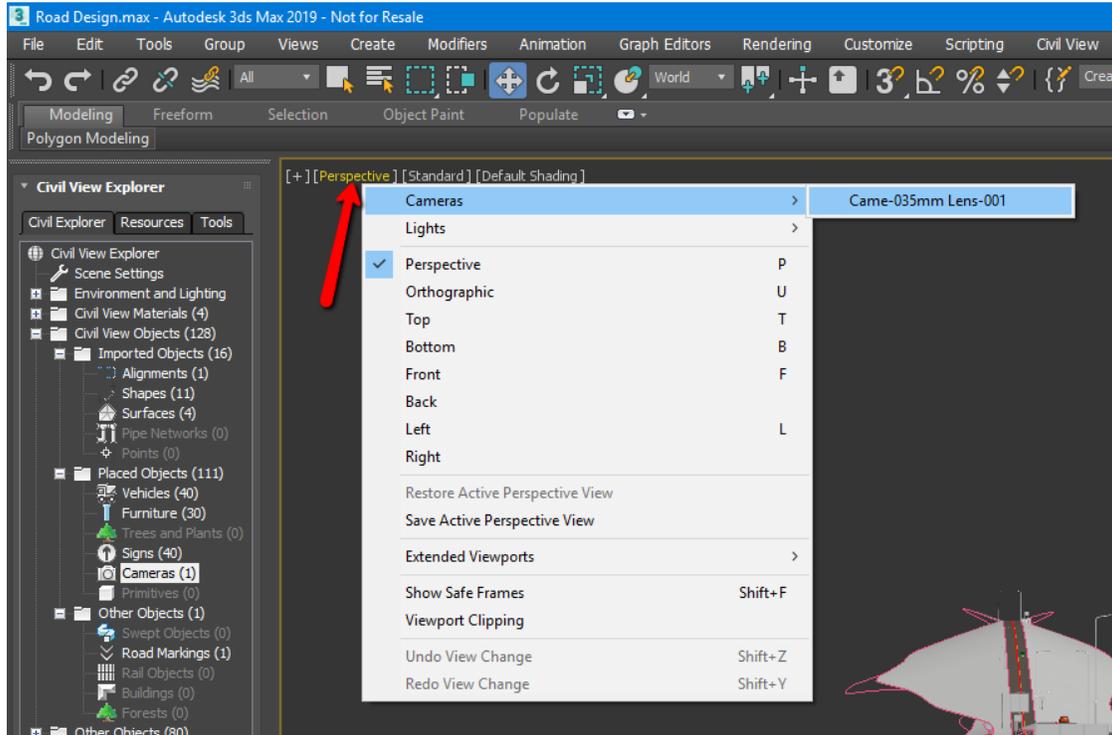
Click the Add New Element button 

Click the Parent Shape button, and then select the centerline of the road. Down toward the bottom of the dialog box, select the Cameras tab, then select the Wide Angle Lenses. Choose the 0.5mm Lens.

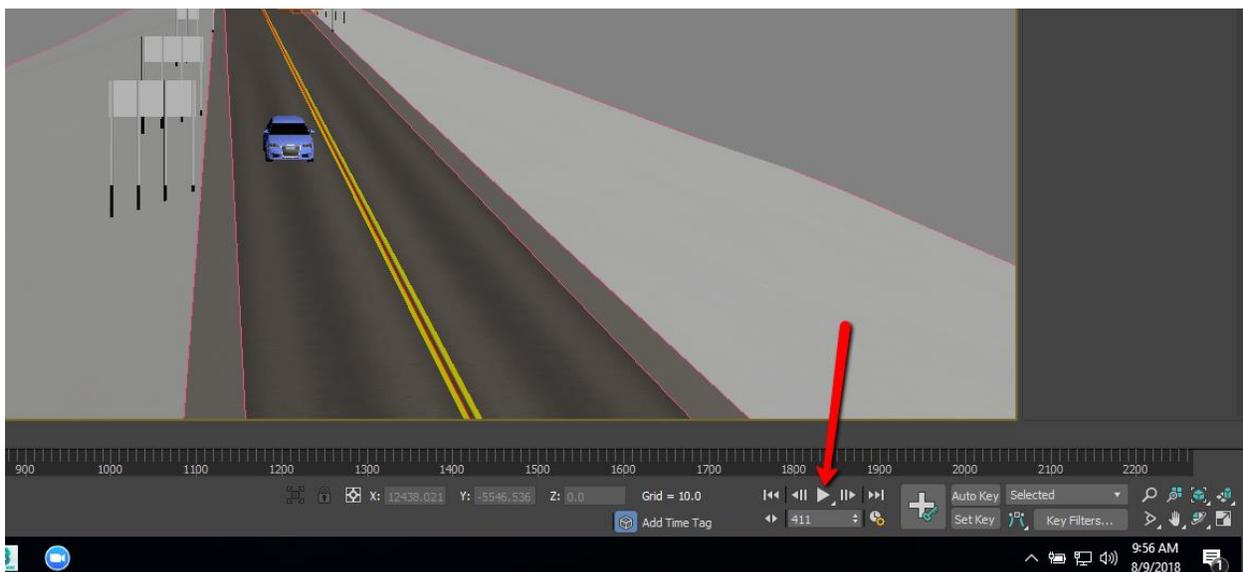
For miles/hr, you want to set it slower than the cars miles/hr, which we chose 50.0. Change the value for miles/hr to 40.0. For the Horiz Offset, change to 5.5, and the Vert Offset to 10.

Click Apply, then OK. Do not save the style.

In the upper left corner, where your visual style is, click on Perspective>Cameras>Came-035mm Lens-001. You can also create a custom background to include clouds, sun, etc...



Now click the Play button and enjoy!...



## **Conclusion**

By using the Civil View plug-in for 3ds Max, users can quickly and easily put together a robust, animated scene of a road design. You don't have to be a 3ds Max expert or even know how to use 3ds Max. This functionality will allow stakeholders to be able to see their project in full spectrum as it would be in the real world. Optionally, you can bring this animation back into InfraWorks so your whole scene has a totally different feel to it.