

# Tutorial for InfraWorks 360

Autodesk InfraWorks 360

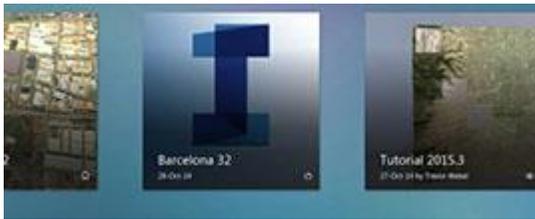
Step-by-Step Tutorials

Get up to speed quickly with step-by-step tutorials using a real model. You'll play the role of a civil engineer designing a new subdivision. You'll learn how to collaborate with other users and how to prepare an animated presentation of your design for distribution and review.



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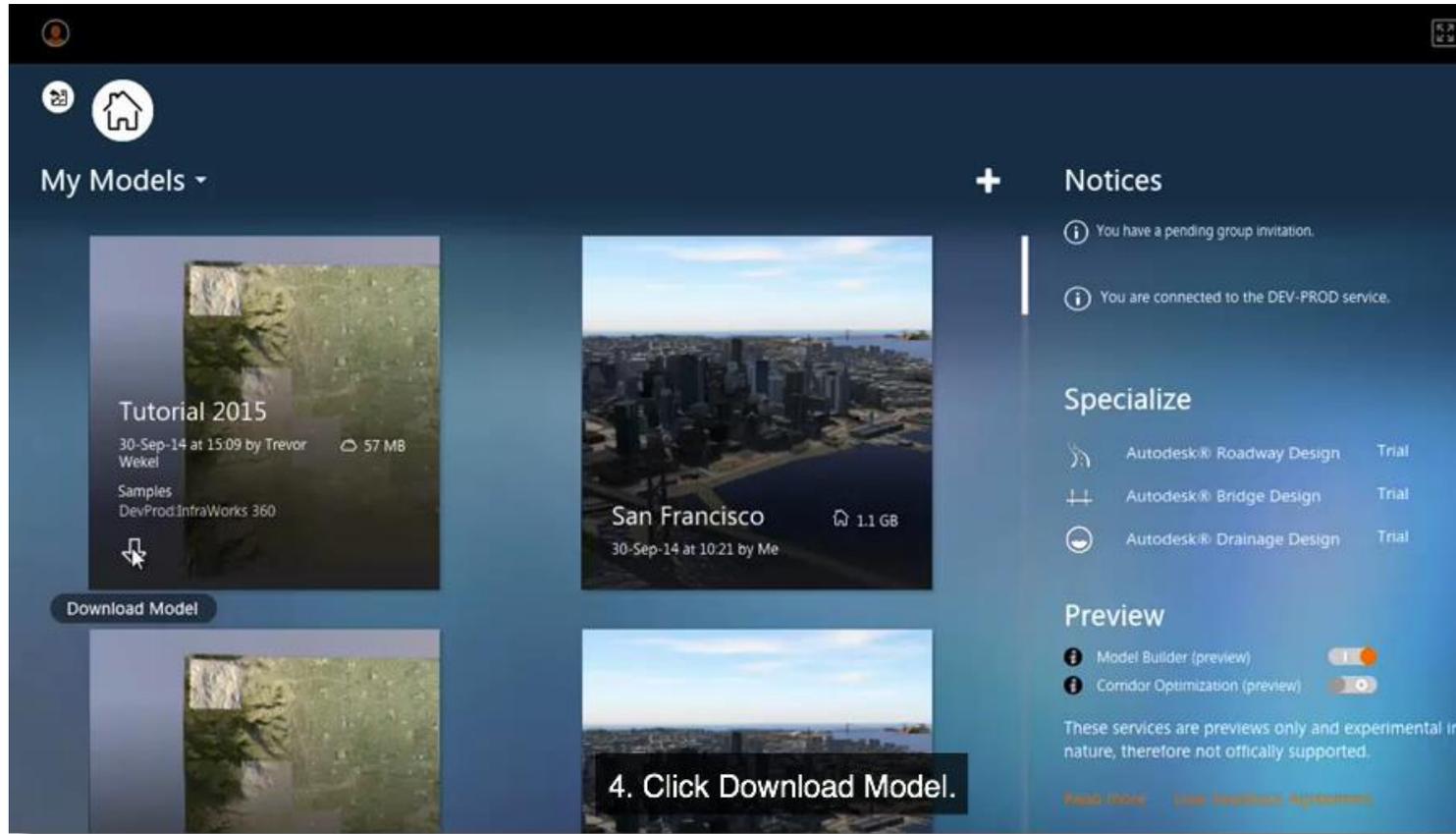
- Exercise 1: Setting Up a Group
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- Exercise 1: Setting Up the Model for Presentation
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- Exercise 4: Editing and Enhancing the Storyboard
- Exercise 5: Sharing the Design as a Scenario

## Tutorial 1: The Basics

The Basics covers fundamental tasks that you will need to get started and continue interacting with Autodesk InfraWorks 360.



1. Tutorial 1 Exercise 1: Getting Started
2. Tutorial 1 Exercise 2: Navigation and Visibility
3. Tutorial 1 Exercise 3: Styles

## Tutorial 1 Exercise 1: Getting Started

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In this short exercise you will launch Autodesk InfraWorks 360 and open a sample model.

1. Start the program.
2. Sign into Autodesk 360 if necessary.  
If you signed in already today, you will not need to do so again.
3. Find the latest Tutorial model.  
It should be one of the first on the list. The name should have the date of the current release, for example Tutorial (February 2016).
4. Click Download Model.
5. Click Download.  
Use the default location unless you have a particular reason not to.
6. Wait for the model to download and open.  
The download will take a few minutes at least, depending on your internet connection and various other factors. The model will then open automatically.
7. Arrange the InfraWorks 360 window and the tutorial window so you can see both at the same time.

## Tutorial 1 Exercise 2: Navigation and Visibility

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This exercise covers some simple but essential skills that you will use all the time with InfraWorks 360.

Begin with some basic navigation with the mouse.

1. Zoom into the model with the mouse wheel.
2. Orbit (rotate) the model with the left button.
3. Pan the model with the right button.

Pan means to move right and left or up and down.

You may have noticed that you can orbit the model so that you are looking at the model from below ground level. You can prevent this from happening.

4. Lock mouse navigation above ground. Set this lock in the Navigation section of Application Options.
5. Go to the Buildings bookmark.  
In the rest of this exercise, you'll learn how to control the visibility of the different categories of features in the model.
6. Open the Model Explorer. Turn the Buildings layer off and on.
7. Open the Surface Layers dialog box. Turn the Roads layer off and click Apply. Turn the Roads layer on again and click Apply.
8. Close the Model Explorer.

## Tutorial 1 Exercise 3: Styles

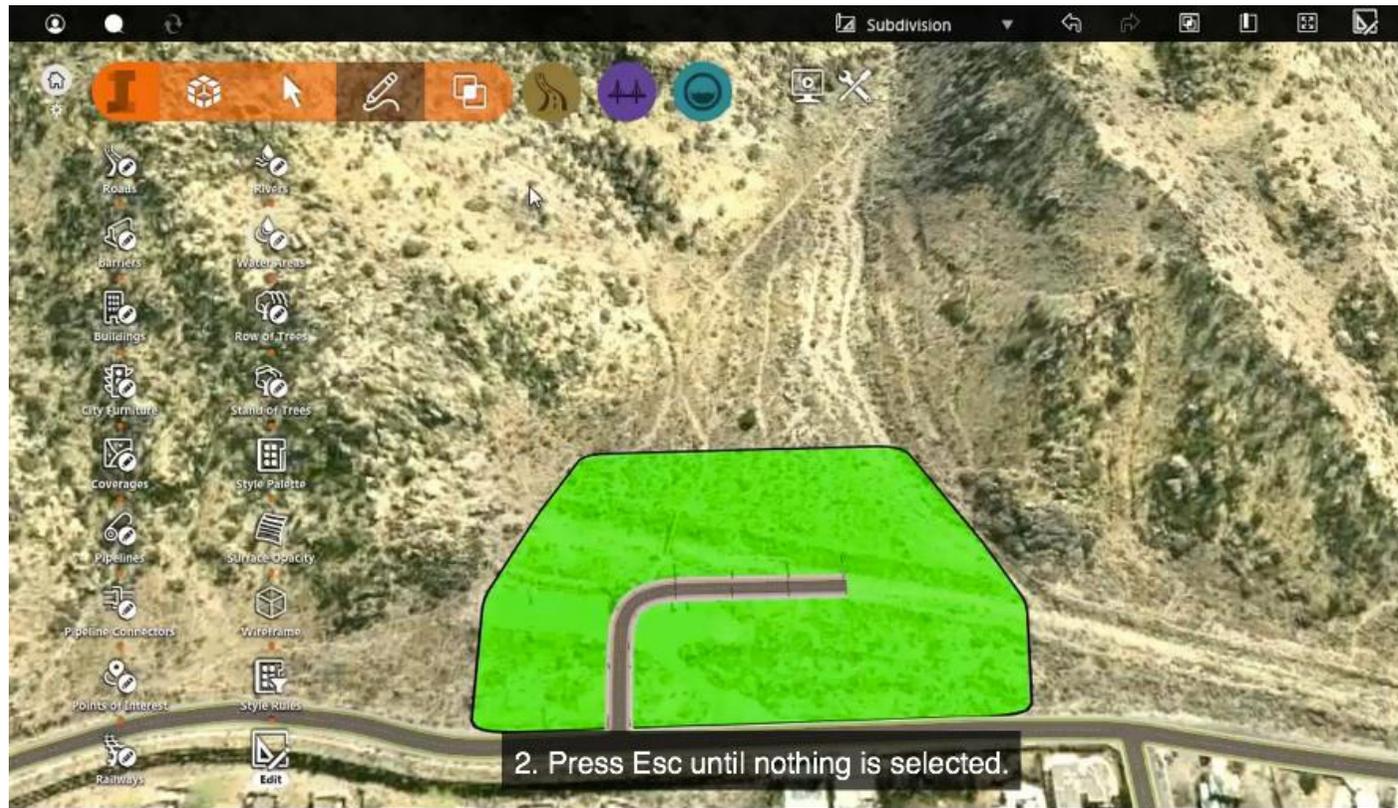
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This exercise introduces some more essential editing skills. You'll change the style of a road feature, and then update the style of a building.

1. Go to the Boulevard bookmark.
2. Mouse over the road in the foreground to see the tooltip, Magnolia Drive Northeast.
3. Open the Style Palette.
4. Click the Road tab. Drag and drop the style, Boulevard with Summer Hardwood, to the road.
5. Undo the previous step.  
You can undo using the Undo button shown in the video or by using the standard keyboard shortcut CTRL-Z.
6. Close the Style Palette.
7. Double-click the building in the distance to zoom into it.  
This is a useful navigational tip that you can use to quickly focus on any feature in the model.
8. Right-click the building and click Edit to enter Edit mode.
9. Drag the Height gizmo to make the building approximately 20 meters in height.
10. Press ESC and then orbit so you can see at least some of the roof.  
Pressing ESC will generally (not always) exit edit mode.
11. Open the Style Palette. Click the Facade tab. In the Metal and Glass folder, drag the style, Lear, to the roof.  
Dragging to the roof updates the facade on all four sides. You can also drag the style to just one side.
12. Undo twice to revert the building to the state before editing.
13. Close the Style Palette.
14. Return to the Home View bookmark.

## Tutorial 2: Design Concepts

Present your design concepts in a proposal. A proposal is an alternative design relative to the as-built environment. You can create multiple proposals to try out and present different ideas. Use the exercises in this tutorial to start a new proposal, sketch some features, and add detail to your proposal.



1. Tutorial 2 Exercise 1: Starting a Proposal
2. Tutorial 2 Exercise 2: Sketching Features
3. Tutorial 2 Exercise 3: Adding Detail to the Proposal

## Tutorial 2 Exercise 1: Starting a Proposal

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This exercise shows you how to start a new proposal and add the groundwork for a new subdivision.

1. Go to the Project site bookmark.
2. Create new proposal called Subdivision.
3. Sketch a coverage with the style Zoning ► Recreational.  
Normally, you would select Residential for a subdivision like this one. However, the yellow color makes it impossible to see when it is selected. Recreational is a convenient green color.  
Make sure the coverage is as big as the one in the video and as close as possible in shape. You will be placing some houses in it later. Double-click to finish sketching. This is a general rule whatever you are sketching.
4. Press ESC and then orbit to see the site partly from the side.
5. Right-click and then click Shape Terrain.
6. Drag the gizmo down so that the ground level is approximately 1833 meters. Or for more precision, enter the number.
7. Return to the Project Site bookmark.
8. Right-click the coverage and click Edit Vertices.
9. Drag the grips so that the subdivision area is adjacent to the existing road. Add vertices if needed.  
All you need to do here is tidy up the edges of the coverage so that it neatly fits against the road without any big gaps.
10. Right-click the coverage and click Exit Edit Mode.
11. Delete the road stub extending into the subdivision area. Either right-click and click Delete or click the road stub and then press Delete.
12. Right-click the coverage and click Edit Tooltip.
13. Enter New Subdivision and click OK.
14. Mouse over the coverage to view the tooltip.

## Tutorial 2 Exercise 2: Sketching Features

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In this exercise you will sketch a road into a subdivision and add some new homes.

1. Using the style, Street ► Sidewalks with Lamps, sketch a road into the subdivision. Make an intersection with the existing road. Sketch the road as closely as you can to the example in the video so that you will have room to place houses on either side of the road.
2. Press Esc until nothing is selected.
3. Start the City Furniture tool and enter **residential** in the filter area.
4. Click Buildings > Residential > Two Story Stucco.
5. Place seven homes in the subdivision with seven double-clicks.  
You don't need to be precise at this point as you will move them into position in a later step.
6. Repeat to place four more homes with the style, Buildings > Residential > Two Story Wood.
7. Using the Rectangular Selection tool, select all the houses in the subdivision.  
Select just the houses. If you select the road as well, try again.
8. Right-click the selected houses and click Edit to enter Edit mode.
9. Drag the height gizmo to make the height of all the houses approximately 15 meters.
10. Press ESC to exit edit mode.
11. Using the rotate and placement gizmos, arrange the houses individually in the subdivision.  
This is easiest in plan view and zoomed in fairly close.

## Tutorial 2 Exercise 3: Adding Detail to the Proposal

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In this exercise you will add detail to the proposal by refining the land cover style, adding a pipeline under a road, adding some trees, and adjusting the proposal view angle. You will bookmark the view as Proposed Subdivision.

1. Select the coverage then right-click and select Properties.
2. Under Stylization > Manual Style, click [...] to display the Style options. You might have to click in the Name field to see the [...] button.
3. Navigate to Material ► Land Cover and click Sand - Dark Brown.
4. Click OK then Update.
5. Close the Properties panel and then press ESC.
6. Sketch a pipeline, following the centerline of the road in the subdivision. Use the Blue Pipe style. Remember, double-click to finish.
7. Press ESC and then go to the Subdivision Street bookmark.
8. Right-click the pipeline and then click Properties.
9. For Elevation Offset, enter -1 and click Update.
10. Close the Properties panel.
11. Clear the Lock Mouse Navigation Above Ground checkbox.  
Earlier, you locked mouse navigation to prevent orbiting below ground. Now you want to see below ground level, so you need to unlock it again. Find this checkbox in the Navigation section of Application Options.
12. Press ESC to exit edit mode and then orbit the model to view the pipeline below the level of the street.
13. Go to the Subdivision bookmark.
14. Sketch a row of trees along one side of the street. Use the T02-V02 Vegetation Light Green style. Double-click to finish.
15. Repeat for the other side of the street.
16. Press ESC until nothing is selected.



17. Rotate and zoom the model to find a good view to show off the finished proposal.

Imagine that you are going to make a presentation of the design and can only show one picture.

18. Add a new a bookmark called Proposed subdivision.

19. Close the Tutorial 2015 model.

## Tutorial 3: Collaboration

Use the exercises in this tutorial to set up a collaboration group, post comments, publish a model to the cloud, and sync updates.

**Note:** You must be logged in with a current Autodesk 360 account.



1. Tutorial 3 Exercise 1: Setting up a Group
2. Tutorial 3 Exercise 2: Duplicating the Model
3. Tutorial 3 Exercise 3: Posting a Comment for the Group
4. Tutorial 3 Exercise 4: Publishing the Model
5. Tutorial 3 Exercise 5: Syncing the Model

## Tutorial 3 Exercise 1: Setting up a Group

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In this exercise you will set up a group for collaboration.

1. Click Home ► Administer Accounts.
2. Click the Administer Groups tab and then click Add Group.
3. For Name, enter Tutorial Models.
4. For Description, enter For learning InfraWorks 360. Click OK.
5. Click Users for the group to see who has admin and publish rights. You should see your email address for admin.
6. Click OK twice to close the dialog boxes.

## Tutorial 3 Exercise 2: Duplicating the Model

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In this exercise you will make a copy of a model to experiment with disconnecting from the cloud service and publishing a local model.

1. Note that the Tutorial 2015 model has a Connected icon indicating that the model is connected to the cloud.  
You downloaded a local copy of this model in Tutorial 1. That copy remains connected to the original model in the cloud. Sharing the model in the cloud enables you to collaborate with others.
2. Click Duplicate Model to make a copy.
3. Name it Tutorial 3-Collaboration and click Save.
4. Wait for the duplication process to complete.
5. Open the Tutorial 3-Collaboration model.
6. Click Disconnect to create a local model that is not connected to the cloud service.  
Normally, you would not do this. However, for the purposes of this tutorial, you need to start fresh with a model that has no connection to an existing model.
7. Note that the Publish icon says Publish This Model To InfraWorks 360.  
If the model were still connected, the icon would say Sync Model Changes With InfraWorks 360.

## Tutorial 3 Exercise 3: Posting a Comment for the Group

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In this exercise you will use Design Feed to post a comment on your proposal to your group.

1. Switch to the SubdivisionCOMPLETED proposal.  
This proposal contains a complete (and somewhat expanded) version of the subdivision created in Tutorials 1 and 2.
2. Go to the Completed subdivision bookmark.
3. Click Discuss Your Infrastructure Design to open the Design Feed.  
The Design Feed is where you post comments for other people.
4. Enter the comment, Review the new Foothills subdivision design.
5. Click the geolocation icon and place the marker with a double-click.  
The geolocation marker associates the comment with a location in the model.
6. Click Post to see the comment in the Design Feed as others in the group will see it.
7. Go to the Home View bookmark.
8. Click the geolocation icon to verify it goes to the location of the comment.
9. Close the Design Feed.

## Tutorial 3 Exercise 4: Publishing the Model

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In this exercise you will publish the model to the cloud.

1. Click Publish This Model To InfraWorks 360.  
You *publish* a model the first time you share it with a group. After that you *sync* the model to share further changes.
2. For group, select Tutorial Models.
3. Select the Subdivision COMPLETED proposal and leave Subdivision unchecked. Ignore the other items.
4. For Publishing Notes, enter New subdivision-foothills location.
5. Click Publish.
6. Dismiss the notification message when the publish process is complete.
7. Note that the Publish icon now says Sync Model Changes With InfraWorks 360.
8. Close the model.

## Tutorial 3 Exercise 5: Syncing the Model

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In this exercise you will make some changes to the model and then sync those changes to the cloud to share with other users.

1. Click Manage online models and scenarios.
2. For group, select Tutorial Models.
3. Select the model, Tutorial 3-Collaboration.
4. Note the change history.  
You should see the publishing notes that you entered in the last exercise.
5. Close the Manage dialog box.
6. Open the model and make a change to the subdivision. For example, move or rotate one or two of the houses.  
Any minor change will do.
7. Click Sync Model Changes With InfraWorks 360.
8. Add the description, Revised Design, and then click Sync.
9. Close the model.
10. Open Manage Online Models and Scenarios.
11. For group, select Tutorial models.
12. Select the model, Tutorial 3-Collaboration.
13. Note that the revision you just made appears in the change history.
14. Close the Manage dialog box.

## Tutorial 4: Communication

Use the exercises in this tutorial to prepare your model for presentation, add still images, create and modify a video storyboard, and share the design as a scenario.

If you skipped Tutorial 3: Collaboration, or even all three tutorials, you can still do this tutorial. Begin by opening the model Tutorial 2015 and select the proposal SubdivisionCOMPLETED.



1. Tutorial 4 Exercise 1: Setting Up the Model for Presentation
2. Tutorial 4 Exercise 2: Making Still Images
3. Tutorial 4 Exercise 3: Creating a Video Presentation with a Storyboard
4. Tutorial 4 Exercise 4: Editing and Enhancing the Storyboard
5. Tutorial 4 Exercise 5: Sharing the Design as a Scenario

## Tutorial 4 Exercise 1: Setting Up the Model for Presentation

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This exercise gives you the chance to experiment with environmental effects of sun, sky, and clouds, and other visual effects that affect the appearance of the model.

1. Go to the Subdivision Street bookmark.
2. Open the Sun & Sky panel.
3. Increase Cloud Cover to 25.
4. Change the Time and Date settings to approximately 17:30 and 10/1.
5. Open the Visual Effects panel. Change the settings as follows: Brightness = 60, Contrast = 60, Field of View = 70.
6. Change the Time setting to approximately 11AM.
7. Change the Date setting to approximately 3/1.
8. On the Visual Effects panel, change the settings as follows: Brightness = 50, Contrast = 50, Field of View = 45.
9. Close the Sun & Sky and Visual Effects panels.

## Tutorial 4 Exercise 2: Making Still Images

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In this exercise you will create a snapshot of the model. You will then create a high-quality rendering of the model for comparison.

1. Click Create Snapshot.  
Camera Snapshot captures exactly what is in your view of the model.
2. Navigate to a location to save the image file.  
Choose a folder that you can easily access without too many clicks.
3. Select Use Viewport Resolution.
4. Click Save and then locate and view the saved image file.
5. Click Render Model.  
Render gives you a more photographic representation of the model.
6. While the model is loading, stretch the black render window so it is wide format.
7. Wait for the model to load and rendering to start. Note that the Date and Time settings are inactive once rendering has begun.
8. Click Stop Render.
9. Change the Time and Date settings to 17:30 and 10/1 (Oct 1).
10. Click Start Render.
11. Let the render process run for a minute or so, then click Stop Render.
12. Click Save Image. View the saved image file and compare it to the snapshot.
13. Close all open windows.

## Tutorial 4 Exercise 3: Creating a Video Presentation with a Storyboard

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In this exercise you will create a video presentation of your subdivision.

Navigating through the model using keystrokes takes some practice (skills with video-game controller will help).

1. Go to the Start camera path bookmark.
2. Change the Time and Date settings to 16:00 and 5/1.  
To get back to a normal daylight effect.
3. Close the Sun & Sky panel.
4. Click Storyboard Creator and then click Add New Storyboard.
5. Select the name of the storyboard and change it to Tour of Foothills Subdivision.
6. Click Add Camera Path Animation.  
This adds the first keyframe.
7. Change the name of the first keyframe to Start point and press Enter.
8. Using keystrokes to pan the view, as shown in the video, move to a point just in front of the entrance to the subdivision.  
Click anywhere inside the model view to activate navigation with the keys. The video shows the keystrokes that are used to create the movement.  
Here is a summary that you can print:  
UP ARROW = Forward  
LEFT ARROW = Left  
RIGHT ARROW = Right  
A = Pan left  
D = Pan right  
SHIFT + A = Orbit clockwise  
SHIFT + D = Orbit anticlockwise
9. Name this second keyframe Turning point.
10. Using a combination of keys on your keyboard, advance the view into the subdivision road.

11. Name this keyframe Enter road.
12. Use the keys to advance up the road to the beginning of the curve.
13. Add keyframe #4 and name it Curve.
14. Use the keyboard to get into position then add keyframe #5, Turning, after the curve.
15. Repeat to add keyframe #6 and name it End of road.

## Tutorial 4 Exercise 4: Editing and Enhancing the Storyboard

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In this exercise you will make some adjustments to your storyboard.

1. Click the play button to view the animation so far.  
Note that the speed is excessive in certain sections.
2. Click the Stop button to get back to the beginning.
3. Select the first keyframe (Start point).
4. Set speed to 40 km/hr and press Enter.
5. Select each keyframe in turn and make sure that Keep speed is selected.
6. Click Play again to review the updated animation. The speed should now be moderate and consistent.
7. Rewind to the beginning of the timeline (double-click the timeline at 0:00).
8. Click Add a New Title.
9. Copy and paste the name of the storyboard onto the Your Title text.
10. Set Transparency to 50%.
11. Click play to review the title in the animation.
12. Select the last keyframe, End of road.
13. Add Orbit Animation.
14. Select the keyframe, Turning. Then right-click and select Play From Here to review the added effect. You don't have to play the whole animation from the beginning.
15. Close the Storyboard Creator.
16. Open the Storyboard player, rewind to the beginning, and play the animation from there.

## Tutorial 4 Exercise 5: Sharing the Design as a Scenario

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In this exercise you will create a scenario to publish and share.

1. Go to the Top view bookmark.
2. Open the Scenario Browser.  
A scenario can be the whole model or part of the model, plus storyboards, packaged up for viewing on the web or on mobile devices.
3. Add a new scenario.
4. Rename the scenario Foothills Subdivision.
5. Zoom out so that the entire subdivision is centered in the field of view.
6. Click Set Home.
7. Under Define Area of Interest, click Bounding Box and then draw a rectangle that includes the subdivision. Double-click to finish.  
In this case, you'll limit the area included in the scenario to the subdivision.
8. Under Storyboards, select the storyboard that you created in the last exercise.  
If you didn't create a storyboard, select the sample storyboard provided.
9. Under Access Rights, turn on Public Access.
10. Close the Scenario Editor.
11. Sync the model changes with InfraWorks 360.
12. Wait till the scenario finishes generating and Published appears in the Scenario Browser.
13. Click Open in Web Browser.  
The web viewer does not work in all browsers. If you have a problem viewing the scenario in the web viewer, you can always install Google Chrome and use that.
14. Accept the Terms of Service and click Continue.

Terms of service may appear the first time you view a model.

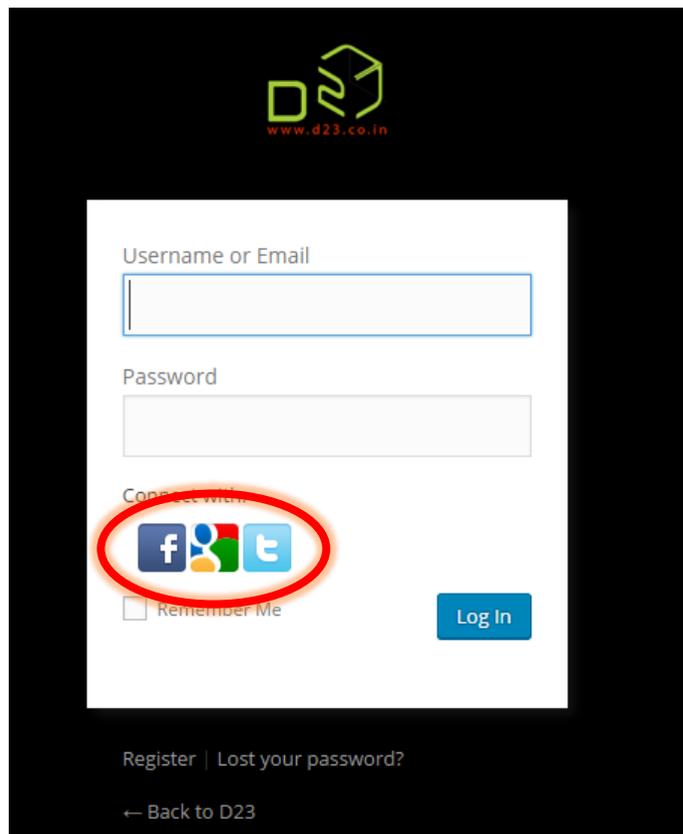
15. Navigate the model in the browser, turn layers on and off, and then play the storyboard.

This is how customers can see your work, even though they do not have InfraWorks 360.

That's the end of the tutorials for the Autodesk InfraWorks 360 software. Stay tuned for more tutorials coming soon for the add-on modules (Roadway Design, Bridge Design, and Drainage Design)!

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