A GUIDE TO AUTOTURN ONLINE WITH VECTORWORKS

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ARCHITECT

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WHAT IS AUTOTURN ONLINE?

Planning for vehicle circulation is an essential part of the site design process for architects, landscape architects, civil and transportation engineers, and designers in other disciplines.

Analyzing turning radiuses and exploring vehicle movement in and around buildings, loading docks, and fire lanes, as well as checking clearance for fire apparatuses and vehicles, is all known as swept path analysis.

Swept path analysis is a specialty of Transoft Solutions Inc., creators of AutoTURN Online, a vehicle swept path analysis web application. Vectorworks and Transoft Solutions have partnered to make this solution available directly in the Vectorworks interface. Designers can access AutoTURN online through an internal web browser, integrating your design and analysis workflows.

INTEGRATION BENEFITS

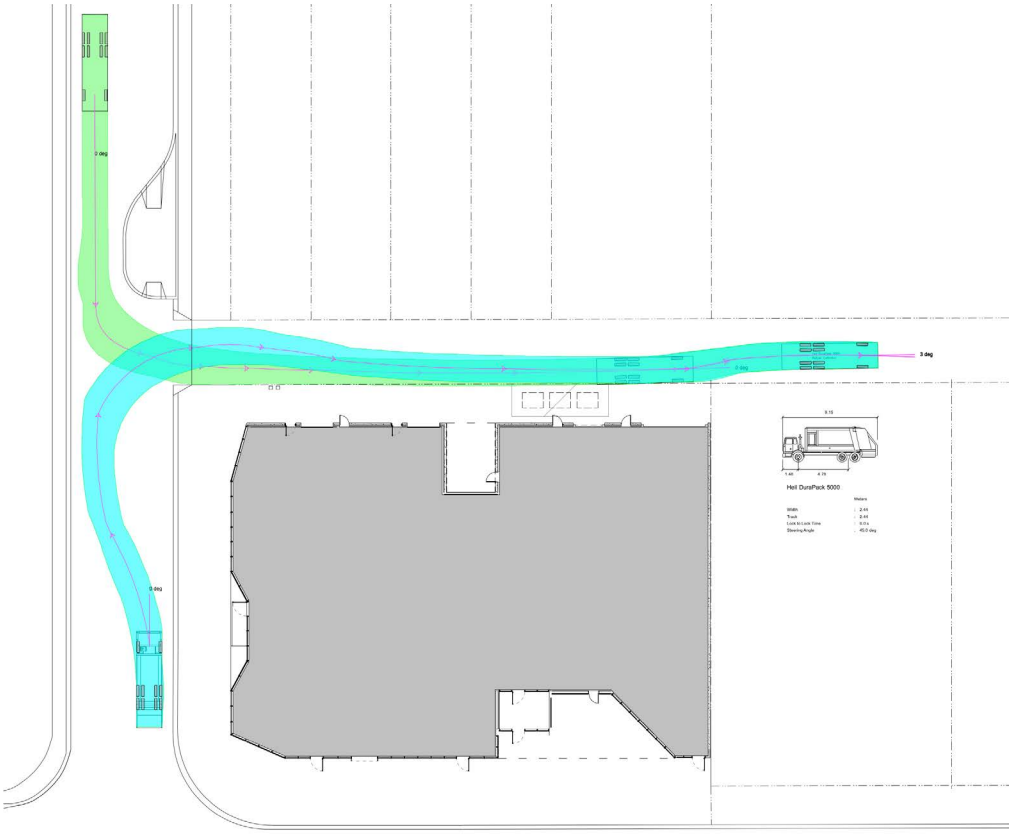

FIGURE 1: Swept Path Analysis

This integration can streamline your design process by allowing you to:

- Simulate vehicle movement and determine whether or not there is sufficient clearance for turning, backing up, parking, and so on based on accurate vehicle data.
- Download analysis results directly in your file and use the geometry to prepare the required documentation for code compliance reviews.
- Manage design changes and update analysis results against these changes.
- Create faster and more accurate design and documentation of parking lots, parking garages, loading docks, driveways, fire lanes, and low speed roadways.

USING AUTOTURN ONLINE

LOG IN TO AUTOTURN ONLINE

To start using AutoTURN Online, launch the application from the AEC dropdown menu, then create an account or log in if you already have one. Vectorworks users have access to a free bundle of 3-passenger vehicles. An extensive global catalog of vehicles, along with their associated data, is available from AutoTURN Online for a monthly or yearly fee.

> Note: Both an internet connection and AutoTURN Online account are required to use the AutoTURN Online tools and commands.

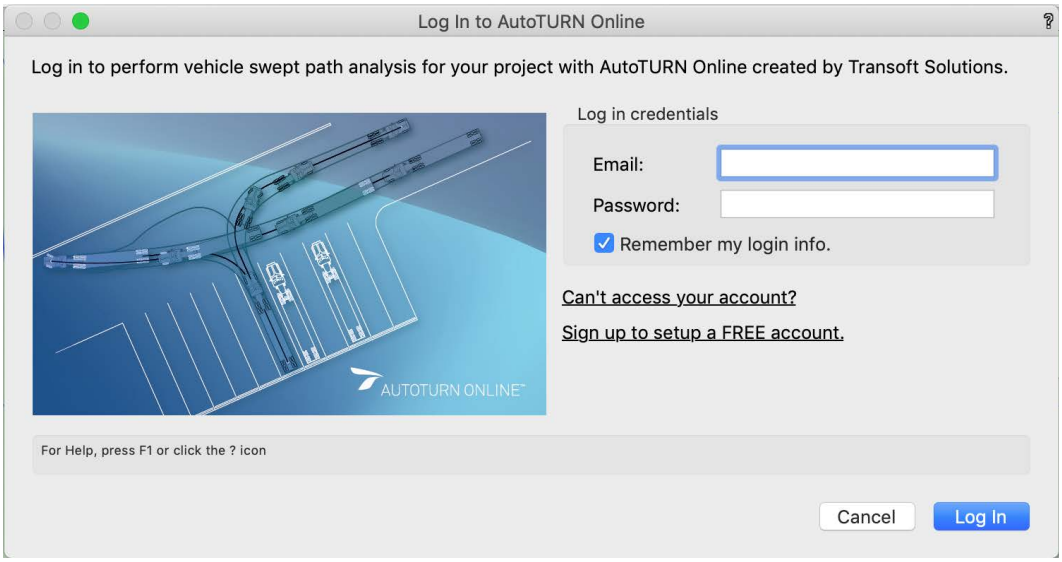

FIGURE 2: Sign up/Log in

USING AUTOTURN ONLINE (CONT'D)

SEND DESIGN TO AUTOTURN ONLINE

Once you have registered, consider revising the drawing you plan on uploading to AutoTURN Online. Since AutoTURN Online is a 2D tool, it will be helpful to simplify your drawing's visibility to represent the elements related to the analysis to test for clearances. You can do this by controlling the visibility of the file's layers and classes while on the Design Layer and Top/Plan View.

When you open the AutoTURN menu, select "Send Design to AutoTURN Online." A new window will display several options — you'll have to choose between creating a new drawing or replacing an existing one, select what objects and geometry will be sent to AutoTURN Online, and whether geometry will be sent as a background image, objects with visibility selection options, or a combination of the two. These settings can be saved for repetitive future use. Clicking "OK" sends the file to AutoTURN Online, which will open the AutoTURN Online application within the Vectorworks web browser.

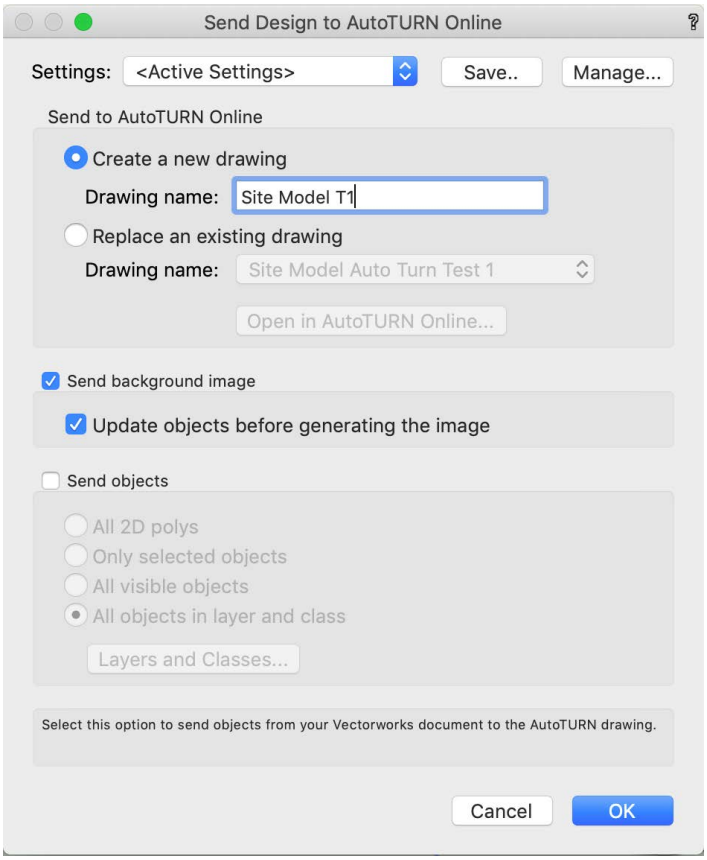

FIGURE 3: Send Design to AutoTURN

USING AUTOTURN ONLINE (CONT'D)

WORKING WITH AUTOTURN ONLINE

You can access the AutoTURN Online application within the Vectorworks web browser through the AutoTURN menu by selecting "Open AutoTURN Online Drawing."

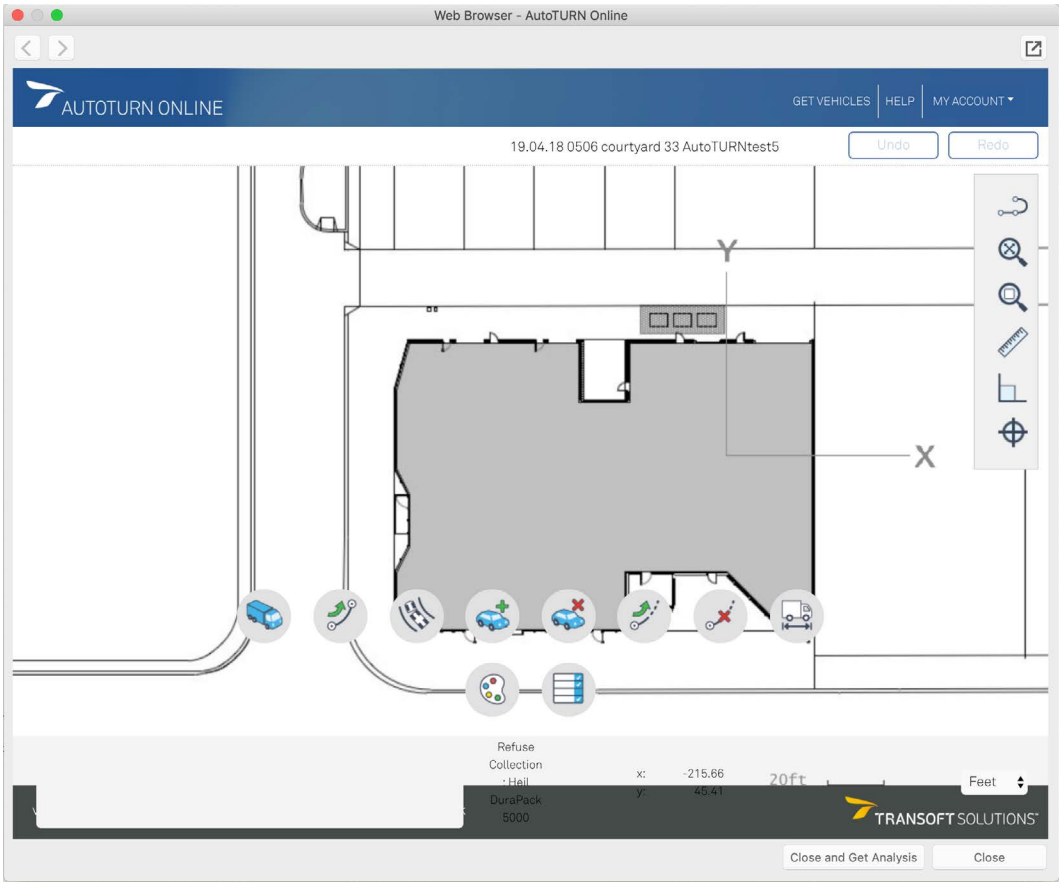

FIGURE 4: AutoTURN Browser

USING AUTOTURN ONLINE (CONT'D)

The AutoTURN Online application presents a set of tools to place vehicles and generate simulations. To generate a path, you need to select a vehicle through the "Select Current Vehicle" button, which will open a sub-window containing a list of vehicles. You'll see the free vehicles supplied to Vectorworks users, or you can add any of the paid subscription bundles. Select the vehicle you'll use for analysis and click "OK."

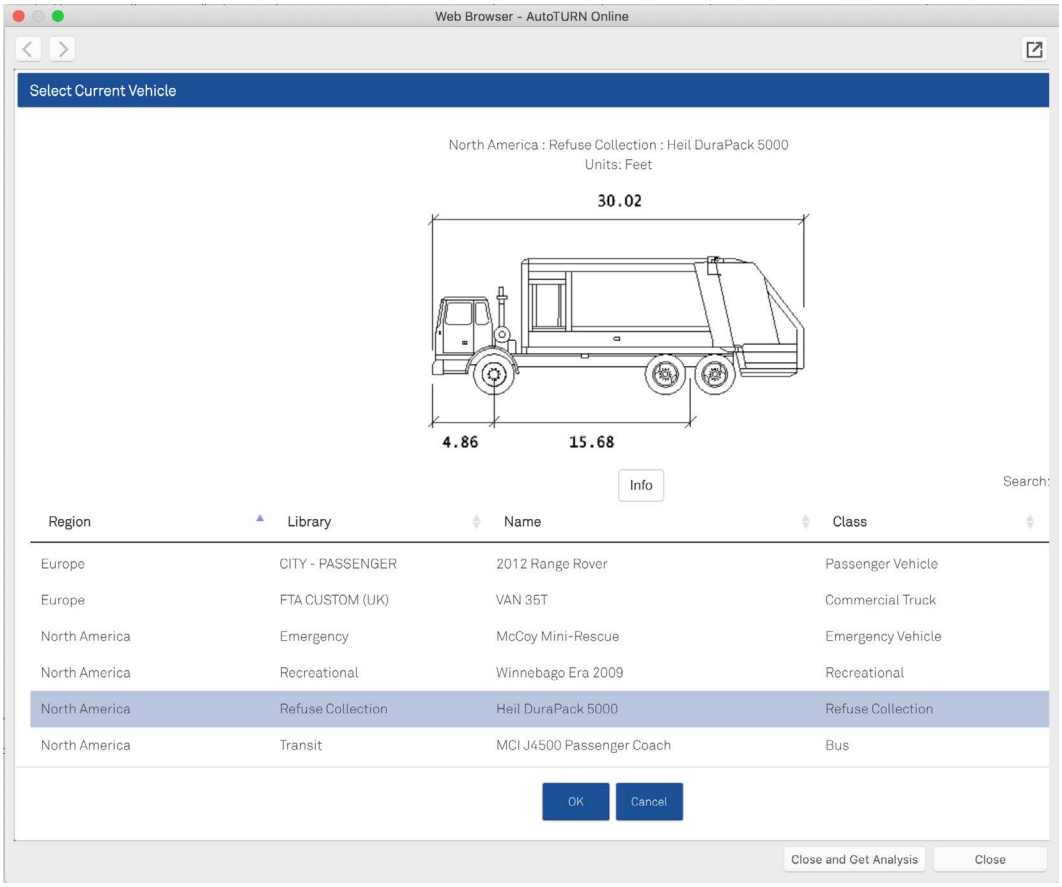

FIGURE 5: Vehicle Selection

USING AUTOTURN ONLINE (CONT'D)

To start a path simulation, select "Generate Arc Path Simulation" and place the starting point and vehicle's direction. Click through the path to follow it, then click finish or undo to edit the path. Alternatively, you can generate a path from a polygon either drawn in AutoTURN Online with the "Draw Polyline" tool, or a polyline drawn in Vectorworks accompanied by the"Send Objects" command. For a polyline drawn in Vectorworks, after sending the design to AutoTURN online, use the "Generate Path Follow Simulation" tool to generate the path.

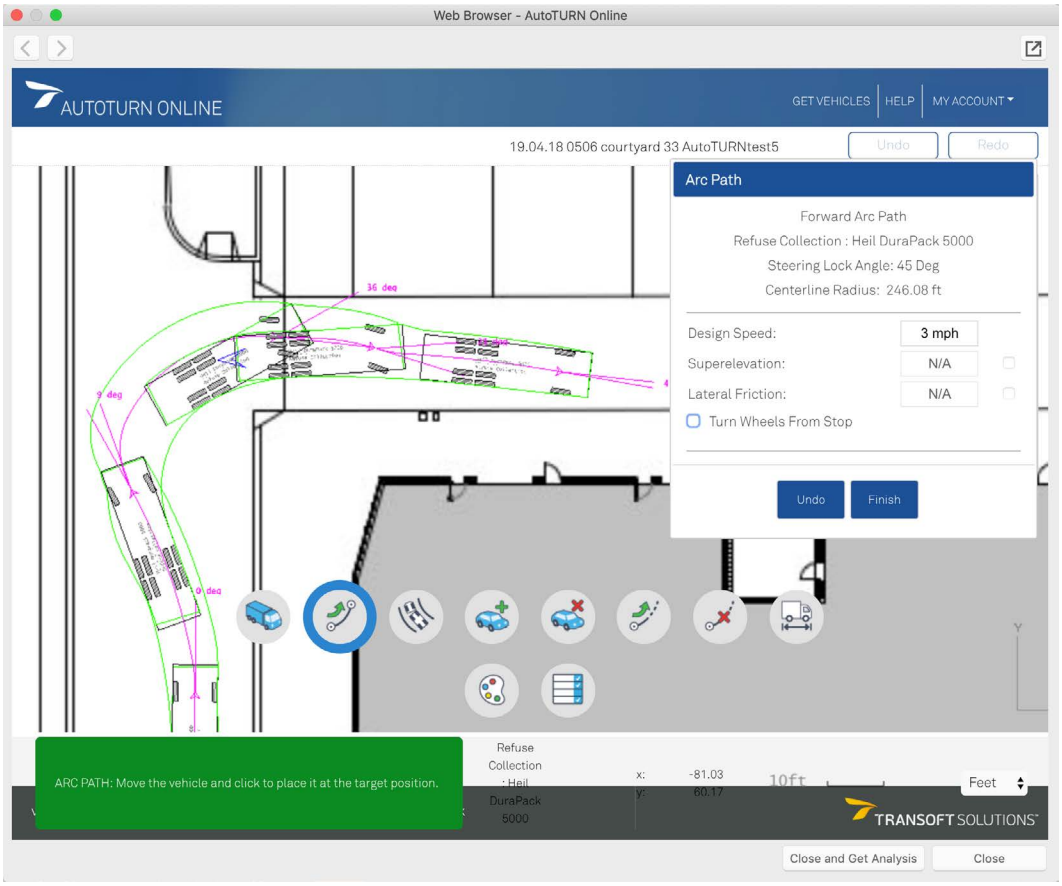

FIGURE 6: Path Simulation

USING AUTOTURN ONLINE (CONT'D)

- Along a path simulation, place or delete vehicles by using the "Place Vehicle in Simulation" or "Delete Vehicle from Simulation" tools.
- To extend a simulation, use the "Continue Existing Simulation" to edit. You can also use the "Delete Last Section of Simulation" tool to delete sections.
- Details of the vehicle used in the simulation can be placed in the drawing with the "Place Vehicle Profile in Drawing" tool.
- Simulation, vehicle graphics color, and visibility can be controlled through the "Set Display Properties" tool when drawing, or by selecting a simulation and right clicking to edit the properties of that simulation.
- While using any tool, right click to enter the context menu and cancel out.

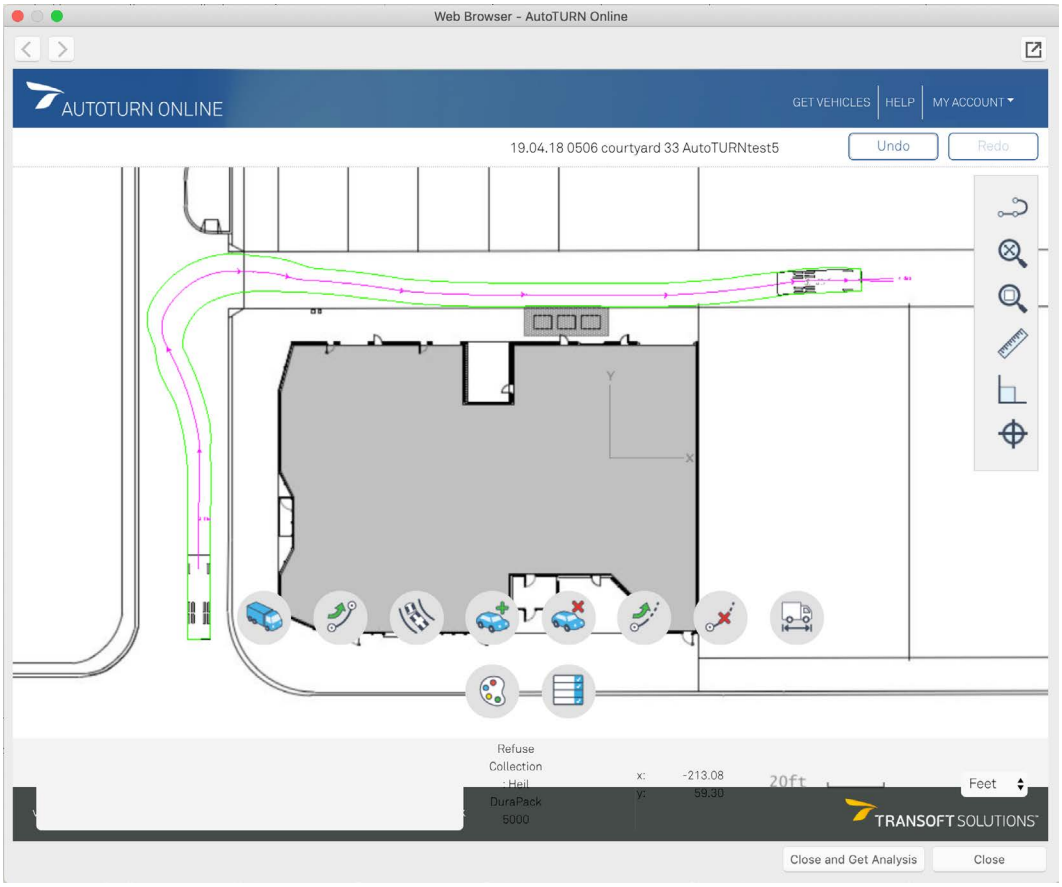

FIGURE 7: Swept Path Analysis

USING AUTOTURN ONLINE (CONT'D)

GET ANALYSIS FROM AUTOTURN ONLINE

While still in AutoTURN Online, select the "Close and Get Analysis" button to download the simulation analysis to the Vectorworks file. In the display window that opens, assign the desired layer and class for the analysis, then select "OK." Alternatively, if the AutoTURN Online browser has been closed, select "Get Analysis from AutoTURN Online" from the menu to return to the download window.

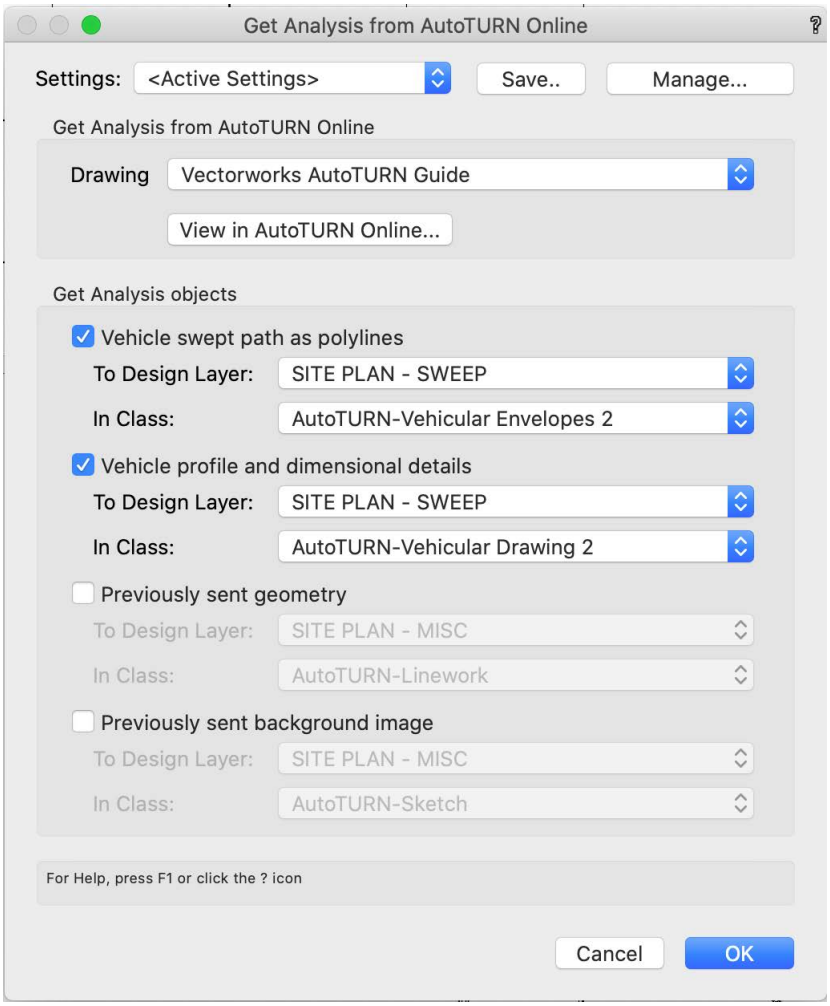

FIGURE 8: Get Analysis to Vectorworks

USING AUTOTURN ONLINE (CONT'D)

OPEN AUTOTURN ONLINE DRAWINGS

Returning to the previous AutoTURN Online drawing for editing purposes can be done through the AutoTURN Online menu. Selecting "Open AutoTURN Online Drawing" will open the last AutoTURN drawing.

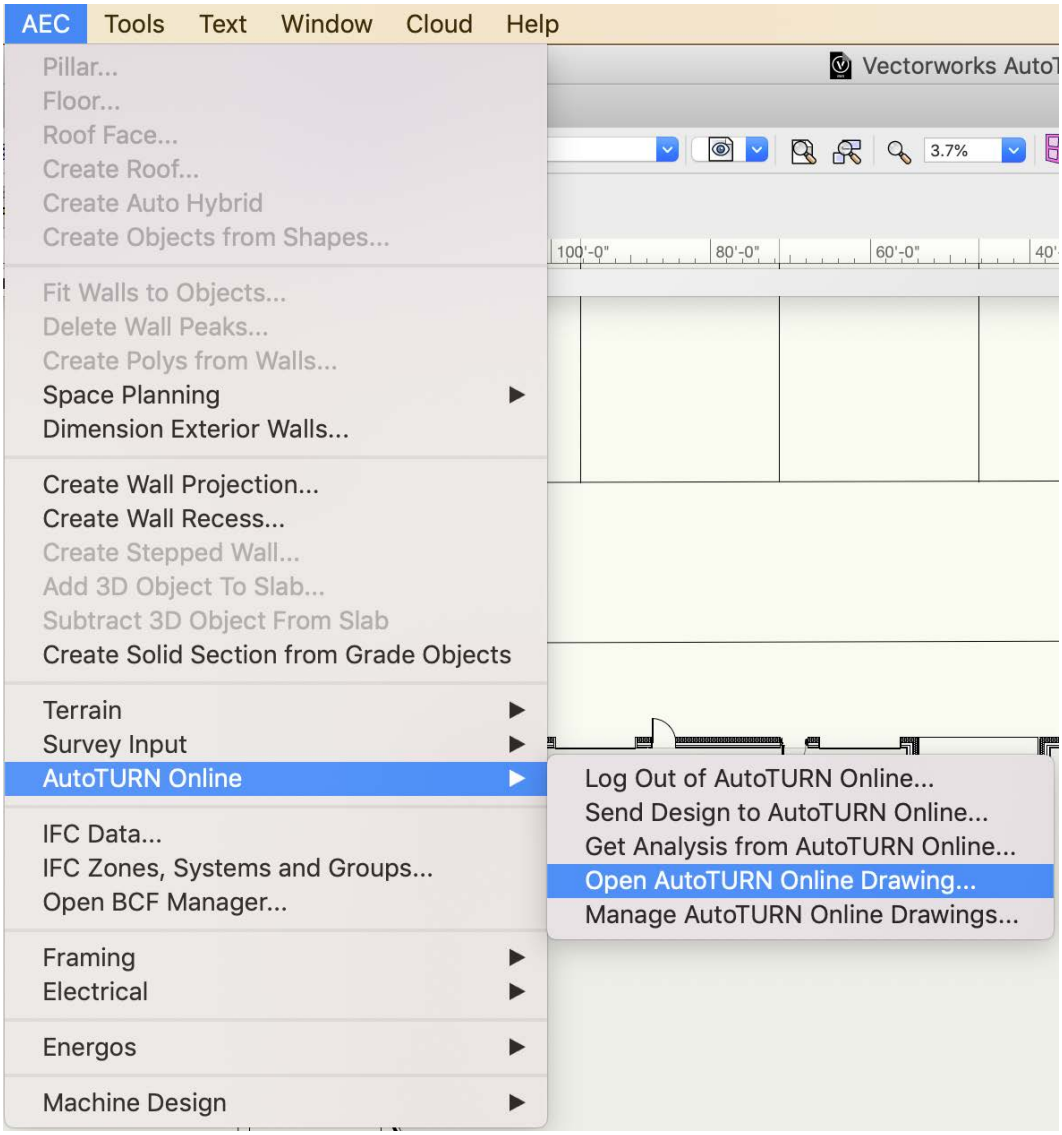

FIGURE 9: Open AutoTURN Drawing

USING AUTOTURN ONLINE (CONT'D)

MANAGE AUTOTURN ONLINE DRAWINGS

Manage AutoTURN Online drawings by selecting "Manage AutoTURN Online" from the menu. This window displays all available drawings and operations like deleting, renaming, copying, or opening files.

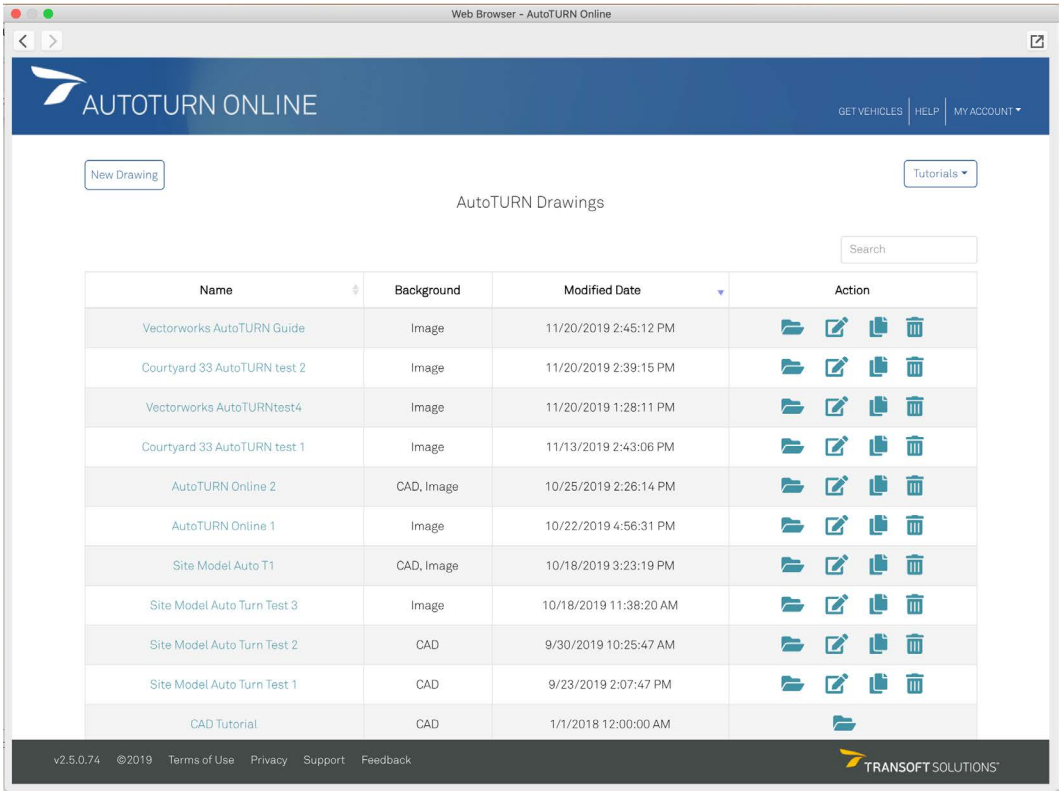

FIGURE 10: Manage AutoTURN Drawings

HOW TO GENERATE SIMULATIONS

A typical scenario could be using AutoTURN Online to demonstrate that a particular vehicle can fit through a proposed roadway. A workflow for this scenario would start by defining the road and protruding nearby elements that could affect the path of the vehicle, which is done in Vectorworks by filtering objects though layer and class visibilities, then launching AutoTURN Online and uploading the drawing. Once in AutoTURN Online, continue by selecting the vehicle from the subscription vehicle bundle associated with the account. A path simulation can then be generated. Multiple simulations can be generated over a drawing, and these simulations can be edited and/or managed individually. These simulations can then be downloaded into a selected layer in the file, and the object's attributes can be manipulated to fit with desired graphics for plan and board representations for stakeholders requiring vehicular swept path analysis documents.

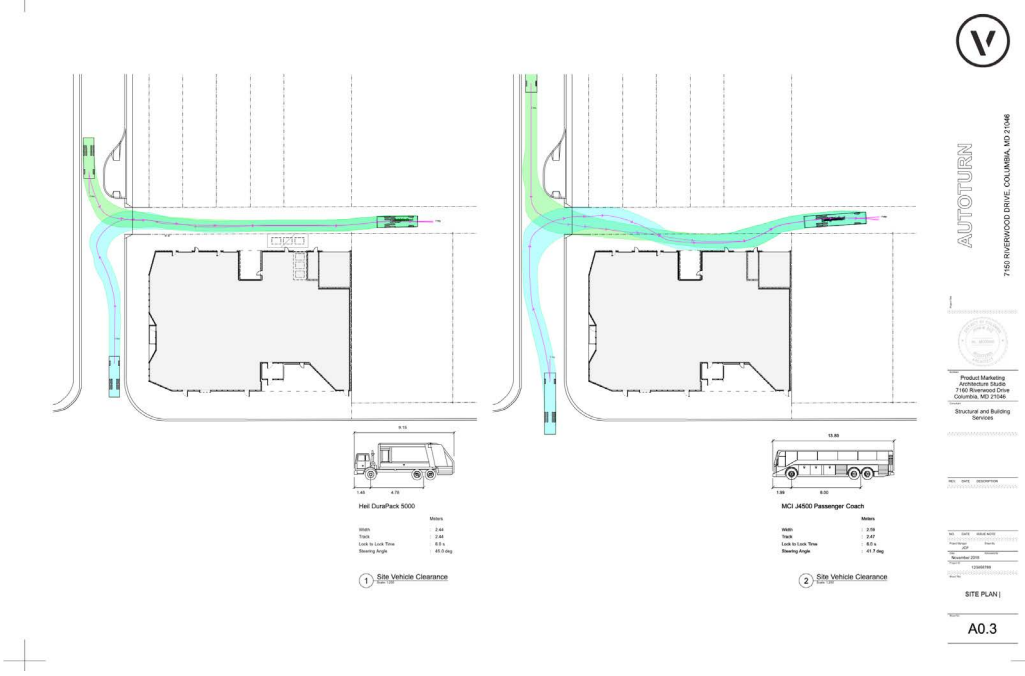

FIGURE 11: Code Compliance Documentation

REVOLUTIONIZE YOUR WORKFLOW

AutoTURN is a leading tool in the industry and proven to be an efficient way to perform vehicular swept path analysis. It is the software of choice for professionals including transportation engineers, planners, drafters, architects, and is used by most state DOT agencies.

The integration of AutoTURN into your workflow will help develop your design solutions confidently and efficiently.

LEARN MORE

about how Vectorworks can help you implement and develop BIM workflows. Email us at **hello@vectorworks.net**.

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