AUTOTURN® Version 8.0

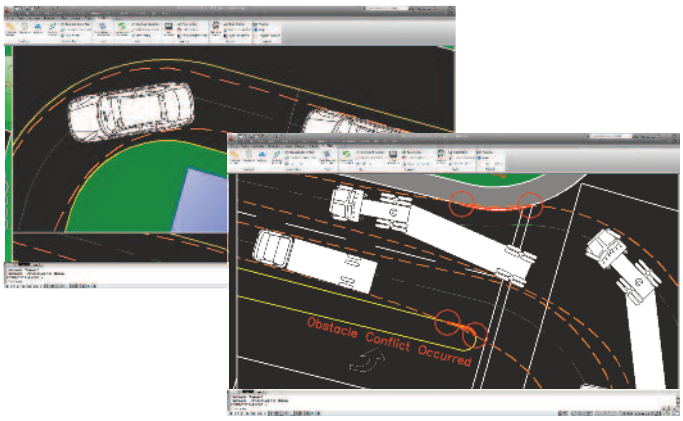
INDUSTRY LEADING SOFTWARE

Your total solution for simulating vehicle maneuvers

ADVANCED VEHICLE SIMULATIONS

8

AutoTURN, a comprehensive CAD vehicle turn and swept path analysis software, is used by AEC professionals to help evaluate standard design or specialized vehicle maneuvers for all types of roadway, highway, and site design projects. Together with intelligent design features, practical interface, and guidelines from standards such as AASHTO for turn radii, transition curves, super-elevation, and lateral friction, makes AutoTURN **the world's most widely used program of its kind.**



›› AutoTURN improves the user experience by creating a direct relationship between simulations and CAD geometry enhancing the quality of your overall design.

ADVANCED DESIGN CAPABILITIES

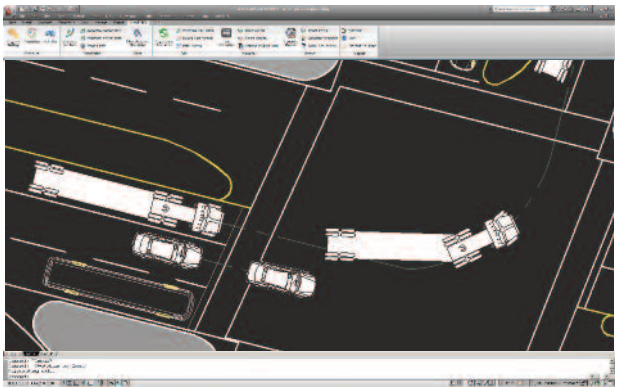
Adaptive vehicle simulations are now linked directly to CAD geometry and can be placed offset from or centered on user-drawn paths made from lines, arcs, polylines, complex chains, and even AutoCAD® Civil 3D® alignments. Vehicle path simulations are automatically updated based on changes to the linked design geometry meaning fewer iterations in the design process.

CONFLICT DETECTION FEATURES

Get real-time visual feedback when AutoTURN detects conflicts between a vehicle simulation and objects such as curbs, median islands, sign posts, and street lights in the drawing. AutoTURN also includes the ability to recreate an existing simulation accounting for any changes to the obstacles that interact with the vehicle's envelope.

VISUALIZATION ENHANCEMENTS

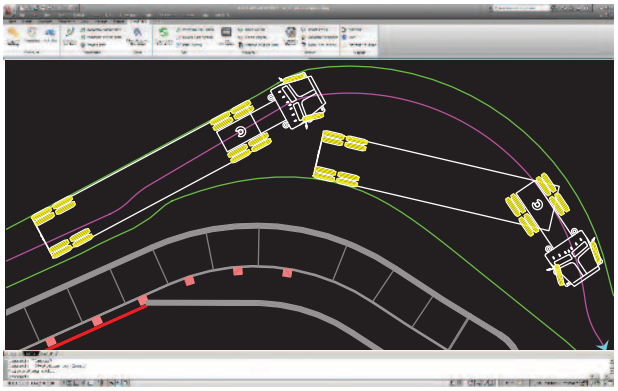
Modify default vehicle box shapes with your own dimensions for filleted or chamfered corners. Apply realistic vehicle plan view details for simulation creation and animations. Control simulation playback through the new Run Animation feature, plus use Transoft Solutions **InVision** Data to now easily pick and choose the vehicle simulations in your drawing you want for presentation.



›› Add a better perspective of visualization. Use realistic plan views of vehicles and modify colors, line types, and hatching of vehicle bodies and travel paths.

ADVANCED VEHICLE SIMULATIONS

Use **SmartPath** tools technology for performing vehicle maneuvers and swept paths to simulate realistic vehicle movements in tight turning conditions. Supply basic parameters and the intuitive **hunting** concept prevents your vehicle (and any trailing unit) from encroaching on curbs, medians, sidewalks, and other vehicles.



›› Eliminate the need for judgmental oversteering. Speed-based oversteer options gives realistic representations of how vehicles maneuver in tight conditions.

THE WORLD'S MOST WIDELY USED VEHICLE TURN SIMULATION SOFTWARE

AutoTURN is the latest technology for vehicle swept path analysis and modeling. Simulating forward and reverse vehicle turn maneuvers is now quick and easy due to the **four SmartPath Tools interactive drive modes** that incorporate speed, superelevation, lateral friction, and turn radius algorithms.

›› GENERATE ARC PATH

Quickly and easily create turn simulations, such as through roundabouts, by dragging your mouse and clicking from point to point.

›› GENERATE CORNER PATH

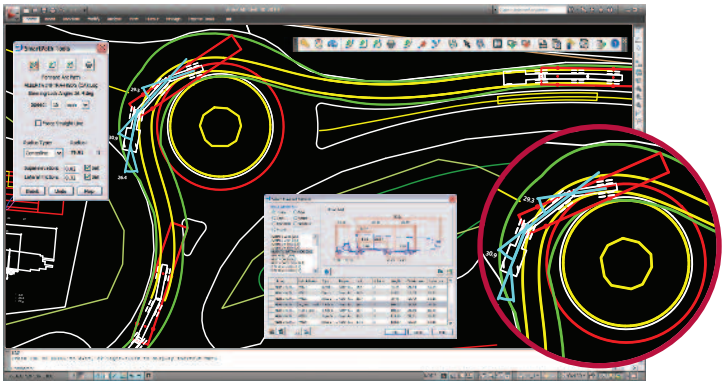
Produce simulations using an entrance and exit tangent with the option of setting a vehicle's speed and radius – ideal for designing intersections.

›› GENERATE OVERSTEER CORNER

Offers a realistic representation of how a vehicle negotiates tight turning conditions; particularly useful for multi-part, articulated vehicles.

›› STEER A PATH

For areas with limited maneuvering space, you can freely drive a vehicle at speed by moving the mouse in the desired direction.



ASSESS VEHICLE MANEUVERS EASILY

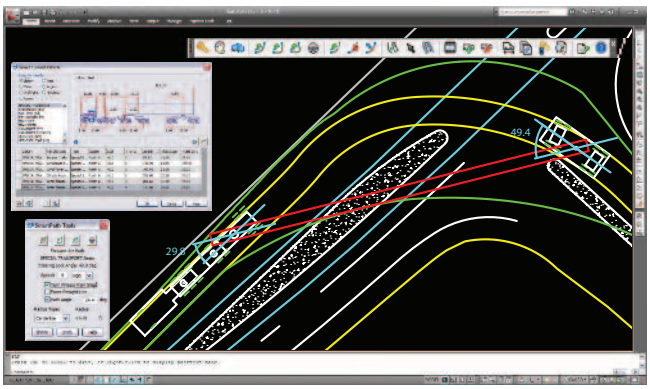
Carry out multiple turning simulations using different vehicles and configurations to see if they can be accommodated by your designs. Even complex turning situations (roundabouts) are quickly and easily evaluated using powerful features like the **Generate Oversteer Corner** tool.

Other advanced options, like the ability to set steering linkage ratios between the front and rear axle groups of multi-part vehicles, provide a more realistic representation of how a vehicle would handle tight turning situations - very useful when generating articulated bus and truck movements.

‹‹ Evaluate different vehicle turning scenarios for complex roadway geometry.

SPECIALIZED TRANSPORTATION SYSTEMS

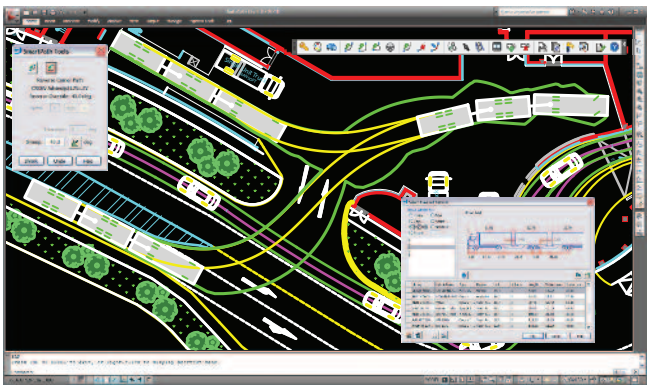
Large scaled construction and sustainability (e.g. wind farms) projects are increasing meaning a growing number of oversized and more complex vehicles navigating roadways. AutoTURN now supports these specialized transportation systems with new vehicle types including wind tower trailer, wind blade trailer, beam transporters, booster trailer, and 19-axle heavy haul.



›› Check the drive path of large, complex vehicles carrying cargo to prevent damage to the load or surrounding structures.

MODEL REAL WORLD SITUATIONS

You're in the driver's seat when managing design challenges. Use the combined functionality of the **SmartPath** tools in a single simulation to model vehicle movements for site planning. Negotiate tight turns for entrances and aisle ways. Use the **Select Sweep** tool to set vehicle alignment to existing CAD geometry for carrying reverse maneuvers for vehicles to a **maximum of 3 parts**.



›› Powerful features make vehicle reverse maneuvers easier than ever. Hatch vehicle body envelopes and swept paths to check for clearances.

DESIGNS AHEAD OF THE CURVE

AUTOTURN® Version 8.0

TURN SIMULATIONS AND SWEPT PATH ANALYSIS

- Place adaptive vehicle simulations on either centered or offset left/right with a smooth transitions option on user-drawn paths made from lines, arcs, polylines, complex chains and even AutoCAD® Civil 3D® alignments
- Link adaptive simulation to path geometry allowing for grip-edits
- Conflict analysis feature provides feedback on vehicle path obstructions
- Use the Regenerate Simulation feature on simulations to account for conflicts that occur after obstacles have been added, removed, or modified
- **SmartPath** tools for forward and reverse vehicle turn simulations in one continuous motion
- Perform 3-part vehicle reverse maneuvers to any vector
- Generate arc, oversteer, offset, and reverse corner simulations
- Force a straight line simulation for a vehicle traveling along an arc path
- Generate vehicle swept path envelopes from user-defined vehicle shapes with chamfered corners or filleted radii
- Define and hatch either the vehicle body or the vehicle's outer swept path envelope during a turn simulation
- Track vehicle body clearances with user-defined parameters

SPECIALIZED TRANSPORTATION SYSTEMS

- Override Angle for Special Transport is now independent of directional change in the articulating point for the trailer
- Create and simulate vehicles with independent rear steering systems (including crab steering for supported types)
- Ability to numerically input or use the mouse wheel to dynamically control the independent rear steering angle for specialized vehicles
- Create and simulate vehicles with telescoping trailers
- Draw cargo for a vehicle simulation and combine the cargo envelope with the vehicle body envelope
- Define cargo size and set limiting factors for vehicle configuration

PRESENTATION CAPABILITIES

- Control simulation playback (play, pause, high-speed scrubbing) through the Run Animation Dialog Box
- Use realistic vehicles plan profiles for simulations and animations
- Manage vehicle animations with Transoft Solutions' presentation software, **InVision**, to create timed and sequenced events. Export files to video formats for PC viewing

VEHICLE CUSTOMIZATION

- Apply user-defined vehicle dimensions and profiles
- Create vehicles or types for specialized transportation (e.g. rear steering)
- Commonly-used types include: fire trucks, fire engine pumpers, ambulances, garbage collection, semi-trailers, buses (articulated and double articulated), sport utility, pickup, and forklifts
- Add user-defined vehicles and types to the library database
- Work with **AutoTURN Extended Vehicle Libraries** add-on content

POWERFUL DESIGN ABILITIES

- Set steering linkage ratios for ranges of steering angles between front and back wheels for multi-axle semi-trailers, trucks and articulated buses
- Specify tire sizing (width and diameter) and space between the tires on the same axle for a vehicle
- Choose track width for axle groups independently within a given part
- Place, remove, or recall vehicles, active simulations, and active pathways
- Modify and edit drawn simulations using **Path Control**
- Add conical lines of sight to check mirror views, blind spots and headlight paths
- Create standard or custom turning templates using template generator

DESIGN AND LIBRARY DISPLAY

- Real-time display for vehicle turn radius at the current speed during design or editing
- Vehicle library in database format with syncing of shared custom content
- View and sort library to show by region, type, number of parts, class, and vehicle characteristics

VEHICLE LIBRARIES

- Includes national design vehicle libraries for: US (AASHTO, Caltrans), Canada (TAC), Australia (Austroads), UK, France, Germany, Italy, Netherlands, Austria, Norway, Sweden, Switzerland, Czech, Denmark, and New Zealand
- Updated vehicle libraries: Florida, Alberta, Netherlands, Sweden
- Use specialized vehicle types including: Wind Tower Trailer; Wind Blade Trailer; Beam Transporter I and II; Booster Trailer; 19-axel Heavy Hauler
- Other vehicle libraries: Architectural and Transoft Solutions' Realistic Type

REPORTING FEATURES

- Generate turn simulation reports showing vehicle speed, path lengths, and start conditions at each section of the simulation
- View graph report of a vehicle's steering angle and multi-part vehicle's articulation angles when generating or placing a simulation
- View override/path angle for independent rear steering vehicles
- Data can be exported to spreadsheets and standard document formats

COMPATIBILITY

- AutoCAD® 2007 – 2012 series of products (except AutoCAD LT)
- MicroStation® V8.1, V8.5, V8 XM, V8i
- Full support for 32 and 64-bit operating systems
- System requirements:
  Workstation: Windows® XP, Vista, Windows® 7
  Network: Windows® Server 2000, 2003, 2008

For more information on AutoTURN visit our website at
www.transoftsolutions.com

Transoft solutions

AUTOTURN® Version 8.0

TRUSTED IN OVER 120 COUNTRIES AROUND THE WORLD

"Every time that I design a road and when it requires having the best design possible, AutoTURN is always one of my tools."
John Kocan, SNC-Lavalin, Canada

"I was impressed with the new features and asked several people to watch me demonstrate some commands on their sites. Everyone was impressed."
Kimley Horn, USA

"AutoTURN is the best model we are aware of to determine the off tracking characteristics of vehicles on turns of various radii and central angles."
CALTRANS, California, USA

"The ability to construct paths by moving the vehicle (SmartPath "Generate Path" Tool) was most useful to me and it worked well. This tool is intuitive in use and I believe will allow me to do the same work faster."
Louisiana DOT, USA

"We have successfully demonstrated design validity using AutoTURN on more than a dozen recent projects. Clients have consistently commented that they can understand our design solutions quickly and they have approved designs in shorter time frames."
Gary Finley, UTI Inc, USA

WHY USE AUTOTURN?

SAVE TIME. SAVE MONEY.
AutoTURN lets you evaluate vehicle accessibility options in minutes. And less time spent = lower project costs.

MORE TIME FOR DESIGN
AutoTURN's 'heads up' design method together with its intuitive features means you're working much more efficiently.

KEEP PRODUCTIVITY SPINNING
One-click vehicle placement and path editing capabilities make updating changes to a simulation much faster.

GET YOUR POINT ACROSS
Demonstrate visually how your designs will meet project requirements for quicker client approvals.

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