

# The most comprehensive solution for roundabout design & analysis

TORUS™ helps build roundabouts smarter, more efficiently, and with fewer errors. Reduce the amount of time spent developing roundabout designs during the conceptual, feasibility, preliminary, and detailed design stages. Focus on engineering designs and be more productive by reducing manual calculations, repetitions, and iterations. Make informed design decisions with integrated analysis feedback like fastest path and sight line checking.



TORUS 6.0 reduces the amount of time spent developing roundabout design drawings and plans. The software provides a comprehensive solution that allows users to produce circular and non-circular roundabout geometry that incorporates speed, design vehicles, and sight distance checks. Dynamic editing and immediate feedback give engineers the ability to create accurate roundabout designs without having to be a master CAD drafter.



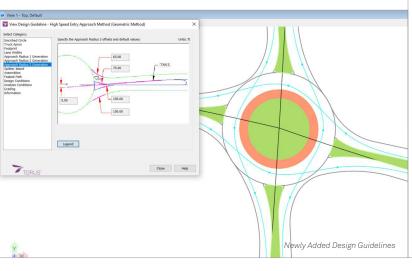
# **NEW FOR TORUS 6.0**

- Take your roundabout to the next level by easily creating a 3D model with a surface and tie back to your existing ground surface with ease
- Efficiently design circular and non-circular roundabouts to address special constraints such as right of way, utilities and other infrastructure
- Add assemblies onto your roundabout design to better visualize your final design (shoulder, boulevard, sidewalk, curb and gutter)
- Easily generate the High Speed Approach design methodology as preferred by many DOTs

# THE COMPLETE ROUNDABOUT SOLUTION FOR PLANNING AND DESIGNING



# FEATURES





## **Design Guidelines and Standards**

- The software supports TAC 2017- Canadian Roundabout Design Guide and NCHRP Report 672.
- Designing mini-roundabouts.
- Get notified on potential design errors and inconsistencies. Parameters are based on a set range determined by the user.
- Create new roundabout design guidelines and edit, rename, or delete existing ones.

# **Analysis Tools**

- Add, view, edit, and delete AutoTURN vehicle movements from a roundabout to determine vehicle movements specified in the current design guidelines.
- Simulate vehicle movement within the roundabout CAD drawing.
- TORUS approximates the fastest paths and calculates speeds, providing powerful feedback to control speeds and evaluate consistency and safety.
- Generate various sight lines like approaches to crosswalks, yield lines, circulatory lanes, and more.
- Analyze Path Overlap to determine if the natural paths of vehicles in adjacent lanes might overlap.

#### **Geometric Design**

- Vehicle Envelope Method is used to generate roundabouts and mini-roundabouts based on vehicle movement.
- Select region-specific roundabout templates to create their design.
- Editing tools for design parameters will instantly update your roundabout design and reports.
- Grips/Handles allow designers to quickly edit the reference alignment of an approach leg including vehicle entry deflection.

- Detect and analyze vehicle path overlap, TORUS offers multiple radius entries at roundabout entrances.
- TORUS allows you to save, recall, and display multiple design iterations for review and comparison.
- The Refined Edge tool can draw lines and arcs, which can be fine-tuned to closely represent the final edges.
- The Adaptive Roundabouts tool performs vehicle path and fastest path checks on manually drawn roundabouts in CAD (eg. circular and non-circular).
- Generate Turbo Roundabouts that have key geometric elements dictated by the design vehicle swept path envelope.

## **Grading Design**

- Edit the vertical profile to ensure approach roads enter and exit the roundabout at matching existing grades.
- Grade the central regions either from the exterior (Inscribed Circle Diameter) to the interior (Central Island) or from the interior to the exterior.
- Generate Autodesk® AutoCAD® Civil 3D® surfaces and alignments from your TORUS design.



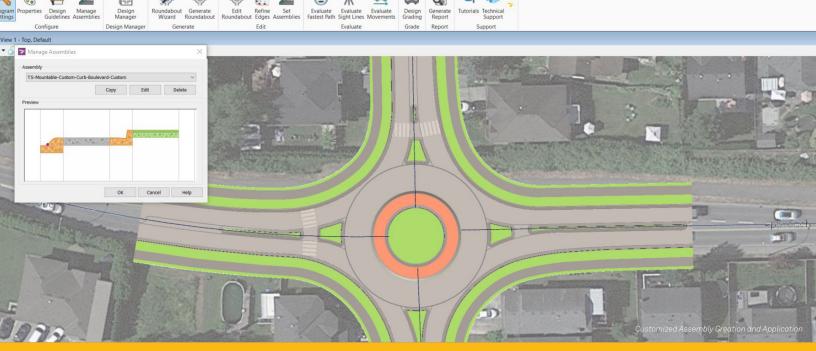
# Reporting: Reports can be added into a CAD drawing or exported to text format files

- Generate area reports to review the total area of space taken up by a new roundabout site plan.
  Different sections of a roundabout can be reported on such as footprint, roundabout, inscribed circle, central island circulatory roadway, truck apron, and splitter island envelope.
- Create and insert the Fastest Path analysis, Curve tables, and Summary Reports with all design information.

# COMPATIBILITY

CAD Platform Compatibility (Only 64 bit, except Bentley V8i series):

- Autodesk® AutoCAD® 2015 2021 (except AutoCAD LT)
- Autodesk® Civil 3D® 2015 2020 alignments
- Bentley® MicroStation® V8i (SS4 and up), CONNECT® (Update 12 and up)
- Bentley® OpenRoads Designer CONNECT
- Minimum AutoTURN 10.2.3 or AutoTURN Pro 10.2.3 (sold separately) installed on the same workstation



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