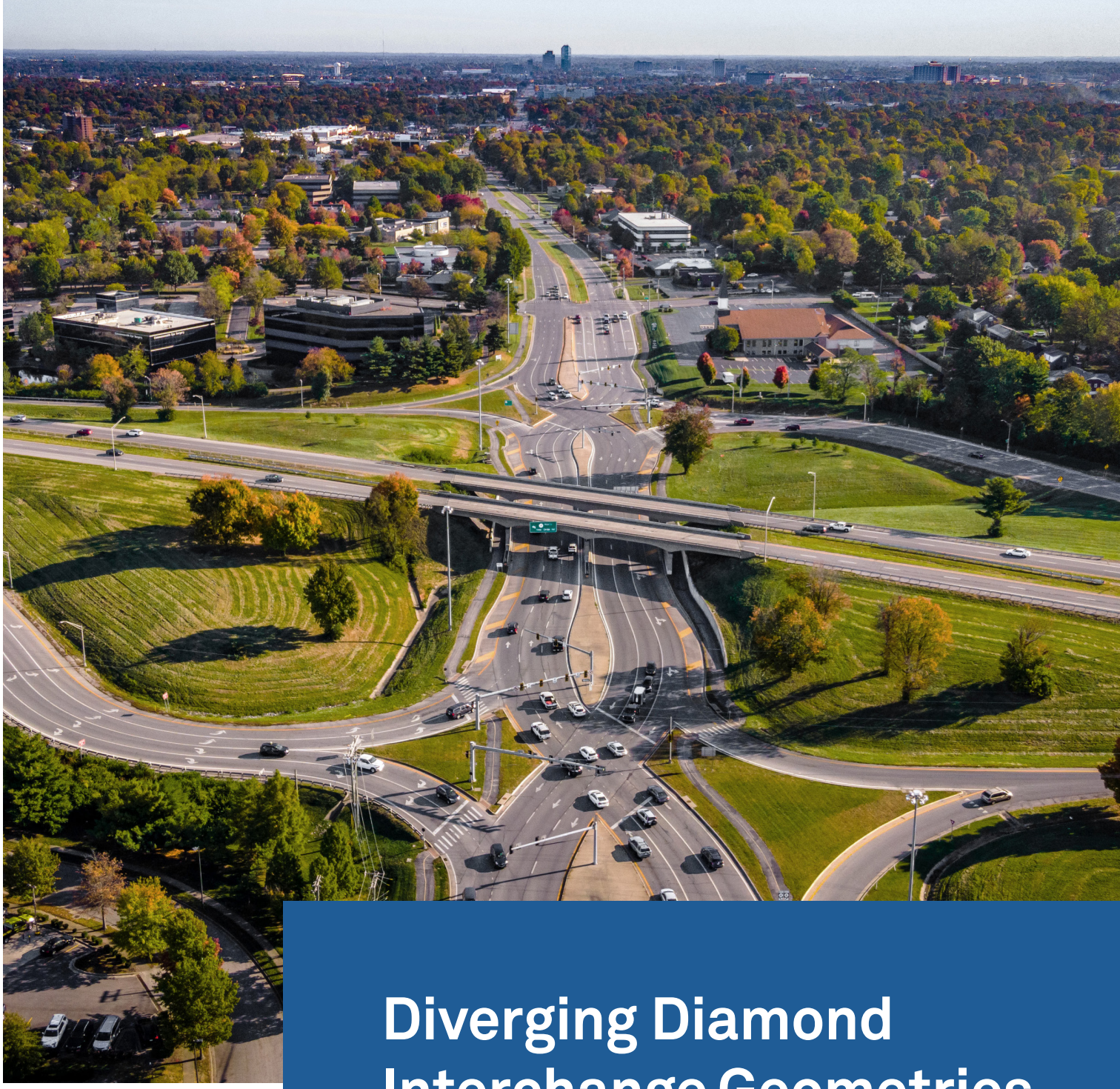


Diverging Diamond Interchange Geometries

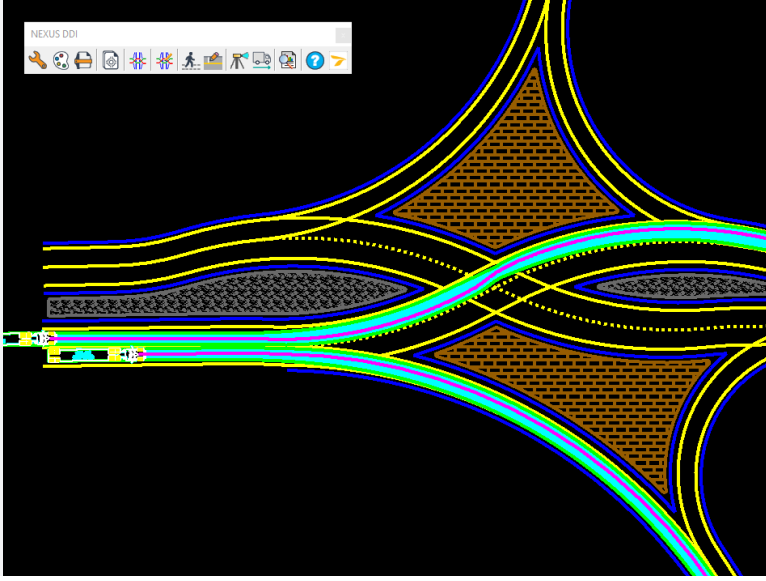
Intuitive geometric design workflow

TRANSOFT SOLUTIONS

NEXUS DDI

Diverging Diamond Interchanges (DDI) are more and more being considered as a viable alternative to traditional interchanges due to their capacity to manage high traffic volumes, reduce congestion and accommodate safer left-hand turns.

The DDI design process is generally iterative and involves balancing competing factors such as cost, performance, and safety. Typically, design iterations rely on manual calculations and evaluations of the proposed DDI layout. With each revision on the geometry due to right-of-way constraints, design vehicle accommodation issues, sight line checks or eyebrow configuration, the layout would be required to be manually regenerated and reevaluated.



Quickly create and edit DDI geometries

Nexus® DDI minimizes complicated iteration cycles in the design process and lets you focus on engineering designs by eliminating taxing calculations, repetitions, and iterations.

It enables you to easily produce DDI geometry based on site-specific constraints, design guidelines, lane configuration, design speed and vehicles.

Instant conformity notifications

With Transoft's distinctive approach to dynamic feedback, you can streamline your design process by designing and editing the geometry while balancing guidelines, safety, and operation.

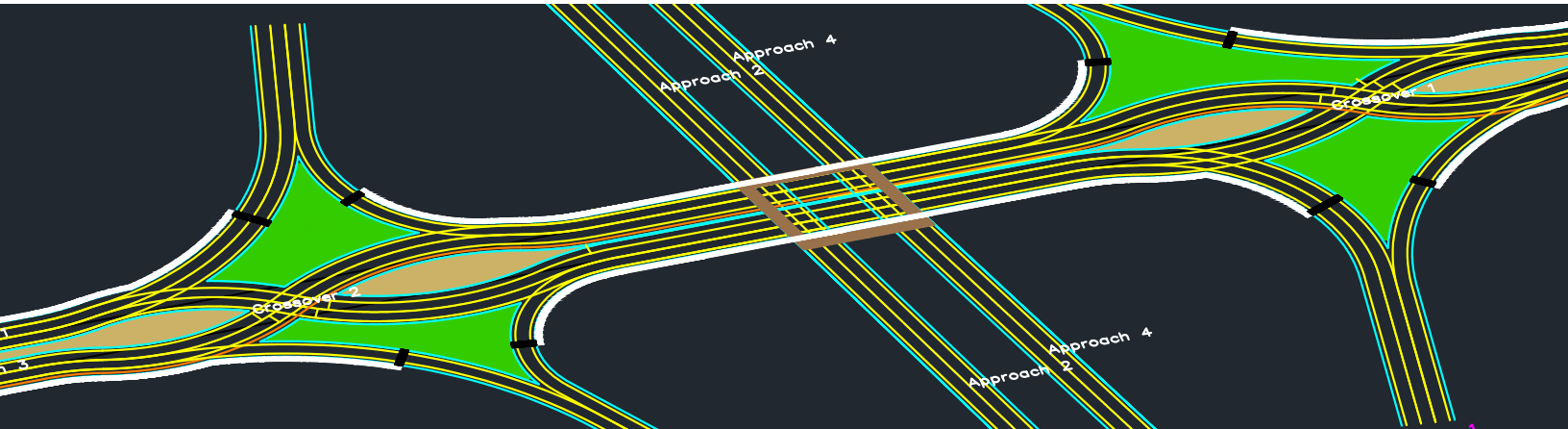
Nexus DDI lets you adjust your design on the fly and provides instant notifications advising you if you're staying within design guidelines or on any potential design errors and inconsistencies.

Utilize the straight-forward design workflow

The intuitive workflow makes NEXUS DDI easy to use, with minimal training required. Start with your Design Guidelines where you define the governing geometric aspects of the DDI. Even if you are modifying them during the design process, the geometry will be automatically updated.

Input your required lanes for your ramps and crossroads, change the width of your lanes, add pedestrian and bicycle facilities and the footprint of your DDI is created and placed.

Modify geometric elements, such as crossover angles and tangent lengths, as well as, offset and shift alignments, at any time. Your design is instantly updated and evaluated.



Evaluate design geometry in real time

NEXUS DDI makes it easy to assess and obtain real-time feedback of the geometric parameters of your design, using a variety of proprietary evaluation tools.
Our powerful tool “Evaluate Movements” helps you visualize the effect of the design vehicle movements on the DDI geometry – no second guessing if your delivery truck can make the turn safely without encroaching into other lanes.

With Evaluate Sight Lines you can make certain that objects are not placed in areas where it could impact the driver, so that he has enough distance and time to perceive and safely react to pedestrians for example.

Reduce geometric design iteration cycles

Be more productive using parametric drafting and dynamic design modeling. You can rapidly generate multiple DDI iterations in less time than manually creating and editing using CAD tools.

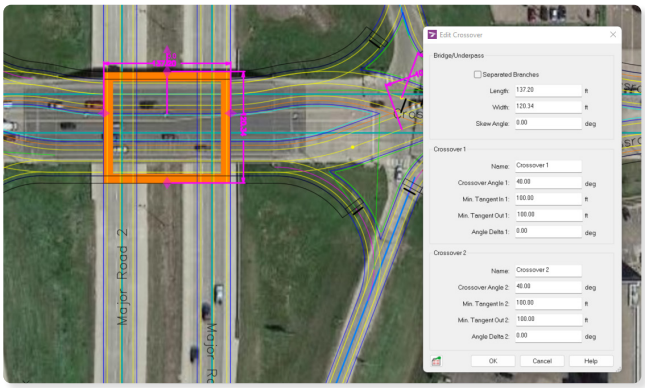
Now, the less experienced designers will gain the knowledge and confidence required to start designing more complex DDI’s.

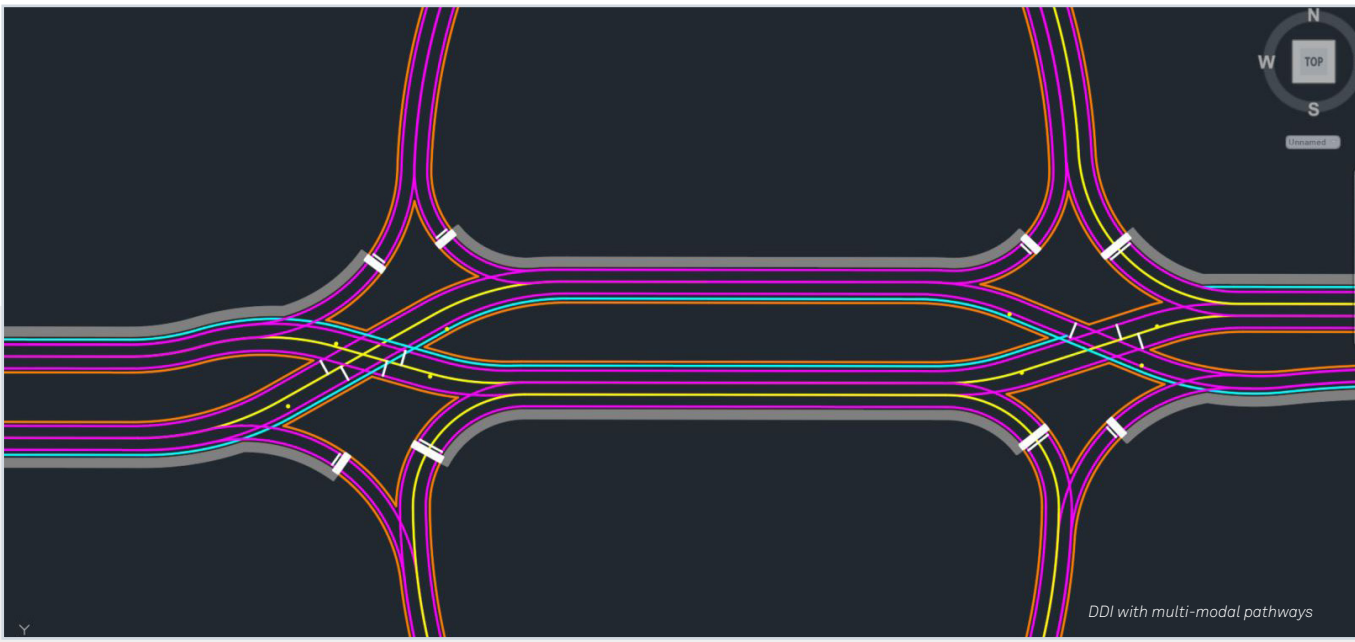
Easy to learn and intuitive to use, NEXUS DDI Designers of all skill levels and experience will find NEXUS DDI to be an instantly invaluable tool during proposal, conceptual and preliminary design stages.

Be on the safe site

With our Eyebrow and Median Check you can be assured that your median and islands have the right shape and are at the right location so that they will discourage wrong-way movements.

Furthermore, determine the requirement for and the placement of glare screens to prevent vehicle headlights from obscuring drivers’ ability to see the road with the Glare Screen Check.





DDI with multi-modal pathways

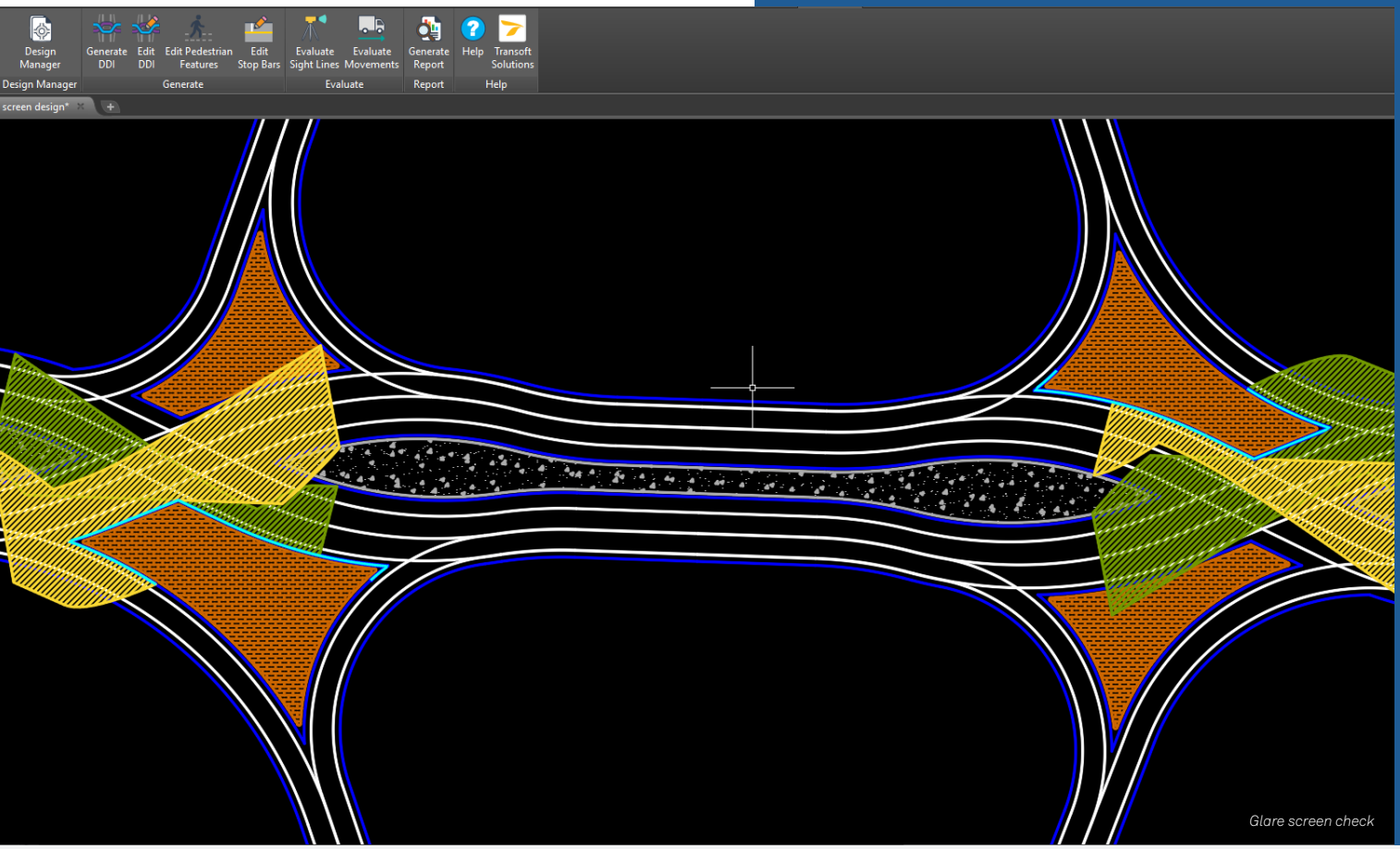
Platform Requirements

CAD Platform Compatibility:

- Autodesk® AutoCAD® 2017 – 2024 (except AutoCAD LT)
- Autodesk® AutoCAD® Civil 3D® 2017 – 2024
- Bentley® MicroStation® CONNECT®
- Bentley® OpenRoads Designer CONNECT

System Requirements

Full support for 64-bit operating systems
Workstation: Windows® 10, 11



Glare screen check

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