



Ideally suited for:

**Training**

- Novice / Advanced Drivers
- Car and Heavy-Truck Platforms

**Visualization**

- Roadway design / review
- Community outreach

**Research**

- **Distraction**  
Distraction, drowsiness and fatigue, drugs and alcohol, medical conditions
- **Impairment**  
Sleep, vision, pharmaceutical
- **Clinical**
- **Cognition and Perception**
- **Human Factors**
- **Advanced Vehicle Safety Systems**
- **Intelligent Transportation Systems (ITS)**

The NADS MiniSim™ is a portable high-performance driving simulator designed for research, development, clinical and training applications.

The MiniSim is flexible and excellent for smaller, portable simulators while still retaining the power that researchers demand:

- Common configurations include Quarter-Cab or Desktop. Custom configurations available
- **Multiple Display Support:** 1, 3, 5
- **Adjustable** viewports accommodate any size display or projector
- **Realistic Vehicle Dynamics:** sedans, SUVs, truck with ESC, ABS, and ACC subsystems.
- Sophisticated **Scenario Authoring** through a graphical windows interface (no scripting is required)
- Comprehensive Data Acquisition puts hundreds of variables at your fingertips.
- **Automatic Measures Computation** gives you common measures instantly
- Weather and Time of Day adjustable
- **Hundreds** of scenario objects included (cars, objects, signs, etc.)
- **Optional Subsystems** include Video Capture and support for Seeing Machines FaceLAB™ and Smart Eye™ Eye-Tracking Systems

Desktop MiniSim



Quarter-Cab MiniSim



**Automatic Measures Computation**

The MiniSim calculates measures for display instantly after every drive. The measures can be reported for the entire drive, or for up to 20 'epochs' or 'events' during the drive. The user defines the start and end locations of each event in ISAT. The measures include:

- |                                    |                           |
|------------------------------------|---------------------------|
| Collision Count                    | Lane Departure Count      |
| Maximum Speed Lane                 | Lane Departure Percentage |
| Minimum Speed                      | Speeding Count            |
| Average Speed                      | Speeding Percentage       |
| Std Dev of Speed                   | Average Headway           |
| Std Dev of Lateral Position (SDLP) |                           |



## Compelling Visuals

The MiniSim features the same virtual environments that have been developed and used in the more advanced NADS-1 and NADS-2 simulators.

The driving environments feature urban, suburban, rural and interstate/highway driving areas.

All roads have been designed to meet applicable road construction standards complete with signs and traffic lights. The environments feature a variety of controlled and uncontrolled intersections including 3-ways, 4-ways, round-abouts and several highway interchanges.

Non-US based driving environments are available.



## Customize It!

We love a challenge! Be it a mobile simulator, a custom driving environment, or integration with other hardware, just let us know.

Previous customizations include:

- 100's of miles of geo-typical roads
- Scenario Models (bike, message signs, rail crossing, etc)
- Active Safety Subsystems
- Custom Cabs
- Ownship Models
- User Interfaces

## Data Acquisition

The MiniSim acquires hundreds of variables that can be analyzed postdrive. They represent comprehensive data on the driver inputs, vehicle information, and scenario information. A selection includes:

### Driver Inputs:

Wheel Angle	Response Buttons
Pedal Position	Turn Signals

### Vehicle Information:

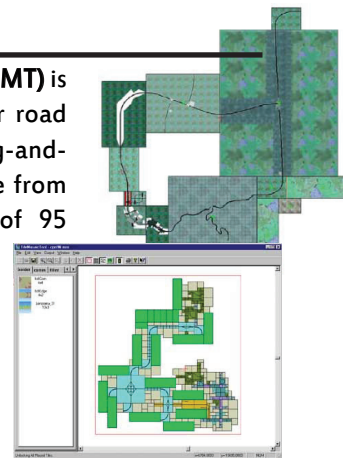
Speed	Tire Contact
Lat. Acceleration	Tire Slip / Spin
Long. Acceleration	RPM
Lane Deviation	Heading

### Scenario Variables:

Collision and Object ID  
Lead Vehicle Information  
Object Location and Headings

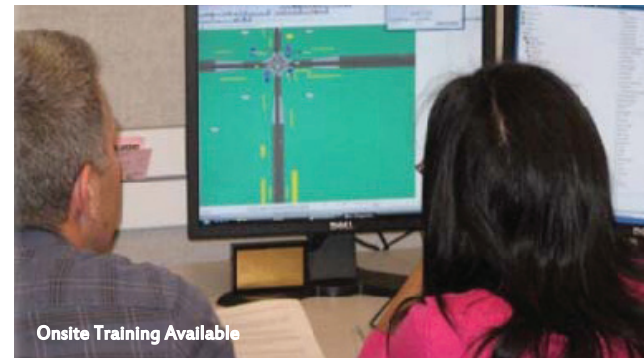
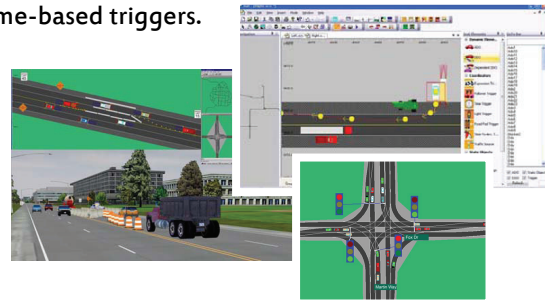
## TMT

The **Tile Mosaic Tool (TMT)** is used to assemble your road network using the drag-and-drop interface. Choose from the included library of 95 tiles, or use and of the 6 included assembled databases.



## ISAT

The **Interactive Scenario Authoring Tool (ISAT)** is used to create your scenarios. It offers sophisticated control for traffic and traffic control devices, and event triggering via positional, conditional, and time-based triggers.



Onsite Training Available



Our partner organizations using the MiniSim™ provide an excellent source for collaborative and multi-site research.

