# Trimble Access Software: Trimble and LandXML Roads

#### **Key Features**

Streamlined workflow

The most powerful road stakeout software on the market

Customizable staked delta reporting

Fully customizable outputs and reports





Learn more at: http://apps.trimbleaccess.com

# Finish Roading Jobs Fast

#### **Streamlined Workflow**

The streamlined workflow for Trimble<sup>®</sup> Access<sup>™</sup> Roads adds powerful tools to simplify road stakeout. The step-by-step approach guides you with minimal training, providing all the tools at your fingertips to complete a road stakeout project. All the other nonroad stakeout functionality is also easily accessible from General Survey—if you need it.

#### **Define Your Road**

Upload a Trimble Road (RXL), or LandXML road definition, from Trimble Business Center software or third-party applications. You can also upload a Trimble Road via Trimble Link software from a number of third-party applications including; AutoCAD<sup>®</sup> LandDesktop, AutoCAD<sup>®</sup> Civil 3D<sup>®</sup>, Bentley<sup>®</sup> Inroads<sup>®</sup> and Bentley<sup>®</sup> GEOPAK<sup>®</sup>. Uploaded LandXML roads can be reviewed and edited and saved as a Trimble Road.

Key in, from construction plans, or edit, a road definition including horizontal and vertical alignments, templates, superelevation and widening records and station equations. Alternatively define the horizontal alignment for the road from the map by selecting points, lines or arcs or by selecting line work in DXF, SHP or LandXML files.

The graphical interface allows you to easily check the road design before you start staking. And if you are using a supported Tablet, check your road in 3D including relative to secondary roads.

#### Stakeout Road

The powerful graphical selection screen provides an intuitive workflow. Construction offsets, slope staking, and real-time in-the-field redesign allow fast and easy stakeout with confidence.

Precise elevation road stakeout allows you to perform dual measurements with a robotic total station and GNSS receiver at the same time using the GNSS receiver for easy horizontal control, and the robotic instrument to improve the vertical precision.

### **Output and Reports**

Generate customized reports for surveyed road data on the controller while in the field.

Use these reports to check data in the field, or to transfer from the field to your client or to the office for further processing with the office software.

## Designed for Demanding Customer Requirements

Trimble Access Roads is the ideal application for the construction surveyor who stakes Trimble and LandXML roads, and requires:

- Flexible software
- An extensive range of powerful stakeout routines
- Easy-to-use road stakeout software that you can learn to be productive with after just a few hours of use



# Define the Road

Feature	Details	Feature
Horizontal Alignment	<ul> <li>Length / Coordinates: <ul> <li>Line elements</li> <li>Arc elements</li> <li>Entry transition/Exit transition elements</li> </ul> </li> <li>End station</li> <li>PI: <ul> <li>Curve types: <ul> <li>Circular</li> <li>Transition Arc Transition</li> <li>Transition Transition</li> </ul> </li> <li>Selection via the map from DXF or SHP file</li> </ul> </li> <li>Transition types: <ul> <li>Clothoid spiral</li> <li>Egg-shaped clothoid spiral</li> <li>Glots spiral</li> <li>Bloss spiral</li> <li>NSW cubic parabola</li> <li>Korean cubic parabola</li> </ul> </li> </ul>	Station Relative Relative
Vertical Alignment	<ul> <li>Vertical Points of Intersection:         <ul> <li>Point elements</li> <li>Circular arc elements</li> <li>Symmetric parabola elements</li> <li>Asymmetric parabola elements</li> </ul> </li> <li>Start and end points:         <ul> <li>Point elements</li> <li>Circular arc elements</li> <li>Symmetric parabola elements</li> </ul> </li> </ul>	Side Slo Subgrad
Templates	<ul> <li>Strings defined by:</li> <li>Cross slope and offset</li> <li>Delta elevation and offset</li> <li>Side slope</li> <li>Superelevation rollover</li> </ul>	Additio Constru
Template Positions	<ul> <li>User-defined</li> <li>None</li> <li>Interpolate: <ul> <li>By elevation</li> <li>By cross slope</li> </ul> </li> </ul>	
Superelevation and Widening	<ul> <li>Pivot</li> <li>Left</li> <li>Crown</li> <li>Right</li> </ul>	Cross S
Station Equations	Increasing and decreasing equations	
Review	<ul> <li>Graphically including browsing:</li> <li>– Plan</li> </ul>	
	<ul> <li>Cross section</li> <li>3D (supported Tablets only)</li> </ul>	As-stak
	<ul> <li>Drive through</li> <li>Relative to other (secondary) roads</li> <li>Reporting</li> </ul>	Precise

## Survey the Road

Feature	Details
Station on String	<ul> <li>Provides left/right as well as delta station navigation deltas to a selected station on string. Includes side slope staking – also known as batter setout. Supports:         <ul> <li>Storage of both the catch and construction offset if required</li> <li>Editing of the elevation</li> <li>Editing of the side slope during stakeout by modifying the slope values or the hinge position</li> </ul> </li> </ul>
Relative to Road	• Reports the station and offset of your current position relative to the alignment and the cut/ fill relative to the road surface
Relative to String	<ul> <li>Provides left/right delta navigation to the string and reports current station. Stake relative to:         <ul> <li>Selected string</li> <li>Nearest string – 'Lazy stakeout' – no need to select a station or string</li> </ul> </li> </ul>
Side Slope from Alignment	<ul> <li>Stake a side slope when you only have a horizontal and/or vertical alignment. The hinge for the side slope can be defined three ways relative to the alignment:         <ul> <li>Offset and elevation</li> <li>Offset and slope</li> <li>Offset and vertical distance</li> </ul> </li> </ul>
Subgrade	<ul> <li>Stake a subgrade surface defined parallel to and offset from a line between two strings</li> </ul>
Additional points	• Stake positions keyed in or imported from a CSV file relative to a road
Construction Offsets	<ul> <li>Horizontal offsets can be applied: <ul> <li>Horizontal</li> <li>At the slope of the line from the previous string to the current string in the cross section</li> <li>At the slope of the line from the current string to the next string in the cross section</li> <li>At your current position (Calculated)</li> </ul> </li> <li>Vertical offsets can be applied: <ul> <li>Vertically</li> <li>Perpendicular to the line in the cross section before the string being staked</li> </ul> </li> </ul>
Cross Slope	<ul> <li>Markup on one stake the cut/fill delta for both the left and right projected carriageway/travel way in a single operation</li> <li>Use to check construction</li> </ul>
As-staked Reporting	Customizable reporting of stakeout deltas
Precise Elevation	<ul> <li>In an integrated survey this provides:         <ul> <li>Horizontal navigation using GNSS and elevation navigation using a robotic total station</li> <li>Dual measurement from both sensors at the same time</li> <li>A GNSS position plus total station position are stored, as well as a combined position</li> </ul> </li> </ul>
Reports	<ul> <li>Fully customizable reporting of the surveyed road, including cut-sheet reports – sometimes known as conformance reports</li> </ul>

For information on GENIO roads see the GENIO Roads Techsheet.

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