

Dynamic Multi-directional 3D Scanning

Adoption of the latest laser scanning technologies continues to extend across a number of the civil industry and transportation sectors. By working directly with facility owners, or working hand-in-hand as a sub-consultant for architectural, engineering and survey firms. Terrametrix provides highly accurate as-built documentation to an accuracy range within a tenth of a foot using our high definition laser scanning system.

Freeway construction work zones create added dangers for both traffic and work activity. Work zones not only lead to traffic conditions that violate motorists' expectations but also expose surveys dangerously close to the fast moving vehicles. Such a work zone situations are challenging one of the main objectives of the traffic management system which is to provide safe and efficient movement of traffic. While traffic engineers look for ways to decrease traffic incidents they also search for methods to increase efficiency in the schedule. A way to accelerate the schedule and construction is to accelerate the documentation of the data used for planning.



Tarmacs
Runways
Taxiways
Clearances
Streetscapes
Bridge Heights
Forensic Analysis
Road Cut /Fill Balance
Historical Recordation
Transportation Signage
Construction Monitoring
Historical Documentation



Scan vehicle has 4 scanners, up, down, left and right with video forward and back.

STREETMAPPER

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Terrametrix™

terrestrial lidar in motion

Survey at the desktop
at survey grade accuracy



www.terrametrix3d.com



Data collected in 45 minutes: a half-mile of a four-lane divided highway with bridge detail was collected and a complete MicroStation digital terrain model and topo was delivered in three days.

Benefits

NO Lane Closures

NO Traffic Interruptions

NO Workers In Traffic

Survey grade accuracy

Traditional Survey Costs

Eliminates lane closures

Reduces traffic disruption

Faster than traditional methods

Field personnel out of the RED ZONE

Virtual planning helps everyone understand the essence of the issue promoting collaboration and problem solving. 3D design technology offers many benefits.

Deliverables can be traditional topographic drawings or virtual 3D world data applications where data can be mined at the desktop as needed.

About Us...

Terramatrix, LLC was founded to meet the needs for safer more efficient roadway and streetscape documentation. Terramatrix President, Michael Frecks, PLS, has been a surveyor for 30 years and knows the perils of working in hazardous traffic conditions first hand. Since the introduction of this technology a decade ago, he has been instrumental to companies that produce 3D laser scanners around the world. His vast knowledge of scanner specifications; identifying software and hardware capabilities, how they interact with each other; beta testing of equipment and software; and his demand of high accuracy standards has advanced the evolution of acquiring as-built data documentation through 3D laser scanners.

Applications

Terramatrix's laser scanning services associated with our civil / transportation processes include:

- **Bridge Analysis**
 - Bridge Heights/Clearances
 - Identifies concrete spalling/pitting, water seepage
 - Forensic ID of rebar placement before pour
- **Road Analysis**
 - Complete surface contour capability (Digital Terrain Model)
 - Cross Slopes
 - Road crowning/rutting measurements
- **Transportation (other)**
 - Railroad and utility mapping and survey
 - Road cut and fill balance
 - Tunnel Survey and clearances
 - Transportation Signage
 - Airport runways, tarmacs, taxiways, inventory

Information extracted from civil 3D models produced could be any of the following:

- Road surface contours (Digital Terrain Model)
- Cross Slopes
- Intersection modeling
- Clearances & connection points
- Deformation monitoring
- Deviations
- Feasibility of construction
- Profiles, volumes & area calculations
- Ground movement monitoring
- Asset Inventory (signs, poles, etc;)