

StreetMapper Maps America



North American cities have been documented at speed using StreetMapper, using vehicle mounted laser scanners to capture highly detailed and accurate measurements at speed. The technique was developed and supplied to Terrametrix by UK based 3D Laser Mapping. Using StreetMapper Terrametrix completed a 3,690 mile, 6 city tour in just eight days, capturing highly accurate 3D models of urban highways, interstate, trolley routes and a prestigious international sporting venue and even taking part in a national competition to collect highway asset information.

Terrametrix started their tour in Kansas where StreetMapper was used to map 6.6 miles of urban interstate highways and ramps in just 2 hours. The collected data was used to produce a Digital Terrain Model (DTM) of the paved surfaces and comparison of the data with ground truth shots showed an RMS error of less than 0.06ft and cross sectional checks of 0.02ft or better

Terrametrix then proceeded to Cincinnati, Ohio where StreetMapper was used to scan a 3 mile trolley route, performing well in an urban canyon environment surrounded by tall buildings and tree canopy. The next stop on the tour was north of the border where StreetMapper showed its versatility scanning a prestigious international sporting venue at night. Returning south, a major urban interchange was mapped in Newark, NJ and 11 miles of urban four lane freeway and interstate were scanned in Washington, DC. This stretch had previously been surveyed using static laser scanning and StreetMapper data was used for comparison with these results.

“Like any other tool in the surveyors toolbox there is a time and a place to use a particular tool and StreetMapper is no different,” commented Michael R. Frecks, Terrametrix President. “There are multiple benefits of using the StreetMapper system on the right project; safety to the survey crew and travelling public and the speed of data acquisition make the system a ‘no brainer’ on typical traditional survey projects.”

In Raleigh, NC, Terrametrix was one of only 8 vendors to compete in a challenging 92 mile test track for highway asset and data collection. Terrametrix, using StreetMapper, focused on the bridge heights portion of the rodeo, capturing measurements for comparison with ground truth data collected manually by the North Carolina DOT (NCDOT) and North Carolina State University (NCSU). Steve Varnedoe, Chief Engineer at NCDOT, stated during the final comments of the conference “the most exciting application we have seen out of this conference has been capturing bridge heights while keeping our surveyors safe”.

StreetMapper is a result of a joint venture between 3D Laser Mapping, German guidance and navigation specialist IGI mbH and technology company Riegl. The system employs the latest laser scanning technology for improved field performance and accuracy, precision navigation including a solution for reduced GPS coverage in urban areas, combined with a flexible, modular configuration and increased ease of use and deployment.