

4.2.1

Exploring New Dimensions with Hawaii DOT's Linear Referencing System

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The Hawaii DOT vision involves leveraging the Linear Referencing System (MLRS) in progressive ways. During the last GIS-T we reviewed the varied steps involved with taking the Linear Referencing System from concept to production. Now we examine how we are taking this two-dimensional LRS foundation into the future. Current trends reveal that technology is moving in the direction of 3-D. We see this with the everyday use of field GPS units, LiDAR and even personal cell phones. As an Engineering-oriented organization the LRS should fully support 3-D, thus the decision was made to add the third dimension to all LRS-related objects.

This is a substantial modification to current workflows including the manner in which the data is captured and maintained. The immediate benefit realized is the ability to QC route alignments captured in the field to their LRS resident counterparts. In the short term, we expect to improve modeling and visualization of our route structure. Long term goals include integrating the LRS with the LiDAR-derived DTMs, and improved workflows using various HDOT products (GeoMedia, MicroStation, InRoads, etc.).