

### 5.2.3

#### Geolocating All Crashes on All Roads

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Crash Attribute and Reference Locator (CARL) is a set of customizable tools that extend the functionality and enhance existing features within GIS software to address the unique concerns and requirements with geolocating police reported vehicle crashes in the Commonwealth of Virginia. Project staff members use the Esri ArcGIS environment, crash record data from DMV's Traffic Records Electronic Data System (TREDS), three road centerline files, Virginia's E-911 composite locator, statewide high-resolution imagery and custom tools within CARL to interpret and analyze crash data, including diagrams and descriptions, to identify the most probable location of a crash as documented by the reporting police officer. The resulting data, which are pushed back to TREDS, include geospatial coordinates, standardized street names, linearly referenced data, and updated location attributes. Unlike the approach which "cleans" location information and auto-locate crashes, this process uses crash record information to find the approximate location and then staff members evaluate and locate the crash. For 2012, 99.99, or 123,441 of 123,576 crashes were located. On average, a trained staff member was able to process 18 crashes per hour.