



ADVANCED DRIVING ATTRIBUTES

MAP SUPPORT FOR DRIVING SAFETY AND EFFICIENCY

Automotive companies are developing the next generation of in-car systems intended to maximize safety and improve operating efficiency. TomTom supports Advanced Driver Assistance Systems (ADAS) and other applications with our Advanced Driving Attributes. These are ADAS compliant, and next generation, attributes that enable our customers to differentiate themselves with solutions that route and navigate drivers with safe and efficient guidance. These systems are compelling to consumers who are interested in protecting themselves and their families, while limiting their environmental impact and saving money.

Advanced map based applications, including ADAS, have traditionally been limited in functionality due to the high cost of data collection. With a variety of cost-effective sourcing technologies, TomTom can offer an array of attributes on a much larger selection of roadways than previously possible. We enable advanced map applications not just on major roads and in large metropolitan areas, but also on smaller roads where most serious accidents occur.

TomTom combines four different data collection techniques, using our proprietary methods, to create high quality advanced map based quality applications. For each attribute, we select the most accurate data source, and validate it with our other sources. Furthermore, we offer data quality attribution which provides developers the opportunity to design innovative services at different accuracy levels.

PRODUCT FEATURES AND CUSTOMER BENEFITS

FEATURES	BENEFITS
<p>Highly accurate data</p> <ul style="list-style-type: none"> • Multiple sources used to validate data • Gradient has quality ranges 	<ul style="list-style-type: none"> • Improves application performance • Allows customers to differentiate products based on level of quality
<p>Broad Coverage</p> <ul style="list-style-type: none"> • 41 countries 	<ul style="list-style-type: none"> • Facilitates product launches in multiple markets
<p>Multiple data sources</p> <ul style="list-style-type: none"> • Community input from trillions of anonymous GPS measurements • Satellite and aerial imagery • Mobile mapping vans and field analysts • Government and private sources 	<ul style="list-style-type: none"> • Increases freshness, accuracy and granularity of data • Ensures highest quality data by using the best aspects of each collection technology
<p>One global specification</p> <ul style="list-style-type: none"> • Develop tools once and deploy around the world 	<ul style="list-style-type: none"> • Enables quick time to market

END USER BENEFITS

Solutions using advanced driving data are designed to generate:

- Greater vehicle operating efficiency
- Increased safety
- Reduced fuel consumption saves money and minimizes environmental impact
- Enhanced driving comfort

MAJOR ATTRIBUTES

- Gradient
- Road curvature
- Indicator of Advanced Driving Attributes quality geometry*
- Lane markings*
- Posted speed limits*
- Lane count*

*Available in MultiNet® base map

SAMPLE APPLICATIONS

- Eco-routing
- Adaptive cruise control
- Energy management
- Headlight steering
- Road preview
- Curve warning
- Collision avoidance

QUARTERLY RELEASE FORMATS

- Shapefile
- Oracle Spatial
- GDF ASCII Relational
- GDF ASCII Sequential

COVERAGE

Region	Country	Region	Country	Region	Country
Americas	Canada	EMEA	Estonia	EMEA	Portugal
	Mexico		Finland		Romania
	Puerto Rico		France		Russia
	United States		Germany		San Marino
APAC	China	EMEA	Greece	EMEA	Slovakia
	Malaysia		Hungary		Slovenia
	Singapore		Ireland		South Africa
	Thailand		Italy		Spain
EMEA	Andorra	EMEA	Latvia	EMEA	Sweden
	Austria		Lithuania		Switzerland
	Belgium		Luxembourg		Turkey
	Bulgaria		Malta		Ukraine
	Croatia		Netherlands		United Kingdom
	Czech Republic		Norway		
	Denmark		Poland		

