HxGN SafeRoads

Roadway crash and safety analysis for traffic safety professionals

Government agencies are increasingly using data-driven approaches to make the right investment choices to improve roadway safety. In the past, decisions have been subjective. By analyzing crash data and other supporting information, agencies can determine problematic locations and better target improvements to those priority locations. The analysis is used to produce reports necessary for federal, state and local funding and to meet objectives of initiatives like Vision Zero and Toward Zero Deaths.

Although transportation agencies have the ability to perform elements of safety planning, the complete analysis is often not fully integrated with a consistent data model. This introduces inefficiencies and threatens the quality of the analysis and proposed improvements.

Hexagon provides a comprehensive roadway safety management solution that includes crash road data ingestion, safety analysis and reporting to reduce traffic fatalities and improve road safety. HxGN SafeRoads enables data-driven decision-making for agencies to target and rank safety improvements and report on project priorities.

Key features

Seamless fusion of crash and roadway data

- Seamlessly incorporate crash data directly from departments of public safety into smart enterprise-wide database fused with up-to-date road network and inventory data to generate accurate crash records

- Flexible data model uses an automated process with change management logic to import, validate and fuse crash, traffic, road network and inventory data and updates

- Database structure accommodates Model Inventory of Roadway Elements (MIRE) and Model Minimum Uniform Crash Criteria (MMUCC) requirements

- Integrates a map through all phases of the workflow for spatial context

Automated crash data cleansing

- Crash data cleansing validates and corrects crash locations or attributes

- Easily update the locations and attributes of crash records

- Track statistics such as crashes by county and new or unresolved crashes

- Configure base maps to provide more accurate spatial context for crash locations

Faster crash data searching

- Single database entry point

- Query module allows users to structure query to identify relevant crashes

- Filter by road section, intersection, chronology, spatial elements and attributes

- Queries can be saved, edited and reused

Robust analysis of at-risk locations

- Several network screening tools help identify at-risk locations

- Sliding Scale, based on cluster (of crashes) length, cluster tolerance and minimum number of crashes

- Homogeneous section or intersection, selecting criteria such as average daily traffic (ADT), functional classification or speed limit

- Results can include calculated attributes such as crash cost or rate

Analysis, countermeasure testing and priority ranking

- Supports predictive modeling of future crash rates

- Can utilize state-specific safety performance functions (SPFs)

- Cost-benefit calculations of potential countermeasures with associated crash modification factors (CMFs)

- Collision diagrams can be generated to help further diagnose contributing factors

- Additional tools supplement diagnosis of problematic locations

- Digital elevation models, imagery and LiDAR for true 3D digital reality diagnosis

- Straight-Line Diagrams and Image Viewer provide bird's-eye view of each location

Easy report generation for funding requests and transparency

- Easily generate basic reports or create ad hoc reports

- Create agency-specific templates to help communicate with stakeholders

- Prepare HSIP report for FHWA to aid funding requests

- Configure presentation dashboards with business intelligence (BI) charts and graphs for enterprise dissemination and transparency with stakeholders and the public

Key benefits

- Helps DOTs achieve Zero Fatality and Serious Injury goals

- Improves reliability of crash data and analysis with editing and validation checks

- Facilitates the production of reports necessary for federal, state and local funding and to meet objectives of initiatives like Vision Zero and Toward Zero Deaths

- Supports faster and more accurate preparation of HSIP through robust analysis

- Lowers deployment cost for safety analysis by using web-based interface

- Provides easier access to safety-related data for all stakeholders

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Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Geospatial division creates solutions that deliver a 5D smart digital reality with insight into what was, what is, what could be, what should be, and ultimately, what will be.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 21,000 employees in 50 countries and net sales of approximately 4.4bn USD. Learn more at hexagon.com and follow us @HexagonAB.