Improving roadway safety with an accident reduction application

Road traffic injuries are a major public health problem. Around the world, 1.35 million people die and 50 million people are seriously injured in road crashes each year, according to the World Health Organization.

The accident reduction application from Hexagon and Fujitsu provides planners and engineers with the insights needed to reduce traffic crashes, fatalities and injuries through improved road design, education and enforcement.

Visualization

The accident reduction application can ingest source data and integrate with incident record systems. Traffic crashes are represented by clusters on a map. Attributes, including accident type, traffic volume, day of the week and time of day, are displayed in charts.

By visualizing the crashes and other supporting data together in a spatiotemporal dashboard, planners and authorities can determine problematic locations and make data-driven improvement decisions.

Analysis

With the accident reduction application, urban planners, traffic engineers and law enforcement can examine issues such as:

- Traffic volume by location and time

- Accident frequency by location and type

- Crossings with the highest accident rates

Users can run analytics on the dashboard by selecting values on the charts, which immediately updates the map. They can easily save a snapshot of the visual analysis and export the results.

Mitigation

Additionally, the application includes input from the International Road Assessment Programme's (iRAP's) Road Safety Toolkit. Users can get advice on how to mitigate risk based on the types of accidents happening at a location, such as:

- Implementing traffic calming measures

- Creating dedicated bike lanes and pedestrian crossings

- Increasing law enforcement and adding speed detection devices

The toolkit also provides data on the effectiveness and costs associated with the mitigation effort. This information is available when the user selects a specific accident or location within the app.

Benefits

The accident reduction application delivers multiple benefits to users, including:

- **Easier evaluation**: Analyze problematic locations with access to complete data

- **Lower costs**: Reduce the need for field site assessments for diagnoses

- **Actionable insights**: Access location data and other factors contributing to crash rates

- **More context**: Make better decisions through richer contextual information about crashes

- **Better collaboration**: Easily share safety-related data with all stakeholders

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The accident reduction application offers advice on how to mitigate risks.