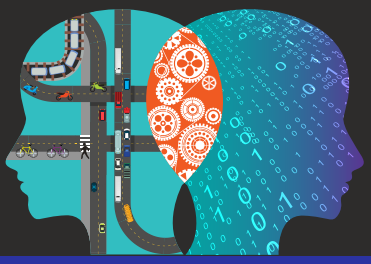
U.S. Department of Transportation

Solving for Safety Visualization Challenge



Fact Sheet *April 5, 2019*

BACKGROUND

Safety has consistently been USDOT's top strategic and organizational goal. The USDOT Strategic Plan Safety Goal for Fiscal Year 2018 - 2022 maintains this commitment by focusing on reducing transportation-related fatalities and serious injuries across the transportation system. The Safety Goal's Strategic Objective 1 mitigates risks and encourages infrastructure and behavior change by using a data-driven systemic safety approach. The Safety Data Initiative (SDI) was developed to support the Objective.

Safety Data Initiative (SDI)
The SDI strategically prioritizes and addresses transportation safety risks through data-informed decision-making and focuses on:

- Data Visualization,
- Data Integration, and
- Predictive Insights.

In addition to an external data visualization challenge, USDOT is discovering insights through internal SDI Projects:

Fatality Analysis Reporting System (FARS) Visualization Project - modernizes FARS visualization products,

Neighborhood Pedestrian Fatality Risk Research Project - generates better understanding of pedestrian fatality risk through data use and integration,

Rural Speed Data Project - produces insights into rural roadway safety by integrating data sources, and

Waze Data Project - models crash events on a near real-time basis, using crowdsourced data from the Waze social GPS and navigation application.

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SOLVING FOR SAFETY VISUALIZATION CHALLENGE

Solving for Safety Visualization Challenge is a Safety Data Initiative project sponsored by the Bureau of Transportation Statistics in partnership with the USDOT Operating Administrations.

Challenge Objective:
USDOT seeks tools that use innovative analytical visualizations to gain insights into reducing serious crashes.

Types of Analytical Visualization Tools

Solvers will choose to develop one of two types of analytical visualization tools:

- Discover Insights Tool which analyze data to reveal patterns and trends, and use compelling visualizations to explain what is happening, understand the meaning behind the data, and draw conclusions. These tools often combine disparate data sets and allow a user to ask a question and search for answers visually.
- Simulation Tool which assist in decision-making by visualizing data, mathematical, and statistical models to identify issues, determine correlations, and assign probabilities with a degree of accuracy. Developed using existing models and data, including those provided by USDOT and Innovation Agents, this type of tool will allow users to visualize the outputs of model simulations and scenarios, highlighting the different conditions and the results of sensitivity and parametric analysis to visually assist in decision-making.

Safety Focus Areas for Tools

Solvers will develop analytical visualization tools to complement existing USDOT projects while addressing one or more of the following safety focus areas:

- Conflict Points Impacts (e.g., intersections, grade crossings)
- High Risk Factors (e.g., impaired driving, speeding, special events)
- Vulnerable System Users (e.g., pedestrians, motorcyclists, older populations)

Eligible Solvers

Eligible Solvers are individuals or teams from the business and research communities in the United States or US territory. This includes but is not limited to organizations such as: technology companies, analytics firms, transportation carriers, industry associations, research institutions, universities, mapping and visualization providers.

Prizes

Stage I, Ideation: Solvers develop ideations. Five semi-finalists advance to Stage II.
Stage II, Concept: Five semi-finalists develop ideations into proofs of concept and compete for part of a $100,000 prize purse. Two semi-finalists advance to Stage III.
Stage III, Tool: Two finalists develop proofs of concept into working tools and compete for a $250,000 prize purse, with each receiving a minimum of $50,000.