National Transportation Data & Analytics Solution
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National Transportation Data and Analytics Solution (NTDAS) Grant Proposal

Note: The following information can be used to support the materials and supplies, direct costs, or budget justification sections of a grant proposal to include the cost of a license to the National Transportation Data and Analytics Solution (NTDAS) to help ensure optimal research results utilizing the most accurate and detailed data available.

Overview:

This [research project] will require essential data and analysis tools to help ensure optimal research results. In utilizing the most accurate and detailed data available, our team will be able to analyze the measurements and performance of transportation systems that can help meet our [research goals] and also lead to insights to improved general conditions, impacting economic, environmental, education, infrastructure, energy efficiency issues, and more. Our team has identified a specific tool that will be critical to achieving optimal results in meeting our research goals: the National Transportation Data and Analytics Solution (NTDAS).

Description of Product and Data Available:

The National Transportation Data and Analytics Solution (NTDAS), provides highly granular time and speed data collected from across the U.S. National Highway System (NHS), and the full TMC (Traffic Message Channel) road segments network in the USA, including over 20 key Canadian and six Mexican border crossings. Global comparative analysis of traffic and congestion is an important element of study and understanding U.S. road segments and traffic patterns can enable several comparative use cases. This dataset makes several billions of speed and travel time observations available to researchers, enabling multi-disciplinary applications for both academic research and teaching purposes. This data will be essential and highly important in our efforts to [include example from research goals] and align with our project goals.

Geographical Coverage: Several billions of speed and travel time observations across 400,000 road segments and 1,148,415 directional miles of the U.S. National Highway System, and the full TMC (Traffic Message Channel) network in the USA. Provides comprehensive and consistent data for passenger and commercial freight roadway performance across the U.S. National Highway System including over 25 key Canadian and six Mexican border crossings.

Dataset: National Performance Management Research Data Set (NPMRDS) and the full TMC (Traffic Message Channel) road segments network in the USA

Data Source: Vehicle probes

Modal Coverage: Truck and passenger car

Metrics: Speed, travel time

Coverage years: Present day back to 2017

Data Latency: Updated monthly

Lowest Temporal Resolution: 5 minutes

Spatial Resolution: Defined by Traffic Message Channel (TMC) location codes which are a half a mile to a mile long in urban/suburban areas and 5-10 miles long in rural areas

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Key Features and Benefits:

Allows users to **conduct advanced analysis, research, and performance measures** generation using probe data. A variety of visualization and data retrieval tools are available for use.

Provides tools that allow users to create and download reports, visualize data on maps or in other interactive graphics, and download raw data for offline analysis.

Available tools include: Congestion Scans, Road User Delay Cost Analyses, Animated Trend Maps, Coverage Maps, Dashboards, Performance Summaries on Travel Time Metrics and Road Conditions and much more.

Information dates back to January 2017 and is **updated monthly**.

Supports robust statistical analysis: The platform provides a wide range of descriptive statistics for speed and time performance metrics, including and not limited to percentiles, average, median, min, max, etc. These can be used to derive additional statistics and support advanced modeling and data processing.

Enables machine learning applications: Ground-truth data is a must-have for data scientists, engineers, and researchers to train algorithms and machine learning models. The dataset has been validated over 20 times since 2017 to ensure that the NPMRDS reflects true road conditions across many scenarios, including urban and rural networks, tunnels and bridges, work zones, and rain.

Supports research writing and publication: Users can quickly integrate state-of-the-art visualizations, images, and analytics generated from the platform into their presentations, classroom lectures, projects, reports, etc. The high-resolution, clear pictures support research-based storytelling, making writing easy.

For more information or a custom quote, please contact your IEEE sales representative.
innovate.ieee.org/ntdas

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