Project Title: C-05-05: Universal Real-Time Highway Information System
PIN: R020.73.881
Responsible Unit: Operating Division
Project Manager: McDonough, Rick

Project Goal:
This project will build a highway information system based on data mining of the millions of messages that are passed between commercial vehicles and their network hubs each day. Embedded in the messages flowing from American vehicles is a variety of background data containing information on such vital operational performance metrics such as the speed of traffic, point to point travel times, and the conditions of the roads.

Actions Proposed:
This research project seeks to address the fundamental problem of a projected double-digit percentage increase in vehicle miles traveled (VMT) and a doubling of truck volume over the next 20 years, with relatively little increase in highway capacity. While VMT increased 76% between 1980 and 1999, lane miles increased only 3%. VMT is projected to increase another 50% by 2020 and truck volume is projected to double (8 billion tons to 16.8 billion tons), but relatively little additional capacity is planned for the next 20 years. This means that states and vehicle operators must become ever more efficient in the ways they manage the roads and transport freight- doing more with the same resources. The obvious symptoms of this mismatch of demand and resources include time and gas wasted in slow traffic, roads in need of repair, exhaust fumes, and noise. For the commercial transportation sector the problem is magnified by a life on the road and ever narrowing profit margins.

Congestion costs operators an estimated of minimum $88 per hour. According to surveys, unpredictable (unreliable) travel time means that some carriers hauling Just-in-Time freight are penalized an average of $371 per hour for late delivery. Adverse road conditions and congestion lead to accidents and the associated costs, and at the end of the trucker’s day finding a place to park becomes critical. Lack of parking impacts fatigue issues.

More information that is more timely and more detailed is a big part of each of addressing these issues. The project will research, develop and mature the telematics monitoring concept from an early experimental program working with a few thousand data points to a full commercial Highway Visibility System (HiViS) providing continuous reports of the combined activities of hundreds of thousands of commercial vehicles.

The Contractor has assembled a strong Project Team out of a partnership of parties experienced in the transportation, telecommunications and government relations fields. This partnership will be enriched with key members of the transportation industry as key products such as real-time highway congestion, traffic volume, and road condition maps

Anticipated Work Products and Accomplishments:
The project is set up in two phases that correspond to current and anticipated earmark funding from the USDOT.
are available. In the first phase, the Contractor will establish a direct link with the data supply and construct a prototype geographic and data system from which to perform statistical studies and test philosophies for the development of the production system. In the second phase the team will strengthen the supply chain returning value to the suppliers, the production HiViS will be assembled and brought into operation with a variety of client interfaces.

The first year of this program will demonstrate the value that proper analysis can extract from the combined background data of millions of messages and will focus on establishing a supply chain for data and statistical comparisons of commercial vehicle volume on the New York State Thruway. Early on, a process of monitoring vehicle messaging will be established. Data will be associated with the highway system and statistically compared to data provided from the New York State Thruway.

**Proposed Budget:** $100,000