



PROJECT PROPOSAL

Course 6230: Total Quality Project Management

Course Instructor: Dr. Amin Hammad

V2V Systems

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Submitted By:

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OBJECTIVES

Vehicle-to-vehicle (V2V) communications comprises a wireless network where automobiles send messages to each other with information about what they're doing. This data would include speed, location, direction of travel, braking, and loss of stability. The technology behind V2V communication allows vehicles to broadcast and receive omnidirectional messages (up to 10 times per second), creating a 360-degree awareness of other vehicles in proximity.

BRIEF DESCRIPTION

According to the U.S. Department of Transportation, traffic accidents and deaths are on the rise. V2V is especially useful in emergency braking situations where the tail lights on cars are obscured (emergency brake), such as at intersections and left turns, which have the highest crash incidence. V2V would be a mesh network, meaning every node (car, smart traffic signal, etc.) could send, capture and retransmit signals. Five to 10 hops on the network would gather traffic conditions a mile ahead. That's enough time for even the most distracted driver to take his foot off the gas. Also, V2V can alert drivers to blind spots, increase awareness during lane changes, and when passing a vehicle on a two-lane road requires crossing into oncoming traffic. Vehicles that could use V2V communication technology range from cars and trucks to buses and motorcycles. Even bicycles and pedestrians may one day leverage V2V communication technology to enhance their visibility to motorists.

COST

Here, estimate cost of V2V equipment, security and information management systems will cost about \$350 per vehicle in 2020 and decrease to around \$200 by 2058. Annual additional costs for automakers are projected to be \$300 million to \$2.1 billion in 2020, \$1.1 to 6.4 billion between 2022 and 2024, and decrease to \$1.1 to 4.6 billion.

[* Data courtesy of NHTSA (National Highway Traffic Safety Administration) & US Department of Transportation]

SCHEDULE

<i>TASK</i>	<i>DATES</i>
1. Brainstorming and preparation of proposal of the project	July 6 - July 15
2. Design, Requirements gathering and Resource planning	July 16 - July 22
3. Quality and Cost Management, Monitoring and controlling	July 23 - July 29
4. Evaluation and documentation	July 30 - August 5