

SBIR 06.2 PHASE I - AWARD DETAILS	
ORGANIZATION	PM FCS BCT
TOPIC NUMBER	A06-203
CONTRACT NUMBER	
YEAR OF AWARD	
AWARD START DATE	
AWARD COMPLETION DATE	
PROPOSAL NUMBER	A062-203-3520
TITLE	UGV Dynamic Mobility Updates Using Real Time Prognostic and Diagnostic Information
PROJECT MANAGER	Don Cripps (435) 755-2980 don@autonomoussolutions.com
COMPANY	Autonomous Solutions, Inc. 1946 South 1600 West Young Ward UT 84339 Minority Owned: No Veteran Owned: No Number of Employees: 50
KEYWORDS	Autonomous vehicles, vehicle control, diagnostic modeling, dynamic vehicle modeling, NATO Reference Mobility Model, automated vehicle modeling
ABSTRACT	An improved control system for autonomous vehicles is proposed in which prognostic and diagnostic data generated by the vehicle itself is used as an input to the controller. This is in contrast to conventional controllers in which the vehicle is represented by a static model. ASI will analyze the parameters of the NATO Reference Mobility Model to decide which most affect overall vehicle control and specify sensors for monitoring these parameters. A new vehicle controller will be designed which will use this data, in addition to data on the external environment, for vehicle control. This will result in a more autonomous system, since it will be 'aware' of its own condition as well as its surroundings.
BENEFITS	The modified controller will enable vehicles to take corrective action against damage or changes to the vehicle itself such as an altered center of gravity, reduced engine power, or a blown tire/track. Current controllers do not measure or model the effects of such changes on the vehicle controller and thus mis-control the vehicle in such cases.