

(12) **United States Patent**  
Walker et al.

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- (54) **SYSTEMS AND METHODS OF DETERMINING ROAD QUALITY**
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- (58) **Field of Classification Search**  
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- (51) **Int. Cl.**  
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- (52) **U.S. Cl.**  
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- (57) **ABSTRACT**  
A system for determining road quality includes a vehicle equipped with sensors to detect a position of the vehicle on the road and a suspension strut parameter indicative of road quality. The suspension strut parameter may be suspension strut pressure or suspension strut cylinder stroke. A threshold range is established outside of which an absolute value of the suspension strut parameter is associated with poor road quality. A computerized system generates a heat map to display relative quality of road segments.

**25 Claims, 7 Drawing Sheets**

