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**EVALUATION OF NEAR-SURFACE SITE AMPLIFICATION IN THE SEATTLE,  
WASHINGTON, METROPOLITAN AREA**

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**ABSTRACT**

In order to accurately quantify the earthquake ground-shaking hazard in the Seattle metropolitan area, the effects of unconsolidated and semiconsolidated sedimentary and glacial deposits on ground motion need to be evaluated. In this NEHRP-funded study, all available shear-wave velocity ( $V_s$ ) data have been compiled, digitized, and analyzed for the Seattle, Washington, metropolitan area. A total of 109  $V_s$  surveys at 71 locations are contained in the database. Velocities were measured using downhole seismic, SASW, seismic refraction/reflection and seismic cone penetrometer techniques. Additional data are currently being compiled, evaluated, and will be used in a subsequent NEHRP-funded evaluation of site amplification with a particular focus on ground motions recorded during the 2001 M 6.8 Nisqually earthquake. Thus this report should be considered as a progress report of work performed to date.