1014-34-1137   **John V Baxley*** (`baxley@wfu.edu`), Department of Mathematics, Wake Forest University, Box 7388, Winston-Salem, NC 27109, and **Kristen Kobylus**, Department of Mathematics, Wake Forest University, Box 7388, Winston-Salem, NC 27109. *Singular Second Order Boundary Value Problems with Multiple Solutions.* Preliminary report.

We consider boundary value problems associated with the second order equation $y'' + f(t, y) = 0$, $0 < t < 1$, with the boundary conditions $y(0) = 0$, $y'(1) = 0$ (or $y(1) = 0$), where the nonlinear function $f(t, y)$ is singular as $y \to 0^+$. We report progress on our attempt to synthesize previous results on multiple solutions (e.g. [J. Henderson and H. B. Thompson, Proc. Amer. Math. Soc. 128 (2000), 2373-2379]) with results on existence of solutions to singular boundary value problems (e.g. [S. Taliaferro, Nonlinear Anal. 3 (1979), 897-904]). We apply the shooting method to a sequence of nonsingular problems which "converge" to the given singular problem. (Received September 27, 2005)