In this talk, we discuss the identification of principal solutions associated with Sturm–Liouville operators on arbitrary open intervals, \((a, b) \subseteq \mathbb{R}\), as introduced by Leighton and Morse in the scalar context in 1936 and by Hartman in the matrix-valued situation in 1957, with Weyl–Titchmarsh solutions, as long as the underlying Sturm–Liouville differential expression is nonoscillatory (resp., disconjugate or bounded from below near an endpoint) and in the limit point case at the endpoint in question. An explicit formula is presented for Weyl–Titchmarsh functions in this case which appears to be new in the matrix-valued context. (Received January 27, 2014)