One challenge relating to the creation of adaptive music involves generating transitions between musical ideas. This paper proposes a solution to this problem based on a modification of the Q-Learning framework described by Reese, Yampolskiy and Elmaghraby. The proposed solution represents chords as states in a domain and generates a transition between any two major or minor chords by finding a pathway through the domain in a manner based on a Q-Learning framework. To ensure that the transitional chords conform to the tonalities defined by the start and goal chords, only chords that contain notes that are found in combined pentatonic scales built from the start and goal chords are included within the domain. This restriction increases the speed of pathfinding and improves the conformation of the transitions to desirable tonal spaces (in particular the keys most closely related to the start and goal chords). This framework represents an improvement over previous music generation systems in that it supports transitions from any point in a musical cue to any point in another, and these transitions can be rendered in real time. A general method for implementing this solution in a video game is also discussed.