Let $X$ be a compact metric space, $f : X \to X$ be a continuous map, and $\{N_1, \ldots, N_n\}$ be a collection of nonempty compact sets. We say that $(s_0, s_1, \ldots)$ is an itinerary for a point $x$ if $f^i(x) \in N_{s_i}$ for all $i$. In the classical case of a Markov partition, the sets $N_i$ overlap only on their boundaries and map across each other nicely under $f$; in this case the itineraries give symbolic dynamics in the form of a subshift of finite type. In this work we study the case where the sets $N_i$ can overlap nontrivially and can map across each other in more complicated ways. We discuss methods for extracting useful information about the dynamics of $f$ (such as a nonzero lower bound for the topological entropy) from the itineraries. (Received September 21, 2010)