Queries for optimal connection in timetables can be answered by running Dijkstra's algorithm on an appropriate graph. However, in certain scenarios this approach is not fast enough. We introduce methods with much better query time than that of the efficiently implemented Dijkstra's algorithm.

Our first method called USP-OR is based on pre-computing paths, that are worth to follow. This method achieves speed-ups of up to 70, although at the cost of high amount of preprocessed data. Our second algorithm computes a small set of important stations and additional information for optimal travelling between these stations. Named USP-OR-A, this method is much less space consuming but still more than 8 times faster than the Dijkstra's algorithm on some of the real-world datasets.