Using various two-step strategies, we examined how to accurately locate transition states (TS) of reactions using the example of eight reactions at metal surfaces with 14-33 moving atoms. These procedures combined four pathfinding methods for locating approximate TS structures (nudged elastic band, standard string, climbing image string, and searching string, using a conjugate gradient or a modified steepest-descent method for optimization and two types of coordinate systems) with subsequent local refinement by two dimer methods. The dimer-Lanczos variant designed for this study required on average 20