Assignment 3: Preliminary Goal Diagram

The refinement of the goal "Achieve[Carpool Ride Successful]" was performed according to the milestone-driven refinement pattern. Reason for this being that there is a clear presence of intermediate conditions where the milestone conditions must be satisfied before the target condition can be satisfied.

I have a question related with the milestone refinement: Is the refinement by definition "complete" or can the flow of goals be interrupted in the middle of the sequence. For example, in my example, is it correct to model it how I presented it, given the fact that authentication might fail for either for the driver or the non-driver ? If authentication fails, the goals that are positioned to the right are not being satisfied, and as a result the parent goal "Achieve[Carpool Ride Successful]" is not satisfied sooner-or-later (which is a characteristics of an Achieve category).

The refinement on the original second level is the refinement of the goal "Achieve[Carpool Ride Matched When Ride Proposed]". Here, the guard-introduction case-driven refinement was used. The target condition "Carpool Ride Matched" shall be satisfied, where in addition the guard "Requested Rides Match" must be satisfied. I used the pattern "Optimize", instead of "Maintain" for the third goal "Optimize[Collect Matches Unless Best Carpool Matched" in the Guard-Introduction refinement pattern, to reflect the category "Efficiency". The requirement here is to efficiently perform the matching, not just maintaining the goal.

I have a question here regarding the modelling of the cardinality aspect of the goal "Achieve[Requested Rides Match]": Do I need to worry about the fact that there are possibly multiple non-drivers in the carpool ride ? Intuitively, I would reckon that, as this is a functional requirement, but I am not sure how to model this.

Finally, the third level is again a milestone-driven refinement that doesn't need any more clarification.