**Detailed Use Cases:**

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| Name | Register Vehicles |
| Pre/Entry Condition | The Vehicle is on and broadcasting. |
| Trigger | The Pilot clicks “Register Vehicle” button. |
| Post/Exit-condition | A message of success is displayed in a pop-up and the vehicle information is added to the list and registered in the system. |
| Main flow of events -- identify all data elements | --The Pilot clicks the “Register Vehicle” button.  --A window is displayed listing broadcast IDs of vehicles.  --The Pilot selects the vehicle and clicks the “Add” button.  --The Pilot enters vehicle nickname.  --The Pilot chooses whether vehicle is a Leader Vehicle or a Follower Vehicle.  --The Pilot clicks “Accept”. |
| Exceptions and alternate actions | The vehicle nickname is already in use, then the Pilot is advised that they need to choose a different name. |
| Special requirements -- if any |  |

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| Name | Pilot Controls the Leader Vehicle |
| Pre/Entry Condition | The Leader Vehicle is registered. |
| Trigger | The Pilot inputs a command into the Remote Controlling Device. |
| Post/Exit-condition | The Leader Vehicle responds to the command. |
| Main flow of events -- identify all data elements | -- The Pilot inputs a command into the Remote Controlling Device.  -- The Remote Controlling Device sends a signal to the Leader Vehicle.  -- The Leader Vehicle responds to the command. |
| Exceptions and alternate actions |  |
| Special requirements -- if any |  |

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| Name | Follower Vehicle is Obstructed |
| Pre/Entry Condition | The Follower Vehicle is registered and has line of sight on Leader Vehicle |
| Trigger | The Follower Vehicle detects an Obstruction Object in its path. |
| Post/Exit-condition | The Follower Vehicle has navigated around the Obstruction Object. |
| Main flow of events -- identify all data elements | -- The Follower Vehicle is properly following behind the Leader Vehicle.  -- The Follower Vehicle identifies an Obstruction Object in its designated path.  -- The Follower Vehicle navigates around the Obstruction Object and continues on its path. |
| Exceptions and alternate actions | If the Leader Vehicle is out of the Line of Sight, the Follower Vehicle shall try to regain the Line of Sight with the Leader Vehicle. |
| Special requirements -- if any |  |

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| Name | Follower Vehicle follows Leader |
| Pre/Entry Condition | The Leader Vehicle and the Follower Vehicles are both registered. |
| Trigger | The Leader Vehicle moves away from the Follower Vehicle. |
| Post/Exit-condition | The Follower Vehicle is moving towards the Leader Vehicle. |
| Main flow of events -- identify all data elements | -- The Follower Vehicle detects that the Leader Vehicle is moving away from it.  -- The Follower Vehicle determines the direction that it must move in order to move towards the Leader Vehicle.  -- The Follower Vehicle moves towards the Leader Vehicle. |
| Exceptions and alternate actions |  |
| Special requirements -- if any |  |

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| Name | Follower Vehicle Loses Line of Sight |
| Pre/Entry Condition | The Follower Vehicle is following the Leader Vehicle. |
| Trigger | An Obstruction Object appears and the Follower Vehicle loses the Line of Sight of the Leader Vehicle. |
| Post/Exit-condition | The Follower Vehicle relocates the Leader Vehicle. |
| Main flow of events -- identify all data elements | -- The Follower Vehicle stops in place.  -- The Follower Vehicle shall try to regain line of sight with the Leader Vehicle.  -- The Follower Vehicle regains the Line of Sight with the Leader Vehicle. |
| Exceptions and alternate actions |  |
| Special requirements -- if any |  |

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| Name | Collision Prevention |
| Pre/Entry Condition | The Follower Vehicle approaches a certain proximity to the Leader Vehicle. |
| Trigger | The Follower Vehicle becomes too close to the Leader Vehicle. |
| Post/Exit-condition | The Follower Vehicle is no longer within a certain proximity to the Leader Vehicle. |
| Main flow of events -- identify all data elements | -- The Follower Vehicle becomes too close to the Leader Vehicle.  -- The Follower Vehicle stops in place.  -- The Follower Vehicle waits in place for the Leader Vehicle to move away.  -- The Follower Vehicle is no longer within a certain proximity to the Leader Vehicle. |
| Exceptions and alternate actions | -- The Follower Vehicle reverses if the Leader Vehicle advances towards the Follower Vehicle. |
| Special requirements -- if any |  |

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| Name | Connection Lost |
| Pre/Entry Condition | The Application is connected with the Leader Vehicle. |
| Trigger | The Application loses connection with the Leader Vehicle. |
| Post/Exit-condition | A Notification is sent to the Pilot that the connection was lost. |
| Main flow of events -- identify all data elements | -- The Application loses connection with the Leader Vehicle.  -- The Leader Vehicle stops in place.  -- A Notification is sent to the Pilot that connection to the Leader Vehicle is lost. |
| Exceptions and alternate actions |  |
| Special requirements -- if any |  |

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| Name | Search Mode |
| Pre/Entry Condition | The Application has lost connection to a Leader Vehicle or a Follower Vehicle. |
| Trigger | Search mode is triggered. |
| Post/Exit-condition | The Vehicle is reconnected. |
| Main flow of events -- identify all data elements | -- The Application has lost connection to a Leader Vehicle or a Follower Vehicle.  -- The Vehicle regains signal connection.  -- A Notification is sent to the Pilot. |
| Exceptions and alternate actions | -- The Application is unable to locate any vehicles. |
| Special requirements -- if any |  |

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| Name | Return Home |
| Pre/Entry Condition | A Follower Vehicle is connected. |
| Trigger | A Return Home command is initiated. |
| Post/Exit-condition | The Follower Vehicle returns to its initial location known as “Home”. |
| Main flow of events -- identify all data elements | -- A Return Home command is initiated.  -- The Follower Vehicle retraces its previous steps and returns to the point of origin.  -- The Follower Vehicle returns to its initial location known as “Home”.  -- The Pilot is notified that the Follower Vehicle has returned home. |
| Exceptions and alternate actions |  |
| Special requirements -- if any |  |