

Accident Scenarios Table

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An Accident Scenarios Table allows you to define Accident Scenarios as a combination of Malfunctioning Behaviors and Operational Situations. The sections below explain how to create Accident Scenarios and assign the Controllability level, Malfunctioning Behavior, and Operational Situations.

Accident Scenario

Criteria

Element Type: Situation Scope (optional): AccidentScenario Filter:

#	Name	Controllability	Justification Of Controllability	Malfunctioning Behavior	Operational Situation
1	AccidentScenario				
2	Potential for vehicle to depart the intended path/lane and collide with oncoming traffic or roadside objects before driver is able to control the situation. If steering produced unintended yaw momentum, could cause loss of control of the vehicle	C3	Most drivers are unable to control the situation	Unintended Steering Assist	Highway driving straight at speed
3	Vehicle entering a slight curve at approx. 0 degree vehicle body tilt angle. Low tilt angle is required but provided tilt is in opposite direction.	C2	Since the curve is minimal, it is possible to maintain vehicle stability. Driver might be able to recognize situation and decelerate as needed.	Vehicle body tilts opposite to required direction	Normal driving in curve
4	Vehicle entering a slight curve at approx. 0 degree vehicle body tilt angle. Low tilt angle is required but provided tilt is delayed.	C1	Since the curve is minimal, it is relatively easy to maintain vehicle stability. Driver can recognize the lack of immediate vehicle tilt and reduce speed.	Delayed vehicle body tilt	Normal driving in curve

Show the description area to see all information about an Accident Scenario in one place

Vehicle entering a slight curve at approx. 0 degree vehicle body tilt angle. Low tilt angle is required but provided tilt is delayed.

System Function

Tilt the Vehicle Body

Delayed

Malfunctioning Behavior

vehicle body tilt

Guide Word

Late

C1

Since the curve is minimal, it is relatively easy to maintain vehicle stability. Driver can recognize the lack of immediate vehicle tilt and reduce speed.

E2

Driving at high speed on slightly curvy roads is part of normal driving

Vehicle Usage	Traffic And People	Location	Road Condition	Environmental Condition
Normal driving in curve				
Driving at Speed	Traffic Free Flow	Highway City Roads	AnyRoadCondition	AnyEnvironmentalCondition

Filter is not applied. 4 rows are displayed in the table.

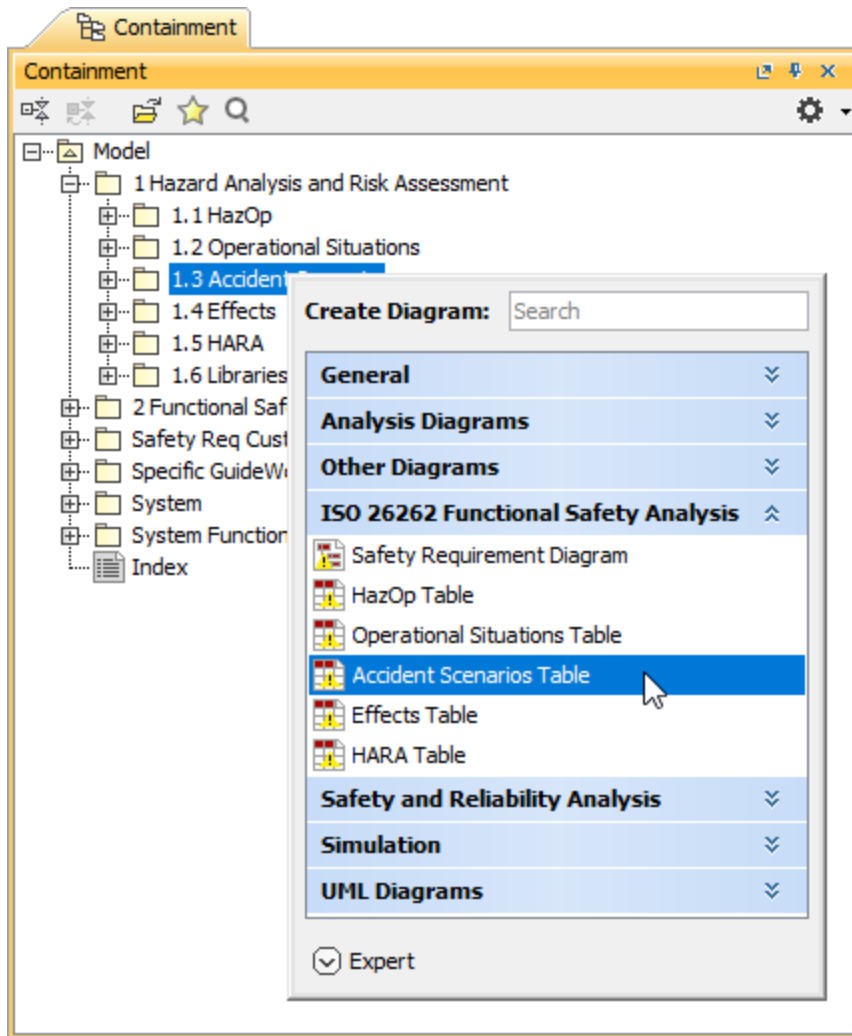
An example of an Accident Scenarios Table.

Creating Accident Scenarios Table

You can create an Accident Scenarios Table as described below.

To create an Accident Scenario Table

1. In the Containment tree, select the element that you want to be the owner of the table.
2. Do one of the following:
 - In the main menu, go to **Diagrams > Create Diagram**, then select **Accident Scenarios Table** in the open dialog.
 - In the Containment tree, right-click the owner of the table, select **Create Diagram**, and select **Accident Scenarios Table** in the open dialog.



3. When the table is created, type the name of the table and press Enter.

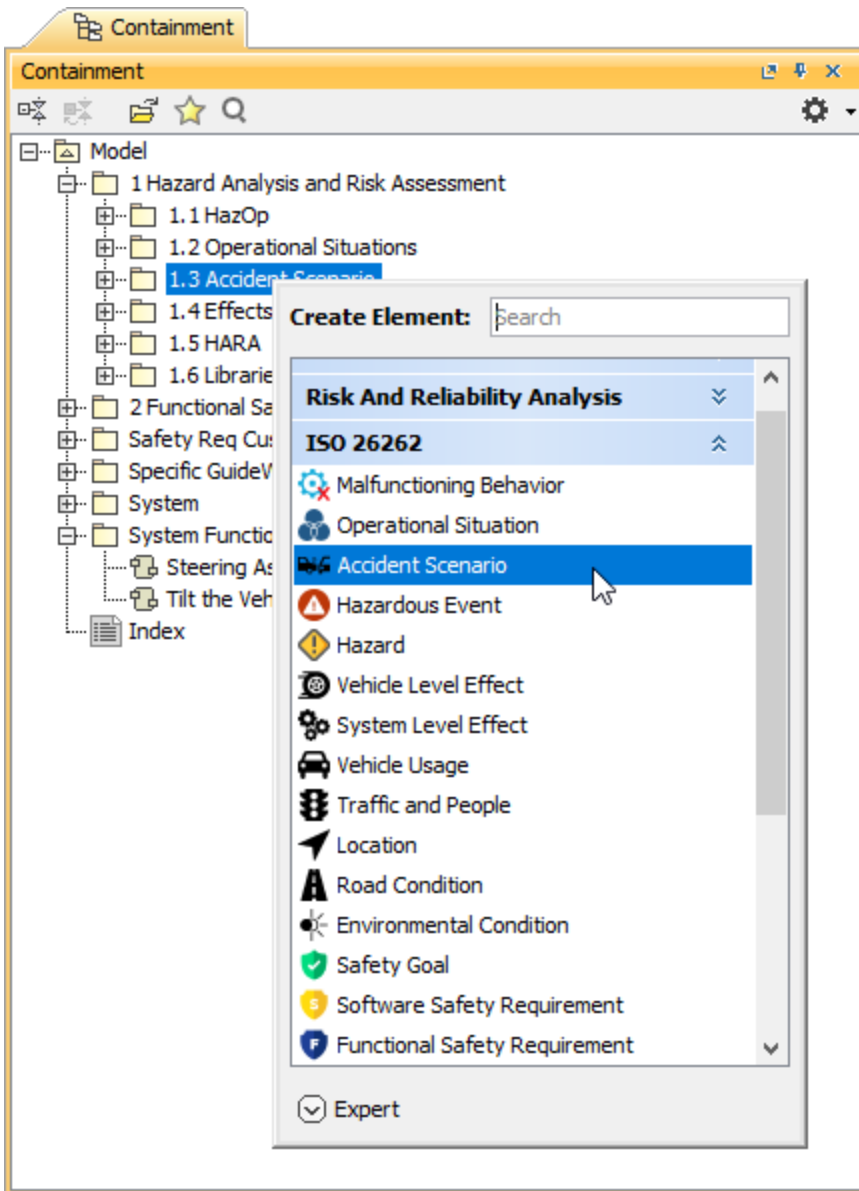
After following the above steps, an Accident Scenarios Table is created. The scope and element type of the table are already specified for you.

Creating Accident Scenarios

There are two ways to create an Accident Scenario: you can do it right in an Accident Scenarios Table or in the Containment tree.

To create an Accident Scenario in the Containment tree

1. In the Containment tree, right-click the owner of a new element and select **Create Element**.
2. In the open window, select **Accident Scenario**.



3. When an Accident Scenario is created, type the name of the element and press Enter.

When you create an Accident Scenario in the model browser, it is automatically added to an Accident Scenarios Table if it exists.

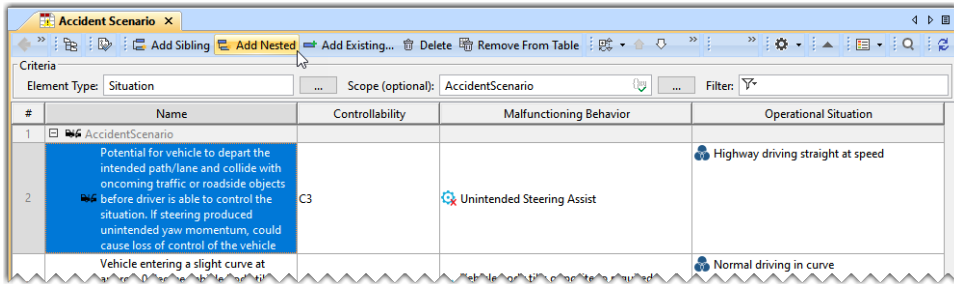
To create an Accident Scenario in an Accident Scenario Table

1. In an Accident Scenarios Table, select a table row.
2. Do one of the following:
 - In the table toolbar, click **Add Sibling** to create an element of the same level as the one you have selected.

The screenshot shows the 'Accident Scenario' table in the software. The table has the following columns: #, Name, Controllability, Malfunctioning Behavior, and Operational Situation. Row 1 is selected, and the 'Add Sibling' button in the toolbar is highlighted. The table content is as follows:

#	Name	Controllability	Malfunctioning Behavior	Operational Situation
1	Potential for vehicle to depart the intended path/lane and collide with oncoming traffic or roadside objects before driver is able to control the situation. If steering produced unintended yaw momentum, could cause loss of control of the vehicle	C3	Unintended Steering Assist	Highway driving straight at speed
2	Vehicle entering a slight curve at 40 mph. 0.1 seconds vehicle hood tilt		Vehicle hood tilt on opposite to required	Normal driving in curve

- In the table toolbar, click **Add Nested** to create an element nested under the selected element.



3. Type the name of the new element and press Enter.

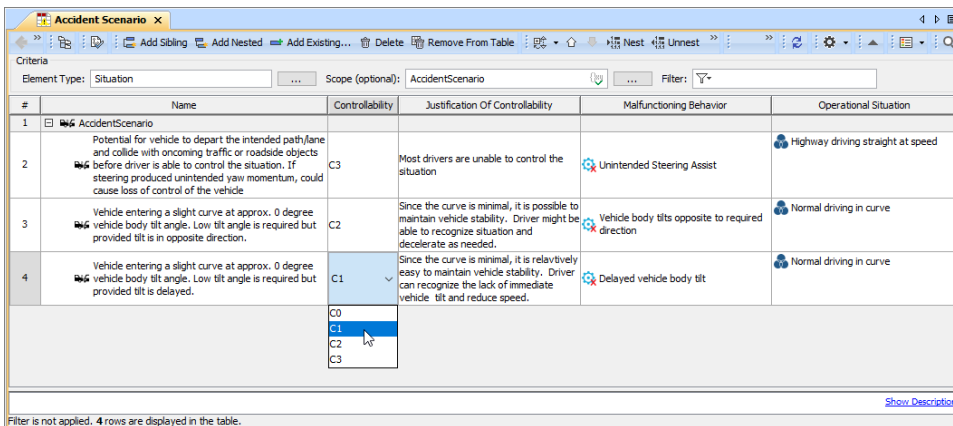
When you create an Accident Scenario and add it to an Accident Scenarios Table, you need to define the element as described in the section below.

Defining Accident Scenarios

After creating an Accident Scenario, you need to define its Controllability level which allows you to estimate the probability of avoiding the specified harm or damage. Also, you have to assign a Malfunctioning Behavior and Operational Situations to the Accident Scenario.


To define a Controllability level

1. In an Accident Scenarios Table, double-click the cell of the **Controllability** column and select the desired Controllability level from the list.




2. Double-click the cell of the **Justification of Controllability** column and write the justification to explain the selected Controllability level.

Assigning a Malfunctioning Behavior

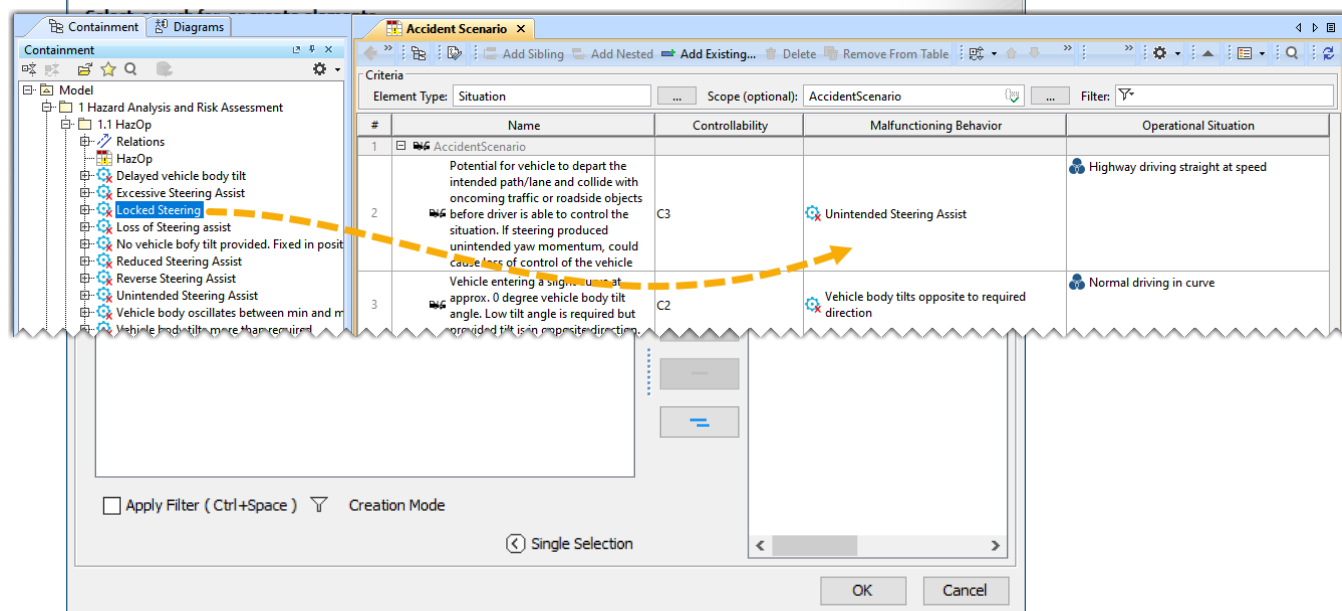
1. In an Accident Scenarios Table, double-click the cell of the **Malfunctioning Behavior** column and click .
2. On the left side of the **Select Elements** dialog, open the **List** tab.
3. Select the Malfunctioning Behavior you want to assign and click **OK**.



Assigning Operational Situations

1. In an Accident Scenarios Table, double-click the cell of the Operational Situation column and click .
2. On the left side of the **Select Elements** dialog, open the **List** tab.
3. Double-click the Operational Situations you want to assign. The elements should be added to the selected elements area on the right side of the dialog.

You can also select elements from the Malfunctioning Behavior from the Containment tree to the Accident Scenarios Table.



4. Click **OK**.

You can also drag and drop the Operational Situations from the Containment tree to the Accident Scenarios Table.

