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# Simple Risk Matrix

The simple risk matrix in Table One relies on probability and severity scores of high, medium or low to assign relative risk rankings. The color-coding in the matrix provides you with a visual sense of the relative priority attached to that hazard.
Table Two provides comparative criteria or descriptors to help determine the probability and severity associated with each hazard. The outputs of Table Two are the inputs for Table One.

**Table One: Simple Risk Matrix**

| | | | | |
|---|---|---|---|---|
| Severity | High | | | |
| | Medium | | | |
| | Low | | | |
| | | Low | Medium | High |
| | | Probability | | |

## Using the Simple Risk Matrix

### Adapt Risk Assessment Criteria to Your Organization

Table Two provides several descriptors with reasonable thresholds designed to yield appropriate probability and severity ratings for driving-related hazards in many workplace circumstances. However, you should review each descriptor, consider your company's business processes, values and risk tolerances, and revise the descriptors to fit your needs.

For example, for some larger employers, property damage costs of $25,000 have small impacts to their bottom line, and such a loss is properly scored as having low severity. For other organizations, $25,000 property damage costs can have a significant impact on their viability, and would therefore have medium or high severity. For some businesses, (such as self-employed contractors), even a short-term business interruption can have disastrous consequences, so would be scored as having high severity.


You may want to add environmental impacts (e.g., fuel spill, toxic release) or other consequences that could be associated with a crash, and are important for your organization.

**Table Two: Simple Risk Matrix Assessment Descriptors**

| Rating | Probability | Severity |
|---|---|---|
| High | • Frequent or repeated event<br>• Occurs at least once a year in the organization<br>• Occurs several times during a project<br>• Occurs often in similar circumstances (e.g. in another company that does work similar to yours)<br>• Greater than 50% chance of occurring | • Serious or disabling personal injury, permanent disability or fatality<br>• Costs to repair / replace property damage greater than $100,000<br>• Loss of business function for extended period, substantial consequences for business |
| Medium | • Event is known to occur, but not frequently<br>• Occurs less than once a year in organization<br>• Has occurred in similar circumstances (e.g. in another company that does work similar to yours )<br>• 10% to 50% chance of occurring | • Injury requiring medical aid with or without lost time from work<br>• Costs to repair / replace property damage $25,000 - $100,000<br>• Loss of business function for short period, modest consequences for business |
| Low | • Unlikely event, has not occurred in your company but could happen<br>• May happen once in 10 years<br>• Has never been observed, but possible<br>• Less than 10% chance of occurring | • No injury or minor injury requiring first aid<br>• Costs to repair / replace property damage less than $25,000<br>• Minor business interruption |

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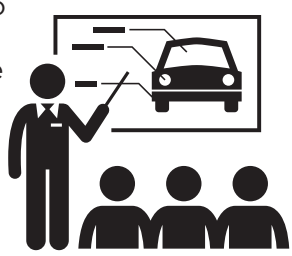
## Assign Scores for Probability and Severity

Once you have made those adjustments to the descriptors, the next step is to assign a probability score and a severity score to each of the hazards you want to assess (e.g. from the Road Hazard Inventory).
When scoring each hazard, keep the following questions in mind.



**Probability** – Collectively, how often are our employees exposed to this hazard? In our organization, or in other organizations like ours, how often does this occur? How likely is this to occur?
**Severity** – If this hazard causes a crash or other incident, what are the most likely outcomes? How much will it cost? How severe are the injuries and other losses likely to be? How will that impact our business?

## Advantages and Limitations of the Simple Risk Matrix

This section briefly describes some of the advantages and disadvantages of using a simple risk matrix. Reviewing these will help you appreciate some of its strengths and limitations, and see where its use best fits your organization.

## Advantages

- Intuitive – uses the assessor's perception of organizational driving risks
- Can get reasonable risk rankings without extensive data or numbers
- Adaptive – can adjust risk criteria to match company circumstances
- Two rather than three variables to consider

One advantage of the simple matrix is that it is not necessary to have precise information or data about each hazard. Instead, it enables you to do a comparative analysis that, in some applications, can be sufficient.

For example, you might not know how often a given hazard has contributed to crashes in the last five years. You might not have accurate reports on the severity of their consequences. As long as you have an informed sense that hazard A is more likely than hazard B to contribute to a crash, you can assign a greater probability to hazard A.

If you know that MVIs that involve hazard A almost always have more severe consequences than MVIs involving hazard B, you can assign a comparatively greater severity ranking to hazard A. Applying those non-precise, qualitative inputs to the risk matrix enables you to assign priorities and start on your action plan.

## Limitations

- Results are relative and therefore less precise then quantitative methods.
- When there are several risks to evaluate, all output rankings will fall into three rankings – low, medium and high. Certainly, hazards that get a "high" score are the first priority. However, if there are a dozen of more hazards that receive a "high" ranking, it is not obvious which three are your top priorities.
- To get reliable rankings from a simple matrix, assessors need a good sense of the frequency with which drivers are exposed to each hazard and the associated probable severity. That experience and knowledge can be difficult to come by.

To download the working tool, access:
Simple Risk Matrix Assessment Tool (excel)

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