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Introduction to the Fire Service Emergency Cover (FSEC) Toolkit

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Fire Service Emergency Cover

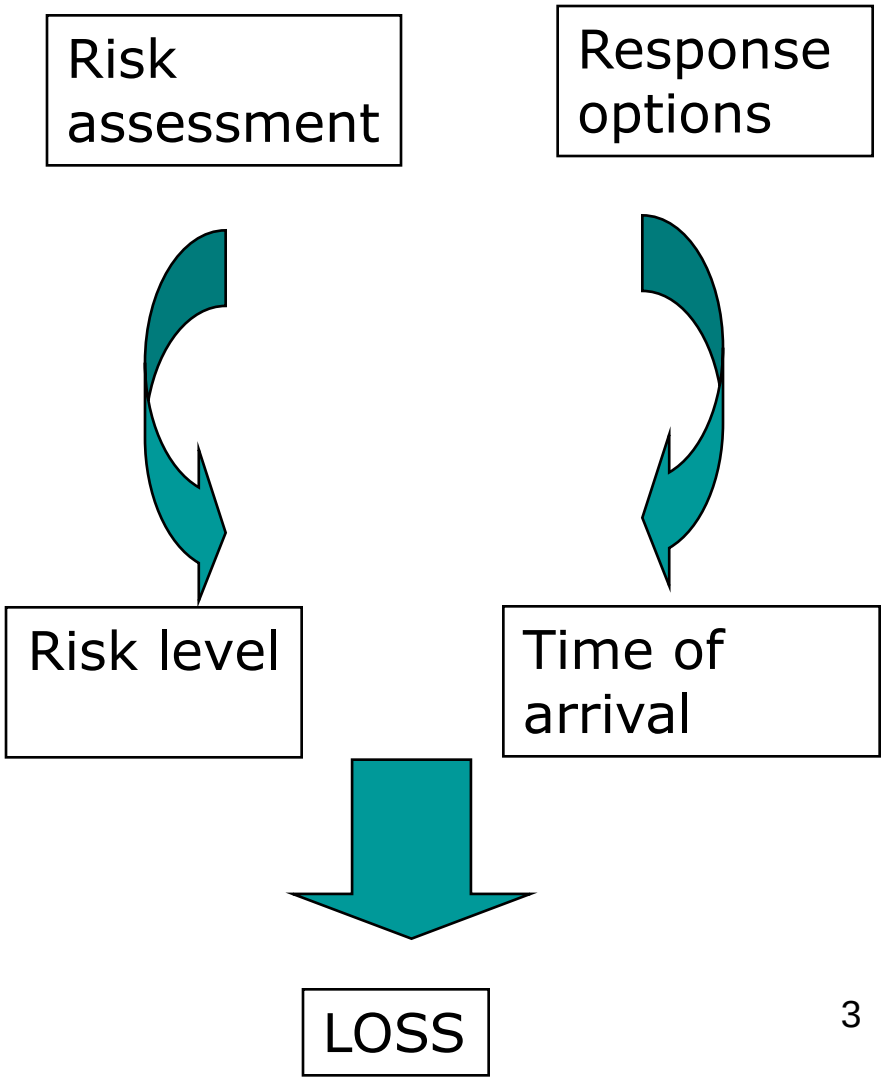
- **The FSEC Toolkit is a GIS based risk assessment tool provided to fire and rescue services in England, Scotland and Wales to enable them to best match risk and resources.**

- **It considers dwelling fires, 'Other building' fires, special services and major incidents to predict life and property loss**
  - and the stations, vehicles and crew

Modelling the Consequences

Consists of 3 main parts

- Risk assessment
- Response Planning
- Modelling the consequences of resource deployments or vehicle allocation strategies – i.e. calculate the **losses**



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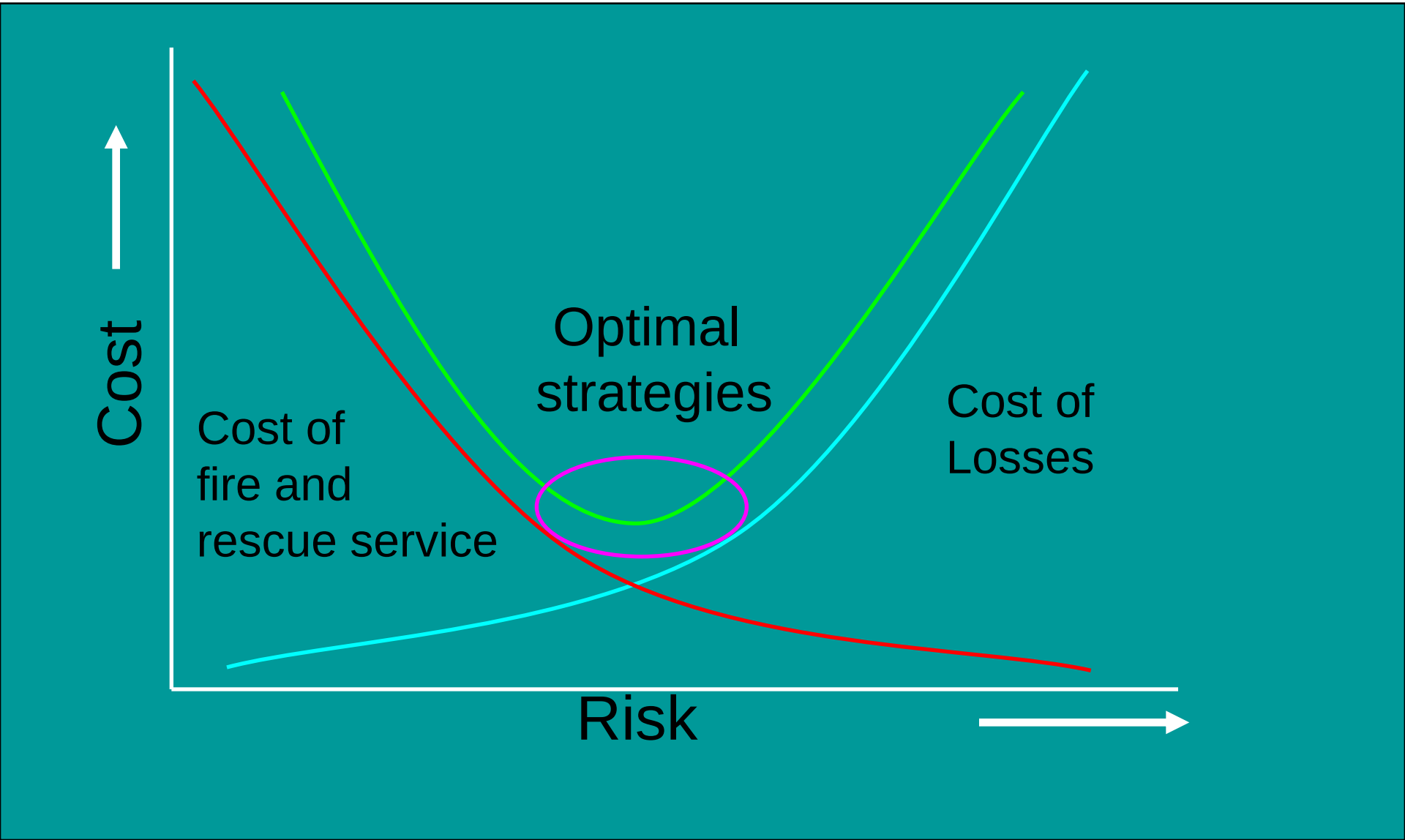
How the FSEC Toolkit might be used to assist in making strategic decisions



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Risk Assessment

FSEC measures risk in four modules:

Module	Inputs	Outputs
Dwelling fires		
➢The risk to individual life in dwelling fires etc.	➢local incident data ➢socio-demographic factors	➢Predicted Fatalities
Special Services		
➢the risk to individual life in special service incidents such as RTCs, extrications	➢local incident data ➢geography	➢Predicted Fatalities
'Other Buildings' fires		
➢the risk to life and property in buildings such as commercial, industrial, public entertainment and houses in multiple occupation	➢local buildings data ➢Valuation office ➢Fire safety data ➢Size ➢Occupancy level	➢Predicted Fatalities ➢Predicted Property Loss
Major incidents		
➢the risk to life, the environment etc from major incidents	➢guidelines from other agencies such as the railways inspectorate, the Environment Agency	➢Meet Required Response Times

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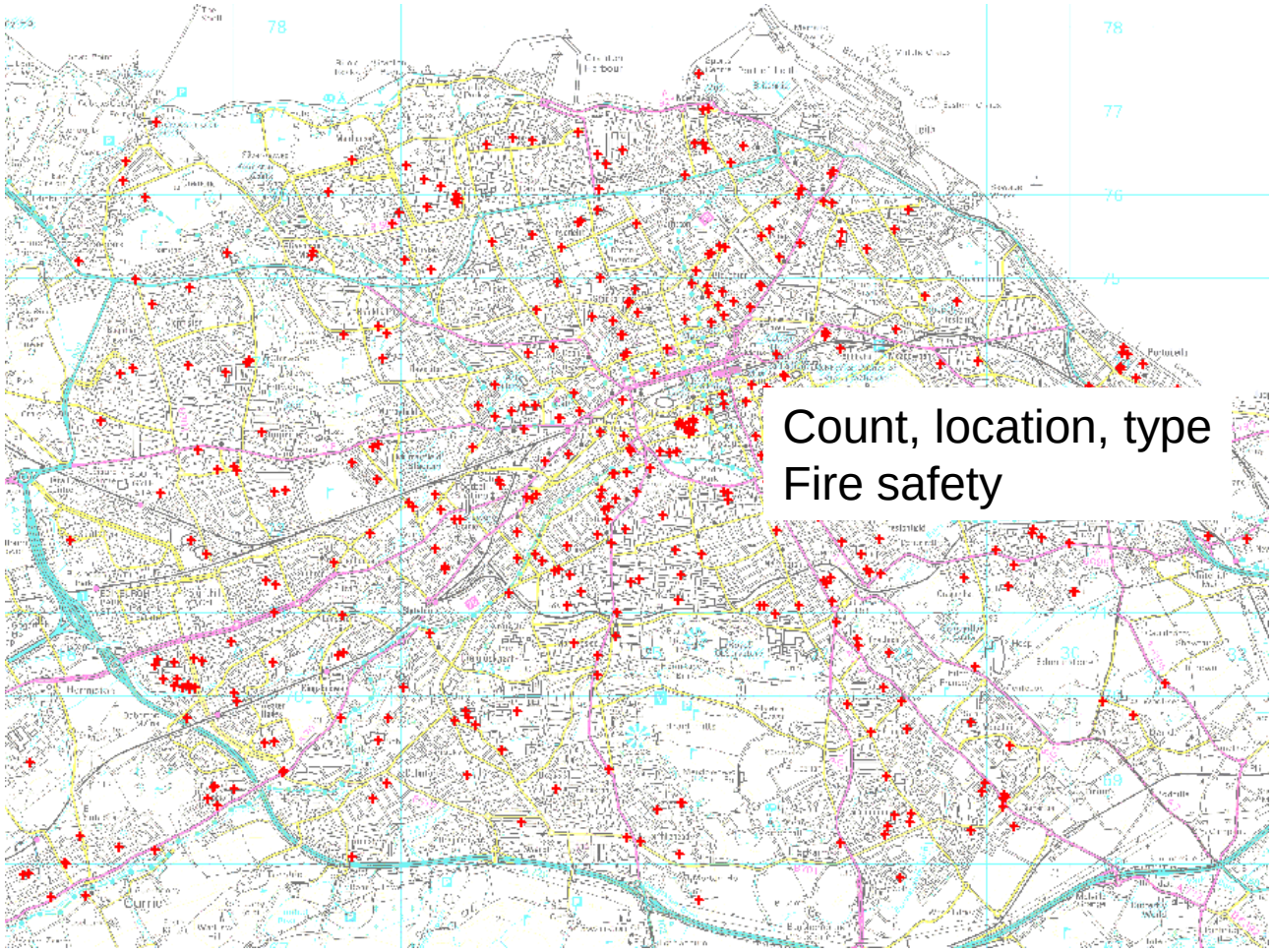
Other Buildings



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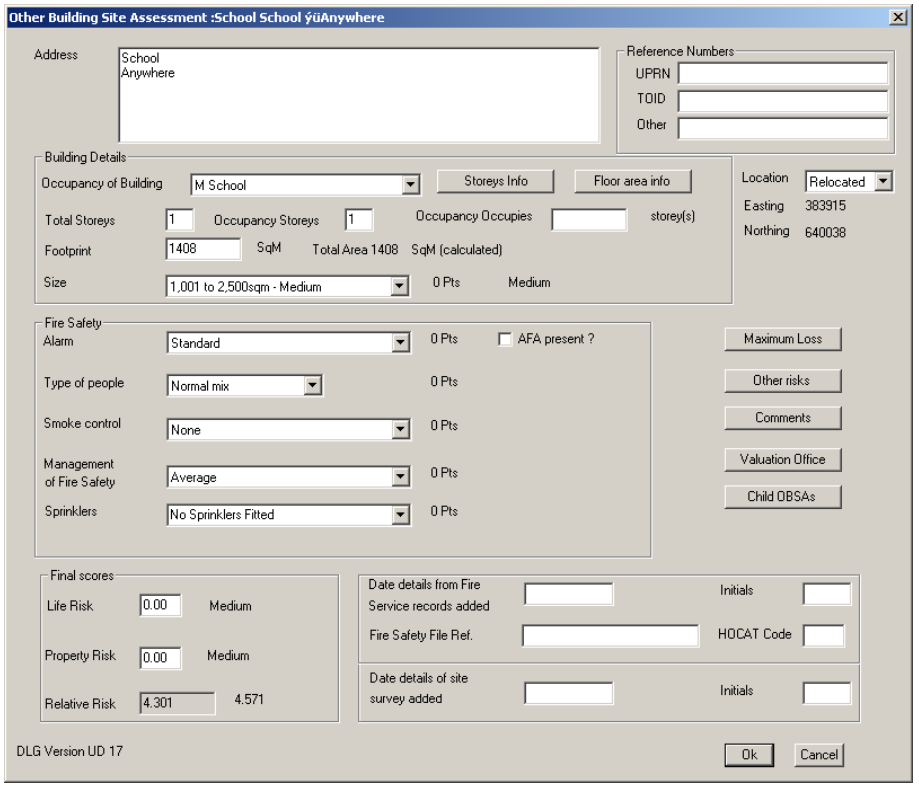
Predicting the effect of fire safety measures in buildings

Analysis of effect of measures such as :

- AFD/smoke alarms
- sprinklers
- management
- type of occupants



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MODELLING

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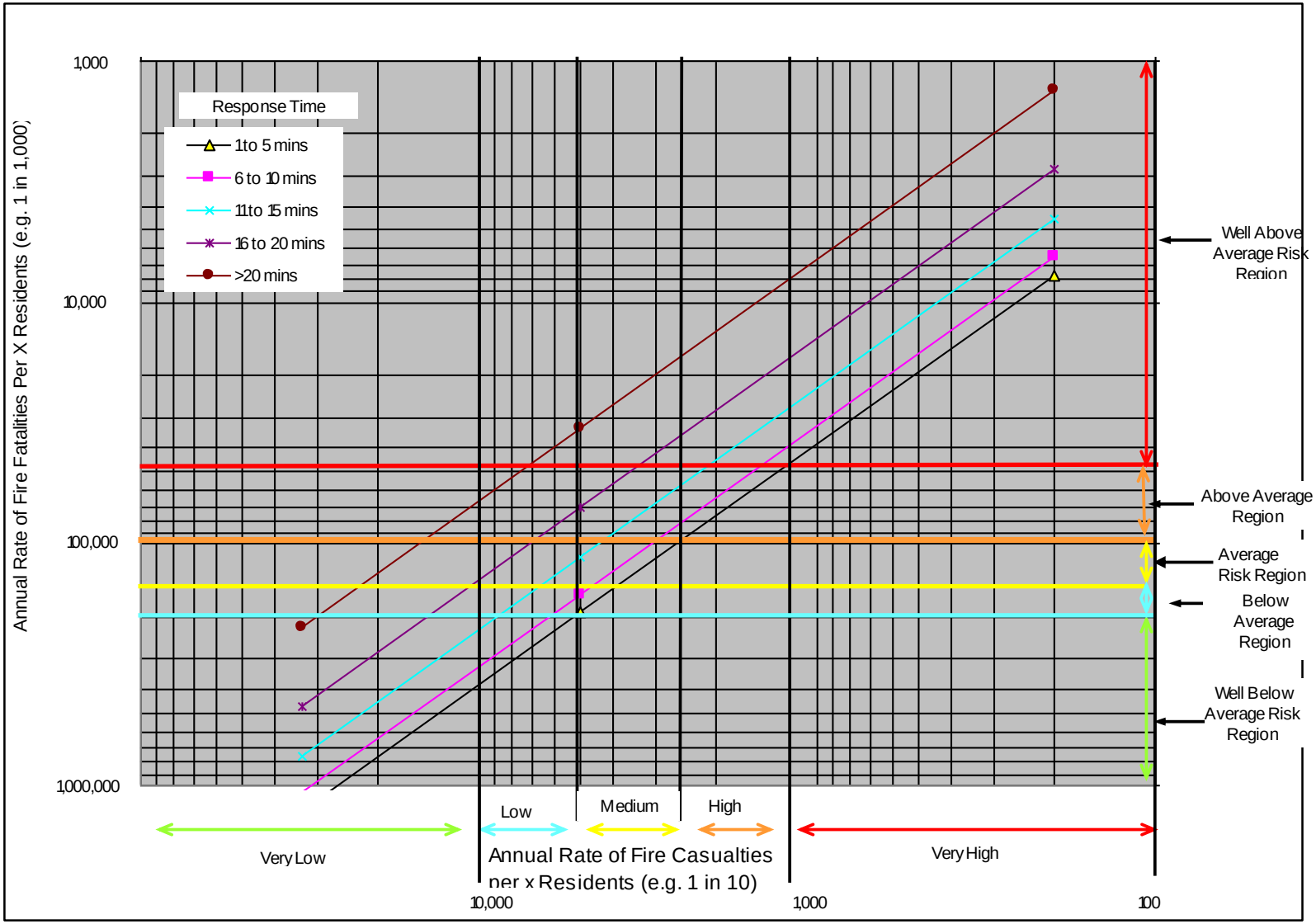
Predicting the effect of fire service intervention

Relationships derived for fire and rescue service response time versus:

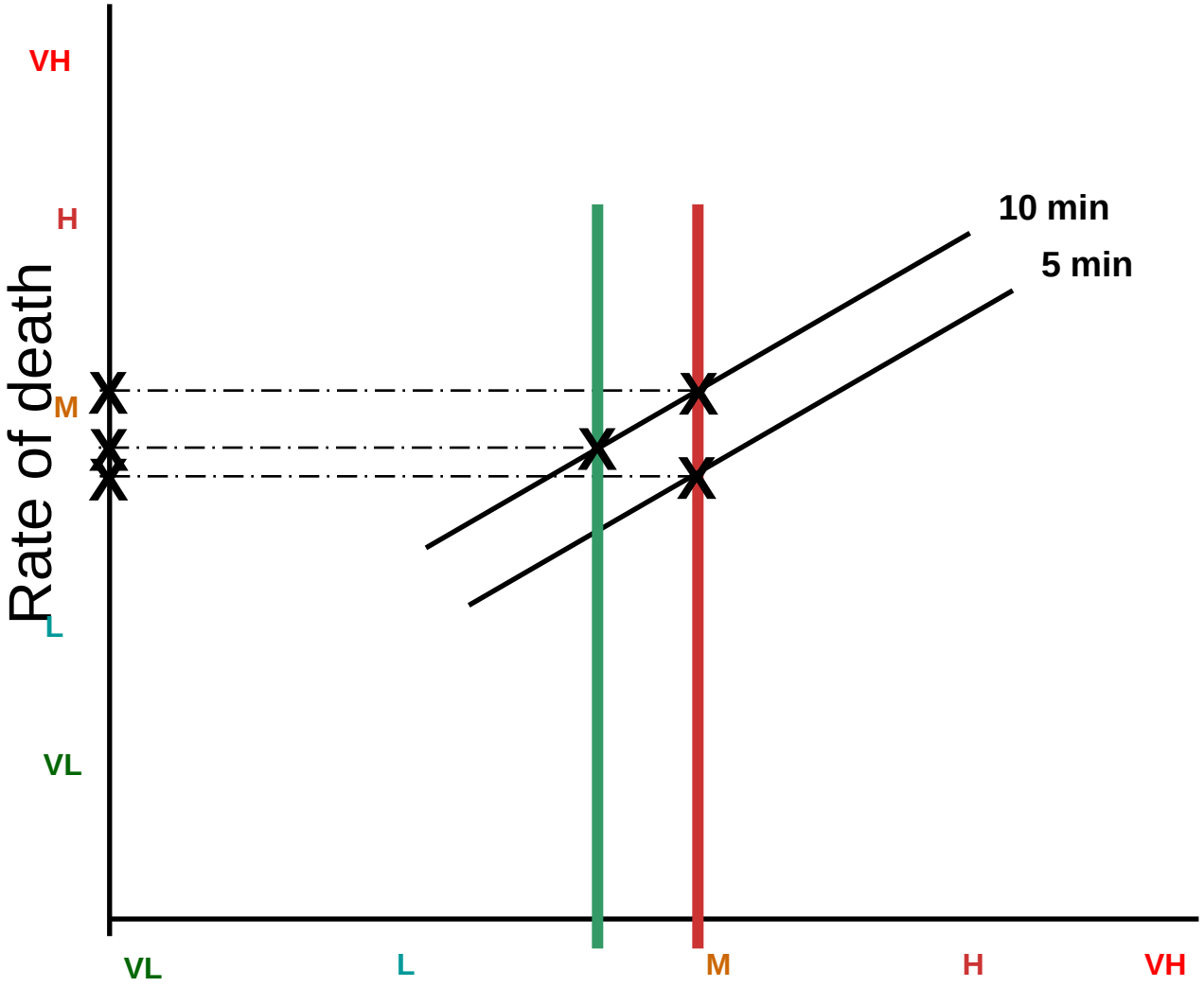
- fatalities in dwelling fires
- property loss in ‘other buildings’
- fatalities in special services
- fatalities in ‘other buildings’

So you can predict what the losses will be, when you know how long it will take to get there.

Response time fatality rate



Response time fatality rate - schematic



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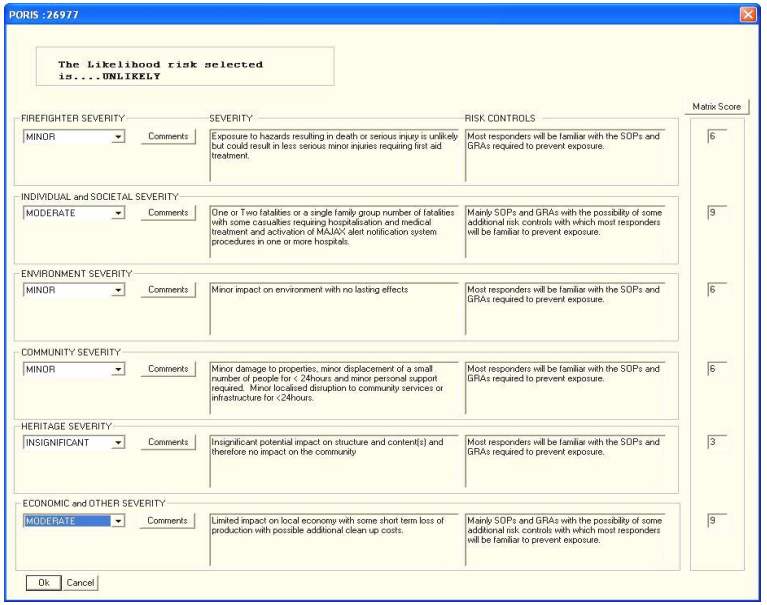
Using FSEC – testing scenarios

- **Build base case**
- **Test scenarios**
- **Day crewing a vehicle means an extra 0.01 lives lost per annum, but saves about £134,000 in crew costs**

Base Case	**Total 7.48 deaths**	**Cost £27.74 million**
Test case 1 – Day Crew a vehicle	**Total 7.49 deaths**	**Cost £27.60 million**

FSEC can be used as the cornerstone for Integrated Risk Management Planning by enabling :

- **Cost benefit analysis** – by predicting losses for various FRS strategies
- **Targeting -** for example highlighting the high risk population and also the high risk population who do not get a fast FRS response and providing them with Home Fire Risk Checks
- **On-going risk management -** for example providing the platform for maintaining fire safety data or information on buildings with a particular firefighter risk



Current Position

- Delivered to all FRSs in England, Scotland and Wales in spring 2004
- 43 of 46 English FRSs FSEC ‘health-checked’. Provision of high quality, consistent risk data.
- Work load modelling
- CFS modelling

- Re-fresh of FSEC this summer
  - Replacement workstations
  - Networking
  - Major incident module
  - Seminars

- Due to be rolled into FiReControl project as Risk Management Functionality

- Continued development of existing FSEC

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Summary

The FSEC Toolkit:

- Measures risk in a robust and consistent manner
- Predicts the impact of fire safety measures on risk
- Predicts the impact of FRS response on risk
- Allows managers to analyse ‘What would happen if…’ scenarios
- Integration

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