



## Forensics Data Requirements

The PRISM Forensics module requires data to configure and run it. These data must be gathered from existing sources and input to the PRISM database. If it is appropriate, this can be done by copying and pasting from other data sources such as Excel.

The information required for input to PRISM is separated into three categories as follows:-

- **Scoping Information** – this is information that defines the scope of which elements are included within the scenario, for example where are the CSIs located, where is the evidence processed
- **Data** – These are the data concerning the elements in the model, for example the number of incidents requiring CSI attendance
- **Parameters** – This is information that is used to control the behaviour of the model by mimicking the decision making process. The parameters are often adjusted as part of the ‘what-if’ experimentation phase.

The ‘Data’ section contains the information that normally needs to be collected from force IT systems to drive the PRISM model.

Scoping Information	
Item	Description
Regions	The geographical areas in which incidents occur. PRISM can be used to assess the ability of CSIs to attend incidents in different locations, and how this is affected by the CSI base locations and the CSI tasking method. A key factor is then the distance travelled to these incidents.
CSI Roles	The different types of CSI that are included in the model. The role dictates the activities that may be carried out by these staff, and the preferred role to carry out each activity.
Shifts	The shift patterns worked by staff.
CSI Locations	The bases where the CSIs are located, and how these relate geographically to the regions where the incidents occur.
Incident Types	The crime types or other forensic requirements for which CSIs may be required to attend. The main characteristics of requirement to attend, time at scene, evidence collected and detection will differ according to the incident type.
Evidence Types	The different types of forensic evidence that may be collected.
Processing Locations	The forensic processing facilities used by the force, e.g. Fingerprint Bureaux, DNA Labs. Each location may process one or more type of evidence.



Data	
Item	Description
For each Region	
Preferred CSI Location (optional)	The CSI to task with attending this incident will normally be decided based on shortest journey time. However, it is possible to specify a preferred CSI location for a region. For example, it there may be a preference to use the Divisional team rather than another CSI who may be geographically closer. If no preference is specified, the nearest location will be preferred.
Travel Times	The average number of minutes to travel from each region to each other region.
Region Profiles	A region profile defines the number of incidents that occur in each region. Several profiles may be used, for example to use different ones for different seasons or different crime streams.
For each CSI Location	
Region	The geographical region (selected from the regions defined for this scenario) where this CSI location is based.
For each CSI Role	
Abstraction Rate (optional)	Percentage to indicate the expected number of CSIs who will be unavailable for work due to factors such as holidays, training, meetings etc.
Teams of Staff	The teams of people available to carry out this role in this subdivision. A team is a group of people who all work the same shift pattern, and could comprise anything from one person upwards. For each team, data are required concerning the number of staff in the team and the shift that they work on each day of the week.
For each Shift	
Start Time	The time of day that the shift starts working.
End Time	The time of day at which the shift ends. If this is earlier than the start time, it is assumed that the shift runs over midnight into the next day.
Break Minutes (optional)	The number of minutes taken as a meal break during the shift.
Earliest Break (optional)	The earliest time at which the meal break may be taken.
Latest Break (optional)	The latest time at which the meal break may be completed.
For each Evidence Type	
CSI Average Admin Minutes	The average time (in minutes) that a CSI spends on preparing and submitting evidence of this type. The time will apply to each sample collected. It may be that much or all of this admin will be carried out by dedicated admin resources. The model is only concerned with the workload of the CSIs.
% Success Rate	The percentage chance that each piece of evidence of this type will achieve a positive identification when it is processed.



For each Incident Type	
Priority	The priority of the incident type. This is used to decide between jobs when allocating these to CSIs, evidence processing etc. 1 is the highest priority, then 2 etc. 0 is the lowest priority. Different incident types may use the same priority if required.
% Visited	The percentage of incidents of this type that will be visited by a CSI. This does not reflect a target, but a measure of the likelihood of this type of incident having a suitable scene.
Maximum Hours	The model will abandon a scene (i.e. not attend it) if it is not attended within the maximum time. The maximum is unlikely to exist in reality, but is used to reflect the concept that some incidents may have less chance of a visit during busy periods. This means that high priority incidents may well have a higher maximum time (i.e. they will always be visited, however late).
Average Planning Minutes	This is the time that the CSI spends planning before he sets off to visit an incident. If Centralised Forensic Tasking is used, this planning time may be reduced.
Average Minutes at Scene	The average time spent by a CSI at a scene for an incident of this type. If multiple CSIs are required to attend an incident, then each CSI will spend (on average) this amount of time at the scene.
Number of CSIs	The number of CSIs attending an incident of this type. This is not fixed, but input as the percentage of times that such an incident would be attended by 1 CSI, by 2 CSIs, by 3 CSIs, 4 CSIs, 5 CSIs, by somewhere in the range of 6-10 CSIs, by 11-15 CSIs or by 16-20 CSIs. The model will randomly decide on the number of CSIs required for each incident as it occurs.
Role to use	A prioritised list of up to five CSI roles who may carry out the activity.
Incident Type Profiles	An incident type profile defines the number of incidents that occur of each type. Several profiles may be used, for example to use different ones for different seasons or different crime streams.
Evidence Lifts – For each Incident Type and Evidence Type	
Percentage of Scenes	The percentage of scenes for incidents of this type where evidence of this type is gathered. This percentage is applied separately for each CSI attending the incident in question.
Average Number of Lifts	For an incident type where a CSI is attending, and the model has randomly decided that he has found evidence of this type (see above), the average number of pieces of evidence that he will find.



Incident Volumes	
Incident Streams	Any number of separate crime streams may be introduced. These may be used to reflect different types of arrival patterns.
For each Incident Stream	
Annual Number of Incidents	The number of incidents per year that occur in this stream.
For each Month – by Incident Stream	
Percentage	The monthly break-down of occurrences of incidents in this stream.
Arrival Profile	The pattern of arrests over the week, split out to number per day of the week, and per time slot. The time slot is typically one hour or two hour divisions of the day, but could range from one minute to 24 hours.
Region Profile	The name of a defined Region profile used to allocate incidents from this stream occurring in this month to a geographical region. Region profiles are defined within the model to reflect regional distribution of incidents.
Incident Type Profile	The name of a defined Incident Type profile used to allocate incidents from this stream occurring in this month to an incident type. Incident Type Profiles are defined within the model to reflect the workload split.
Processing Locations	
Evidence Types	Which of the defined evidence types may be processed at this location.
Minimum Days	The minimum number of days to turn around an identification of evidence of this type at this location.
Average Days	The average number of days to obtain an identification of this type of evidence at this location.
Maximum Samples per day	The maximum number of pieces of evidence of this type that could be turned around per day.
For each CSI Location	
Processing Location	The processing location that would be used for each type of evidence for each CSI Location.
Transfer Time (Hours)	The expected average time to move samples from this CSI location to this processing location. If required, this transfer time may be over-ridden by using a detailed collection schedule (see below).
Collection Schedules	
Collection From	Either a CSI location or a processing location that the collection will be made from.
Delivery To	Either a CSI location or a processing location that the delivery will be made to. This is only useful if the delivery location is of a different type to the collection location. For example, the model has no need to transfer information between CSI location



For each schedule	
Collection day and time	The days of the week and time of day that all items waiting at the collection site for delivery to this location will be picked up.
Delivery day and time	The day of the week and time of day that each delivery slot will be delivered to the specified location.
<b>Detections</b>	
For each Incident Type	
Start Detection	When does the detection process begin for each incident type. This could be when results are available for all forensic samples, or alternatively when the first positive identification is received.
Detection % Success Rate	The percentage of incidents of this type where a positive identification will result in a successful detection.
Average Days to Detect	The average number of days that the detection process takes to reach a conclusion for each incident type.

Parameters	
Item	Description
<b>CSI Tasking</b>	
Job Allocation	Are jobs allocated to CSIs 'Remotely' where they are issued one at a time as the previous job is completed, e.g. by radio. Alternatively is a pack of jobs allocated at start of shift.
'Start of Shift' sub-options	Percentage of the shift that will be allocated when producing the pack of jobs at shift start for the CSI
	When the initial pack of jobs is complete, is there the facility to then remotely allocate further jobs to the CSI as necessary.
Tasking Level	Are the CSIs tasked locally or centrally. For local tasking, jobs will initially be allocated to the preferred CSI Location, and from there allocated to CSIs. For central tasking, all jobs will be controlled centrally, and allocated to the most appropriate CSI. This option would be used to model both Central Forensic Tasking and tasking by the Force Control Room.
Central tasking level sub-option	Is it more important to try and use the most appropriate CSI role at the expense of longer travel time, or vice versa?