

Appendix 1 – Data Classification and Collection

The Highway Asset Management Plan (HAMP) has identified that the data recorded against some asset groups is insufficient and / or unreliable in terms of:

- Asset groups
- Asset group components
- Condition of assets
- Size and / or number of assets

In order to ascertain the amount and quality of data held, data tables have been produced for each asset group and these are to be populated by the relevant officer.

This information will then be analysed and the results will inform a priority process for improving the quality of data.

1 Classification of Carriageway Assets

Level 1 : ASSET TYPE	Level 2 : ASSET GROUP	UNIT OF MEASURE	Level 3 : VALUATION COMPONENTS
Carriageway	Flexible pavements Flexible composite pavements Rigid concrete pavements Rigid composite pavements	area m2	Includes for all categories: pavement layers, other surface types, central reservation, roundabouts, lay-bys, traffic island etc, traffic calming, bus lanes, drainage
		linear m	Kerbing, markings, road studs, hard strip / shoulder / verges

In addition individual asset hierarchy data is required for both rural and urban roads in terms of meters / linear length

Carriageways

- Carriageway infrastructure
- Road markings
- Pedestrian refuges, central reservations and traffic islands

Asset Hierarchy Principal Roads
Classified Roads
Unclassified Roads
Back lanes

Asset Elements Carriageway infrastructure
Road markings
Pedestrian refuges, central reservations and traffic signals

Information Held Road name
Road classification
Surfacing material
Length
BVPI surveys
In-house condition assessments
Date of last inspection
Coloured surface / anti-skid
Location of speed limits
Road markings associated with TRO's
Location of traffic calming features

Information Required Width
Construction date
Construction materials and thickness
Maintenance history
Location of cellars under the carriageway

Existing Data Information

Table 1.1	Details of Existing Inventory Data (Traffic Signals)				
Item	Coverage (%)	Records Format & Location	Confidence Level (%)	Last Surveyed	Update Frequency
Road name					
Road classification					
Length (individual asset hierarchy data required for both rural and urban roads)					
BVPI's principal & classified roads					
BVPI's unclassified roads					
Visual condition assessment principal & classified roads					
Visual assessment unclassified roads					
Date of last inspection					
Coloured surfacing / anti skid					
Location of speed limits					
Road markings associated with TRO's					
Location of traffic calming features					
Width (individual asset hierarchy data required for both rural and urban roads)					
Construction date					
Construction materials and thickness					
Planned maintenance history					
Reactive maintenance history					
Location of cellars under carriageway					

Criteria

- Coverage – the amount of information available expressed as a percentage of the whole asset
- Records Format & Location – whether the records are hard copy or electronic, what type of electronic database and where they are presently stored
- Confidence Level - the level of confidence held that the existing information is correct & up to date

- Last Surveyed – the date of the last full survey used to populate the inventory information
- Update Frequency – the frequency with which the existing data is checked and updated

Data Collection

Table 7.2	Details of Data Collection (Traffic Signals)					
Item	Historic Data Mgt	Collection Method	Collection Date	Validation Exercise	Where Stored	Input Method
Road name						
Road classification						
Length (individual asset hierarchy data required for both rural and urban roads)						
BVPI's principal & classified roads						
BVPI's unclassified roads						
Visual condition assessment principal & classified roads						
Visual assessment unclassified roads						
Date of last inspection						
Coloured surfacing / anti skid						
Location of speed limits						
Road markings associated with TRO's						
Location of traffic calming features						
Width (individual asset hierarchy data required for both rural and urban roads)						
Construction date						
Construction materials and thickness						
Planned maintenance history						
Reactive maintenance history						
Location of cellars under carriageway						

Criteria

- Historic Data – how will historic data be collated / managed?

- Collection Method – how will the missing data be collected?
- Collection Date – when is the missing data expected to have been collected?
- Validation Exercise – how will the existing and newly collected data be validated?
- Where Stored – where will the collected information be stored (if response is as per Records Format and Location in Table 1.1 enter an 'L')?
- Input Method – How will the information be entered into its storage location?

2 Classification of Footway and Cycleway Assets

Level 1 : ASSET TYPE	Level 2 : ASSET GROUP	UNIT OF MEASURE	Level 3 : VALUATION COMPONENTS
Footways & cycleways	Footways Pedestrian areas Footpaths (including PRoW) Bridleways (including PRoW) Cycletracks	area m2	Includes for all categories: construction layers and formation
<p>In addition individual asset hierarchy data is required for both rural and urban footways in terms of meters / linear length Where width is an unknown, meters / linear length will suffice for all the individual asset groups (for now)</p>			

Footway & Cycleway

Footway Asset Hierarchy

Prestige area (category 1a)
 Primary walking route (category 1)
 Secondary walking route (category 2)
 Link footway (category 3)
 Local access footway (category 4)

Asset Elements

Footway infrastructure
 Cycleway infrastructure
 Kerbing

Information Held

Location
 Condition assessment
 Date of last inspection
 Length

Information Required

Width
 Surfacing material
 Kerb type / material
 Channel type / material
 Construction date
 Construction materials & thickness
 Maintenance history

Existing Data Information

Table 2.1	Details of Existing Inventory Data (Footway and Cycleway)				
Item	Coverage (%)	Records Format & Location	Confidence Level (%)	Last Surveyed	Update Frequency
Location					
BVPs					
Visual condition assessment					
Date of last inspection					
Length (individual asset hierarchy data required for both rural and urban roads)					
Width (individual asset hierarchy data required for both rural and urban roads)					
Surfacing material					
Kerb type / material					
Construction date					
Construction materials and thickness					
Planned maintenance history					
Reactive maintenance history					

Criteria

- Coverage – the amount of information available expressed as a percentage of the whole asset
- Records Format & Location – whether the records are hard copy or electronic, what type of electronic database and where they are presently stored
- Confidence Level - the level of confidence held that the existing information is correct & up to date
- Last Surveyed – the date of the last full survey used to populate the inventory information
- Update Frequency – the frequency with which the existing data is checked and updated

Data Collection

Table 2.2	Details of Data Collection (Carriageways)					
Item	Historic Data Mgt	Collection Method	Collection Date	Validation Exercise	Where Stored	Input Method
Location						
BVPs						
Visual condition assessment						
Date of last inspection						
Length (individual asset hierarchy data required for both rural and urban roads)						
Width (individual asset hierarchy data required for both rural and urban roads)						
Surfacing material						
Kerb type / material						
Construction date						
Construction materials and thickness						
Planned maintenance history						
Reactive maintenance history						

Criteria

- Historic Data – how will historic data be collated / managed?
- Collection Method – how will the missing data be collected?
- Collection Date – when is the missing data expected to have been collected?
- Validation Exercise – how will the existing and newly collected data be validated?
- Where Stored – where will the collected information be stored (if response is as per Records Format and Location in Table 2.1 enter an 'L')?
- Input Method – How will the information be entered into its storage location?

3 Classification of Structures Assets

Level 1 : ASSET TYPE	Level 2 : ASSET GROUP	UNIT OF MEASURE	Level 3 : VALUATION COMPONENTS
Structures	Bridges and subways Culverts Retaining walls Signs gantries, cantilever signs Tunnels Structural earthworks	deck area m2 internal surface area m2 retained area m2 span length m length m length m	Includes for all categories: the entire structure

For a complete list of unit costs for structure sub-groups see the CIPFA Structures Calculator

Bridges & Other Highway Structures

Asset Elements	Accommodation bridge Culvert Disused rail bridge Disused rail tunnel Footbridge High mast lighting column Overbridge – building Pedestrian way Retaining wall Road bridge Sign gantry Stairs Subway Tunnel Tunnel – service
Information Held (Do we hold all this info ?)	Structure number Structure name Maintaining agent (structure / road surface) Date of last inspection Structure owner Year structure commissioned Does the road go over / under railway / canal / river / road? Is river tidal / navigable? Name of navigation/drainage authority Is the structure susceptible to scour? Is the structure on the high load route? Is the structure on the heavy load route? Is the structure scheduled as an ancient monument? Statutory undertakers having services on structure Minimum headroom Design load Design standard version

Special loading / restriction
 Structure type
 Grid reference
 Primary deck element code
 Primary deck material code
 Secondary deck element code
 Secondary deck material code
 End supports
 Intermediate supports
 Nature of foundations
 Bridge deck type
 Bridge deck area
 Parapet type
 Parapet length
 Pedestrian guardrail type
 Pedestrian guardrail length
 Footbridge type
 Footbridge deck area
 Wing wall type
 Wing wall length
 Wing wall area
 Abutment type
 Abutment area
 Pier no
 Pier type
 Pier area
 Retaining wall type
 Retaining wall length
 Retaining wall area
 Stair type
 Stair plan area
 Ramp type
 Ramp plan area
 Culvert type
 Culvert plan area
 Subway type
 Subway plan area
 Safety fence type
 Safety fence length
 Advanced signs
 Height / weight restriction signs
 Lighting units
 Condition assessments – (inspection and assessment records)
 Bridge condition indices (BCI's).

**Information
 Required
 (Does any of
 the info in the**

Missing structures i.e. retaining walls and culverts
 that have not yet been entered onto the existing database

***list above need
moving to this list ?***

Existing Data Information

Table 3.1	Details of Existing Inventory Data (Structures)				
Item	Coverage (%)	Records Format & Location	Confidence Level (%)	Last Surveyed	Update Frequency
Structure number					
Structure name					
Maintaining agent (structure / road surface)					
Date of last inspection					
Structure owner					
Year structure commissioned					
Does the road go over / under railway / canal / river / road?					
Is the river tidal / navigable?					
Name of navigation / drainage authority					
Is the structure susceptible to scour?					
Is the structure on the high load route?					
Is the structure on the heavy load route?					
Is the structure scheduled as a n ancient monument?					
Statutory undertakers having services on the structure					
Minimum headroom					
Design load					
Design standard version					
Special loading / restriction					
Structure type					
Grid reference					
Primary deck element code					
Primary deck material code					

Table 3.1	Details of Existing Inventory Data (Structures)				
Item	Coverage (%)	Records Format & Location	Confidence Level (%)	Last Surveyed	Update Frequency
Secondary deck element code					
Secondary deck material code					
End supports					
Intermediate supports					
Nature of foundations					
Bridge deck type					
Bridge deck area					
Parapet type					
Parapet length					
Pedestrian guardrail type					
Pedestrian guardrail length					
Footbridge type					
Footbridge deck area					
Wing wall type					
Wing wall length					
Wing wall area					
Abutment type					
Abutment area					
Pier number					
Pier type					
Pier area					
Retaining wall type					
Retaining wall length					
Retaining wall area					
Stair type					
Stair plan area					

Table 3.1	Details of Existing Inventory Data (Structures)				
Item	Coverage (%)	Records Format & Location	Confidence Level (%)	Last Surveyed	Update Frequency
Ramp type					
Ramp plan area					
Culvert type					
Culvert plan area					
Subway type					
Subway plan area					
Safety fence type					
Safety fence length					
Advance signs					
Height / weight restriction signs					
Lighting units					
Condition assessments (inspection and assessment records)					
BCIs					

Criteria

- Coverage – the amount of information available expressed as a percentage of the whole asset
- Records Format & Location – whether the records are hard copy or electronic, what type of electronic database and where they are presently stored
- Confidence Level - the level of confidence held that the existing information is correct & up to date
- Last Surveyed – the date of the last full survey used to populate the inventory information
- Update Frequency – the frequency with which the existing data is checked and updated

4 Classification of Lighting Assets

Level 1 : ASSET TYPE	Level 2 : ASSET GROUP	UNIT OF MEASURE	Level 3 : VALUATION COMPONENTS
Lighting	Lighting columns Wall mounted lighting units High mast lighting Traffic signs	number	The entire item including: column and foundations brackets, luminaires control gear, internal wiring

Highway Lighting

Asset Elements	Lighting columns Wall mounted lighting units High mast lighting (over 12m) Subway units Heritage columns Feeder pillars Illuminated traffic bollards Illuminated traffic signs
Information Held <i>(Do we hold all this info ?)</i>	Identity number Site location Year commissioned Date of last inspection Date of last electrical test Date of last electrical test to authority network by circuit Date of last Authority cable network electrical test Date of last group lamp replacement Unit type Column / sign post material Column / sign post mounting height Column / sign post fixing Column / sign post root protection Column / sign post flange base Bracket type Number of brackets Bracket projection Traffic sign illumination Number of luminaries Luminaire model reference Luminaire distribution and profile Luminaire setting Luminaire ingress protection Lamp type Lamp wattage Lamp charge code Number of lamps per luminaire

Control type
 Switching regimes codes
 Control location
 Service owner
 Supply point
 Number of outgoing circuits at supply points
 Traffic sign diagram number (if applicable)
 Traffic sign category (if applicable)
 Attachment / traffic sign size (if applicable)
 Number of approved attachments (if applicable)
 Type of approved attachment (if applicable)
 Trans-illuminated traffic bollard body material
 Trans-illuminated traffic bollard body type
 Trans-illuminated traffic bollard base material
 Trans-illuminated traffic bollard base type
 Feeder pillar body material
 Feeder pillar body protection
 Number of phases
 Isolator rating
 Number of outgoing circuits
 Outgoing circuit protection device
 Feeder pillar drawing number

**Information
 Required
 (Does any of
 the info in the
 list above need
 moving to this list ?)**

Missing columns and illuminated signs
 that have not yet been entered onto the existing database

Existing Data Information

Table 4.1	Details of Existing Inventory Data (Structures)				
Item	Coverage (%)	Records Format & Location	Confidence Level (%)	Last Surveyed	Update Frequency
Identity number					
Site location					
Year commissioned					
Date of last inspection					
Date of last electrical test					
Date of last electrical test to authority network by circuit					

Table 4.1	Details of Existing Inventory Data (Structures)				
Item	Coverage (%)	Records Format & Location	Confidence Level (%)	Last Surveyed	Update Frequency
Date of last Authority cable network electrical test					
Date of last group lamp replacement					
Unit type					
Column / sign post material					
Column / sign post mounting height					
Column / sign post fixing					
Column / sign post root protection					
Column / sign post flange base					
Bracket type					
Number of brackets					
Bracket projection					
Traffic sign illumination					
Number of luminaires					
Luminaire model reference					
Luminaire distribution and profile					
Luminaire setting					
Luminaire ingress protection					
Lamp type					
Lamp wattage					
Lamp charge code					
Number of lamps per luminaire					
Control type					
Switching regimes codes					
Control location					
Service owner					
Supply point					

Table 4.1	Details of Existing Inventory Data (Structures)				
Item	Coverage (%)	Records Format & Location	Confidence Level (%)	Last Surveyed	Update Frequency
Number of outgoing circuits at supply points					
Traffic sign diagram number (if app)					
Traffic sign category (if app)					
Attachment / traffic sign size (if app)					
Number of approved attachments (if app)					
Type of approved attachment (if app)					
Trans-illuminated traffic bollard body material					
Trans-illuminated traffic bollard body type					
Trans-illuminated traffic bollard base material					
Trans-illuminated traffic bollard base type					
Feeder pillar body material					
Feeder pillar body protection					
Number of phases					
Isolator rating					
Number of outgoing circuits					
Outgoing circuit protection device					
Feeder pillar drawing number					

Criteria

- Coverage – the amount of information available expressed as a percentage of the whole asset
- Records Format & Location – whether the records are hard copy or electronic, what type of electronic database and where they are presently stored
- Confidence Level - the level of confidence held that the existing information is correct & up to date
- Last Surveyed – the date of the last full survey used to populate the inventory information
- Update Frequency – the frequency with which the existing data is checked and updated

Data Collection

Table 4.2	Details of Data Collection (Carriageways)					
Item	Historic Data Mgt	Collection Method	Collection Date	Validation Exercise	Where Stored	Input Method
All items						

Criteria

- Historic Data – how will historic data be collated / managed?
- Collection Method – how will the missing data be collected?
- Collection Date – when is the missing data expected to have been collected?
- Validation Exercise – how will the existing and newly collected data be validated?
- Where Stored – where will the collected information be stored (if response is as per Records Format and Location in Table 4.1 enter an 'L')?
- Input Method – How will the information be entered into its storage location?

5 Classification of Land Assets

Level 1 : ASSET TYPE	Level 2 : ASSET GROUP	UNIT OF MEASURE	Level 3 : VALUATION COMPONENTS
Highway green spaces	Freehold land and rights land	area - hectares	Nothing beyond area of land

Highway Land / Green Spaces

Asset Elements Land - rural
Land - urban

Information Held Location
(Do we hold all this info ?) Date of last inspection
Area

Information Required CIPFA guidance not yet available so elements unknown

Existing Data Information

Item	Details of Existing Inventory Data (Land)				
	Coverage (%)	Records Format & Location	Confidence Level (%)	Last Surveyed	Update Frequency
Location					
Condition					
Area - rural					
Area - urban					

Criteria

- Coverage – the amount of information available expressed as a percentage of the whole asset
- Records Format & Location – whether the records are hard copy or electronic, what type of electronic database and where they are presently stored
- Confidence Level - the level of confidence held that the existing information is correct & up to date
- Last Surveyed – the date of the last full survey used to populate the inventory information
- Update Frequency – the frequency with which the existing data is checked and updated

Data Collection

Table 5.2	Details of Data Collection (Land)					
Item	Historic Data Mgt	Collection Method	Collection Date	Validation Exercise	Where Stored	Input Method
Location						
Condition						
Area - rural						
Area - urban						

Criteria

- Historic Data – how will historic data be collated / managed?
- Collection Method – how will the missing data be collected?
- Collection Date – when is the missing data expected to have been collected?
- Validation Exercise – how will the existing and newly collected data be validated?
- Where Stored – where will the collected information be stored (if response is as per Records Format and Location in Table 4.1 enter an 'L')?
- Input Method – How will the information be entered into its storage location?

6 Classification of Street Furniture Assets

Level 1 : ASSET TYPE	Level 2 : ASSET GROUP	UNIT OF MEASURE	Level 3 : VALUATION COMPONENTS
Street furniture	Urban roads Rural roads	number	Seating, litter bins, grit bins bollards, sign posts, street name plates, trees, weather station

Street Furniture

- Carriageway infrastructure
- Road markings
- Pedestrian refuges, central reservations & traffic islands

Asset Hierarchy Principal roads
Classified roads
Unclassified roads

Asset Elements Advanced direction signs
Direction signs
Warning signs
Information signs
Sign posts
Street name plates
Bollards
Seats
Highway fences
Pedestrian barriers
Safety barriers
Litter bins
Grit bins
Weather station
Highway trees

Information Held **Signs**
Sign Category
Reflectorisation
External Illumination
Mounting Method
Mounting Height
Plate Size
X-height
Posts
Ownership
Condition Details (Good, Average, Poor)

Bins and Grit Bins

Location
Type
Condition
Age

Weather Station

Location
Type
Condition
Age

**Information
Required****Signs**

Gazetteer Reference
Location Description
OS Grid Reference
Unit Number (where applicable)
Sign Plate Reference Number (Traffic signs Manual)
Plate Description
Sign Type
Condition (Good, Average, Poor)
Photo Reference
Sign Category
Reflectorisation
External Illumination
Mounting Method
Mounting Height
No of Poles
Plate Size
X-height
Ownership

Barriers

Location
Type
Length
Condition
Age

Street Furniture

Location
Type
Material
Length
Height
Condition
Age

Highway Trees

Location
Species
Height
Condition
Age

Existing Data Information

Table 6.1	Details of Existing Inventory Data (Street Furniture)				
Item	Coverage (%)	Records Format & Location	Confidence Level (%)	Last Surveyed	Update Frequency
Signs					
Sign category					
Reflectorisation					
External illumination					
Mounting method					
Mounting height					
Plate size					
X-height					
Posts					
Ownership					
Condition details (good, average, poor)					
Bins and Grit Bins					
Location					
Type					
Condition					
Age					
Weather Station					
Location					
Type					
Condition					
Age					

Criteria

- Coverage – the amount of information available expressed as a percentage of the whole asset
- Records Format & Location – whether the records are hard copy or electronic, what type of electronic database and where they are presently stored
- Confidence Level - the level of confidence held that the existing information is correct & up to date
- Last Surveyed – the date of the last full survey used to populate the inventory information
- Update Frequency – the frequency with which the existing data is checked and updated

Data Collection

Table 6.2	Details of Data Collection (Carriageways)					
Item	Historic Data Mgt	Collection Method	Collection Date	Validation Exercise	Where Stored	Input Method
Signs						
Sign category						
Reflectorisation						
External illumination						
Mounting method						
Mounting height						
Plate size						
X-height						
Posts						
Ownership						
Condition details (good, average, poor)						
Gazetteer reference						
Location description						
OS grid reference						
Unit number						
Sign plate reference number						

Plate description						
Sign type						
Barriers and Guardrail						
Location						
Type						
Condition						
Age						
Street Furniture						
Location						
Type						
Material						
Length						
Height						
Condition						
Age						
Highway Trees						
Location						
Species						
Height						
Condition						
Age						

Criteria

- Historic Data – how will historic data be collated / managed?
- Collection Method – how will the missing data be collected?
- Collection Date – when is the missing data expected to have been collected?
- Validation Exercise – how will the existing and newly collected data be validated?
- Where Stored – where will the collected information be stored (if response is as per Records Format and Location in Table 6.1 enter an 'L')?
- Input Method – How will the information be entered into its storage location?

7 Classification of Traffic Signal Assets

Level 1 : ASSET TYPE	Level 2 : ASSET GROUP	UNIT OF MEASURE	Level 3 : VALUATION COMPONENTS
Traffic management	Traffic signals Pedestrian signals Information systems Safety cameras	number number number number	All equipment and cables All equipment and cables All equipment and cables All equipment and cables

Asset Hierarchy Principal Roads
Classified Roads
Unclassified Roads

Asset Elements Traffic Signalised Junction
Pelican / Puffin Crossing
Toucan Crossing
Pegasus Crossing
School Crossing Patrol Flashing Lights
SCOOT Apparatus

Information Held Site number
District
Site location
Type of controller
Control system
Listing of all power consuming equipment (Traffic Heads, Green arrows, Pedestrian Heads etc)
Equipment contained within the controller
Inspection Records
Condition of Installation
Number of Signal Poles
Condition of Signal Poles

Information Required Location referenced to road number/hierarchy

Existing Data Information

Table 7.1	Details of Existing Inventory Data (Traffic Signals)				
Item	Coverage (%)	Records Format & Location	Confidence Level (%)	Last Surveyed	Update Frequency
Site number					
Site location					

GPS reference					
Age					
Type of controller					
Control system					
Listing of all power consuming equipment					
Equipment contained within the controller					
Inspection records					
Condition of installation					
Number of signal poles					

Criteria

- Coverage – the amount of information available expressed as a percentage of the whole asset
- Records Format & Location – whether the records are hard copy or electronic, what type of electronic database and where they are presently stored
- Confidence Level - the level of confidence held that the existing information is correct & up to date
- Last Surveyed – the date of the last full survey used to populate the inventory information
- Update Frequency – the frequency with which the existing data is checked and updated

Data Collection

Table 7.2	Details of Data Collection (Traffic Signals)					
Item	Historic Data Mgt	Collection Method	Collection Date	Validation Exercise	Where Stored	Input Method
Site number						
Site location						
GPS reference						
Age						
Type of controller						
Control system						
Listing of all power consuming equipment						
Equipment contained within the controller						

Inspection records						
Condition of installation						
Number of signal poles						
Location referenced to road number / hierarchy						

Criteria

- Historic Data – how will historic data be collated / managed?
- Collection Method – how will the missing data be collected?
- Collection Date – when is the missing data expected to have been collected?
- Validation Exercise – how will the existing and newly collected data be validated?
- Where Stored – where will the collected information be stored (if response is as per Records Format and Location in Table 7.1 enter an 'L')?
- Input Method – How will the information be entered into its storage location?