

Road Asset Management
Planning

Data Management Plan 2017

Falkirk Council



Falkirk Council

Document History

Version	Status	Date	Author	Changes from Previous Version
1.0	Draft	Aug 2014	Ewan Hogg	<ul style="list-style-type: none"> First draft of the document.
2.0	Draft	Nov 2015	Ewan Hogg	<ul style="list-style-type: none"> Contents page added in. Section 2 – Asset Groupings: bullet points added to Carriageway Level 3 column. Section 4 – Data Management: under Data Validation, the frequency of culvert surveys was amended. Section 5 – Data Assessment & Improvement: rows and information added to carriageways, traffic management systems and street lighting data.
3.0	Draft	Jan/Feb 2016	Ewan Hogg	<ul style="list-style-type: none"> Changes made to front cover Section 4 – Data Management: final paragraph under Data Verification amended. Section 5 – Data Assessment & Improvement: rows and information added to footway/footpath and structures data.
4.0	Draft	Oct 2016	Ewan Hogg	<ul style="list-style-type: none"> Section 3 – Data Storage: Roadnet system changed to QGIS. Section 5 – Data Assessment & Improvement: rows and information amended in footway/footpath and street furniture data.
5.0	Final	April 2017	Dot Reid	<ul style="list-style-type: none"> 2017 Update – minor date changes throughout the document.

Document Control

Version	Status	Date	Authorised for Issue by Roads Services Asset Management Team

Signed: R Geisler Date: 14/7/17
 Director of Development Services: Rhona Geisler

Contents

	Pages
1. Introduction	1 – 2
2. Asset Groupings	2 – 3
3. Data Storage	4
4. Data Management	5 – 7
5. Data Assessment & Improvement	7 – 8
6. Appendix 1	9

1 Introduction

Asset Data

This plan records the data held about each of the asset groups that make up the road asset, it details where the data is stored and the systems used for data storage, it also identifies how and when this data is updated, verified and validated. Where data or system deficiencies exist these are acknowledged and a plan is included for how and when improvements will be made to the data or systems.

Types of Data

Different types of data are required in order to manage the road asset e.g.

- **Inventory:** the number, location, size, type, age, diagram numbers (for signs and lines) reference numbers and component make up of each asset.
- **Condition:** measurement and rating of the condition of the asset from testing or visual inspection.
- **Inspection:** details of the inspection regime, inspection results and actions initiated.
- **Use:** details of the use of assets in the form of data such as traffic counts, heavy vehicle routes, etc. This is reflected in the hierarchy category for carriageway and footway assets.
- **Safety:** details of accidents and incidents that occur on the asset as well as action taken to mitigate risk to road users.
- **Cost:** details of the unit cost of common activities and the overall cost to enable unit cost benchmarking.

Asset Management Data Uses

Data is used for a number of reasons, including:-

- monitoring of, and reporting on, the condition of the road network and its asset components
- prediction and reporting of funding needs
- identification and prioritisation of sites and assets for maintenance works
- monitoring and reporting of performance (performance indicators)
- national benchmarking opportunities to allow service provision to be reviewed
- assessment of the expected lives of individual assets or asset components

- valuation of the asset and calculation of depreciation
- unit cost benchmarking
- review of service standards
- public information to provide greater transparency

The following sections describe how we plan to manage our road asset data.

2 Asset Groupings

For the purpose of this Plan and for all road asset management reporting, the Council has adopted the groupings used in the CIPFA Transport Asset Code as shown below:-

Level 1 Asset type	Level 2 Asset group	Level 3 Components that level 2 implicitly covers
Carriageway	Area (square metre) based elements <ul style="list-style-type: none"> • Flexible pavements • Flexible composite pavements • Rigid concrete pavements • Rigid composite pavements 	<ul style="list-style-type: none"> • Pavement layers • Other surface types, e.g. paved • Central reservation, roundabout, lay-by, traffic island, etc • Earthworks (embankments and cuttings, retaining walls height <1.35m) • Traffic calming • Fords and causeways
	Linear elements	<ul style="list-style-type: none"> • Kerbs • Line markings • Road studs • Road drainage elements (gullies, drains, etc, but not large structures) • Boundary fences and hedges • Hard strip/shoulder verges/vegetation
Footways and cycletracks (attached to the road or segregated)	<ul style="list-style-type: none"> • Footways • Pedestrian areas • Footpaths • Cycletracks 	<ul style="list-style-type: none"> • Pavement layers • Other surface types, eg block paving, unbound materials

Falkirk Council

Data Management Plan 2017



Level 1 Asset type	Level 2 Asset group	Level 3 Components that level 2 implicitly covers
Structures	<ul style="list-style-type: none"> • Bridges (span >1.5m) • Culverts (span >0.9m) • Retaining walls (height >1.35m) • Structural earthworks, e.g. strengthened/reinforced soils (all structures with an effective retained height of 1.5m or more) • Subway: pipe • Underpass/subway: pedestrian (span of 1.5m or more) • Underpass: vehicular • Special structure 	<ul style="list-style-type: none"> • All elements identified on the CSS inspection pro forma • Smaller water-carrying structures are considered as road drainage
Street lighting	<ul style="list-style-type: none"> • Lighting columns • Lighting unit attached to wall/ wooden pole • Heritage columns • Illuminated bollards • Illuminated traffic signs 	<ul style="list-style-type: none"> • Column and foundations • Bracket • Luminaires • Control equipment, cables • Control gear, switching, internal wiring cabling (within ownership)
Street furniture	<ul style="list-style-type: none"> • Transport • Highway • Streetscene/ amenity 	<ul style="list-style-type: none"> • Traffic signs (non-illuminated) • Safety fences • Pedestrian barriers • Street name plates • Bins • Bollards • Bus shelters • Grit bins • Gates • Trees/tree protection, etc • Seating • Verge marker posts • Weather stations
Traffic management systems	<ul style="list-style-type: none"> • Traffic signals • Pedestrian signals • Zebra crossings 	<ul style="list-style-type: none"> • Different types
	<ul style="list-style-type: none"> • In-station 	<ul style="list-style-type: none"> • Complete installation
	<ul style="list-style-type: none"> • Information systems • Safety cameras 	<ul style="list-style-type: none"> • Variable message signs • Vehicle activated signs • Real time passenger information
Land	<ul style="list-style-type: none"> • Freehold land • Rights land 	<ul style="list-style-type: none"> • Features on the land are not taken into account

3 Data Storage

Data for each asset is held electronically on the systems shown in the table below:

Software Systems Used

Information System Capability & Use								
SOFTWARE SYSTEMS USED	Carriageways	Footways	Structures	Street Lighting	Drainage	Street Furniture	Traffic Management Systems	
What software systems are used for:								
1 Asset register	Roadnet (QGIS) / WDM	Roadnet (QGIS) / WDM	WDM SMS / MS Word/Excel	WDM	WDM	WDM / GIS	MS Excel	
2 Safety Inspections	WDM RMS	WDM RMS	WDM SMS / MS Word/Excel	WDM / GIS	WDM RMS	WDM RMS	Digitised site folders	
3 Condition survey	WDM PMS / WDM Web Info Publisher	WDM RMS	WDM SMS / MS Word/Excel	WDM	WDM (gullies) / Paper records	WDM / Paper records	Digitised site folders	
4 Routine Reactive Maintenance	MS Excel / Profess / WDM RMS	MS Excel / Profess / WDM RMS	WDM SMS / MS Word/Excel	WDM LMS / MS Access	WDM RMS / Profess	WDM RMS / Profess	IMTRAC Fault Management System	
5 Cyclic Maintenance	MS Excel / Profess	Profess	WDM SMS / MS Word/Excel	WDM / MS Access / Profess	MS Excel / Profess	MS Excel	MS Excel / Digitised site folders	
6 Planned Maintenance	MS Excel / Profess / MSWord / QGIS	MS Excel / Profess / MSWord / QGIS	WDM SMS / MS Word/Excel	WDM LMS / Profess	MS Access / Profess	Profess	MS Excel / Digitised site folders	
7 Streetworks	Symology	Symology	Symology	Symology	Symology	Symology	Symology	
8 Street Gazetteer	Roadnet (QGIS) / Location Centre (Web GIS)	Roadnet (QGIS) / Location Centre (Web GIS)	QGIS (Roadnet)	WDM LMS	N/A	N/A	N/A	
9 Accident Analysis	N/A	N/A	N/A	N/A	N/A	N/A	KeyACCIDENT (SQLEXPRESS)	
10 Traffic Data (Counts)	Access Database linked to VDA-Pro	Access Database linked to VDA-Pro	N/A	N/A	N/A	N/A	N/A	
11 Customer Contacts	WDM CSM / WDM RMS / CRM	WDM CSM / WDM RMS / CRM	WDM CSM / WDM SMS / CRM	WDM CSM / WDM LMS / CRM	WDM CSM / WDM RMS / CRM	WDM CSM / WDM RMS / CRM	Digitised Folders/CRM	
12 3rd Party Claims	MS Excel / MS Word	MS Excel / MS Word	MS Excel / MS Word	MS Excel / MS Word	MS Excel / MS Word	MS Excel / MS Word	MS Excel / MS Word	
13 Departmental Finance	Profess / Integra	Profess / Integra	Profess / Integra	Profess / Integra	Profess / Integra	Profess / Integra	Integra / MS Excel	

Comment on systems used: Note that the Profess Roads Costing system has replaced the Procon costing system which was retired at end of financial year 2013-14. Note that ArcGIS was replaced with QuantumGIS (QGIS) in July 2016.

4 Data Management

It is essential that we know the quality of the asset data we hold and that appropriate measures are taken to maintain the data and to collect any important data that is not currently held.

Roles and Responsibilities

The responsibility for the management of the data relating to each asset group has been allocated as follows:

Asset Group	Person Responsible for Asset Data
Carriageways	Dorothy Reid (Area Roads Engineer)
Footways, Footpaths & Cycleways	Dorothy Reid (Area Roads Engineer)
Drainage	Dorothy Reid (Area Roads Engineer) / Stephen Beales (Roads Design Co-Ordinator)
Street Lighting	Graham Speirs (Area Lighting Engineer)
Non-illuminated signs	Dorothy Reid (Area Roads Engineer) / Russell Steedman (Network Co-Ordinator)
Structures	Stephen Beales (Bridge & Structural Design Co-ordinator)
Traffic Signals	Russell Steedman (Network Co-ordinator)
Street Furniture	Dorothy Reid (Area Roads Engineer)
Verges & Planted Areas	Dorothy Reid (Area Roads Engineer)

It is the responsibility of the person in the role shown above to ensure that data relating to the asset group for which they are responsible is updated, verified, validated and reviewed as shown in the following sections and that any actions required to improve data are reported to the **Raymond Smith (Roads Manager)** and **Greg Pender (Engineering Design Manager)**.

Overall responsibility for road asset data quality lies with the **Robert McMaster (Head of Roads and Design)**.

The core data requirements for each of the asset groups have been identified by the SCOTS RAMP project and can be found in the SCOTS RAMP Task 2 data assessment sheet which is updated annually.

Updating

Asset data should be updated following changes to the asset as shown below:

Inventory Updating Timing	
Type	Timing
New Assets – Council Built	Within 3 months of completion
New Assets - Taking in Charge	Completed immediately
Major maintenance e.g. resurfacing	Completed immediately
Removals	Within 1 months of confirmation of Order

Data Verification

Any new or updated asset data that has been captured shall be verified prior to entering it into the appropriate software/database. For carriageway, footway and street furniture assets, Asset Change forms (Appendix 1) shall be completed and sent to the Roads Asset Management Team to allow relevant datasets to be updated.

Responsibility for data verification lies with the individual Asset Discipline Coordinator.

A 10% sample of the data will require verification by field inspection and the accuracy and if not 100% accurate this will be rejected. Incorrect data will be returned for correction to the appropriate party. Any resubmitted data shall be subjected to the same verification checks as the original data.

Data Validation

In order to validate data held within the road asset software/databases validation surveys will be carried out. It will be the responsibility of the Asset Management Officer to determine the frequency at which validation surveys will be carried out taking consideration of the level of activity on the network and/or any existing concerns over data quality:-

Asset	Frequency
Carriageways	Quarterly (Every 3 months)
Footways	Quarterly (Every 3 months)
Street Furniture	Quarterly (Every 3 months)
Structures	Every 2 years
Retaining Walls	N/A
Culverts	Biannual (Every 6 months)

Falkirk Council

Data Management Plan 2017



Street Lighting	Every 6 years
Traffic Management Systems	Annually

A validation survey will compare the data held within the relevant software/database with a site inspection.

A 10% sample of the data will be required to be used as a minimum for each verification survey and the target of 100% accuracy is required.

It will be the responsibility of the Asset Management Officer to record the actions to be undertaken when data quality is found to be below this level e.g. the issue shall be reported to the data custodian and further surveys undertaken to ascertain whether the problem is specific to the locations chosen.

It will be the responsibility of the Asset Management Officer to record the actions to be undertaken if the data inaccuracy is found to be more than an isolated incident.

5 Data Assessment & Improvement

Annual Data Review

The review of data should be undertaken annually in April. The review of data will be driven by the results of data validation surveys and will use the spreadsheets produced under the SCOTS RAMP project to enable an evaluation of the data held. This method uses a core data set recommended by SCOTS as the minimum that authorities should hold for each asset group and a method of assessing the quantity and reliability of the data held. This results in a confidence rating for each item of data.

The review is used to identify data deficiencies and to enable improvement actions to be planned to improve the quality of the data held.

The results of the latest data review are reported below, by asset group, detailing any data deficiencies and the actions proposed for their improvement. All improvement actions undertaken are reported annually within the Annual Status and Options Report (ASOR).

Falkirk Council

Data Management Plan 2017



Falkirk Council

Asset Data Improvement Register		
Data Deficiency	Data Improvement Action	Date
Carriageway Data		
No details of material types and work history are held.	Expand and broaden out on data currently recorded. Work on new Roads Treatments Layer.	January 2017
Validation of current and new schemes.	Officers validate schemes when proposing them for work for the next financial year.	Ongoing
Footway/Footpath Data		
Lack of electronic footpath data.	Continue with electronic footpath data recording in gazetteer.	End April 2017
No validation or verification of data refinements for unclassified footways and footpaths.	Undertake checks after capturing each footpath to validate the electronic records held.	End April 2017
Limited data is held for this asset – length, width, area. No details of material types and work history are held.	Expand and broaden out on data currently recorded. Work on new Roads Treatments Layer.	End April 2017
Validation of current and new schemes.	Officers validate schemes when proposing them for work for the next financial year.	Ongoing
Street Lighting Data		
Comprehensive data held for this asset, some concerns over accuracy.	Street Lighting data inventory being re-surveyed and plotted in WDM. Data captured and authenticated currently 75%.	March 2017
Structures Data		
Comprehensive data held for the Bridge asset, some concerns over accuracy.	Bridge Data inventory has been resurveyed and being updated.	March 2017
Limited data is held for the retaining wall asset – length, number, location. Limited details of material types and work history are held.	Survey Falkirk area to record number and location and determine ownership and liability for future maintenance.	March 2017
Traffic Management Systems Data		
List of problem sites.	Analyse condition data and carried out any further condition inspections and prioritise a list of problem sites	March 2017
Street Furniture		
Minimum records held relating to the different street furniture asset types.	Broaden out on what's currently held.	Long term goal. December 2020 for electronic data capture for all street furniture assets.

Appendix 1

Road Infrastructure Asset Management

Asset Change/Addition Confirmation Form

Asset Type:

Data Custodians:

Details of Officer/Inspector requesting Change/Addition:-

Requested by:-

Team:- East/West

Date requested:-

Asset Details:-

Is this a change to existing data:- Y/N

If yes, what is the current Asset Identification ref?

Please give details of the change, below:-

If no, please give additional data details below:-

(please attach a location plan)

.....
For use by Asset Management Team

Date amendments made:-

Data Set Changed Y/N