

Swindon Borough Council Highway Asset Management Strategy

2016 to 2020



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Foreword

The highway infrastructure in Swindon is the biggest capital asset that the Council own. It is valued at well over a billion pounds and is vital to the town's economic and social prosperity.

Although our roads are currently amongst the safest in the South West, our highway network is growing busier and larger, as new businesses and residents are attracted to the facilities we offer and our vision to create the vibrant and prosperous Swindon of 2030.

The growth of the town, together with the financial pressures we continue to face, mean that we must become smarter; more flexible and innovative in our approach to managing highway assets within the funding that is available.

A Highway Infrastructure Asset Management (HIAM) Policy has been prepared to demonstrate how commitment to long term asset management for our highway infrastructure will support the delivery of the four priorities and thirty pledges embedded within the Vision for Swindon 2030.

This HIAM Strategy considers how the priorities and pledges can be used to inspire our highway development and maintenance works and identifies what changes we need to effect, to ensure that our highway infrastructure continues to support the growth of the town for years to come.



David Renard
Leader of the Council

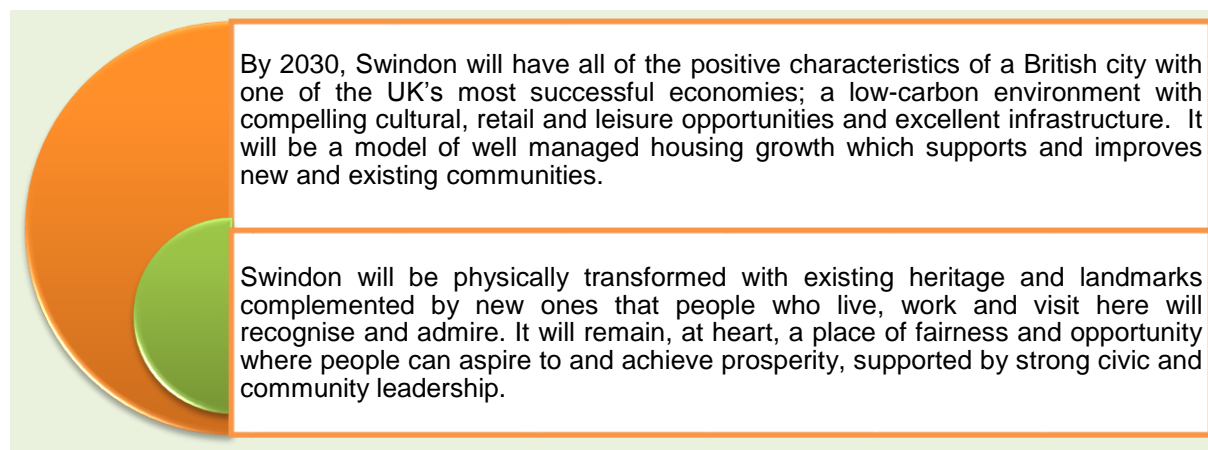


Mary Martin
Cabinet Member for
Communities and Place

1.0 Context

1.1 Strategic Vision

The Vision for Swindon 2030 sets out how the Council will shape the Borough, and deliver growth that allows communities to prosper, families to live healthy and happy lives, and children to fulfil their potential. The Vision for Swindon is that:



Source: Vision for Swindon 2030 (2015)

In order to deliver the Vision, the Council has developed four priorities and thirty pledges, which will enable Councillors and officers to prioritise their work and ensure that the Council is using its increasingly limited resources to effectively pursue the vision for Swindon 2030.

1.2 Integration with National Policy and the Corporate Business Planning Process

A HIAM Policy has been prepared to demonstrate how commitment to long term asset management for our highway infrastructure will support the delivery of the Council Vision; Council Plan and the ancillary Departmental Business Plan for Highways and Transportation.

This HIAM Strategy has been prepared to identify how the priorities within the HIAM Policy Document can be used influence the way in which we manage highway assets. The core concepts championed within this strategy have been used to develop individual management and operational plans for each asset area as detailed in figure 1.



Figure 1: Strategic Hierarchy

The following external factors were considered during the development of the HIAM Policy and this HIAM Strategy:



1.3 Summary of the Highway Asset

The Council calculate the value of highway infrastructure assets on an annual basis by means of a toolkit developed by the Chartered Institute of Public Finance Accountants (CIPFA). This value is included in the overall Council Whole of Government Accounts (WGA) submission.

In July 2015, the cost to re-build the highway network from scratch (Gross Replacement Cost) was estimated to be £1.36Bn, excluding the cost of purchasing the land. The cost to return the network from its current condition to as-new condition (Accumulated Depreciation) was estimated to be £211.67M. A detailed break-down of the value and current depreciation for each asset group is contained in appendix a.

2.0 Asset Management

Framework

2.1 Guidance and Good Practice

This HIAM Strategy and the pre-eminent HIAM Policy are written in accordance with the 'Highway Infrastructure Asset Management Guidance Document, May 2013'.

This guidance was funded by the Department for Transport (DfT) as part of the Highways Maintenance Efficiency Programme (HMEP) and sets out a framework that Local Authorities may use to develop; document, implement and continually improve their asset management practices.

The guidance builds on a range of recent developments including:

- The CIPFA 'Code for Transport Infrastructure Assets';
- The Audit Commission report 'Going the Distance';
- The Potholes Review, 'Prevention and a Better Cure'; and
- The Code of Practice 'Well Managed Highway Infrastructure'.

The guidance recommends that the standard framework is tailored by individual highway authorities to meet their needs, aspirations and the current maturity of their asset management processes. The guiding national Asset Management Framework used to produce this strategy is detailed in appendix b.

2.2 Asset Management Framework:

Overview

The Asset Management Framework was designed to provide a structured, consistent and quality approach for assessing the benefits of undertaking maintenance and the associated risks of not undertaking maintenance.

A standardised system has been developed to plan maintenance activities; compare and

contrast risks and opportunities and inform key decisions at Strategic; Tactical and Local Levels across all individual asset groups as detailed in appendix c.

A holistic Performance Management Framework has been developed to ensure that the contribution that highway maintenance makes towards the delivery of the Council Vision is measured and monitored. Regular Performance Management Reports promote internal reflection and learning and drive continuous improvement. The Performance Management Framework is published on the Council web-site [HERE](#).

Bespoke Information and Communication Strategies have been introduced to support the delivery of the Performance Management Framework and improve the data available across all asset groups to better inform the decision making process. The Information and Communication Strategies are published on the Council web-site [HERE](#).

2.3 Performance Management Framework

The Performance Management Framework is pivotal to the effective operation of the Asset Management Framework.

It supports Priorities 1 and 3 of the HIAM Policy and the overarching Vision for Swindon 2030:

Vision Priority 1

'Improve infrastructure and housing to support a growing, low-carbon economy.'

HIAM Policy Objective 1

By adopting a long term approach to asset management, we will **increase the resilience** of the network; promote consistent journey times and utilise sustainable solutions including low and zero carbon energy technology to reduce waste; environmental impact and whole life costs.

Vision Priority 3

'Ensure clean and safe streets and improve our public spaces and local culture.'

HIAM Policy Objective 3

We will adopt a **risk-based** approach to asset management and will regularly inspect and maintain highway infrastructure assets to keep our highway network safe and working; reduce accidents; crime; the fear of crime and anti-social behaviour.

The Performance Management Framework defines 5 Levels of Service aligned to the HIAM Policy and Council Vision. The Levels of Service have been agreed with stakeholders to best reflect the key requirements that affect their ability to enjoy use of the highway.

The Levels of Service are broken down into 15 tangible measures of performance which supplement the archaic national key performance indicators that are annually reported to Central Government.

These measures of performance provide a facility to systematically monitor and track service delivery over time and reveal how investment decisions impact upon the long term performance of the asset. The measures of performance increase the opportunities we have to bench-mark our service with that of other Local Authorities and like-minded organisations.

Performance targets for each measure have been agreed with stakeholders and aligned to the asset management strategy; current and anticipated future budgets; stakeholder expectations; engineering integrity and the risk to the authority of not investing in each aspect of the service measured, as detailed in figure 2 (page 6).

Performance against the agreed targets is reviewed regularly by Senior Decision Makers

to identify opportunities for improvement and manage overall risk.



2.4 Information Strategy

It is essential for accurate information to be collected for the assets we maintain and the services we provide in order to comply with statutory obligations; effectively manage performance and assess risks in accordance with Priority 3 of the Vision for Swindon, 2030:

Vision Priority 3

'Ensure clean and safe streets and improve our public spaces and local culture.'

HIAM Policy Objective 3

We will adopt a **risk-based** approach to asset management and will regularly inspect and maintain highway infrastructure assets to keep our highway network safe and working; reduce accidents; crime; the fear of crime and anti-social behaviour.

An Information Strategy has been developed for highway assets to supplement the Corporate Information Governance and Security Policy. This strategy is designed to ensure that information is collected in an auditable format that supports the implementation of the Performance Management Framework and Communications Strategy.

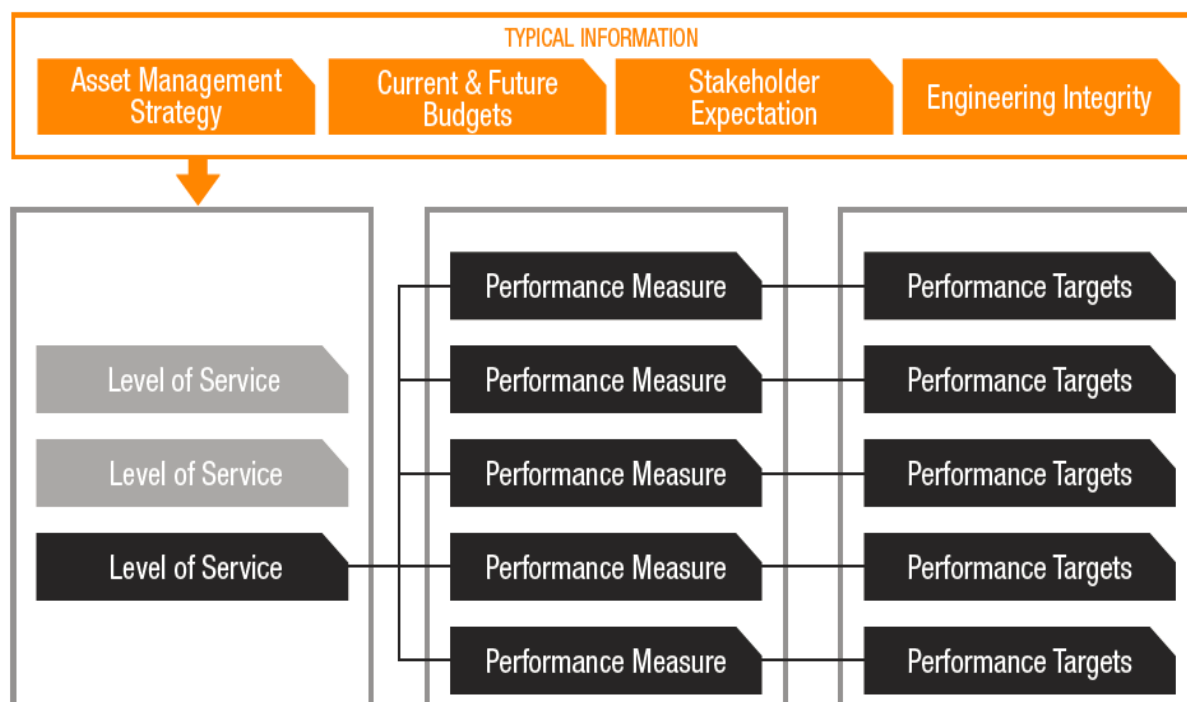


Figure 2: Reproduced from HMEP Highway Infrastructure Asset Management Guidance (2013)

The information strategy takes into account that the highway network has been constructed over many centuries and few construction records are available for many sub-surface assets. Where the lack of information is considered to pose a risk to the authority, funding has been made available to collect asset data and assess condition.

The impact of data collection surveys has been maximised by targeting high risk areas first, in accordance with the Local Flood Risk Management Strategy; the HMEP 'Guidance on the Management of Highway Drainage Assets, 2012' and the Code of Practice 'Well Managed Highway Infrastructure, 2016'.



2.5 Communication Strategy

The Council regularly communicates highways information to stakeholders by means of the Council web-site and 'Highway News' e-circular.

Feedback regarding service performance is solicited by means of the JADU digital customer interface; local and national customer surveys and Parish and Elected Member presentations and meetings.

The communication methods we use are captured in a Communication Strategy that has been developed to ensure that we consistently communicate with Stakeholders in a structured and transparent manner in accordance with Priority 4 of the Vision for Swindon, 2030:



Vision Priority 4

'Help people to help themselves while always protecting our most vulnerable children and adults.'

HIAM Policy Objective 4

We will regularly **engage with the communities** we serve by surveying public opinion to ensure that our strategy and supporting commissioning; financial and delivery plans work effectively as a whole, and that their combined effect meets agreed levels of service.

The Communication Strategy ensures that information is communicated in an auditable format that supports the implementation of the Performance Management Framework and Information Strategy.

The Communication Strategy captures the lessons learnt through individual consultation exercises and uses them to influence service improvements and enhance existing and future work programmes.



3.0 The Planning Process

3.1 Strategic Level Planning

Strategic Level Planning is the process undertaken by a panel of Senior Decision Makers to apportion the overall highway maintenance budget between each of the asset groups detailed in appendix a, and the activities depicted in figure 3 (page 8).

The Strategic Level Planning process directs how investment will be apportioned to meet the performance targets set in the Performance Management Framework. The process has been developed to balance the duties placed upon the Authority; the needs of the asset and the aspirations of the community funding that can be made available.

During the Strategic Level Planning phase, budgets are allocated to each asset group and activity for a three year period to accord with the Government commitment to providing certainty of long term funding. This will enable efficiencies in procurement; planning and customer liaison to be realised through economies of scale and budget security. The panel of Senior Decision Makers will review any revisions to the defined levels of service and performance targets on an annual basis before allocating the budget for a further year to maintain a continuous three year programme of works.

3.2 Tactical Level Planning

Tactical level planning is carried out for programmed works by specialist Asset Management Engineers. This exercise is designed to apportion the budget allocated for each asset group to the most appropriate type of treatments to reduce whole-life maintenance costs and maximise value for money.

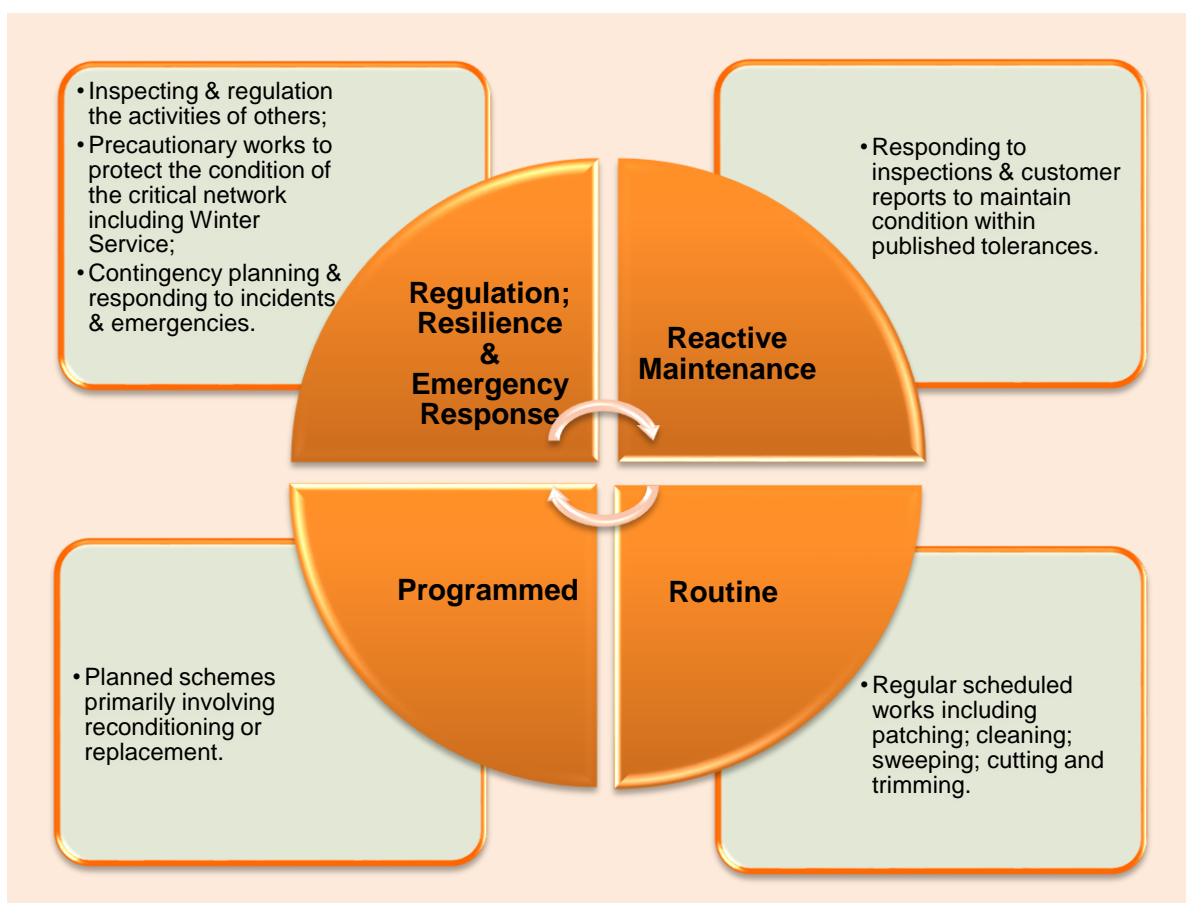


Figure 3: Strategic Level Budget Activities

Tactical level plans are carried out at network level by considering the lifecycle of each asset group. A variety of alternative lifecycle plans and funding strategies have been developed and compared in order to find the optimum balance of treatment types to reduce whole life costs across the network by using the right treatment, in the right place, at the right time.

This approach accords with best practice and guidance that Local highway authorities should adopt the principle that 'prevention is better than cure' in determining the balance between structural, preventative and reactive maintenance activities in order to improve the resilience of the highway network.

The lifecycle models that have been developed locally, accord with national findings that sustained programmes of preventative maintenance are considerably better value in the long term than sole reliance on reactive works or concentrating all funding on the worst roads first. A Government funded review - Prevention and a Better Cure, Potholes

Review, April 2012 reported that 'planned preventative maintenance is at least 20 times less expensive than reactive maintenance'.

Treatment options that may be considered for each asset group at the Tactical Level are detailed in appendix d.

3.3 Local Level Planning

It is recognised that there are far more Highway Infrastructure Assets that may benefit from treatment than we have the funds to treat at any one time. As a result it is important to be able to prioritise maintenance in a fair, consistent and transparent manner. The Local Level Planning process adopted for Swindon accords with current guidance which advises:

'While it is recognised that safety will be of primary importance, other issues should also be addressed; otherwise the process may focus solely on safety and fail to address serviceability, sustainability and customer service' (UKRLG Well Maintained Infrastructure – Draft Part 2).

Local Level planning and prioritisation systems have been developed using a risk based approach to safety and a range of non-safety related factors in order to deliver the defined service levels.

Local Level Planning is undertaken by specialist Asset Management Engineers and Operational Managers in accordance with the criteria agreed in appendix e.

Local Level Planning is undertaken in two distinct phases so that a wide range of factors may be considered in the most efficient manner.

3.4 Local Level Planning: Phase 1

Phase 1 is a risk-based desktop exercise to produce a long list of assets which demonstrate the most significant need of intervention. The long-list will group assets by street and section length where applicable.

A range of factors are considered during each assessment however the lower the quality and extent of condition data held for each asset group, the greater the weighting that will be applied to other factors to balance the risk. The information considered is grouped into the following four core areas:



Figure 4: Local Level Planning Phase 1

3.5 Local Level Planning: Phase 2

Phase 2 comprises a visual inspection by a specialist Asset Management Engineer of the assets identified in Phase 1 for which the data connotes the highest need of intervention. This phase is designed to reduce the long list

produced in Phase 1 into a final shortlist of schemes and is grouped into the following three core areas:



Figure 5: Local Level Planning Phase 2

An example of how this approach may be used to prioritise assets within each asset group is contained in appendix f.

3.6 Programme Approval

When funding is made available, Asset Management Engineers prepare Business Cases summarising the data considered during the Tactical and Local Level Planning process and the benefits of adopting the recommended approach for consideration by a Project Board. The Project Board is chaired by a representative from the Strategic Level panel to ensure that:

- The Tactical and Local plans have been prepared in accordance with the Information Strategy;
- The Tactical and Local plans support the implementation of the Performance Management Framework and Communication Strategy;
- The Tactical and Local Plans support the defined service levels and are likely to deliver the desired outcomes; and
- Any improvements to the system are recorded and fed back to the Strategic Board for inclusion in the as part of the cycle of Continuous Improvement.

3.7 Reactive Works

The Highway Network in Swindon has evolved over many years with progressive re-alignments being carried out using a variety of materials, rather than constructing the network to one holistic design. For this reason, even if a robust regime of programmed and routine maintenance is sustained, minor defects may occur at any time which requires reactive intervention.

Swindon Council has devised a local policy for the Inspection and Reactive Maintenance service aligned to the Code of Practice document 'Well Maintained Highways, 2005'. This code prescribes acceptable intervention tolerances for a defect and recommended response times to carry out repairs.

A new version of the Code of Practice entitled 'Well Managed Highway Infrastructure, 2016' will come into force in October 2018.

This revised Code of Practice has been developed to encourage Authorities to adopt a local risk-based **inspection** and **defect repair** regime for all highway assets.

Swindon Council has appointed a Steering Group to review the existing local Inspection and Defect Repair policy and ensure that it conforms to the new standards. Once the review has been completed, an updated version of the policy will be published and this Highway Asset Management Strategy will be reviewed accordingly.

Where possible, defects requiring reactive maintenance will be treated with large patches in clusters rather than as individual defects to maximise the longevity of repairs.

3.8 The Continuous Improvement Cycle

Following the close of the financial year or upon completion of programmes or major projects, the Strategic Board will review the achieved level of progress against the defined levels of service contained in the Performance Management Framework. The reviews shall be designed to include:

- Results of any audits undertaken;

- Compliance with regulations and standards;
- The extent to which performance objectives have been achieved;
- Follow-up actions from previous reviews;
- Changing circumstances;
- Changes in technology; and
- Results of bench-marking exercises.

Any lessons learnt and opportunities for improvement will be recorded and where required an Improvement Plan will be devised to ensure that corrective actions are taken and the respective Policy; Framework; Strategy or Plan is updated accordingly.

4.0 Design for Maintainability

The Swindon Borough Local Plan 2026 provides the policy framework to deliver the sustainable growth of Swindon to 2026 and beyond.

The plan recognises that a considerable amount of new and improved infrastructure will be needed to support development and that this should integrate with, and minimise the impact upon the existing transport network. The plan includes a number of policies to ensure that developments are constructed in a sustainable manner that will help to deliver the Vision for Swindon, 2030 including:



Detailed guidance entitled Transport Requirements for Development (TRfD) has been prepared by the Highways and Transportation Team to supplement the Swindon Borough Local Plan 2026 and a draft version has been circulated for consultation.

Once the guidance has been adopted and published, it will include provisions to promote:

- Sustainable solutions that require the minimum amount of maintenance;
- The use of materials that are durable; reduce carbon and whole-life costs;
- Geometries that deter accidents and accidental damage and facilitate easy access for maintenance; and
- The utilisation of components and techniques that deter malicious damage and are cost effective to replace.

Permission may be refused or conditions included for any proposals that do not meet the Councils requirements for maintainability and flood risk.

Projects perceived to pose significant risk are subject to a rigorous Technical Approval process to fully interrogate the design principle and methodology.

5.0 Training and Skills

5.1 National Overview

Engineering and construction skills are at premium in the UK, with employers across the sector struggling to recruit and train staff quickly enough to fuel development. Engineering UK (2015), reports that these difficulties are likely to increase as 'the global construction market is forecast to grow by over 70% by 2025'.

The Local Government Association (LGA) observe that in the UK 'too few apprentices are getting the construction skills to build the homes and roads our local communities need... developers are struggling to recruit the

skilled labour... and it is clear that skills gaps are one of their greatest barriers to building'.

5.2 Local Plan

Swindon Council recognises that education and training is fundamental to continued prosperity and growth and this will be prioritised by the way in which we develop and maintain our highway network in accordance with Priority 2 of 'The Vision for Swindon, 2030':

Vision Priority 2

'Offer education opportunities that lead to the right skills and right jobs in the right places.'

HIAM Policy Objective 2

Our **long-term** approach to asset management; partnership working; development and maintenance will promote sustainable recruitment practices and enable skilled resources to be employed in the right place at the right time.

In order to ensure that officers maintain the skills and knowledge to manage assets in an appropriate manner, Swindon Council has developed a competency matrix in accordance with the principles recorded in PAS55 and the Institute of Assessment Management guidance.

The competency matrix considers the asset management skills needed across different levels of the organisation and roles so that asset management principles become an intrinsic part of the design, maintenance and management process.

An audit of skills and knowledge will be carried out each year and where gaps are identified, funding and time will be made available to procure the necessary training or workplace mentoring.

6.0 Good Practice and Knowledge Sharing

Swindon Council is wholly committed to sharing the knowledge, experience and best practice we gain with other Local Authorities. We regularly benchmark our progress against like-minded organisations and contribute to national; regional and local conferences and workshops to ensure that we remain abreast of any new developments.

To this end, officers from Swindon Council regularly attend the National; Regional and Local conferences and workshops detailed in figure 6.

The Communications Strategy and Performance Management Framework we have introduced, ensure that we will continue to capture and share the knowledge we garner with all relevant stakeholders and enable Strategic Officers to review standards in accordance with current best practice.



Figure 6: National; Regional & Local Conferences & Workshops

7.0 Benefits of our Asset Management Strategy

The benefits of implementing the Asset Management Strategy are illustrated in figure 6.

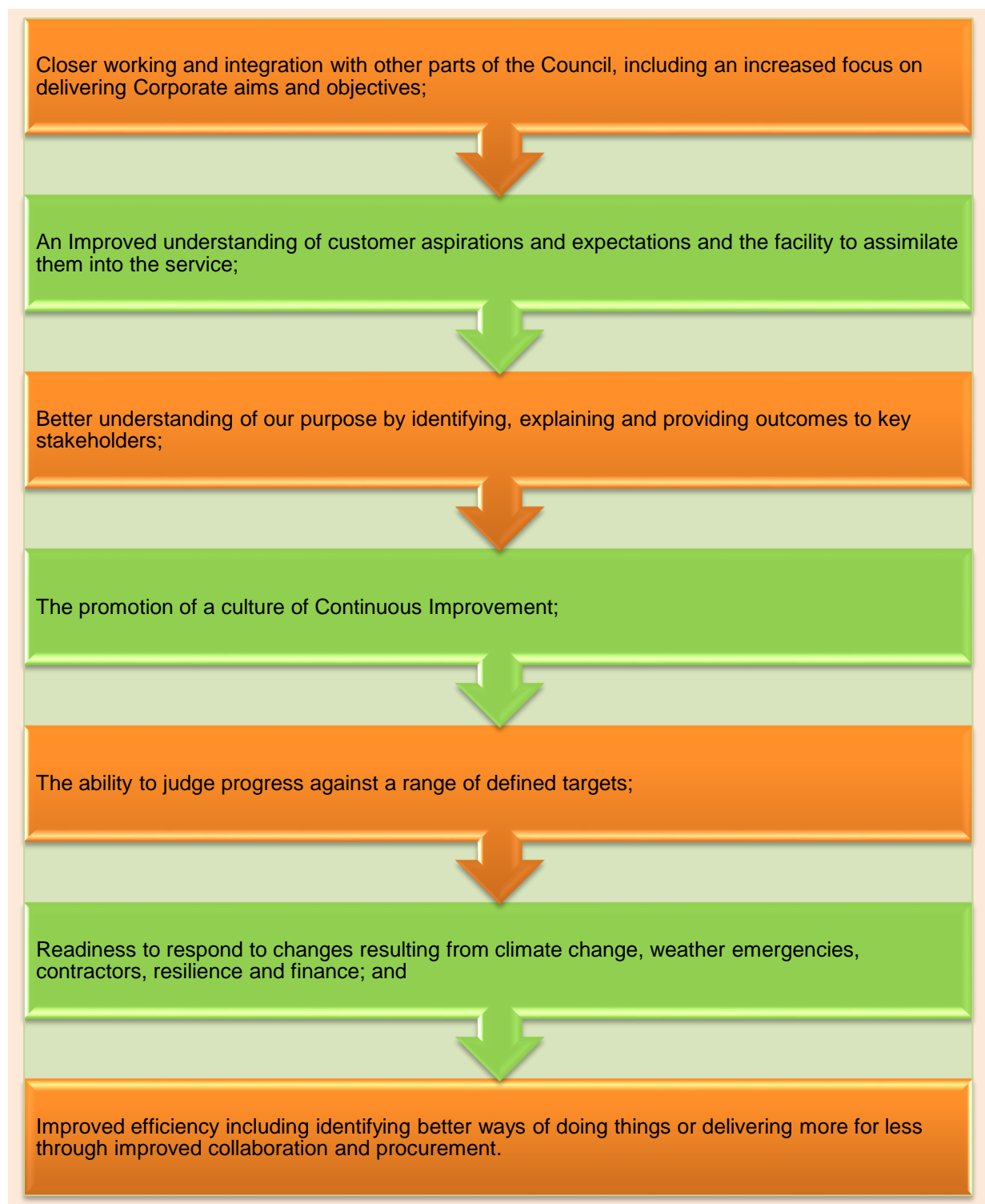


Figure 6: Benefits of Implementing the Asset Management Strategy

8.0 Next Steps.

This HIAM Strategy has been prepared to identify how the priorities embedded within the Vision for Swindon 2030 and the ancillary HIAM Policy Document are used to influence the way in which we manage highway assets.

In order to deliver the core concepts championed within this strategy a range of supplementary documents have been developed which require officers to actively record; measure; monitor and communicate progress. In addition to these documents, a

number of asset management plans have been prepared to capture how the risk based approach has been applied for different asset groups.

These plans need to continue to be developed and refined to ensure that all aspects of the highways service are aligned to the forthcoming Code of Practice 'Well Managed Highway Infrastructure'. A summary of the next steps is outlined in figure 7:

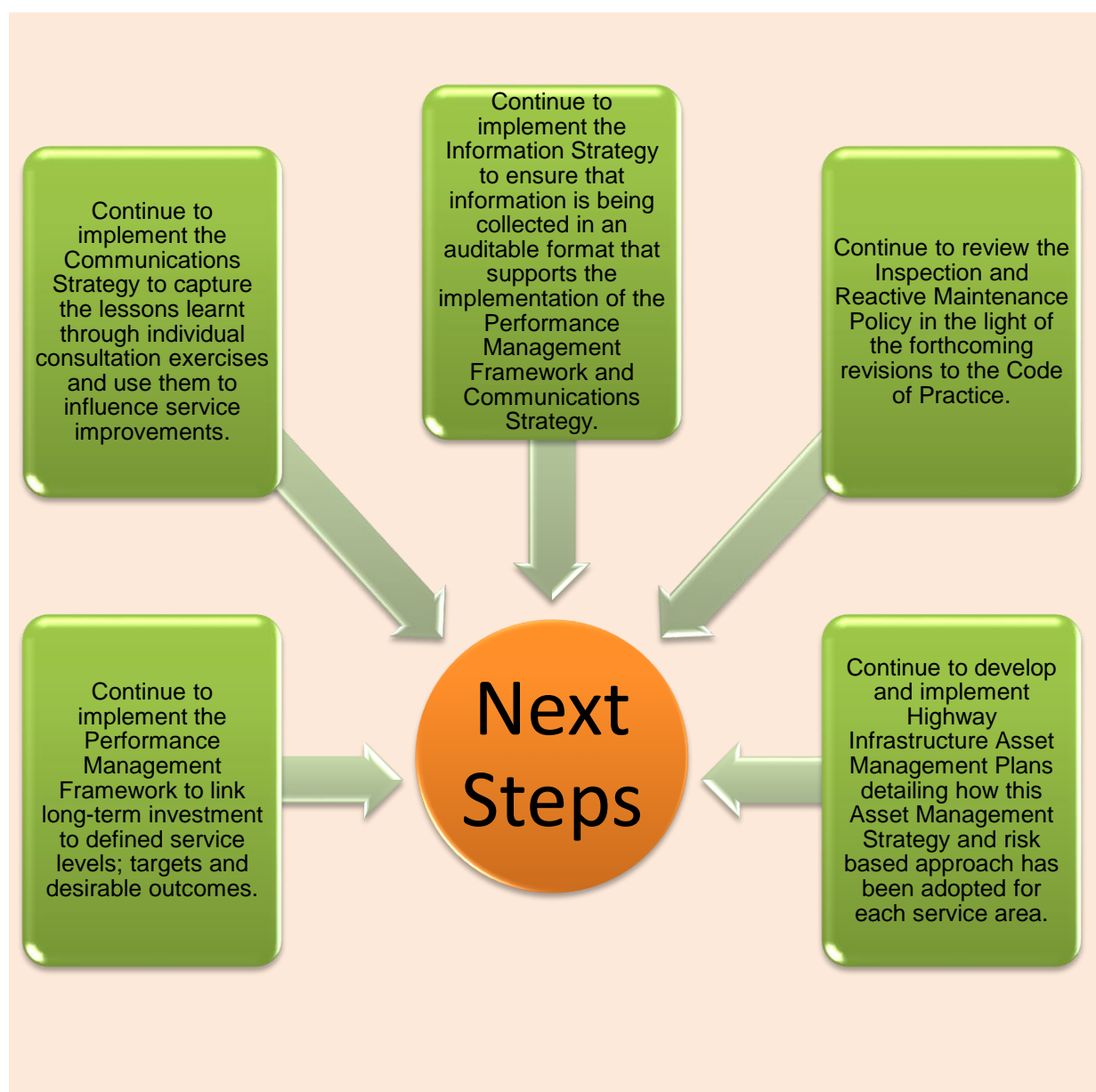


Figure 7: Next Steps – Supplementary Documents for Preparation

9.0 Review Process

This strategy was updated in January 2018 when the Performance Management Framework and Communication and Information Strategies were approved. It will be reviewed again bi-annually with minor amendments and fully reviewed to align with any amendments to the four year priorities in the Vision for Swindon, 2030.

This review process will be managed and implemented by the Highways Infrastructure Asset Management Group.

10.0 Bibliography

Vision for Swindon 2030 (Swindon Borough Council, 2015)

Swindon Borough Council Plan Local Plan 2026 (Swindon Borough Council, 2015)

Swindon Borough Council Highways & Transportation Annual Business Plan (Swindon Borough Council)

Swindon Borough Council HIAM Policy (Swindon Borough Council, 2015)

Local Flood Risk Management Strategy (Swindon Borough Council)

Chartered Institute of Public Finance Accountants Toolkit (Chartered Institute of Public Finance and Accountancy, 2015)

Swindon Borough Council Whole of Government Accounts (WGA) (Swindon Borough Council, 2015)

Highway Infrastructure Asset Management Guidance (Highways Management Efficiency Programme, 2013)

Code for Transport Infrastructure Assets (Chartered Institute of Public Finance and Accountancy, 2013)

Going the Distance (Audit Commission, 2011)

Prevention and a Better Cure, Potholes Review (Department for Transport, 2012)

LTP3 Transport Strategy (Swindon Borough Council, 2010)

Well Maintained Highways – Code of Practice (UK Roads Liaison Group, 2005)

Well Lit Highways – Code of Practice (UK Roads Liaison Group, 2005)

Well Maintained Structures – Code of Practice (UK Roads Liaison Group, 2005)

Well Managed Highway Infrastructure (UK Roads Liaison Group, 2016)

Guidance on the Management of Highway Drainage Assets (Highways Management Efficiency Programme, 2012)

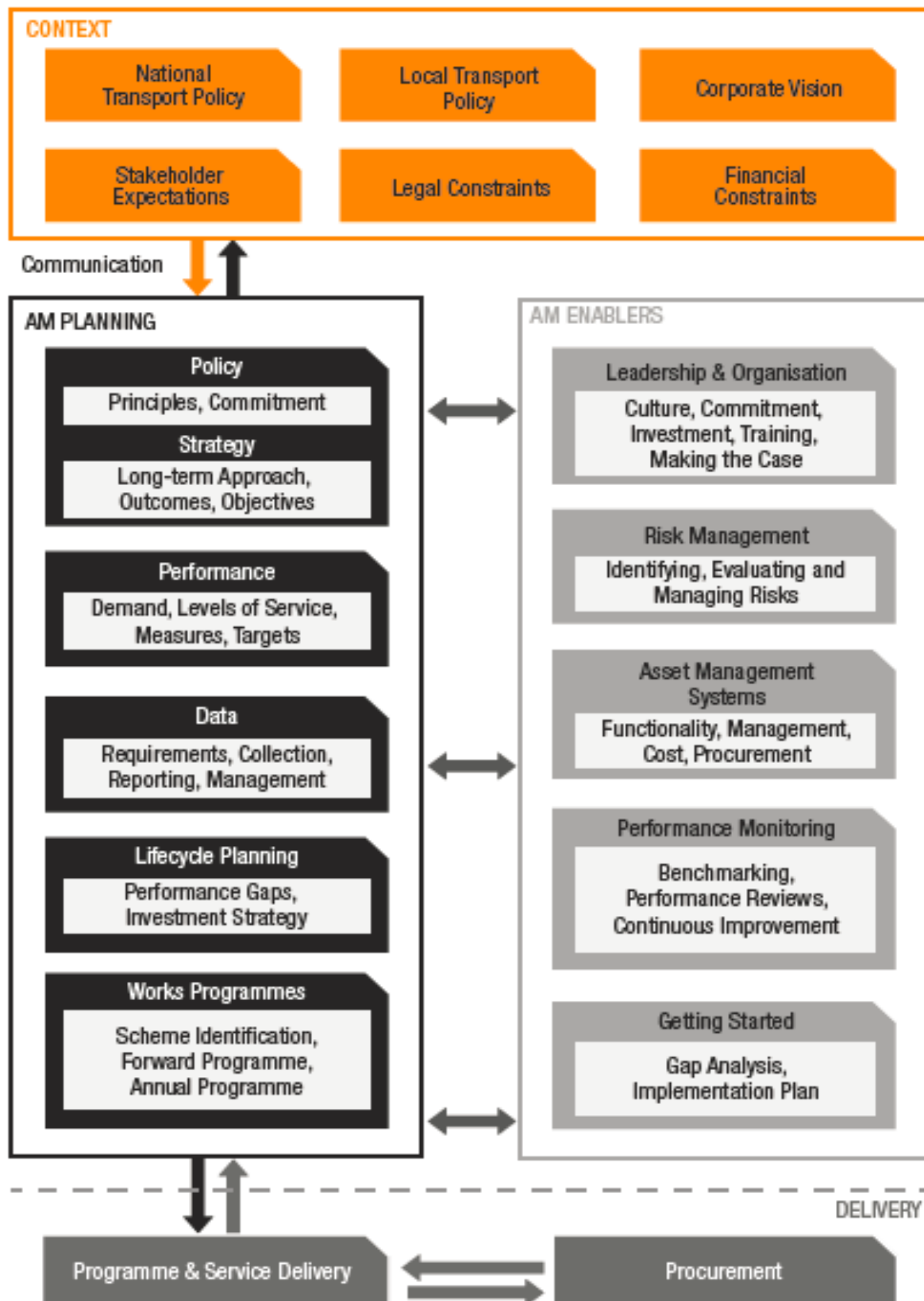
11.0 Appendices

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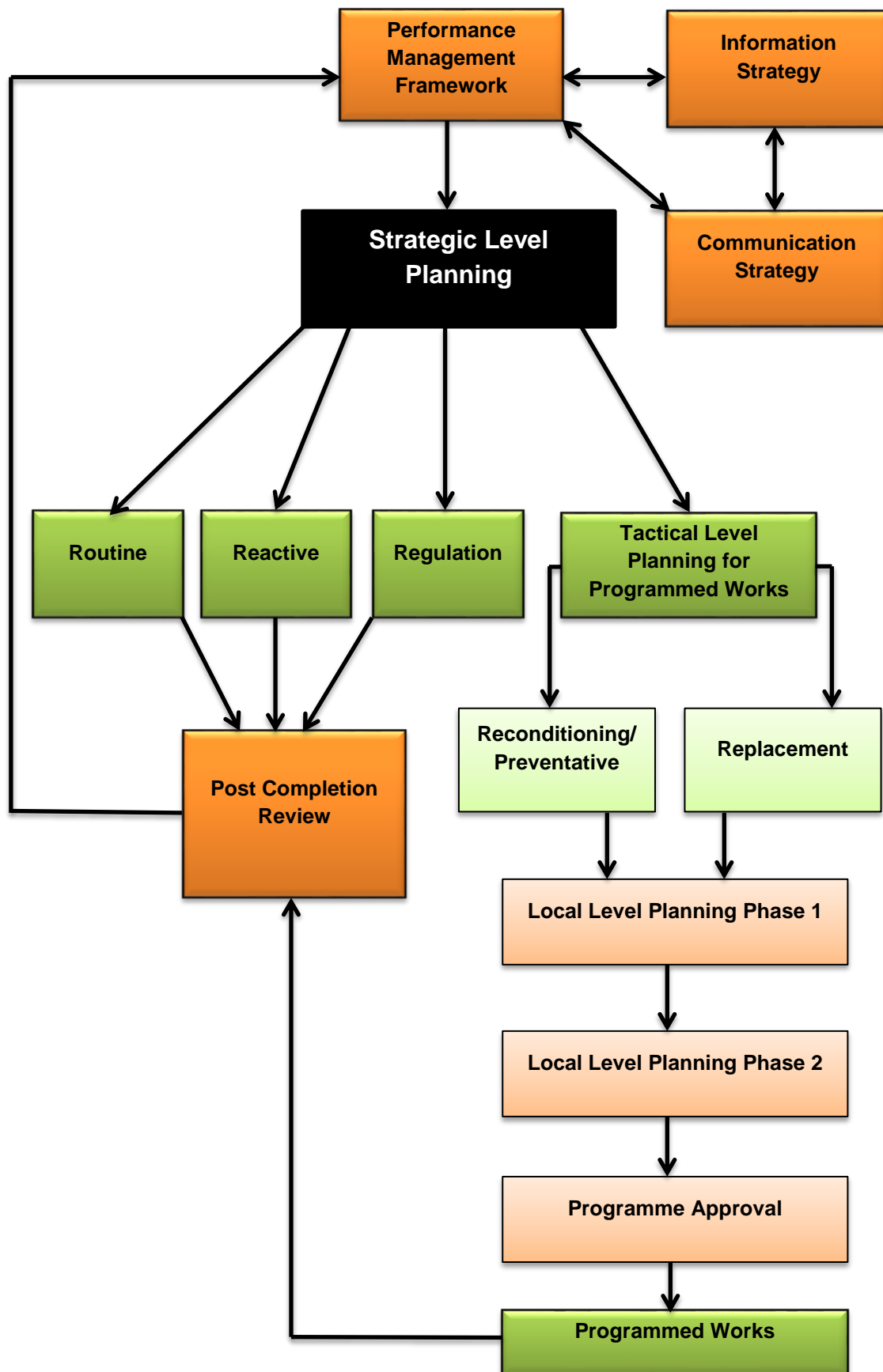
Appendix A: Summary of Highway Infrastructure Assets

| Key Facts | Asset Information | | | | |
|--|-------------------|------|---------------------------|---|----------------------------------|
| Asset Group | Quantity (Approx) | Unit | Replacement Value (000's) | Average Lifespan – Years (if maintained as planned) | Accumulated Depreciation (000's) |
| Carriageways (Including Kerbs & Drainage) | 824 | km | £981,659 | 30 - 40 | £84,091 |
| Footways & Cycle Tracks | 1268 | km | £225,383 | 40 - 80 | £64,818 |
| Public Footpaths; Bridleways; Restricted Byways; Byways open to all traffic | 430 | km | Unknown | Varies | Unknown |
| Highway Structures including bridges; culverts; retaining walls and embankments) | 350 | No. | £100,652 | 120 | £21,037 |
| Off Highway Transport Assets (Including structures on corporately owned land) | 105+ | No. | £80,000 | Varies | Unknown |
| Illuminated Signs and Bollards | 2,458 | No. | £2,051 | 20 | £1,435 |
| Lighting Columns | 33,503 | No. | £32,210 | 15 - 35 | £26,843 |
| Traffic Management & Control Equipment | 616 | No. | £15,819 | 10 - 15 | £10,876 |
| Street Furniture | 33,059 | No. | £5,244 | 10 - 40 | £2,566 |
| TOTAL | | | £1,363,018 | | £211,666 |

Appendix B: Guidance to Develop an Asset Management Framework



Appendix C: Swindon Borough Council Asset Management Framework



| Asset Group | Asset Component | Tactical Options | Typical Activities |
|--------------------------|--|-------------------------------------|---|
| Carriageways | Surfacing | Preventative Maintenance | <ul style="list-style-type: none"> Overlaying the carriageway with surface dressing & micro asphalts to prevent water ingress and restore skid resistance. Sealing the surface layer using asphalt preservation solutions; Re-texturing the surface layer using mechanical or water based systems; Cutting and sealing construction joints using proprietary systems; Replacing jointing compounds in modular surfaces. <p>All treatments to include preparatory works where required.</p> |
| | | Resurfacing | Replacement of up to two structural layers (<100mm) including re-laying or replacing kerbs; channels and ironwork where required. |
| | | Reconstruction | Replacement of three or more structural layers (>100mm) including re-laying or replacing kerbs channels and ironwork where required. |
| Highway Drainage Systems | Carriageway and footway drainage including attenuation areas and connections to outfall points | Preventative Maintenance | <ul style="list-style-type: none"> Pointing masonry; Replacing/re-bedding isolated elements |
| | | Remedial Maintenance\ Refurbishment | <ul style="list-style-type: none"> Re-lining pipe-work and culverts; Re-profiling catchment areas; water-courses or water storage features. Replacing blocked filter fabrics Reinstating or protecting features subject to erosion |
| | | Reconstruction or replacement | Reconstruction or replacement of gullies; catch-pits; pipes; culverts; retaining walls; dams and ancillary drainage assets including pumps; valves and screens |

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|---|---|-------------------------------------|--|
| Footways & Cycle Tracks | Surfacing | Preventative Maintenance | <ul style="list-style-type: none"> Overlaying the footway with surface dressing or slurry surfacing to prevent water ingress and restore slip resistance. Replacing jointing compounds in modular surfaces. <p>All treatments to include preparatory works where required.</p> |
| | | Resurfacing | Replacement of bituminous layers (<80mm) or modular paving including re-laying or replacing kerbs channels and ironwork where required. |
| | | Reconstruction | Replacement bituminous and un-bound structural layers (>80mm) or modular paving including re-laying or replacing kerbs channels and ironwork where required. |
| Structures | Bridges; Footbridges; Culverts; Sub-ways & Retaining Walls | Preventative Maintenance | <ul style="list-style-type: none"> Maintenance of durability coating. e.g. painting; Pointing/patching masonry; Concrete repairs; Replacing/re-bedding isolated elements. |
| | | Remedial Maintenance\ Refurbishment | General repair and refurbishment including replacing isolated components including parapets; safety fencing; waterproofing membranes; drainage systems; expansion joints and bridge bearings to maintain safety and extend the life of a structure. |
| | | Reconstruction | Replacement of major structural components including foundations; columns; piers; girders; abutments; structural walls; decks and embankments. |
| Illuminated Signs & Bollards | Poles; Sign-plates & Bollards | Remedial Maintenance\ Refurbishment | <ul style="list-style-type: none"> Replacement of electrical cables; components and control gear; Straightening or re-fixing bollards; poles; bracket arms and sign-plates; Replacing doors and securing mechanism; Painting poles. |
| | | Replacement | Replacing bollards; poles and sign-plates including disconnecting and re-connecting mains electrical services |

| | | | |
|---|---|-------------------------------------|---|
| Lighting Columns | Lighting Columns and Subway Lights | Preventative | <ul style="list-style-type: none"> • Painting poles and bracket arms; • Re-sealing plugs in concrete base compartments • Installing cathodic corrosion protection; • Installing lightening/surge protection. |
| | | Remedial Maintenance\ Refurbishment | <ul style="list-style-type: none"> • Replacement of electrical cables; components and control gear; • Straightening/ re-fixing columns; bracket arms and luminaires; • Replacing doors & securing mechanism; • Minor concrete repairs; • Removing Bracket arms and installing sleeves. |
| | | Replacement | Replacing columns and luminaires including disconnecting and re-connecting mains electrical services |
| Traffic Management & Control Equipment | Traffic Signals; Pedestrian Crossings; Traffic Detection systems; CCTV; Vehicle activated signs; Feeder & Control Pillars. | Preventative | <ul style="list-style-type: none"> • Painting poles and pillars; • Re-sealing detection loops. |
| | | Remedial Maintenance\ Refurbishment | <ul style="list-style-type: none"> • Replacement of electrical cables; components and control gear; • Straightening or re-fixing poles; bracket arms and heads; • Replacing doors and securing mechanism; • Re-cutting detection loops |
| | | Replacement | Replacement of assets including disconnecting and re-connecting mains electrical services. |
| Street Furniture | Non illuminated signs; Pedestrian barriers; Vehicle Safety Fencing; Grit-bins; Bollards; Street Nameplates; PROW gates & stiles; Benches; marker posts; Weather Stations | Preventative | <ul style="list-style-type: none"> • Painting; applying preservative. |
| | | Remedial Maintenance\ Refurbishment | <ul style="list-style-type: none"> • Straightening or re-fixing barriers; poles; posts and sign plates; & • Replacing components including laths; doors; hinges and securing mechanism. |
| | | Replacement | Replacement of assets including disconnecting and re-connecting mains electrical services. |

| | Risk Profile | Asset Group - Risk Weightings | | | | | | | | |
|-------------------------|--|-------------------------------|--------------|---------|------------|-----------------|----------|-----------|-----------------|----------|
| | | Highway Pavements | | | Structures | Street Lighting | | | Traffic Signals | Drainage |
| | | Classified | Unclassified | Footway | | Steel | Concrete | Cast Iron | | |
| Safety data | Quality of Condition data | Very Good | Good | Fair | Very Good | Good | Fair | Poor | Poor | Poor |
| | Condition Survey | 50% | 35% | 20% | 50% | 35% | 20% | 0% | 0% | 0% |
| | Skid/Slip Risk - Accident History & SCRIM | 10% | 10% | 10% | 0% | 0% | 0% | 0% | 10% | 10% |
| | Quantity of Defects Repaired | 0% | 10% | 15% | 0% | 0% | 0% | 0% | 0% | 0% |
| Socio - Economic Demand | Street Hierarchy | 10% | 15% | 15% | 10% | 5% | 5% | 5% | 15% | 10% |
| | Resilient Network (Winter Ploughing Route) | 10% | 10% | 10% | 20% | 5% | 5% | 5% | 20% | 20% |
| | Traffic Speed | 10% | 10% | 0% | 0% | 5% | 5% | 5% | 20% | 10% |
| | Crime Statistics | 0% | 0% | 0% | 0% | 5% | 5% | 5% | 0% | 0% |
| | Indices of Multiple Deprivation | 0% | 0% | 0% | 0% | 5% | 5% | 5% | 0% | 0% |
| Environmental Issues | Flood Risk | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 0% | 40% |
| | Winter Pre-Gritting Route | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 10% |
| | Altitude/Exposure | 0% | 0% | 0% | 0% | 5% | 5% | 5% | 0% | 0% |
| Other Risk Indicators | Asset Age | 0% | 0% | 0% | 10% | 10% | 20% | 30% | 30% | 0% |
| | Height/Span/Depth of Asset | 0% | 0% | 0% | 0% | 10% | 10% | 10% | 0% | 0% |
| | Asset Material/Manufacturer | 0% | 0% | 20% | 0% | 5% | 10% | 20% | 0% | 0% |
| | | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |

Appendix F: Local Level Planning Phase 2

| | Indicators | Weighting Factors |
|------------------------------|--|-------------------|
| | | All Asset Groups |
| Engineering Judgement | Current Condition | 10% |
| | Deterioration Profile | 10% |
| | Individual Site Hazards | 15% |
| Financial Management | Link to other internal and external programmed works/Partnership Funding | 20% |
| | Current cost of urgent repairs | 10% |
| Community Aspirations | Stakeholder priorities/Achievement of Defined Service Levels | 20% |
| | Petition/Section 56 Notice Submitted | 5% |
| | Volume of Customer Enquiries | 10% |
| | | 100% |