HIGHWAY ASSET MANAGEMENT PLAN

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Foreword

The Island’s highway network is perhaps the most valuable asset the Isle of Man Government has responsibility for, with a replacement value in excess of £2bn. Maintaining it to an acceptable standard is key, not only in providing safe and resilient links for people to travel across our island, but also to provide a suitable environment in which people can safely live and work.

My Department is tasked with discharging that maintenance responsibility, but like all areas of Government we are facing significant budgetary pressure. At this time it is critical that there is a clear understanding of the links between levels of service delivery and funding availability. An asset management approach allows us to recognise the value of the highway asset and the associated costs of maintaining it, thus helping to limit further deterioration and contain the maintenance backlog.

This document, the Highway Asset Management Plan (HAMP), has been developed to identify those highway assets and develop a framework to enhance existing good practice and improve the effectiveness of our decision making going forward. The key driver is taking a long term or ‘whole-life’ approach to decision making. It’s about choosing the right time in the assets’ life to repair or replace in order to get best value and performance.

We can no longer afford to adopt a simplistic ‘worst first’ approach. Whilst this has short-term appeal, it is neither efficient nor cost-effective in the long run because a large proportion of available budgets are spent on reactive repairs, such as filling pot-holes or having to reconstruct failed roads. Instead we will use a planned, preventive maintenance programme, which tries to fix problems at the appropriate intervention point. Essentially our approach to highway maintenance will be prevention is better than cure. This document details that approach.

Minister for Infrastructure
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The Department of Infrastructure’s National Infrastructure Strategy was approved by Tynwald in July 2017. The overarching aim is to ensure there is an integrated, reliable, secure and resilient provision of Island wide infrastructure that meets the social and economic needs of the Island up to 2050.

To achieve this aim, two fundamental issues were identified which are required to be considered by all infrastructure providers in their decision making. These have been classified as overarching principles 1 and 2.

**Overarching principle 1 - to look to the future:**

When preparing for future infrastructure projects, there will be a forward looking, collaborative approach between infrastructure providers and Government Departments. Consideration must be given to the future social and economic needs of the Island as well as any emerging trends and technologies. Infrastructure will be designed to ensure international and national obligations are met, as appropriate.

**Overarching principle 2 - to ensure value for money:**

In order to ensure the full design life of each of the Island’s strategic assets is met, appropriate monitoring and maintenance programmes in line with relevant valid standards for asset management should be prepared and adhered to. These should be taken into account prior to the consideration of total replacement or renewal of that asset.

The Department recognises the importance of its highway infrastructure and how an effectively managed and well-maintained network will play a vital role in successful implementation of this strategy.

The Department is taking positive steps to ensure this challenge is met, through the development and implementation of an asset management approach and the production of this Highway Asset Management Plan. We understand that effective asset management is a platform to deliver clarity around standards and levels of service, and to guide and support the long-term management and operation of our network. We recognise the need to ensure that all aspects of the network are managed in a way that allows smarter decisions to be made to carry out works in the most effective and efficient manner which provide best value for money and makes best use of available resources.

This Plan has been developed to provide all interested stakeholders with an overview of the policy drivers and investment decisions that affect maintenance of the network, and it sets out the Department’s strategic approach for managing its highway infrastructure assets. It promotes a move away from a short-term, reactive approach to one that considers the whole life of the assets, allowing more cost-effective, proactive maintenance that can be planned in advance. It also reflects a risk-based approach in line with the recently published Well Managed Highway Infrastructure: A Code Practice (2016), to help ensure the Department maintains its highway infrastructure assets to appropriate standards whilst optimising use of available funds.

**How does this help me?**

This suite of documents sets out the ways in which the Department manages our Island’s highways. The plans outline how we identify issues, when we decide to prioritise improvements, and how we manage our programme of works to deliver best value for taxpayers’ money whilst keeping our assets in an acceptable condition.
SECTION 2: Highways Asset Management on the Island

The asset management approach adopted by Highway Services Division uses a framework which includes gauging customer requirements and priorities as part of setting defined levels of service and performance targets which the assets should achieve over the long-term. These can be measured and assessed over time to inform decisions to ensure continual improvement in service delivery.

The development of asset management processes and the delivery of the asset management services is guided by an overarching asset management plan and framework which translates the organisation’s overall vision policies and strategic objectives into asset management policies and strategies to deliver that vision.

Our Mission Statement:
To be the custodian of all elements of the Isle of Man highway network, responsible for ensuring the safety and well-being of all users of our highway assets.

Our Vision:
To develop, regulate and maintain a safe, modern highway network that is fit for purpose today but anticipates the opportunities the future brings; a network that is designed for people, reflects the needs of different road users and accommodates all modes of transport. We will promote accessibility, quality, innovation and sustainability but be considerate of environmental and economic factors. We will encourage collaborative working with all stakeholders to create healthy, viable and more inclusive environments for the people of our island.

In order to properly describe and articulate our approach to managing our network, we have developed a Highway Asset Management Plan (HAMP) that outlines the implementation of our asset management framework. This document is organised into 4 Parts to emphasise an integrated approach to highway network infrastructure assets. Introductory and Strategic elements for managing our network are addressed in Part ONE, with more detail describing our planning and delivery aspects of highways management articulated in Parts TWO to FOUR.
Resilient and reliable infrastructure is critical to ensuring that an economy can flourish. Investing in infrastructure can increase long-term economic growth while failure to invest can have a significant negative impact on economic growth.

The Island's infrastructure is generally in a good condition, having benefited from over £1 billion of investment over the last 15 years along with the successful implementation of good maintenance programmes for assets. Many of the improvements made in this time have ensured that the infrastructure meets both our current and future needs. However it is important that the Isle of Man identifies its future infrastructure challenges and opportunities if it is to remain a desirable place to live, work and invest in.

The quality of the Island's road network is fundamental to levels of Island connectivity and as such the Department of Infrastructure (DoI) carries out condition monitoring of the Island's roads and pavements. The Island's major roads are surveyed approximately every five years to determine the residual life of their foundation, ride quality and skid resistance, as well as the level of cracking and other factors. Additionally, safety inspections of all roads and footways are routinely carried out on a monthly, three-monthly, six-monthly or annual basis, depending on the type of road that it is and how busy it is.

The DoI uses all of this information in conjunction with the hierarchy of roads, accident statistics, utility condition and developments, private developments, footfall, local authority feedback, 'report a problem' statistics, public requests and budgetary constraints to identify its priorities for road and footway maintenance.

The integration of an Asset Management Framework is the recognised best practice approach for the management of highways, and the implementation of a Highway Asset Management Plan and supporting life cycle and enabling plans are the means by which the Highway Services Division will deliver its responsibilities.
SECTION 3:
What is Highway Asset Management?

Highway Asset Management can be considered as a way of managing and maintaining the highway network to make best use of the funding available by optimising the timing and nature of maintenance and repairs. It helps us, as the highway authority, to understand the value of the highway asset and the costs associated with maintaining that asset to avoid further deterioration in its condition. Applying the principles of asset management helps us achieve a more structured long-term approach to maintaining the network and to resist expensive, short-term actions.

A key aspect of asset management is customer focus, and an effective asset management programme should focus on the service provided by the asset (compared against customer expectations) rather than simply on its technical condition. Technical condition can often be measured and evaluated in a straightforward manner by standardised scoring, but it may not necessarily reflect how the public actually view or interact with the asset.

The principles of asset management can be summarised as follows:

- Complying with statutory obligations
- Meeting users’ needs in terms of accessibility, usability, comfort and safety
- Ensuring availability, especially during severe weather
- Maintaining reliability during day-to-day wear
- Enhancing condition
- Minimising cost over time
- Reducing the impact on the environment

The potential benefits of adopting asset management practices include:

- Recording what assets we have and what condition they are in
- Understanding the risks associated with our aged infrastructure
- Providing an audit trail
- Allowing informed financial decisions to be made
- Assisting with managing public expectations
- Formalising document standards leading to consistency of practices
Asset management should align with integrated planning and decision-making at the strategic, tactical and operational levels. The broad scope of asset management functions in the three levels can be summarised:

- **Strategic - Where is the Highway Service going and Why?**
  At the strategic level the service promotes its overall long-term direction for highways and transportation, e.g. policy, goals and objectives, and targets. These are agreed in consultation with the DoI Minister and Members and other government partners and take into account any necessary internal/external requirements and/or constraints.

- **Tactical - What is worth doing and When?**
  At the tactical level the organisation’s highway asset managers translate the strategic goals and objectives into specific plans and performance targets for individual asset types. The development and deployment of the Highway Asset Management Plan (HAMP) is a tactical activity.

- **Operational - How to do the right things?**
  At the operational level, Highway Services’ asset managers, engineers, technicians and operatives develop and implement detailed work plans and schedules that have a short-term outlook but take account of the work volumes and phasing arising from the asset management strategy. Engineering processes include inspection, routine maintenance, scheme design, work scheduling and implementation. The focus is on choosing the right techniques, the right materials and carrying out the work in the most efficient way.
SECTION 4:
Key Drivers for an Asset Management Approach

Political Commitment

The Isle of Man Government (IoMG), through the DoI, as a corporate body, and individual, elected political members will set high level targets and work standards. To realise these aims in an effective and efficient manner needs a structured approach such as that provided by best practice Asset Management.

Legislation

There are a number of legislative requirements that have a direct and mandatory impact on the way highway operations are undertaken, governed by various Acts of Tynwald. The main Acts are as follows:

- **The Highways Act 1986**: This Act sets out the main powers and duties of the highway authority. In particular Section 3 imposes a duty to maintain all highways maintainable at public expense, and almost all claims relating to highway functions arise from the alleged breach of this Section. Under the Highways Act 1986 Section 9, the Highway Authority is excluded from carrying out work to light the highways. This responsibility falls to the local authorities but it is not mandatory for local authorities to install street lighting. Once street lights are installed on adopted highways the local authorities are responsible for their maintenance.

- **The Road Traffic Act 1985**: Section 32 provides a power for the highway authority to promote road safety.

- **The Road Traffic Regulation Act 1985**: specifies the requirements for traffic regulation orders and the use of approved signs.

- **The Traffic Signs (Application) Regulations 2003**: sets out that the Island is subject to the UK Traffic Signs Regulations 2002, with modifications.

- **The Road Traffic Regulation Act 1985**: allows the highway authority to make orders regarding speed limits and other matters.

- **Health & Safety**: The Construction (Design & Management) Regulations 2003 (CDM2003) aims to integrate health and safety with project management.

Technical Standards

The UK Department for Transport (DfT) continues to promote asset management practices through the Highway Maintenance Efficiency Programme (HMEP), publishing Highway Infrastructure Asset Management Guidance Document in 2013/14, and the UK Roads Liaison Group (UKRLG) produced Well Managed Highway Infrastructure Code of Practice (Oct 2016) which promotes an asset management risk-based strategy for levels of service.
Financial: Budget constraints, efficiencies & investment prioritisation

Asset management efficiencies, based on LEAN principles, have become more essential to ensure that highways maintenance is achieved with the reductions in highway maintenance budgets, and the requirement to make sure that any diminishing funds are invested effectively on a prioritised, risk-based approach.

The Isle of Man must balance its budget, and Highway Services Division must provide value for money to ensure that the maximum value is achieved from the highway network on the Island.

National Standards and Codes of Practice

The Isle of Man will not develop its own National Standards; however it will seek to adopt standards from neighbouring highway authorities. In the UK, the Department for Transport (DfT) published a revised national Code of Practice 'Well-Managed Highway Infrastructure' to replace 'Well-Maintained Highways'. The Code is designed to emphasise the adoption of risk-based approaches tailored to local levels of service.

We will seek to develop levels of service "in accordance with local needs, priorities and affordability", which is entirely consistent with the recommendations in this new code of practice. Our aim is to ensure network safety and provide a serviceable level of “state of good repair” for all highway assets, including carriageways, footways, traffic signals, structures and highway drains.

Sustainable Environment

Adopting a best practice Highway Infrastructure Asset Management approach will assist Isle of Man Government’s aspiration to be environmentally sustainable. The approach will ensure:

- Procurement of contractors utilising DoI’s corporate forms of contract and tender award procedure, which encourage social value and social responsibility;
- Extensive adoption of recycled waste materials and use of recycled material, both in the office and on site, where practical;
- Encourage environmentally friendly methods of transport, such as bicycle and on-foot, when the demands of a job permit.

Active Travel Strategy

In addition to the National Infrastructure Strategy, Tynwald and the Department of Infrastructure approved and published an Active Travel Strategy in July 2018. This Strategy demonstrates leadership and commitment to achieve their vision to "be an Island where cycling and walking are normal and realistic transport choices for people of all ages and abilities". This will present different challenges for management of the Island’s highway infrastructure and require changes to be implemented over time to reflect this ambition.
SECTION 5:
Key Components of the Asset Management Framework

The Asset Management Framework sets out the overall structured approach adopted by the Department in the ongoing long-term management of the highways asset. This Framework also demonstrates the alignment of our highways service with the objectives and approach set out in the Department’s National Infrastructure Strategy.

The purpose of this framework is to provide a structured, hierarchical approach to ensure all of the key ingredients are developed and implemented to deliver a professional highway asset management service. To anchor our improvement of Asset Management practices, we have developed process and guidance documentation that gives a consistent approach to the key elements of our management processes.

**Organisational Context**

This establishes the context for highway asset management in Isle of Man. The context links the Department’s vision and priorities with the asset management mission and objectives. It is critical that the ensuing Policy, Strategy and Plans demonstrate clear alignment to the Island’s long-term National Infrastructure Strategy as core objectives of the organisation.

**Asset Management Strategy and Planning**

- **The Highway Asset Management Policy & Strategy** is a high-level document that describes the approach to Highway Asset Management and demonstrates how an Asset Management approach aligns with the DoI corporate vision and aims as well as with government objectives. The Policy establishes sound rules and principles against which the highways will be managed. The Asset Management Strategy translates these principles and high-level commitments into strategic objectives and sets a long-term direction of travel for the service to adopt.

- **Asset Management Planning:** The planning of highway infrastructure assets links the Policy and Strategy to Delivery and Operations by identifying the tactical processes and procedures necessary for implementation. This aspect of the Framework utilises the asset data requirements to better understand and predict the behaviour of our various asset groups over their respective lifecycles. This whole-of-life approach to asset management enables plans to be better informed by accurate and current asset performance and condition data.

Our Asset Management Strategy will define levels of service related to achievement of our stated objectives. These levels of service are the threshold values below which the performance of activities or condition of assets is considered to be unacceptable and needs intervention. Levels of service have therefore been incorporated within this Highway Asset Management Plan and associated documents.
Operational Service Delivery for Highways:

Operational service delivery sees the implementation of the strategic and tactical planning processes, producing tangible and measurable outputs for the network and users of the highways network. This is manifest in aspects such as Capital Programmes, routine and cyclical maintenance activities, safety and serviceability inspections and surveys, reactive maintenance and emergency response works.

This aspect of our service will also include the respective business units undertaking works in the following areas:

- Highways Maintenance
- Quarrying Services
- Vehicle and Driver, Testing Centre

Performance Evaluation & Improvement:

This aspect of the Framework addresses the measurement, analysis and reporting of performance of our highway services. It will deal with a wide range of performance metrics related to the strategic objectives, and sets out how we generate corrective actions to non-conforming or unsatisfactory performance, and drives continuous improvement as a culture.

Asset Management Enablers:

These are the supporting functions and processes undertaken by our highways services that enable the key functions of planning and delivery to occur in order to achieve the strategic objectives. Activities within this element of the Framework would typically include areas such as resource management, training and competence, budget/cost/financial management, performance management, data and information management, customer and stakeholder engagement, and management of the system controls that govern the overall asset management approach (e.g. risk management, non-conformances). Within our Highway Asset Management Framework, the tactical enablers have been incorporated within this Highway Asset Management Plan.
The Highway Services Division is committed to implementing a Best Practice Asset Management approach for the Island’s highway network that supports the successful delivery of the DoI’s National Infrastructure Strategy.

The Division has overall responsibility for managing over 1,000km of carriageways and almost 1,000km of footways, cycleways and Public Rights of Way, including all the associated assets across the network such as bridges, drainage structures and traffic signals, as well as coastal protection infrastructure. The highways asset is the most valuable corporate asset, currently valued at £2 billion.

In order to provide a high quality highways network to our users and stakeholders, we have set out the following principles that will guide all asset management activity:

**Consistent with government policies and priorities**
- All asset management activities are undertaken as part of the DoI’s overall National Infrastructure Strategy for development and management.
- Appropriate governance and oversight are applied to ensure that best practice standards and policies are adopted for our asset management approach.

**A whole of lifecycle approach**
- A whole of lifecycle approach, recognising the value of input to planning asset investment and management decisions; and
- Asset lifecycle planning of the physical assets to understand the level of funding required to maintain the infrastructure over the asset's lifespan, and monitoring of annual financial investment in the assets.

**Service delivery and customer focus**
- Our asset management approach is driven by an aim to improve and support service delivery for the people who live, work and invest in our Island; and
- The asset management decisions taken are based on assessment of service delivery requirements, utilising and maintaining a safe, serviceable and sustainable highways network.

**Information-based decision making**
- Using our asset information systems to enhance our knowledge of current assets so that decisions can be made with greater confidence of asset performance and value; and
- Asset management decisions will be made through an increasing level of information of assets and their evaluated performance.
Safety First Culture
- Developing and managing a safe network that complies with our statutory obligations and meets our users’ needs for safety; and
- Delivering the Strategy to ensure the network is safe, resilient and available and provides equal access to users and businesses

Leadership and commitment, ensuring responsibility and accountability
- Ownership, control, accountability, responsibility and reporting requirements for assets are established that are relevant, clearly communicated and implemented;

Meeting climate change and environmental challenges
- Consider emerging challenges with managing climate change impacts and how they relate to managing assets; and
- Build a more resilient approach to managing and improving assets.
SECTION 7: Highways Asset Management Strategy

Background
The highway network on the Isle of Man is the largest and most visible community asset for which the DoI is responsible. It is used daily by residents, businesses and visitors to the island, and it makes an important contribution to the government’s wider priorities.

The highway network is made up of many different types of asset including roads, footways, Public Rights of Way, cycle routes, bridges, culverts, drains, signs and traffic signals. Each of these asset types has different management and maintenance needs to ensure they provide the quality of service that our customers expect.

This document sets out the Department’s highway asset management strategy and reinforces our commitment to good asset management and best value by balancing cost, quality of service and risk to users of the asset. It defines our objectives for management of the highway network and identifies how this is supportive of the wider government aims.

The road network on the Isle of Man includes more than 1100km of highway, ranging from strategically vital routes between urban population centres to remote, unmade Public Rights of Way.

All highways need regular routine and periodic maintenance to perform at expected levels. Failure to undertake routine maintenance has been proven to lead to more rapid decline of a running surface. Drainage is one of the most important aspect of highway maintenance, and one of its most neglected routine maintenance activities. Cracks appearing in the carriageway surface allow water to penetrate the surface, which can freeze and exacerbate the original deterioration (the ‘freeze-thaw effect’). Heavy traffic or flooding then has a greater effect on these weakened structures and can harm the lower layers, leading to the need for more expensive repair or complete reconstruction. Temporary interventions – such as filling a pothole – can also quickly fail in these conditions.

Historically, the highway network has largely been maintained on a ‘worst-first’ short-term basis, with the worst roads being identified through technical surveys, visual inspections, local knowledge and political input. This approach had the benefit of being easily understood by the general public and elected members who would see a road in poor condition and expect the Department to repair it.

This reactive approach is, however, inefficient, and years of underinvestment, increasing traffic demands and more intense use of the network by public utility companies has led to a significant maintenance backlog. In some cases, assets were being repaired when they were already at the end of their serviceable life.

The HAMP aims to explain how Highway Services Division makes the decision to replace or extend the life of an asset (typically through capital renewal) or repair it (as part of its maintenance regime).

In addition to the Organisational Context established in the Asset...
Management Framework, the following Strategic Objectives have been determined, following consideration of:

- Customer and key stakeholder expectations;
- Current asset performance and condition;
- Existing and potential future funding and investment profile required for the Island’s highway infrastructure; and
- Emerging technology and recognised best practice asset management.

**OBJECTIVE 1**

**To manage and operate a safe, accessible and efficient Highway Network**

By employing good highways management practices that include the planning, coordination and operational delivery of our highway services, we can provide our road users with a safe, efficient and effective highway network that connects our communities and contributes to improving residents’ lives.

We will address the need for a safe and accessible network across a range of our maintenance and operational activities, including but not limited to:

- Establishing and maintaining a clearly defined resilient network;
- Manage localised sustainability influences such as potholes and flooding;
- Promote safety on the network amongst the travelling public, our workers and supply chain partners.

**OBJECTIVE 2**

**To optimise investment and funding outcomes for our Highway Network**

In order to optimise our investment funding we are committed to improving, or minimising the deterioration of, the condition of the highway asset.

Building on the generally good condition of the network, Highway Services Division will further expand its level of preventive maintenance works where appropriate, in order to extend the life of critical assets. This preventive approach will be delivered hand-in-hand with ongoing renewal and improvement works.

Subject to funding limitations, Highway Services Division will ensure maximum value for money so that our highways condition is ‘fit for purpose’.
OBJECTIVE 3
To meet the needs of our Customers and Stakeholders

Highway Services Division manages and maintains the highway asset for the benefit of the residents and businesses of the Island and for those that travel across our network on a daily basis. As such, we will seek to develop practicable ways to understand the needs and levels of service expected by our customers and stakeholders, and tailor our maintenance and operational activities accordingly. Our goal is to improve public satisfaction whilst maintaining value for money, and continuing to provide a safe highway network in line with corporate priorities.

The Division will make sure that the way the highway network is performing is communicated to all stakeholders, using the most appropriate media.

OBJECTIVE 4
To develop and deploy our capability effectively

It is recognised that in order to achieve strategic objectives and deliver an improving long-term asset management service for stakeholders, we must consistently strengthen our overall asset management capability. This will be strengthened across a number of different facets, including our own people, processes and systems, and those of our supply chain and partners. Training and competence are key in developing our own people and we will strive to provide our teams with the required level of training, guidance and support.

OBJECTIVE 5
To manage the highway network in a sustainable and environmentally responsible manner

Our objective is to protect the financial and environmental value of our highway asset by maximising the benefits of partnership, working with both internal and external stakeholders, and giving careful consideration to the impacts of all actions arising from climate and environmental changes to the network. Conversely, we will work to provide affordable management of our assets to minimise any impact they have on the environment and climate change. We will seek to utilise recycling strategies for as much as possible of our works, to reduce our carbon footprint, and to prolong the lifetime of our source of materials.
SECTION 8: Leadership and Governance

One of the key aspects of improving the Island’s highways asset management practices is to ensure political buy-in and the correct level of leadership, sponsorship and governance of improvement activities. In order to provide this senior, strategic governance, gain a consistent approach to highway management and support the strategic objectives described above, a Highway Asset Management Steering Group will be established. This Group will operate in accordance with defined Terms of Reference and will sponsor and oversee the effective implementation of the Highway Asset Management Framework and Plan.

Management Team Structure

Management of the highway network is the responsibility of Highway Services Division. Under the scope of this HAMP version, roles and responsibilities as they relate to the provision of asset management services and functions are currently under review. This HAMP will be updated should any changes result.
CONTACT US

Enquiries@Highways.gov.im