

Essex County Council

**Highways and Transportation Asset Management Strategy
2021-22**



Foreword - Supporting Everyone's Essex / Helping achieve Net Zero by 2050

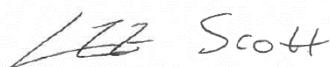
Essex County Council maintains a vast network of highway assets: over 5,000 miles of roads, together with a footway network of 4,000 miles (including where footways are shared use with cycle routes), and 4,000 miles of public rights of way. In addition, there are over 1,500 bridges and other highway structures, over 130,000 street lights, 11,700 illuminated signs, 1,900 beacons and wall lights, and over 3,000 lit bollards, and nearly 500 Traffic Signals and Crossings owned by the Council. There are also other asset groups such as cycle tracks, highway gullies and drains, vehicle restraint systems and traffic signs.

We recognise the vital role that the highways network plays in the lives of the residents as well as the travelling public and local businesses, especially as the county strives to recover from the economic and social impact of the Coronavirus pandemic. We are committed to long term efficient and cost-effective management of our highway assets to maximise the benefits of investment for all users. At the same time, we are also dedicated to ensuring that everything we do supports the drive towards a Greener Essex, supports the Council's strategic priorities documented in Everyone's Essex, and contributes towards achieving the County's target of net zero by 2050.

The *Asset Management Strategy* is at the heart of the Council's investment planning, outlining how decisions are made relating to setting of Highways standards of service and how these are delivered. It also outlines how competing demands for investment across the asset groups are balanced in order to achieve the Council's strategic priorities. It serves as the basis for the development and implementation of detailed asset management planning which embeds an approach of continuous improvement. This enables the organisation, through its technology and processes, to be flexible so that it can adapt readily to change.

The *Asset Management Strategy* includes how national developments and best practice guidance are taken into consideration, such as the *Highways Maintenance Efficiency Programme (HMEP)*, the *Department for Transport Incentive Fund self-assessment criteria*, and the *Well-Managed Highway Infrastructure: A Code of Practice (UK Roads Liaison Group October 2016)*. It also includes how we are adapting to the evolving Coronavirus pandemic in order to promote safety for our operatives and customers.

Through our commitment to robust asset management, we will continue to deliver our vision for Essex for Safer, Greener and Healthier Travel for current and future transport users; indeed, to deliver a transport system that supports sustainable economic growth and helps deliver the best quality of life for the residents of Essex.

A handwritten signature in black ink that reads "Lee Scott". The signature is written in a cursive, slightly stylized font.

Cllr Lee Scott, Portfolio Holder for Highways Maintenance and Sustainable Transport

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The inclusion of prospective schemes into a forward works programme is dependent upon a site visit by an engineer to verify the condition characteristics and to determine the type of treatment required. Wherever practicable, areas that are not suitable for reactive repairs will be added to the forward programme for capital works and will follow the 'Preventative Approach'. This promotes the application of value for money low-cost treatments such as micro-surfacing (slurry sealing) before deterioration reaches the point where higher cost, strengthening treatments are required.

Priority for funding is based on a bespoke value management process that combines condition observation information with information on localised defects recorded through the highway inspectors' routine safety inspections. Every footway in Essex is subject to at least one safety inspection annually; higher use footways are inspected more frequently. In this way, the value management process prioritises capital treatment for every footway in the County over current and future years.

9.2.4 Alternative Modes of Transport – walking and cycling being developed strongly

Footways and cycle routes provide alternative modes of travel, contribute to well-being through exercise, improve air quality by alleviating traffic congestion and reduce carbon emissions.

The Essex Cycling Strategy (published November 2016) sets out the key elements of a long term plan that will lead to a significant and sustained increase in cycling in Essex, establishing it in the public's mind as a 'normal' mode of travel, especially for short a-to-b trips, and as a major participation activity and sport for all ages. The strategy has been produced in conjunction with Essex County Council, the 12 Essex Districts/City/Boroughs, and the two Unitary Authorities (Southend-on-Sea and Thurrock). It has taken account of UK policy and data on cycling levels within Essex and best practice from around the world. For more information refer to <https://www.essexhighways.org/uploads/docs/ecc-cycling-strategy-novemeber-2016.pdf>

Walking is a popular recreational pursuit and the greenest form of transport available. Regular walking can help improve one's health and we work in partnership with many other organisations to promote and encourage it. ECC claims that walking should be the natural choice, whether for short trips or as part of longer journeys, but over the last 30 years it has become less popular. Today, approximately 60% of trips between 1 and 2 miles are currently by motor vehicle and could therefore be walked. The Essex Walking Strategy 2021 aims to help re-establish walking as the first choice for everyday travel wherever appropriate, while accommodating and even enhancing local plans for growth. For more information refer to https://www.essexhighways.org/uploads/road-strategies/walkingstrategy_october2021_final-web.pdf

In support of these plans, investment for maintenance of Footways remains robust, and investment for cycleways has been increased significantly in recent years. A comprehensive asset register of cycle routes, a cycleway hierarchy and a bespoke cycleway condition assessment survey are all being developed and are approaching completion. Where cycleways share use with footways, these are taken into account in our asset management of footways as per 9.2 above.

These modes of travel have become ever more vital in our response to the Coronavirus pandemic, as we implemented on-street measures designed to make city/town centre public spaces safer for people. For more information on Active Travel refer to Section 1.2 Supporting the Essex Highways Vision and Aims: Safer, Greener and Healthier, or refer to the Essex Highways Service Information Centre regarding 'Safer, Greener, Healthier': <https://www.essexhighways.org/safer-greener-healthier.aspx>

and have a positive impact on air quality, road safety and carbon emissions. Adoption of new technology to allow more sophisticated bus priority controls is being investigated with our suppliers. We already have adopted bus control technology, but new improvements will allow us to roll out other bus priority measures throughout the County.

This technology can also be used to detect and, where required, prioritise vulnerable road users, pedestrians and cyclists, thereby supporting the proposed step change in sustainable travel planned by the County. For example, traffic signals that enable prioritisation for active travel by allowing pre-starts at junctions with the adoption of specific cycling signal lamps, will enhance connectivity and increase opportunities for residents, visitors and businesses to adopt a modal shift to walking and cycling. Cycle detection can be used for early start cycle phases to improve cyclist safety and can also be coupled with count data retrieval to monitor usage.

The Council is also looking to include the adoption of contactless pedestrian push button units at traffic signal crossings to remove the need for any touching of the apparatus and to assist those with visual impairments or mobility issues. Some of these solutions include apps that allow smart phones to register a pedestrian/cyclist demand remotely. This will improve the active travel experience for pedestrians, cyclists and vulnerable users.

There are also plans to grow electric vehicle charging capacity in Essex. Our Park and Ride sites have provided electric vehicle charging facilities since they opened in 2006. Britain's first all-electric car charging forecourt opened in Braintree in Essex in December 2020. There are currently over 1,600 charging points in the East of England with over 800 points in Essex.

10. Risk Management

The management of risk is paramount to addressing highway user safety as well as to addressing the safety of operatives working on the highway. It also mitigates the possibility of asset failure, thereby reducing incidents of traffic disruption.

A risk is a potential event which may result in an undesired consequence or impact. The possibility of the event occurring is termed a likelihood. There are many kinds of risks, and every one of us encounters risks to various degrees in our daily lives. We learn to evaluate the importance of the risk, and based on levels of importance either to tolerate the risk, take steps to avoid the risk altogether, or find means to mitigate the risk so the impact or likelihood is reduced to a level that we find tolerable.

From the point of view of Asset Management there are many kinds of risk: there are high level risks that affect the whole organisation; there are operational risks relating to operational activities such as working on the highway. There are also asset management strategic and tactical risks that affect the highways infrastructure and its users, such as risk of not collecting adequate asset condition data used to prioritise maintenance.

Risks to highway user safety are addressed through the Council's general duty of care to maintain the highway in a condition fit for its purpose (refer to Essex Highways Service Information Centre/Road Strategies for more information on inspection frequencies, defect identification and defect repair response times).

Risk Management is an important aspect of Asset Management. Salient risks are recorded in risk registers so that they can be reviewed, updated, analysed and reported in order to facilitate their management.

11. Data Management and Systems

Having the right information is critical to decision making. Data is also used to demonstrate that investment is being used in an efficient and effective way that delivers value for money, and to demonstrate how the anticipated outcomes of the investment are being realised.

The maintenance of robust asset registers for recording and updating asset inventory, asset condition information and treatment cost information is essential to the asset management lifecycle planning process. These systems and data are also fundamental to the formulation of strategy scenarios which link different standards of service with corresponding investment levels. The Council's investment decisions are based on the appraisal of how the outcome of each of these scenarios will deliver strategic priorities.

Data is also required for other asset management purposes such as Highways Network Asset Valuation which, whilst no longer a reporting requirement for Local Authorities under Whole of Government Accounts, is none the less a critical asset management activity that informs lifecycle planning and helps to make the case for investment.

The data held in our systems includes:

- Customer contact data and correspondence
- Street Gazetteer and Network information
- Asset Registers and Inventories
- Inspection Records
- Defects records
- Condition information
- Asset installation/implementation dates and service lives
- Asset location information
- Works ordering and completion dates
- Maintenance histories
- Technical drawings of completed schemes, and Health and Safety Files
- Technical approval documentation for structures

Use of all data complies strictly with data protections laws.

An Information Strategy has been developed and documented so that data collection informs the performance management framework which monitors delivery of the Asset Management Strategy which is linked to the Council's strategic priorities (refer to Section 8. Performance Management - turning the Council's Strategic Priorities into Outcomes).

The Council's asset data is currently stored in a number of electronic and manual systems, although the most salient data is in electronic format which is subject to rigid security measures.

The functionality and capability of data management systems is routinely reviewed, and recommendations are made to the Council where the benefits from investment can be made. The advantages of new software can include the unlocking of essential developments in service provision, as well as significant cost savings from reducing data processing times. Examples of this are the recent implementation of the new artificial intelligence road condition assessment process and the improved data processing functionality afforded by the new asset management system XA.

12. Making the Case for Investment

The case for investing in the maintenance of each asset group is made robustly, based on sound data and evidence that demonstrates value for money, and is linked directly to the achievement of the Council's strategic priorities.

12.1 Business Cases – the benefits of long-term planning

Like most Highway Authorities, the Highways service competes with other Council priorities for investment. It is therefore important that the case for investing in the maintenance of each asset group is made robustly. This is especially true when making the case for investment in the long term, as this represents a sustained commitment by the Council.

A long-term approach to budget setting gives more certainty to the delivery of forward programmes of works, allowing more efficient planning and procurement of resources. It also enables strategic programming with other works on the highway network, which delivers value for money through shared resources. This approach also results in improved customer information. However, the budget setting process for the Council occurs annually, therefore acquiring long term agreements to funding can be problematic in an environment where availability of funding can be subject to significant and rapid change.

The Strategy scenarios which link standards of service with specific capital investment levels to deliver forward programmes of works, include the corresponding impact on the reactive funding requirement for minor repairs as well as impact on risk. Generally, as capital investment increases then asset condition improves and the requirement for minor reactive investment decreases. Arguably the impact on risk follows the same pattern.

Reactive repair cost savings can contribute to the cost of repaying any capital borrowing for the investment in question but are unlikely ever to offset it completely, and there is no 'golden mean' to dictate the ideal balance between the levels of investment for these different types of activity. Balancing investment levels across maintenance activities requires careful consideration of customer needs, as well as an understanding of the root causes for reactive maintenance, knowledge of processes and associated productivity and costs, and risk management. We will continue to review these matters and make corresponding recommendations to the Council.

The information required for investment planning is derived from lifecycle planning and deterioration modelling. This reflects not only individual asset need, but it includes recommendations on the best balance of funding across all asset groups to achieve the desired outcomes.

Business cases also assess the potential consequences of under investing in asset maintenance, including the likely impact on customer satisfaction. Accordingly, business cases for asset investment receive considerable Cabinet Member engagement and scrutiny before being presented to the Council for consideration.

Essex Highways also identifies opportunities for other potential sources of asset investment funding and where appropriate collates and submits bids on behalf of the Council. This

includes investment initiatives from the DfT, such as the additional traffic signal maintenance funding in 2021, in which Essex Highways participated and was successful in being awarded £250k of additional funding. There are also investment opportunities through the South East Local Enterprise Partnership (SELEP) and other organisations. For example, the Essex Highways partnership recently contributed to a Council bid to central government relating to the 'Housing Infrastructure Fund' (HIF), and was subsequently awarded £317.9m. Essex Highways will continue to explore all potential opportunities for additional investment for the Council.

13. Scheme Delivery

Delivering works on the ground to agreed quality, timescales and to budget underpins the effective and efficient delivery of asset investment.

13.1 Rolling Forward Programme of works

A prioritised 3-year forward rolling programme of capital maintenance schemes for each major asset group is maintained annually. The benefits of a long-term forward programme are that it offers the opportunity to manage the programme strategically with a view to:

- Minimising disruption on the network
- Maximising the opportunity for collaborative working between works programmes for different asset groups
- Providing opportunities to integrate larger and smaller scale works, or to integrate with planned third party works on the network (e.g. works of other organisations such as utility companies)
- Providing opportunities for collaboration on smaller scale maintenance works, with the benefits of minimising the number of road closures and reducing traffic management costs
- Optimising delivery by coinciding the timing of schemes which are in the immediate locality of other works

13.2 Annual Delivery Planning

The forward programme is reviewed annually to take account of new data, changing priorities and changes in investment. This commences prior to the start of each financial year and forms the basis for the annual delivery planning process.

Annual delivery plans set out the schemes and activities to be undertaken for each asset group during the financial year, how they will be delivered, the resources required, and the outputs and performance targets to be achieved.

The annual delivery planning process identifies resource needs and ensures that any potential recruitment programme has the appropriate focus. It also ensures that adequate resources are allocated to asset management activities.

Collaborative working with Supply Chain Partners (SCP) provides early contractor involvement in the design, planning and procurement process. Tendering works across the supply chain to derive a favourable 'target delivery cost' drives efficiency and value for money while sustaining quality. This approach is incentivised through the sharing of financial benefits between the Council and its Delivery Partner Ringway Jacobs, which drives a culture of continuous improvement.

The delivery of these programmes is subject to rigorous monthly review meetings throughout the year to scrutinise performance and outputs to ensure the full programme will be delivered within the required timescales and to budget.

14. Competencies, Training, Sharing and Learning through Benchmarking

Defining asset management roles with competent, accountable and well-trained personnel, combined with a 'one team' culture, ensures effective delivery of the Asset Management Strategy

14.1 Competencies and Training

Successful delivery of the Asset Management Strategy relies on competent and suitably experienced personnel, therefore accountabilities for asset management have been clearly defined. Annual staff performance reviews identify potential development needs for each staff member, and details are retained on file in a confidential competency matrix accessible only to managers.

This process enables the formulation of a structured training programme that ensures asset management knowledge is continually enhanced, and that those with key roles in asset management are identified and supported to achieve recognised qualifications and skills levels. Sharing of knowledge and the encouragement of innovation, however, fosters a culture of 'one team', so that whilst individuals are empowered to make a difference, advancements are made collectively so the organisation benefits from every improvement.

14.2 Sharing and Learning through Benchmarking

Sharing and comparing knowledge, practice and performance outcomes with other authorities and organisations within the industry (Benchmarking) is a recognised way of learning as well as helping others whose asset management activities are not so well advanced. Public perception of performance, as expressed through the NHT surveys, as well as objective financial analysis associated with performance as calculated by CQC (refer to Section 8. The Performance Management Framework), also provide invaluable information to assist our drive for continuous improvement. Benchmarking through such organisations as the Eastern Highways Alliance, however, which brings together Local Authorities within the region, as well as cross contract Asset Management Forums, continues to make a significant contribution to ongoing asset management development.

15. Reviewing and updating this Strategy

Asset management is a developing process within a dynamic environment, and we continuously monitor changes and new guidance within the industry to ensure that our approach remains innovative.

In recent years the Essex Highways Partnership has proved its maturity as a best practice asset management led service through sustaining compliance with DfT guidelines relating to the highest level of competence in asset management. This level of competence is assessed by the DfT's Local Highways Maintenance Incentive Fund Self-Assessment process, and ensures the Council receives its full allocation from the DfT for this area of funding. Local Authorities who are unable to comply with the same level of competence receive reduced levels of funding from the DfT.

It is also worth noting that Ringway Jacobs attained British Standard BS ISO 55001 in Asset Management for Essex Highways in 2017/18; this standard was reviewed and sustained in 2018/19, 2019/20 and again in 2020/21 (a review for 2021/22 is pending).

