

Forward Plan reference number: FP/242/12/21

Report title: Amendment to the current Maintenance and Inspections Strategy for Structures, including the adoption of a risk based Principal Inspection programme	
Report to: Councillor Tom Cunningham, Cabinet Member for Highways Infrastructure and Sustainable Transport	
Report author: Peter Massie, Head of Highways Commissioning – peter.massie@essex.gov.uk	
Date: 22nd January 2024	For: Decision
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County Divisions affected: All Essex	

1. Everyone's Essex

- 1.1 This report asks the Cabinet Member for Highways Maintenance and Sustainable Transport to agree an amendment to the current Maintenance and Inspections Strategy for Structures (Appendix 1). The amendments are due to the design Manual for Roads and Bridges being updated (CS450 – Inspection of Highways Structures) and a change in how defects are recorded due to the introduction of a new Asset Management Database.
- 1.2 This report also seeks agreement to the adoption of a risk based Principal Inspection programme for structures maintained by Essex Highways (Appendix 2).
- 1.3 In line with Essex County Council's organisational strategy, Everyone's Essex, this decision contributes towards achieving a high quality environment by maintaining the condition of assets for residents and service users. Where possible and appropriate, and in line with our commitment to tackling climate change, we will seek to use materials and methods that help reduce our carbon footprint and support active and alternative forms of travel across the county.

2. Recommendations

- 2.1 Agree an amendment to the current Maintenance and Inspections Strategy for Structures (Appendix 1) due to the reasons outlined in 3.4, including the adoption of a risk based Principal Inspection programme for structures (Appendix 2).

3. Background and Proposal

- 3.1 Essex County Council's approach to Structures Maintenance & Inspections takes into account the recommendations and best practice set out in the UK Roads Liaison Group October 2016 "Well-managed Highway Infrastructure: A Code of Practice" and those from the Design Manual for Roads and Bridges.

ECC has a Maintenance and Inspections Strategy for Structures (Strategy) that was introduced in 2019.

- 3.2 A review of ECC'S current Maintenance and Inspection strategy for Structures has taken place. The review was required to ensure compliance with the recently updated design Manuals for Roads and Bridges (CS450 – Inspection of Highways Structures). In addition to this, ECC have introduced a new Asset Management Database for structures (BridgeStation) which has resulted in some changes to how defects are recorded and assessed by the inspectors and these need to be reflected in the strategy.
- 3.3 Following the review, it ECC need to make the following amendments to the Strategy as follows:
- Review assets requiring a Principal Inspection (PI), not exclusive to that recommended in the CS 450 Inspection of Highway Structures, but to local needs and risks. The reason for this is that if the standard was followed the number of assets requiring a PI would be very high and would require a significant budget increase and additional resources to complete. The code of practice allows the HA to review the recommendations in the standard and risk assess them to suit its need to ensure the continuous safe use of its network. Therefore, a study was carried to review the ECC bridge stock to identify assets that need a PI to reduce the number inspections required to be undertaken without posing a risk to users. Subsequently the HA can also include assets that it would consider a risk and require a detailed inspection to have PIs that the code does not allow for.
 - Introduce a risk-based interval inspection programme, which will assess probability and consequences of failure. This approach will also mitigate the limitations of the time-based approach and ensure that resources are appropriately managed.
 - Utilise the built-in risk assessment in ECC's asset Management systems BridgeStation to meet requirements of the standard and provide accurate, live data.
- 3.4 It is proposed that ECC make an amendment to its current Strategy for Structures as set out in para 3.3 above, an updated Strategy appears at Appendix 1 to this report. It is also proposed to add and adopt a Risk Based approach for programming the Principal Inspections (PI) of structures. This proposal forms part of ECC's overall proposal to improve Structures information to enable the transparent and efficient management of the Essex bridge stock and programme of works.
- 3.5 The addition of PI of Structures to the Strategy. will provide additional information on the physical condition of all accessible parts of a highway structure. The benefit of a PI is more comprehensive and provides more detailed information than a General Inspection (GI). It also comprises of a close examination, within touching distance of all accessible parts of a structure. A PI should utilise necessary suitable inspection techniques such as access and/or traffic management works, use of drones, closed circuit television.

- 3.6 Up to 2018 the Code of Practice the Management of Highway Structures 2005, required PIs to be routine and carried out every six years, but this was not fulfilled due to budgetary constraints and subsequently PI inspections were limited to critical assets.
- 3.7 The Code of Practice- acknowledges that adopting a risk based approach to managing assets will enable highway authorities to prioritise allocation of resources and budget to the most high-risk assets.
- 3.8 The Design Manual for Roads and Bridges (CS450 – Inspection of Highways Structures) provides that a risk based approach is applicable for PIs not General Inspections which will continue to be carried out every two years. PIs are now required to be undertaken every six years *unless* an altered inspection interval has been agreed by the Highway Authority, providing the proposal is supported by a risk assessment. This allows Bridge Owners the flexibility to modify the frequency of PIs from six, to eight, ten, twelve and even four-year intervals. Its purpose is not to be a cost saving exercise or by no means putting public safety at risk but reinvesting activities to the higher risk assets minimising the liability of the assets owners and utilising inspection resources as effectively possible.
- 3.9 By introducing the Risk Based Interval Inspection PI programme it will:
- Allow all assets that require a PI to have one.
 - Enable the Highway Authority to prioritise allocation of resources and budget to the most high-risk assets.
- 3.10 Regular inspections will also provide ECC with improved condition data to help detect any potential problems in the early stages and have a positive impact on the effectiveness of any agreed maintenance strategies.
- 3.11 Based on the current information, approximately 738 structures qualify for a PI; The aim is to complete these PIs during a 12-year programme, undertaking approximately 100 PI inspections each financial year. This will allow for assets that have been risked asset and require to have a PI at an increase frequency. However, this number may vary due to the varied sizes, types of bridges and inspection methodologies.
- 3.12 The adoption of this strategy and proposal will not lead to any legal or financial implications as the revised proposal will comply with the current code of practice and will improve the asset condition information. Also the cost will continue to be managed within the current overall budget of £9.45m capital.

4 Links to our Strategic Ambitions

- 4.1 This report links to the following aims in the Essex Vision
- Strengthen communities through participation
 - Develop our County sustainably
 - Connect us to each other and the world
 - Share prosperity with everyone

- 4.2 Approving the recommendations in this report will contribute to the Council's ambition to be net carbon neutral by 2030 through:
- Maintaining structures that support replaced transport trips and doing things differently to reduce the need to travel,
 - Maintaining structures that supports a shift to sustainable ways of travel and,
 - Maintaining structures that help the use of modes that contribute to decarbonising transport
- 4.3 This report links to the following strategic priorities in the emerging Organisational Strategy 'Everyone's Essex':
- A strong, inclusive and sustainable economy - by delivering and maintaining high quality infrastructure to improve opportunities for people living in Essex.
 - A high quality environment - by embedding measures and using materials and methods to ensure that the council significantly reduces its carbon footprint, whilst also supporting an acceleration in the progress towards alternative forms of travel across the county.

5 Options

- 5.1 **Option 1: (Not recommended)** Retain the current version of the Maintenance and Inspections Strategy for Structures and continue with the current inspection regime for structures maintained by Essex Highways. This would mean ECC's strategy will not be up to date to current standards, or have changes implemented with the introduction of a new structures asset management system. Not updating the strategy would result in inconsistent reporting and no alignment with the strategy.
- 5.2 This would also be a risk to ECC as inspection information can be issued to third parties as part Freedom of Information requests and inconsistency of information could lead to legal issues and potential claims.
- 5.3 Not introducing a risk based PI programme will require developing a rolling programme of PIs for each structure, every 6 years. This will not be cost effective as all assets would be treated equally and resources will be used on assets that do not need to have a detailed inspection at a standard frequency, as well as needing extra resources to undertake these inspections.
- 5.4 **Option 2: (Recommended)** Amend the current Maintenance and Inspections Strategy for Structures (Appendix 1) and adopt a risk based Principal Inspection programme for structures maintained by Essex Highways (Appendix 2).

- 5.5 Doing this will ensure ECC's strategy is in line with the current standards and up to date with changes in recording defects on the structures asset management system which in turn will provide more detailed condition information on some elements of the assets.
- 5.6 Adopting this approach will also allow all assets that that require a PI to have one and to prioritise allocation of current resources and budget to the most high-risk assets, thereby being cost-effective.
- 5.7 This would reduce risk to ECC as inspection information issued to third parties as part Freedom Of Information requests would become consistent, reducing the potential for legal issues and claims.

6 Issues for consideration

6.1 Financial implications

- 6.1.1 The recommended strategies and measures will be managed within the current overall budget of £9.45m capital.
- 6.1.2 Adopting this recommended strategy ensures resources are utilised on the most needed structures and ensures efficient delivery.

6.2 Legal implications

- 6.2.1 The Council has a duty to maintain highways and structures to ensure that the avoids risk to the health and safety the public and highway workers, so far as reasonably practicable.
- 6.2.2 The Council is relying on professional advice of Ringway Jacobs Limited in the assessment of the effectiveness of the structures maintenance and will need to hold them accountable if it proves not to be effective.

7 Equality and Diversity Considerations

- 7.1 The Public Sector Equality Duty applies to the Council when it makes decisions.

The duty requires us to have regard to the need to:

- (a) Eliminate unlawful discrimination, harassment and victimisation and other behaviour prohibited by the Act. In summary, the Act makes discrimination etc. on the grounds of a protected characteristic unlawful
- (b) Advance equality of opportunity between people who share a protected characteristic and those who do not.
- (c) Foster good relations between people who share a protected characteristic and those who do not including tackling prejudice and promoting understanding.

- 7.2 The protected characteristics are age, disability, gender reassignment, pregnancy and maternity, marriage and civil partnership, race, religion or belief, gender, and

sexual orientation. The Act states that 'marriage and civil partnership' is not a relevant protected characteristic for (b) or (c) although it is relevant for (a).

7.3 The equality impact assessment indicates that the proposals in this report will not have a disproportionately adverse impact on any people with a particular characteristic. The decision does not reflect a change in levels of service but is seeking approval to formalise the new approach. This decision will not directly impact users of the highway network within Essex.

8 List of Appendices

Appendix 1: Maintenance & Inspections Strategy: Structures

Appendix 2: Risk Based Principal Inspections- Structures

Appendix 3: Equalities Comprehensive Impact Assessment (ECIA)

I approve the above recommendations set out above for the reasons set out in the report.	Date 22/01/2024
Councillor Tom Cunningham, Cabinet Member for Highways Infrastructure and Sustainable Transport	

In consultation with:

Role	Date
Mark Ash, Executive Director, Climate, Environment & Customer	17 January 2024
Stephanie Michener, Director, Corporate Services (S151 Officer)	11 January 2024
on behalf of Nicole Wood, Executive Director, Corporate Services (S151 Officer)	
Laura Edwards, Legal and Assurance (Monitoring Officer)	9 November 2023
Richard Puleston, Director, Policy Unit (needed for Cabinet Reports only)	n/a