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## 7 Forward Programme

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We have prepared a forward works programme for all of our major assets, based on the evaluation and ranking of alternative improvement projects and maintenance treatments. This covers a minimum period of three years, depending on the asset. The first year of the programme is the in-year delivery plan; where as the second year of the programme is a draft programme allowing planning and coordinating of works. Works in the third year and beyond allow us to schedule longer term programmes of work, and give confidence to stakeholders.

With good quality condition data available for analysis it is possible to predict the likely future maintenance schemes and their locations. With good programming, future maintenance schemes will be programmed with other works to avoid abortive work, improve efficiencies and reduce disruption on the network. This long-term programme is built on projections using currently held data and knowledge. The reliability of projections regarding the precise nature and location of the works for the later years of the programme are lower, as deterioration rates can be impacted by local conditions and weather; however an aggregation of the anticipated needs is a valid method of predicting future funding requirements.

### Structural Maintenance Programme

The prioritisation of Structural Maintenance schemes uses a data led process which calculates a Road Condition Ranking. This takes into account road condition data, an engineer's site assessment and information about the maintenance history. This allows prioritisation of schemes based purely on road condition. The Road Condition Ranking is then combined with factors which introduce road hierarchy, scheme length, design life and cost considerations. These factors are the more practical elements of whether a scheme is cost effective given the design life of the treatment, the location on the network and the length of the proposed scheme. This is all combined to give an overall ranking for each potential scheme.

All potential Structural Maintenance schemes are assessed in this way. The data led approach means that programmes of work can be developed which



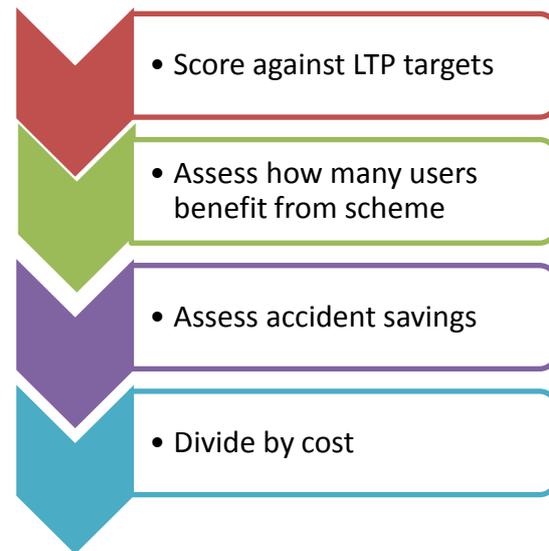
address the parts of the network that are most beneficial to the overall road condition state.

Schemes in the programme are selected through a process which involves prioritisation based on road condition ranking, and engineering data as well as needs led based on information provided by Local Highway Managers. This dual approach is a fundamental step towards complete asset management and ensures that limited resources are targeted towards restoring the life of the sections of the networks with the greatest requirement, whilst always striving to meet local concerns.

### Integrated Transport Programme

The prioritisation process for Integrated Transport schemes follows a simple method of splitting schemes up into the four key Local Transport Plan themes – quality of life, congestion, safety and accessibility – so that only similar schemes compete against each other. Each scheme is scored (out of 10) against each LTP target, some targets are weighted to reflect GCC or Government priorities. This is then multiplied by the number of users who will benefit. An accident savings calculation is added in (using average cost of an accident and anticipated accident savings) and then the score is divided by the cost to ensure that cost effectiveness is taken into account.

All Integrated Transport schemes under £0.5million are assessed in this way. Larger, more strategic schemes have additional policy and impact considerations taken into account.



### Bridge Strengthening and Structural Maintenance

We use three categories of criteria when prioritising bridgeworks.

- Safety and functionality
- Benefits and “disbenefits”
- Socio-economic and environmental.

Safety and functionality relate to our primary responsibility under the Highways Act 1980 to maintain the highway so that it is safe to use and fit for purpose. This should reflect the risk and consequence to the user of not repairing the defect. This carries the most weighting out of the three categories.

The benefits and “disbenefits” relate to doing an item of work now or postponing it to a later date. This



takes into account the cost to the road user as well as to the authority. We look at the implications of delaying works in terms of increased works costs in the future due to worsening of condition, and the knock-on effect to the road user where disruption to the network is extended.

The socio-economic and environmental criteria allow us to consider the softer issues – customer satisfaction, local policies, sustainability issues etc. Stakeholder consultation can contribute to this area.

Currently we use a prescriptive prioritisation system for bridge strengthening and a more subjective system for other structural maintenance. However we are working towards a structured system which will allow us to apply Value Management principles to all of our work programmes.

## **Street Lighting**

We have three main elements to our annual Capital Replacement programme:-

**LED Replacement** - We are currently delivering an invest to save project that will convert 54,325 street lights to LED. This programme commenced in November 2015 and will be completed throughout the county over a 42 month period.

**Concrete Column Replacement** - Due to the age profile and condition of our concrete columns it is not possible to maximise the benefits of implementing LED. Provision has therefore been made to replace all of the concrete columns with new steel galvanised ones that provide a minimum of 40 years life expectancy. Delivery of this programme will be undertaken in tandem with the LED invest to save project.

**Structural Test & Repair** – 48% of the council's street lighting column assets are over 40 years old. In accordance with the recommendations of the Institution of Lighting Engineers (ILP) Technical report entitled “**Managing a Vital Asset: Lighting Supports**” we have a structural condition testing programme for these columns and replace any that are defective.

## **Forward Programme Development**

Our programme covers all of our major assets, but we have identified that the next stage to improve our programming is to develop a cross asset programme, in line with the Code of Practice for Well Managed Highway Infrastructure..