Intelligent Transport Systems

Traffic Control and Intelligent Transport Systems (ITS) are the electronically controlled traffic management assets that enable Dorset County Council to manage Dorset's highway network in a more informed way, leading to improvements in congestion and carbon reduction.

With increasing traffic volumes and the need to keep Dorset moving, the use of electronic traffic equipment has an important role to play in the effective management of the network. This group includes items such as traffic signals, Pedestrian crossings, weather stations, variable message signs and car park guidance signs.

The use of Traffic Control and Intelligent Transport Systems is an effective way of managing both current and future traffic. and provides an environmentally acceptable solution to reducing congestion. As technology develops new and more effective methods of dealing with traffic issues, there is greater demand to manage an effective maintenance regime, ensuring that all infrastructure performs to the required standards.

Outcomes

Provide an effective maintenance regime for ITS infrastructure to promote safe movement across the network - SAFE
Ensure the expeditious movement of traffic across the Dorset highway network, thus reducing congestion - PROSPEROUS
To promote walking and cycling with provision of facilities at traffic control sites – SAFE, HEALTHY
To enable safe inclusive pedestrian access by provision of controlled pedestrian crossings - SAFE
Continue to reduce the cost of energy and reduce carbon emissions with Extra Low Voltage (ELV) equipment or promote the use of solar power - HEALTHY
Use Urban Traffic Management Control (UTMC) in collaboration with neighbouring Authorities to maximise the control of the network - PROSPEROUS

Strategies

To manage the maintenance of ITS infrastructure to ensure that effective performance can continue for the whole life cycle of every asset. This includes both reactive and preventative maintenance, to deliver a safe, serviceable and sustainable network.

Look to build upon the current UTMC infrastructure, utilising UTMC strategies to manage intelligent transport systems across the Dorset Highway network, to aid the reduction in both, congestion and carbon emissions. Also, to seek opportunities of collaboration with neighbouring authorities to communicate and share data, ensuring expeditious movement of traffic across boundaries.

Continue to assess, and where possible provide facilities for pedestrians and cyclists at all new and refurbished signalised sites. Requirements will be addressed at the design stage.

To address the whole life cycle of proposed assets during the design process, ensuring whole life cycle costs are considered at an early stage, either using ELV or solar equipment where possible, thus reducing energy costs and carbon footprint.

Deliver an Asset Management Lifecycle Planning system to provide evidence to ensure that appropriate investment decisions on maintenance requirements are made, asset value for relevant equipment is collected and to help identify funding opportunities for a long term replacement programme.

Condition

All the ITS infrastructure varies in terms of condition, with a large number of sites now beyond their serviceable life. At present, the condition of sites is captured based on an overall site basis and updated following annual periodic inspections, as part of the maintenance contracts.

Aspirations going forward, is to capture the condition of each piece of equipment associated to each site and manage within an asset management system. This will allow accurate and reliable data to be collected and ensure a life cycle asset management approach is adopted, with a view to creating a long-term replacement programme.

Data Strategy

At present, data is held within an inventory for ITS infrastructure and within various systems which aid the management of the various equipment. Talks are in place with our maintenance contractor to agree a process going forward to enable the capture of more accurate site information based on each piece of equipment. Data collection can be captured during the annual site inspections which can then be imported into an asset management system.

We are also currently looking to find a suitable asset management system that is more tailored to the ITS industry and can assess the whole life cycle of assets, taking into account installation, operation, maintenance, obsolescence, asset renewal, energy consumption and decommissioning.

By using a life cycle approach, we will be able to identify in advance the optimal time when refurbishments will need to be undertaken. By planning refurbishments in accordance with the anticipated life of the assets, this will help to minimise the number of faults that the assets develop during its life and the effect to the end users.

Investment

There are currently no capital maintenance funds in place for asset replacement.

The Local Transport Plan fund awards investment for the upgrading of pedestrian crossings to Puffin Crossings as follows:

£18K – Design only of Puffin Crossing upgrades x 3

£150K – Construction of designed Puffin Crossing upgrades

Risks

There is 68% of traffic control installations that are now beyond their recommended serviceable life, with no dedicated fund for asset replacement.