

## Bridges and Structures

Bridges and structures are essential to support the carriageway network. Without them, a continuous highway network would not exist.

Around 10% of this stock is covered by a form of heritage protection, either listed building, or scheduled monument classification.

The other major class of highway structure is retaining walls, provided to overcome a difference between highway and adjacent ground levels where it is not practical for economic or engineering reason to construct an embankment or cutting.

The remaining minor groups of structures in Dorset, are cattle grids and fords. There are two individual structures that do not fit conveniently into any group – Weymouth Town Bridge and Beaminster Tunnel.

### Objectives

Network resilience

Highway safety

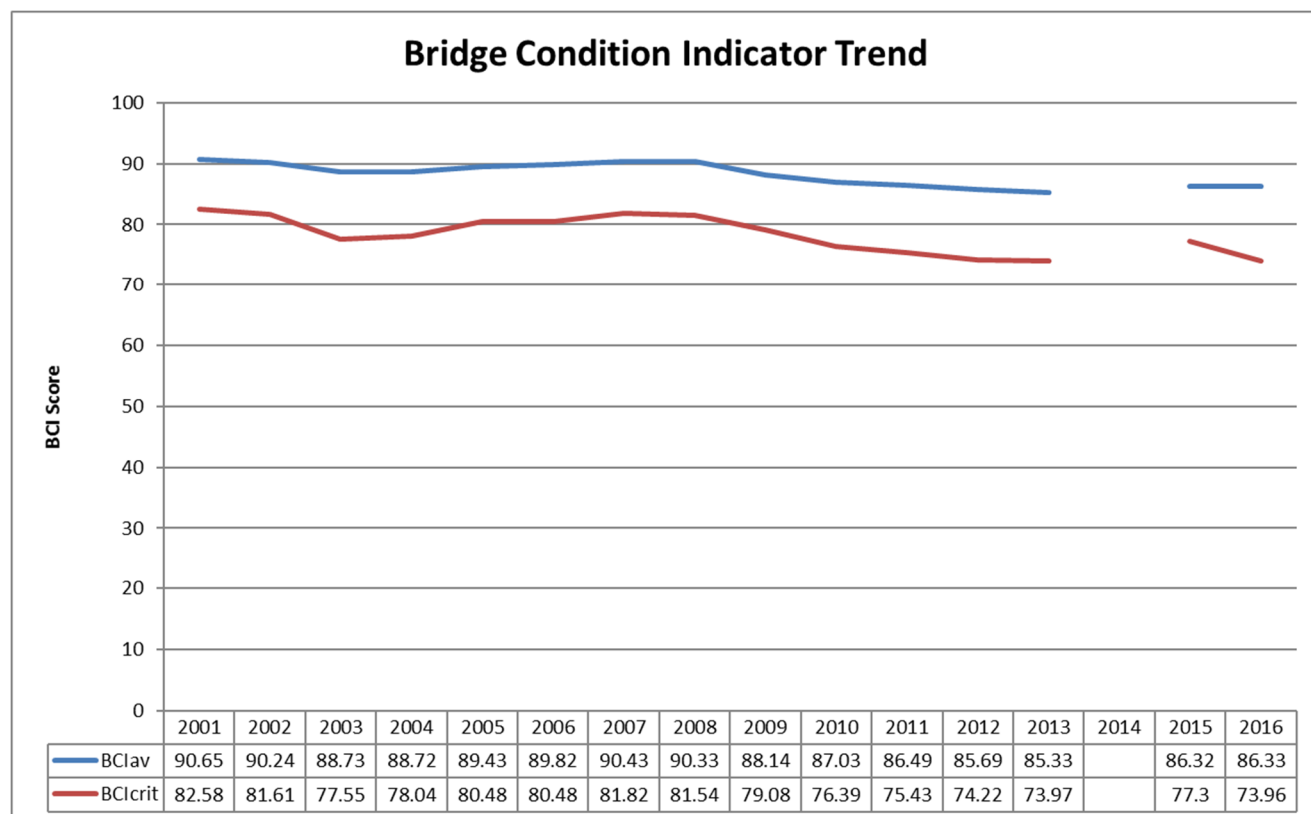
Achieve network accessibility

### Strategies

Continue with 2 yearly General Inspections of all bridges: collecting condition data and identifying defects that require maintenance.
Develop risk-based approach to Principal Inspections of bridges to determine need and frequency for each structure – currently 10% of stock every 6 years.
Commence scour risk assessment of bridges – major cause of structural failure
Develop a hierarchy for structures for maintenance investment based on network hierarchy, local factors and constraints.
Maintain and review prioritisation of 3 year forward maintenance plan
Retaining walls - continue with reactive inspection and maintenance strategy

### Current Performance

The condition of the bridge stock is measured as a weighted average of all the individual bridge condition scores. The average score includes the condition of all elements of a bridge (BCIav). The critical score only includes those element score that directly affect structural safety (BCIcrit). The bridge condition indicator shows a negative trend in bridge condition year on year.



### Three Year Investment Strategy

Asset	Annual Investment	% of Overall budget
Bridges and structures	2,000,000.00	16%

It is anticipated this investment will result in a reduction in average condition to 83.5 BCIav and in critical condition to 71.5 BCIcrit by 2021/22. The ADEPT guidance for banding the stock conditions into Fair and Poor respectively would remain unchanged.

### Risks

The current and projected condition bands are for the stock. Within the stock there will be proportion of bridges that are in good condition and some that are in very much worse condition. As overall stock condition deteriorates the proportion in poorer condition increases and it is likely to lead to some bridges requiring urgent repair – **Mitigation:** maintain detailed inspection regime, prioritise repair based on severity of defects and structures hierarchy.

Increasing frequency of heavy storms could pose a threat of river bed erosion leading to souring out of material beneath foundations and structural damage – **Mitigation:** maintain detailed inspection regime, undertake scour risk assessments and implement protection measures at high risk structures

The majority of retaining wall locations are not recorded on the inventory, their condition, construction details and ownership are unknown. Collapse or near collapse may occur requiring carriageway or footway closures. – **Mitigation:** respond to reports of problems by inspecting promptly and take action to monitor, stabilise or rebuild as appropriate.

**Safety Fences**

Safety fences are more commonly known as 'crash barriers'.

The purpose of safety fences is to redirect errant vehicles back on to the highway. They are located on the central reserves of dual carriageways, to reduce the risk of collision with traffic travelling in the opposite direction, and at the side of the road to protect drivers from hazards.

**Strategy**

Replace on fail

Manage through planned safety inspections

**Investment*****Capital***

No planned capital investment

***Revenue***

Based on safety inspection criteria

**Risks**

Identified issue of 83.5% safety fence assets will have reached the end of their serviceable life by 2023. There is no identified capital funding for safety fence replacement. In mitigation these assets will continue to performance beyond their recommended serviceable life and are continued to be inspected.