# Lower Thames Crossing economic assessments

Economic assessments are carried out to measure the likely costs and benefits of projects to support the government's investment decisions.

They are carried out at different points during the development of projects as they change and evolve, and to reflect changes in government guidance and assessments.

**For the Lower Thames Crossing this has included:**

**2013**
**Route options process**
Early work to explore different route options for new road

**2016**
**Preferred route decision**
Government decision on route of new road

**2020**
**Outline Business Case**
Prepared for the Department for Transport

**2022**
**Outline Business Case**
Updated economic assessment within the Development Constent (DCO) planning application

In the future, a Full Business Case will be developed to support government's funding decision for the project.

## Supporting government decision making

To support government decision making, projects such as the Lower Thames Crossing must set out strategic, economic, commercial, financial and managerial appraisals. The economic appraisal is an assessment of the project's costs, revenues, environmental and social benefits, and disbenefits.

One part of the assessment is the development of a benefit-cost ratio (BCR). This presents a ratio of the benefits of a project compared to the costs, helping government understand a project's potential value for money.

The government provides guidance for the development of BCRs that consider a range of sensitivity and scenario tests. For road projects, this includes predicted changes in traffic flow, project costs and project delivery timescales, and increases or decreases in population and traffic growth, typically over the first 60-years of opening.

**The benefits included in the economic appraisal for the Lower Thames Crossing include:**

- journey time savings
- growth and efficiency that the new route would unlock, such as businesses having improved productivity and better access to labour supply
- increased capacity allowing people to make journeys across the river

## Comparing costs and benefits on the Lower Thames Crossing

The BCR for the Lower Thames Crossing outlined in its application for a Development Consent Order (DCO) is 1.22. As this is greater than 1, this means over the life of the project the benefits of the scheme are more than the cost, and it offers positive value for money.

To enable projects of different scales and durations to be compared on a like-for-like basis, the costs and benefits for a BCR are discounted back to a common reference point known as 'present value'. This means that the benefits of projects, with long life spans, such as major infrastructure projects can be compared with those with shorter life spans, such as an IT upgrade.

The discounting is carried out in line with government guidance called the Supplementary Green Book, and the current approach brings all costs and benefits over a 60-year lifetime back to a present value of 2010 prices.

In the Lower Thames Crossing's DCO application, the estimated cost of the project is around £8.3 billion, but when discounted to 2010 prices it becomes c£2.7 billion. The total benefits of the project is c£27 billion, but when reduced to 2010 prices becomes c£3.3 billion. By dividing the present value benefits of c£3.3 billion by the present value cost of £2.7 billion, the project reaches a BCR of 1.22.

With a BCR of 1.22 over 60-years, the one-off investment of £8.3 billion (which is assumed to be made between 2026 and 2032) is predicted to return up to £27 billion as the benefits continue to accumulate over 60 years.

Whilst the BCR is an important tool that helps government assess spending priorities, it is not designed to cover the full range of benefits. For example, the design life for the Lower Thames Crossing's tunnel and other major civil infrastructure is 120-years - double that of the typical BCR assessment - meaning the full benefit will be even greater.

## The true value of freight

Current economic valuations for freight movements are largely based on the cost of a driver's time, but there are significant additional benefits that come from having goods move around the country in a more timely and effective way. These include reduced costs from late deliveries and vehicles being able to make more deliveries rather than sitting in traffic.

The Lower Thames Crossing will provide an important new connection for freight. It will carry a significantly higher percentage of goods vehicles than elsewhere on the road network, reduce journey times and increase the reliability of goods and services moving across the country.

The current valuation of freight which is largely based on drivers' time therefore leads to a likely significant underestimation of the true benefit of the project to the logistics sector.

**Recent economic estimates that put a greater value on freight movements and other factors show that there would be a return in benefits nearer to 1.7 and add up to £40 billion to the UK economy over the first 60-years of its lifetime. If this was applied to the full 120-year lifetime of the project, the benefit would be even greater still.**

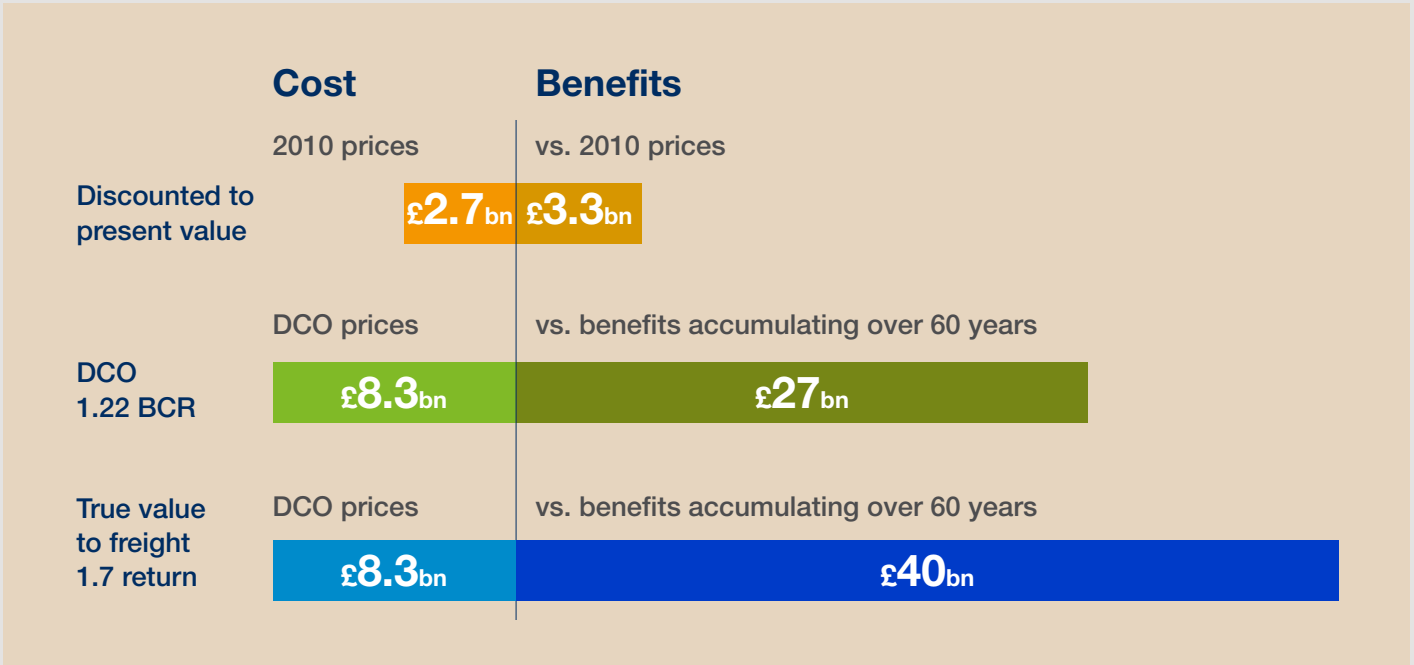


**Illustration: Comparing costs and benefits on the Lower Thames Crossing**

## A safe investment

Under the most likely growth forecasts the Lower Thames Crossing will give billions more back into the economy in benefits than it would cost to build. In additional sensitivity tests carried out to see how the benefits would change under a range of scenarios, 22 out of 24 combined economic scenarios resulted in the return on investment exceeding the costs. The remaining two offered over 90% of the investment back when looking at low economic growth over 60 years, but would likely recover all costs over the full design life of the project.