National Audit Office

Report
by the Comptroller
and Auditor General

Department for Transport

Investigation into the Department for Transport's decision to cancel three rail electrification projects

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What this investigation is about

1 In July 2017 the Secretary of State for Transport announced the cancellation of three electrification projects serving different parts of the UK: the Midland Main Line north of Kettering (to Nottingham and Sheffield); the Great Western Main Line between Cardiff and Swansea; and the Lakes Line between Oxenholme and Windermere. Electrification of the Midland Main Line to Sheffield was a 2015 Conservative party manifesto commitment. The 2015 manifesto also stated that work was underway to electrify the railway in South Wales. These three projects are part of wider electrification projects for which works are either ongoing or already complete for large sections of these lines (**Figure 1**).

2 This investigation sets out the decision-making process, leading to the July 2017 announcement. It covers:

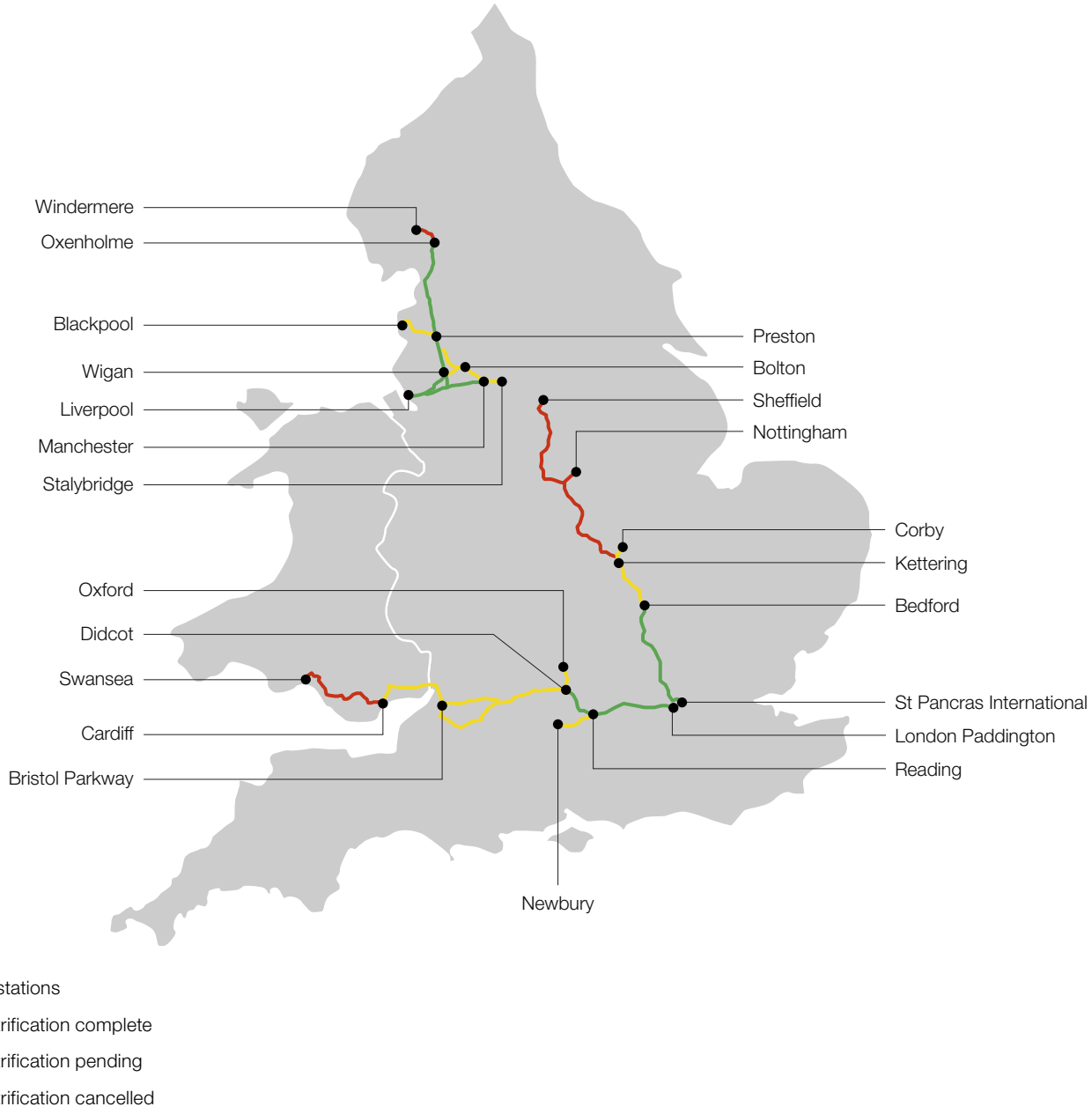
- the original case for electrification;
- why the Department for Transport (the Department) chose to cancel projects;
- how it selected which projects to cancel; and
- the Department's assessment on the impact that cancelling the projects would have on promised benefits.

3 This investigation focuses on the three electrification projects the Secretary of State announced as cancelled in July 2017. Our investigation does not seek to evaluate the value for money of the projects or the decision to cancel. It considers the savings to be achieved by cancelling the three electrification projects. It does not look at other cancelled or deferred projects in Network Rail's enhancement portfolio or at the Department's proposals for addressing the full funding gap in the 2014–2019 rail investment period.[1]

1 Enhancements are projects that improve the railway network. Major enhancements projects include Thameslink and Crossrail.

Figure 1

The three lines with cancelled electrification projects



Note

1 This map shows the electrification schemes planned as part of the Midland Main Line, Great Western Main Line and the North of England programmes. This map does not show the full extent of the Department's electrification plans.

Source: National Audit Office analysis

Summary

Key findings

The changing case for electrification

1 In 2012 the Department for Transport (the Department) identified rail electrification as a strategic priority. Network Rail had set out the case for electrification in 2009 highlighting the role that electrification could play in delivering environmental benefits, reducing operational costs, increasing capacity and reducing journey times. In 2012, the Department announced a large volume of electrification works to be delivered by Network Rail in the 2014–2019 rail investment period. Of the £34.3 billion budget for operating, maintaining, renewing and enhancing the railway in England and Wales for the period, £3 billion was for electrification schemes.[2] The Department's announcement included electrifying the line from Cardiff to Swansea and the Midland Main Line north of Kettering. The Department added Oxenholme to Windermere to its plans in 2013 (paragraphs 1.2 to 1.3, 1.5).

2 In July 2017 the Secretary of State cancelled three electrification projects because he said it was no longer necessary to electrify every line to deliver passenger benefits. He said that journeys for passengers could be improved sooner than expected by using state of the art trains. He intended to run bi-mode trains, which can transfer from diesel to electric power without passengers being aware of the switch, on the Great Western and Midland Main Lines. He intended to explore the use of alternative-fuel trains, such as those operated by battery or hydrogen, on the line between Oxenholme and Windermere (paragraphs 1.7, 4.1, 4.4, 4.6, 4.9).

2 Figures are given in 2012-13 prices.

Why the Department decided to cancel projects

3 The Department decided to cancel projects in 2017 because Network Rail's 2014–2019 investment portfolio was no longer affordable. The Office of Rail and Road and Network Rail became concerned about the deliverability of the portfolio before the start of the five-year rail investment period. Cost and schedule increases were apparent within the first year. The combination of cost increases and Network Rail's 2014 reclassification as a public body, constraining its ability to borrow funds to meet cost increases, meant that Network Rail could no longer deliver its programme within the available funding. In November 2015, Network Rail undertook a major replan of its portfolio and found that the cost of the work it intended to complete by March 2017 exceeded the available funding by £2.5 billion. In late 2016, the Department and Network Rail found that plans to raise and retain £1.8 billion through asset sales were unachievable. The Department, Network Rail and HM Treasury decided that they would need to cancel projects (paragraphs 2.1 to 2.6, 3.4).

How the Department selected which projects to cancel

4 In selecting projects for cancellation, the Department rated projects against a range of criteria. The Department considered potential savings and value for money as well as reputational impacts and the implications for passengers, the franchise and the supply chain. It prioritised projects for cancellation where it believed the majority of passenger benefits could be delivered by other means or where value for money was low. There were five projects recommended for cancellation, including the three schemes we investigated. The three schemes that we investigated were at an early stage and the Department considered they had weak cases to continue (paragraphs 3.5 to 3.6).

5 The Department estimated that cancelling the three electrification projects would save a maximum of £105 million in the 2014–2019 rail investment period. For each project, the Department estimated sunk costs, and the range of savings it expected to deliver in the current and future rail investment periods. It estimated that cancelling the three projects would avert £1,385 million of spending in the 2019–2024 rail investment period (paragraph 3.6).

6 In March 2017 Ministers agreed to some cancellations but the Prime Minister wanted to see an updated business case on the Cardiff to Swansea project. In March 2017 the Secretary of State and the Chancellor of the Exchequer agreed a package of cancellations and deferrals from the enhancements portfolio, including the Midland Main Line north of Kettering and Oxenholme to Windermere electrification projects. The Prime Minister wanted to see a planned update of the economic case for the Cardiff to Swansea scheme before deciding whether to cancel the project (paragraph 3.8).

7 In July 2017, the Prime Minister agreed to cancel the Cardiff to Swansea project and the Secretary of State announced his decision to cancel all three projects. Between March and June 2017, the Department continued to refine its calculations. It found that expected savings in the 2014–2019 rail investment period from the full package of cancellations and deferrals were £337 million. This was lower than the maximum of £562 million previously identified. The updated appraisal on the Cardiff to Swansea project had found that the benefit–cost ratio of the scheme had fallen from 0.6:1 to 0.3:1. The Department again recommended that it be cancelled. On gaining approval from the Prime Minister to cancel Cardiff to Swansea electrification, the Secretary of State announced that all three projects would be cancelled immediately (paragraphs 3.9 and 4.1, Figure 4).

Implications of the decision

8 It is too early to tell the extent to which the Department will be able to deliver the benefits of electrification without electrifying the three routes. The Department still expects to deliver the majority of promised passenger benefits through planned infrastructure works and replacing existing trains. It will still introduce new electric trains to operate services between London and Corby on the Midland Main Line. It will now use bi-mode trains to operate services on the Great Western Main Line and long-distance services on the Midland Main Line. Although bi-mode trains allow greater flexibility by being able to run on electrified and non-electrified lines, there are some disadvantages, such as increased track damage and higher energy costs, which the Department will need to take into account. For Oxenholme to Windermere the Department had interim plans to use bi-mode trains and proposes to replace existing trains with new diesel trains. It has also asked the operator to explore the use of alternative fuel trains on the route. The Department has not yet fully costed the environmental and future financial implications of its decision on Midland Main Line and Oxenholme to Windermere. It is uncertain about how much the new trains will cost, but in October 2017 the Secretary of State told the Transport Select Committee that completing electrification would "be more expensive" than buying other trains (paragraphs 1.7, 3.3, 4.1 to 4.14).

9 In the case of Midland Main Line, bi-mode trains with the required speed and acceleration did not exist when the Secretary of State made his decision. When the Secretary of State made his announcement in July 2017, he specified that the next operator for the East Midlands franchise would deliver new bi-mode trains from 2022. The Department expects journey times with bi-mode trains to be only one minute slower between London and Sheffield than they would have been with fully electric trains. However, when the Secretary of State decided to cancel the project in March 2017, the Department had advised him that bi-mode rolling stock of the required speed and acceleration to meet the timetable of the route did not currently exist. The Department told us that, although it did not include it in its written advice, it expected that manufacturers would be able to develop a bi-mode train that would deliver service improvements on Midland Main Line (paragraphs 3.8, 4.4 and 4.5).