



**BRIEFING PAPER**

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# Rail electrification

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## Summary

This briefing paper explains the rail electrification schemes planned by the Labour, Coalition and Conservative governments and where things currently stand with each one.

Less than half of the British rail network is electrified. Since 1997 roughly 60 miles of existing track have been electrified – 50 of them since 2010.

Towards the end of its time in office in 2009, Labour announced a large scale electrification programme for the railways, including the Great Western Main Line and various schemes in the North West. The Coalition took up these proposals after 2010 (with some modification) and expanded them to include the Midland Main Line and other schemes.

Network Rail is responsible for delivering these schemes, which are funded as part of its multi-year quinquennial settlement. Most of these schemes were due to progress in Control Period 5 (CP5) between 2014 and 2019.

However, in June 2015 the Secretary of State for Transport announced that the Midland Main Line and TransPennine electrification schemes would be 'paused'. He insisted that NR's focus should be on delivering the Great Western upgrade to time and on budget.

In September 2015 the Secretary of State announced that the schemes would be 'unpaused', but with delays to their completion dates.

In November 2016 the Railways Minister deferred four electrification projects which form part of the Great Western upgrade programme. He gave no date for their resumption, arguing that passenger benefits could be provided by newer trains with more capacity, without requiring "costly and disruptive" electrification works.

In July 2017 the Secretary of State announced the cancellation of electrification works between Cardiff and Swansea, on the Midland Main Line between Kettering, Nottingham and Sheffield, and in the Lake District between Windermere and Oxenholme. He also made comments to the media casting doubt on the future of the TransPennine electrification programme.

Information on other rail-related issues and infrastructure schemes, such as HS2, Crossrail and Thameslink can be found on the [Railways Briefings Page](#) of the Parliament website.

# 1. Government policy, 2009-

At October 2009 it was estimated that approximately 40 per cent of Britain's rail network was electrified.<sup>1</sup> Between 1997 and 2010 ten miles of existing track were electrified.<sup>2</sup> Between 2010 and 2015 a further 50 miles of track were electrified.<sup>3</sup> As at February 2015 the Government had committed a total of 850 routes miles for electrification.<sup>4</sup> However, it is unclear how much of this will now be delivered following announcements in July 2017 to scale back the programme.

Two thirds of the electrified network is equipped with overhead line alternating current electrification, whilst the remainder of the system is predominantly third rail direct current electrification with some small local systems.<sup>5</sup> The main benefits of electrification, compared to diesel operation, are cost efficiency, better rolling stock and reduced carbon emissions.<sup>6</sup> Governments have also praised the benefits of reliability, connectivity, capacity and economic growth, particularly driven by freight running on electrified lines.<sup>7</sup>

## 1.1 Labour Government, 2009-10

The Labour Government did not publish a major policy document on rail electrification until late in its third term. This set out the case for a programme to electrify the Great Western Main Line - the longest non-electrified intercity route in Britain between - London, Reading, Oxford, Newbury, Bristol, Cardiff and Swansea by 2017; and the line between Liverpool and Manchester by 2013. It also said that it would consider the costs and benefits of sider electrification such as the Midland Main Line between London and Derby, Nottingham and Sheffield, as well as routes between Manchester and Preston, and Liverpool and Preston.<sup>8</sup>

The estimated £1.1 billion cost for Great Western and Liverpool-Manchester would be "self-financing, paying for itself through lower train maintenance, leasing and operating costs. This means that this investment can take place without reducing already planned infrastructure enhancement work".<sup>9</sup>

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<sup>1</sup> Network Rail, *Network RUS - Electrification*, October 2009, p4

<sup>2</sup> e.g. [HC Deb 29 June 2015, c1154](#) and [HC Deb 25 June 2015, c1070](#)

<sup>3</sup> [HC Deb 11 June 2015, c1323](#)

<sup>4</sup> [HCWPO 222242](#), 2 February 2015

<sup>5</sup> op cit., *Network RUS - Electrification*, p18

<sup>6</sup> *ibid.*, p5

<sup>7</sup> e.g. DfT, *Britain's Transport Infrastructure: Rail Electrification*, July 2009, pp7-9; and *High Level Operating Statement*, 16 July 2012, paras 6&7

<sup>8</sup> op cit., *Britain's Transport Infrastructure: Rail Electrification*, pp4-5

<sup>9</sup> *ibid.*, p5

## 1.2 Coalition and Conservative governments, 2010-

The Coalition Government came to office supporting electrification in principle but practically concerned about cost.<sup>10</sup> However, by July 2012 it was setting out ambitious plans for electrifying “a high capacity passenger and freight electric corridor running from the South Coast through Oxford, Bedford and via the Midland Main Line to the East Midlands and South Yorkshire, with a link from Oxford to the West Midlands and the North West”.<sup>11</sup> It also confirmed support for:

Electrification of the Great Western Main Line to Cardiff, Oxford and Newbury

Electrification of the ‘North West Triangle’ (Manchester – Liverpool via Chat Moss, Huyton - Wigan, Manchester - Euston Junction and Blackpool North – Preston)

Electrification of the ‘North trans-Pennine line’ (Manchester Victoria and Guide Bridge – Huddersfield – Leeds – Colton Junction)<sup>12</sup>

However, by 2015 there were clear concerns about Network Rail’s management of its enhancements programme and in June the then Secretary of State for Transport, Sir Patrick McLoughlin, announced a ‘pause’ in the TransPennine and Midland Main Line electrification programmes.<sup>13</sup> These schemes were ‘unpaused’ in September 2015 following a review by the chair of Network Rail, Sir Peter Hendy, but their implementation dates were put back by a number of years.<sup>14</sup>

Most recently, in July 2017, the Secretary of State, Chris Grayling, announced that electrification works between Cardiff and Swansea, on the Midland Main Line between Kettering, Nottingham and Sheffield, and in the Lake District between Windermere and Oxenholme, would be cancelled.<sup>15</sup> He also made comments to the media casting doubt on the future of the TransPennine electrification programme.<sup>16</sup>

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<sup>10</sup> The Coalition Agreement said: “We support ... further electrification of the rail network” [HMG, *The Coalition: Our Programme for Government*, May 2010]

<sup>11</sup> op cit., *High Level Operating Statement*, para 6

<sup>12</sup> ibid., para 33

<sup>13</sup> [HC Deb 25 June 2015, c1068](#)

<sup>14</sup> DfT press notice, “[TransPennine and Midland Mainline electrification works to resume](#)”, 30 September 2015

<sup>15</sup> DfT press notice, “[New improvements for rail passengers in Wales, the midlands and the north](#)”, 20 July 2017

<sup>16</sup> “U-turn on rail schemes hits Northern Powerhouse plan”, *Financial Times*, 21 July 2017 and “[Changes to rail electrification plans a 'slap in face'](#)”, *BBC News*, 23 July 2017

## 2. Great Western and South Wales



[image: [Network Rail](#)]

### 2.1 Background

In July 2009 the Labour Government announced its intention to electrify the Great Western Main Line between London, Reading, Oxford, Newbury, Bristol, Cardiff and Swansea, to be completed within eight years (i.e. by 2017).<sup>17</sup> The estimated cost was £1 billion.<sup>18</sup> It was intended that the scheme would cut costs, reduce environmental impacts, increase capacity, improve reliability and improve the passenger experience. New trains would be procured to operate on the electrified track, improving services, capacity and journey times.<sup>19</sup>

In October 2009 Network Rail marked the scheme 'high' value for money, depending on the cost of the trains.<sup>20</sup>

The scale of the works required is vast: "on the 216 miles of the Great Western line ..., Network Rail needs to alter about 170 bridges, lower

<sup>17</sup> op cit., [Britain's Transport Infrastructure: Rail Electrification](#), para 1

<sup>18</sup> *ibid.*, para 75

<sup>19</sup> more information on the Intercity Express Programme (IEP), to procure the new trains, can be found in HC Library briefing paper [SN3146](#)

<sup>20</sup> op cit., [Britain's Transport Infrastructure: Rail Electrification](#), p67

parts of the track bed, install 14,000 masts of overhead line equipment and electrify parts of the railway constructed by Brunel in the 1830s".<sup>21</sup>

## 2.2 Great Western Main Line (GWML)

By March 2011 the Coalition Government had confirmed its intention to electrify commuter services on the Great Western Main Line (GWML) from London to Didcot, Oxford, Newbury, Bristol and Cardiff.<sup>22</sup>

However, it decided not to proceed with electrification to Swansea (as proposed by the Labour Government). This was because there was "no evidence of a pattern of demand that would be likely to lead imminently to an increase in [service] frequency. Consequently ... there is not, at present, a viable business case for electrification of the main line between Cardiff and Swansea".<sup>23</sup> This decision was later reversed and in July 2012 the Government announced the electrification of the Cardiff-Swansea line as part of the High Level Output Statement (HLOS) for the rail planning period 2014-19.<sup>24</sup>

Also in the 2012 HLOS the Government announced the extension of the GWML scheme to the Thames Valley, to include electrification of the lines between Acton and Willesden, Slough and Windsor, Maidenhead and Marlow, and Twyford and Henley-on-Thames.<sup>25</sup>

There have been calls to extend electrification further into the South West (e.g. to Plymouth and Cornwall), claiming that it could provide benefits to the South West economy of £100 million a year.<sup>26</sup>

In June 2015 the then Secretary of State for Transport, Sir Patrick McLoughlin, told the House that "electrification of the Great Western line is a top priority and I want Network Rail to concentrate its efforts on getting that right".<sup>27</sup> Critics argued that the escalating cost of the GWML scheme caused other schemes to be put on hold.<sup>28</sup>

In November 2016 the Railways Minister, Paul Maynard, announced his decision to 'defer' four electrification projects which form part of the Great Western upgrade programme. He gave no date for their resumption, arguing that passenger benefits could be provided by newer trains with more capacity, without requiring "costly and disruptive" electrification works.<sup>29</sup> The works are:

- electrification between Oxford and Didcot Parkway;
- electrification of Filton Bank (Bristol Parkway to Bristol Temple Meads);
- electrification west of Thingley Junction (Bath Spa to Bristol Temple Meads); and

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<sup>21</sup> [HC Deb 25 June 2015, c1067](#)

<sup>22</sup> [HC Deb 25 November 2010, c466](#); and: [HC Deb 1 March 2011, c186](#)

<sup>23</sup> [HC Deb 1 March 2011, c186](#)

<sup>24</sup> [HC Deb 16 July 2012, cc113-114WS](#); and op cit., *High Level Operating Statement*, para 39

<sup>25</sup> op cit., *High Level Operating Statement*, para 40

<sup>26</sup> "[Electrifying routes to the South West could deliver £6 billion to region](#)", *Rail Magazine*, 25 November 2014

<sup>27</sup> [HC Deb 25 June 2015, c1068](#)

<sup>28</sup> "Delays slow electric trains for the north", *Sunday Times*, 22 February 2015

<sup>29</sup> [HC Deb 8 November 2016, cc46-8WS](#)

- electrification of Thames Valley Branches (Henley & Windsor)

This was followed a few days later by a report from the National Audit Office (NAO), offering a highly critical account of how the Great Western electrification had been managed and highlighting both cost increases and delivery delays (see below). Overall, NAO concluded that:

- The value for money of the programme needs to be reassessed, and the extent of electrification reconsidered;
- Before 2015, the Department did not plan and manage all the projects which now make up the Great Western Route Modernisation industry programme in a sufficiently joined up way;
- The Department did not produce a business case bringing together all elements of the programme until March 2015, more than two years after ordering the trains and over a year after Network Rail began work to electrify the route;
- Network Rail's 2014 cost estimate was unrealistic. It was too optimistic about the productivity of new technology. It underestimated how many bridges it would need to rebuild or modify and also the time and therefore costs needed to obtain planning permission and other consents for some works. Failings in Network Rail's approach to planning and delivering the infrastructure programme further increased costs;
- Delays to the electrification programme will cost the Department up to £330 million. It will also receive less income from the Great Western franchise between September 2015 and March 2019 because the train operator will bear the costs of providing extra trains and leasing depots, as well as higher running costs from operating diesel trains for longer, while also receiving less revenue from passengers than expected;
- Some passengers in the north and west of England may have to wait longer, some nine months and up to two years respectively, to see improvements such as increased capacity in services because of the delays to the programme; and
- Network Rail has a challenging task to deliver the main benefits from the infrastructure programme, within the current schedule and budget.<sup>30</sup>

In July 2017 the Secretary of State, Chris Grayling, announced that the Government no longer intended to proceed with electrification between Cardiff and Swansea. He said:

From Autumn 2017, passengers in Wales will benefit from new Intercity Express trains which will each deliver over 130 more seats, faster journey times and improved connectivity for south Wales to London with 40% more seats in the morning peak once the full fleet is in service.

These innovative new trains switch seamlessly between electric and diesel power, delivering faster journeys and more seats for passengers without disruptive work to put up wires and masts along routes where they are no longer required.

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<sup>30</sup> NAO, [Modernising the Great Western railway](#), HC 781 of 2016-17, 9 November 2016, summary; followed by a report from the Public Accounts Committee, see: PAC, [Modernising the Great Western Railway](#) (Forty-fourth Report of Session 2016-17), HC 776, 3 March 2017

Rapid delivery of passenger benefits, minimising disruption and engineering work should always be our priority and as technology changes we must we must reconsider our approach to modernising the railways. We will only electrify lines where it provides a genuine benefit to passengers which cannot be achieved through other technologies.

As a result, we no longer need to electrify the Great Western route west of Cardiff. In addition to the new trains, Network Rail will develop further options to improve journeys for passengers in Wales. These will include, but not be limited to:

- improving journeys times and connections between Swansea and Cardiff, and south Wales, Bristol and London
- improving journeys times and connections across north Wales
- direct services from Pembroke Dock to London via Carmarthen on new, state of the art Intercity Express trains
- station improvements at Cardiff Station
- station improvements in and around Swansea including looking at the case for additional provision<sup>31</sup>

The Welsh Government consequently demanded that the estimated £700 million saved by the UK Government by not proceeding this electrification project be reinvested for future rail projects in Wales.<sup>32</sup>

### 2.3 Welsh Valley Lines

As indicated above, in 2011 the Government initially decided that there was no economic case for extending GWML electrification from Cardiff to Swansea.<sup>33</sup> However, they did state that there was a case for electrifying other lines in Wales, particularly the commuter lines into Cardiff via Pontypridd and Caerphilly to Treherbert, Aberdare, Merthyr Tydfil, Coryton and Rhymney, as well as the lines to Penarth and Barry Island to the west.<sup>34</sup> This was later included in the July 2012 HLOS.<sup>35</sup>

In November 2014 the then Prime Minister, David Cameron, announced that the UK Government would take over sponsorship and fund delivery of the Cardiff-Bridgend section of the GWML electrification scheme to Swansea (£105 million), and contribute £125 million towards the costs of the wider Valley Lines electrification scheme. The Welsh Government would take over sponsorship and delivery of the Valley Lines project.<sup>36</sup>

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<sup>31</sup> [HCWS85](#), 20 July 2017

<sup>32</sup> Welsh Government press notice, "[Ken Skates demands £700m from UK Government for scrapping electrification across South Wales](#)", 21 July 2017

<sup>33</sup> based on: DfT, [Railway investment on the Great Western Main Line and in Wales](#), March 2011 [HC DEP 2011-0587]

<sup>34</sup> [HC Deb 1 March 2011, c187](#)

<sup>35</sup> op cit., [High Level Operating Statement](#), para 39

<sup>36</sup> PM press notice, "[PM announces rail package to electrify Valley Lines and boost Welsh economy](#)", 21 November 2014

In March 2016 the Welsh Government set out the case for electrification of the North Wales coast main line by 2024 in a business case presented to DfT.<sup>37</sup>

More information can be found on the websites of the [Welsh Government](#) and [Network Rail](#).

## 2.4 Timetable & cost

Network Rail envisaged that work between London and Bristol, including Newbury and Oxford, would be completed by 2016, with the route to Cardiff electrified by May 2017 and the route to Swansea by May 2018.<sup>38</sup> However, the November 2015 Hendy Review said that the route beyond Cardiff would not be electrified until CP6 (2019+).<sup>39</sup> As indicated above, the Cardiff-Swansea electrification has been cancelled altogether.

Electrification of other parts of the Great Western Main Line has been deferred.

The total anticipated cost of the GWML electrification to Cardiff in 2014 was £1.7 billion; €11 million of which was from the EU.<sup>40</sup> However, the Hendy Review put the revised cost at £2.8 billion.<sup>41</sup>

In November 2016 the NAO put the cost of modernising the Great Western railway at £5.58 billion, an increase of £2.1 billion since 2013, with delays to the electrification of the route of at least 18 to 36 months.<sup>42</sup>

Press reports in 2014 put the total cost of the Valley Lines scheme at approximately £295 million.<sup>43</sup> By 2016 the figure was £738 million for what is now called the 'South Wales Metro', including £110 million in European funding. The Treasury has indicated that, post-Brexit, "it will, if necessary, underwrite that element of the contribution, but if the proposals move forward in a timely manner, the European elements will be funded by the European Union".<sup>44</sup>

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<sup>37</sup> Welsh Government press notice, "[Minister submits case for electrification of the North Wales main line](#)", 31 March 2016

<sup>38</sup> NR, [Great Western route modernisation](#) and [Great Western electrification project: Frequently asked questions](#), p6

<sup>39</sup> NR, [Report from Sir Peter Hendy to the Secretary of State for Transport on the replanning of Network Rail's Investment Programme](#), November 2015, p6

<sup>40</sup> op cit., [Great Western route modernisation](#) [accessed 27 July 2017]; for detailed information see ORR, [ECAM letter to Network Rail](#), 12 September 2014

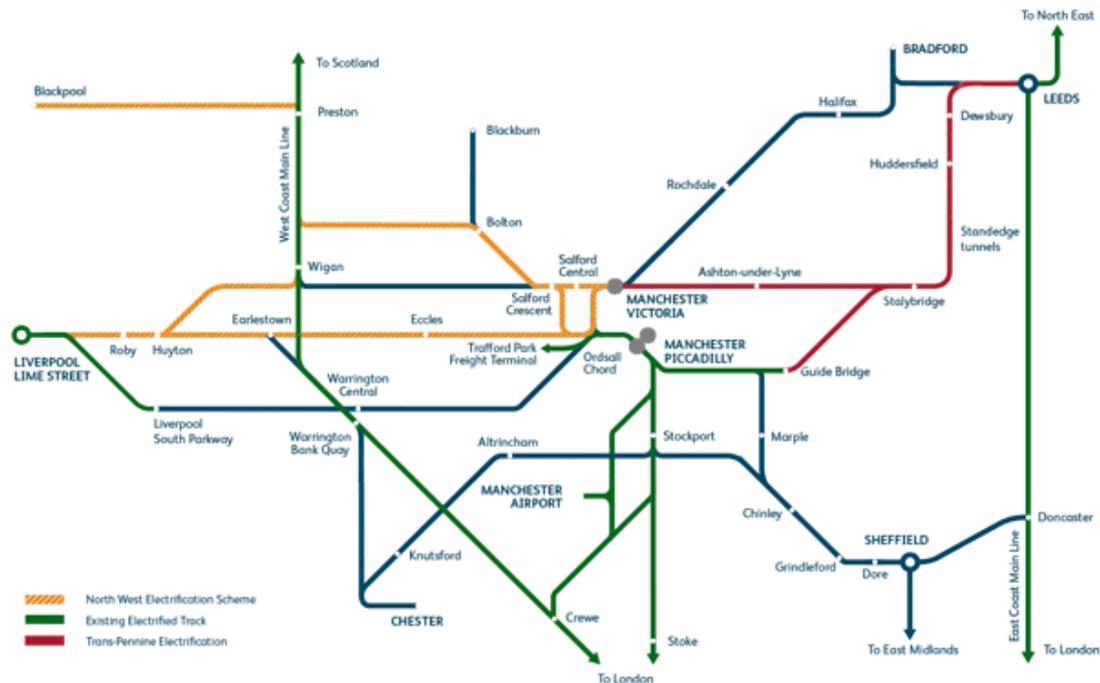
<sup>41</sup> op cit., [Report from Sir Peter Hendy to the Secretary of State for Transport on the replanning of Network Rail's Investment Programme](#), p6

<sup>42</sup> op cit., [Modernising the Great Western railway](#), summary

<sup>43</sup> "[South Wales rail electrification scheme finally gets the go-ahead with a £230m funding package](#)", [Wales Online](#), 21 November 2014

<sup>44</sup> [HC Deb 19 October 2016, cc788-9](#)

## 3. The North



[Image: [Network Rail](#)]

### 3.1 Background

In 2009 the Labour Government announced its intention to electrify the line between Liverpool and Manchester within four years (i.e. by 2013).<sup>45</sup> The estimated cost was £100 million.<sup>46</sup> It was intended that the scheme would cut costs, reduce environmental impacts, increase capacity, improve reliability and improve the passenger experience.

The amount of electrification planned for the North of England then proliferated: between 2010 and 2012 the Coalition Government announced the electrification of the 'North West triangle' (Manchester to Liverpool via Chat Moss; Huyton to Wigan; Manchester to Euxton Junction; and Blackpool North to Preston); and the 'North TransPennine line' (Manchester Victoria and Guide Bridge via Huddersfield and Leeds to Colton Junction).<sup>47</sup>

In March 2015 the North of England Electrification Task Force<sup>48</sup> published its final report. This set out three 'priority' tiers for

<sup>45</sup> op cit., *Britain's Transport Infrastructure: Rail Electrification*, para 1

<sup>46</sup> ibid., para 75

<sup>47</sup> [HC Deb 20 October 2010, c963](#) and op cit., *High Level Operating Statement*, para 33

<sup>48</sup> chaired by Andrew Jones MP (a transport minister in the 2015 Parliament) and comprised of Julie Hilling (former Labour MP for Bolton West), Ian Swales (former Liberal Democrat MP for Redcar), Cllr Dave Green (Leader of Bradford City Council) and Cllr Terry O'Neill (Leader of Warrington Borough Council)

electrification in the North based primarily on the scale of economic impact they would bring (Tier 1 being the most important):<sup>49</sup>

Tier One	Tier Two	Tier Three
Calder Valley – Leeds to Manchester and Preston via Bradford and Brighouse	Manchester to Sheffield and south east Manchester local services	Barrow to Carnforth
Liverpool to Manchester via Warrington Central	York to Scarborough	Pontefract to Church Fenton
Southport/Kirkby to Salford Crescent	Bishop Auckland/Darlington to Saltburn and Sunderland	Hull to Scarborough
Chester to Stockport	Barnsley to Huddersfield	Ormskirk to Preston
Northallerton to Middlesbrough	Sheffield to Lincoln via Retford	Carlisle to Newcastle
Leeds to York via Harrogate	Chester to Crewe	Skipton to Carlisle
Selby to Hull	Burnley to Colne & Kirkham to Blackpool South	Barton on Humber
Sheffield (Meadowhall) to Leeds via Barnsley / Castleford & connections	Knottingley to Goole	Cumbrian Coast
Bolton to Clitheroe		Doncaster to Gilberdyke
Sheffield to Doncaster/Wakefield Westgate (Dearne Valley)		Cleethorpes to Thorne (Doncaster)
Hazel Grove to Buxton		Middlesbrough to Whitby
Warrington to Chester		Skipton to Heysham

### 3.2 North West triangle (Manchester, Liverpool, Wigan, Blackpool, Preston)

There are several facets to the ‘North West triangle’ electrification, some of which are already complete:

- Manchester to Liverpool, and Huyton to Wigan: complete (included modification of bridges between Newton-le-Willows and Liverpool, and Huyton and Wigan; and installation of overhead line equipment);
- Manchester to Preston and Manchester Victoria to Stalybridge: works underway, scheduled for completion by December 2017 (formerly December 2016);<sup>50</sup>
- Preston to Blackpool: May 2018; and
- Oxenholme to Windemere: cancelled and
- Wigan to Lostock: under assessment (funding announced autumn 2013).<sup>51</sup>

The Secretary of State’s announcement in June 2015 that work on the TransPennine and Midland Main Line project would be ‘paused’ (see below) did not affect works in the North West. In the same speech Sir Patrick said: “We have seen electric trains introduced this year between Liverpool and Manchester, and between Liverpool and Wigan, and the work that will see them spread to Bolton and Blackpool is under way”.<sup>52</sup>

<sup>49</sup> [Northern Sparks: Report of the North of England Electrification Task Force](#), March 2015, p46

<sup>50</sup> [Railways: Greater Manchester: Written question – 71428](#), 26 April 2017

<sup>51</sup> NR, [North West electrification](#) [accessed 27 July 2017]

<sup>52</sup> [HC Deb 25 June 2015, c1068](#)

In June 2017 the Secretary of State, Chris Grayling, announced that electrification between Windermere and Oxenholme would be cancelled. He said:

We have listened to concerns about electrification gantries spoiling protected landscapes. Northern, the train operator, will therefore begin work to explore the possibility of deploying alternative-fuel trains on the route by 2021, improving comfort and on-board facilities for passengers while protecting the sensitive environment of this world heritage site. This trial will pilot an alternative-fuelled train, removing the need to construct intrusive wires and masts in this national park. Journeys between Windermere and Manchester airport will be improved sooner and with less disruption to services and local communities. This replaces plans to electrify the line between Windermere and Oxenholme.<sup>53</sup>

### 3.3 North TransPennine (Manchester to Leeds, York and Hull)

Electrification of the North TransPennine route from Manchester to Leeds and York was announced in the 2011 Autumn Statement. This pledged “£290 million to electrify the Transpennine railway route from Manchester to Leeds starting next year [i.e. in 2014]”.<sup>54</sup>

Network Rail began developing a scheme to electrify the route. In the July 2012 HLOS the Government announced its intention to “[seek] electrification of the route between Micklefield and Selby with appropriate links to the East Coast Main Line [and] maximise the value of the previously announced North trans-Pennine electrification through capacity enhancement at Huddersfield station”.<sup>55</sup>

Further, in March 2015 the then Chancellor, George Osborne, announced that electrification would be extended from Selby to Hull with funding from the private sector.<sup>56</sup>

However, in June 2015 the Secretary of State for Transport announced a ‘pause’ in the TransPennine electrification:

... the next franchise for the trans-Pennine route between Leeds and Manchester will bring modern trains and additional capacity. Current work on electrification will be paused, because we need to be much more ambitious for that route, building a powerhouse for the north with a fast, high capacity trans-Pennine electric route. We are working with businesses and cities in the north to make that happen.<sup>57</sup>

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<sup>53</sup> [HCWS85](#), 20 July 2017

<sup>54</sup> HMT, [Autumn Statement 2011](#), CM 8231, November 2011, para A.18

<sup>55</sup> op cit., [High Level Operating Statement](#), para 42

<sup>56</sup> [“Privately-funded Selby to Hull electrification by the end of CP6”](#), *Rail Technology Magazine*, 19 March 2015

<sup>57</sup> [HC Deb 25 June 2015, c1068](#)

In September 2015 the Secretary of State said that the project would be 'unpaused' but that the delivery date had been put back to CP6 (i.e. 2019-24).<sup>58</sup>

As stated elsewhere in this paper other electrification schemes were cancelled on 20 July 2017. However, in the relevant statement the Secretary of State made no direct comment about the future of the TransPennine electrification. As recently as 17 July the Rail Minister, Paul Maynard, had said that TransPennine electrification "is currently in the design and development phase. An investment decision will be made early next year [2018] and target delivery is by December 2022".<sup>59</sup>

However, on 21 July there were reports of comments Mr Grayling had made on a visit to Manchester which seemed to imply that the scheme was in doubt. The *Financial Times* reported that the route between Leeds and Manchester was "unlikely to be fully electrified", and that Mr Grayling was reviewing a plan to build two platforms at Manchester Piccadilly station to cope with extra trains. Charlie Cornish, chief executive of Manchester Airports Group, said that it was "difficult to see how the Northern Powerhouse can be realised without major rail investment".<sup>60</sup> The BBC reported:

Transport Secretary Chris Grayling has ... said electrification will ... be used "where it makes a difference" [...] Mr Grayling said: "We are not abandoning electrification, what we are doing is using electrification where it makes a difference. What we've got on the railways is technology we didn't have five or six years ago."

He said the use of bi-mode trains, which can travel on both electrified and non-electrified sections of a track, meant there were "places on the network you don't actually need to start digging everything up and putting in place overhead cables".<sup>61</sup>

The Mayor of Greater Manchester, Andy Burnham, subsequently [published a letter](#) to Mr Grayling expressing his concern and seeking clarification.

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<sup>58</sup> DfT press notice, "[TransPennine and Midland Mainline electrification works to resume](#)", 30 September 2015

<sup>59</sup> [Railways: North of England: Written question – 4263](#), 17 July 2017

<sup>60</sup> op cit., "U-turn on rail schemes hits Northern Powerhouse plan"

<sup>61</sup> op cit., "[Changes to rail electrification plans a 'slap in face'](#)"

### 3.4 Timetable & cost

Manchester to the West Coast Main Line and Newton-le-Willows was completed in December 2013. Newton-le-Willows to Liverpool Lime Street and Huyton to Wigan were both completed in early 2015.

Manchester Victoria to Preston was scheduled for completion by December 2016, now December 2017, and Preston to Blackpool by winter 2016/17, now May 2018. Wigan to Bolton was scheduled for completion by the end of 2017.

The whole Manchester to Leeds and York corridor was scheduled to be complete by 2019, however, following the 'pause' in 2015 this was put back to 2022 (i.e. Control Period 6, CP6).<sup>62</sup> As indicated above, it is now unclear as to whether this will proceed at all.

Selby to Hull is scheduled for CP6 – so a completion date sometime before 2024.

It was hoped that the Lake District electrification (Oxenholme to Windemere) could be completed by the end of 2017, but this has now been cancelled.<sup>63</sup>

There has been no official estimate of the cost of the TransPennine electrification, though there was an initial funding commitment of £300 million and £92 million was spent on contracts before July 2015.<sup>64</sup> Similarly, it is difficult to pinpoint the total cost of the North West triangle programme, though some individual funding announcements have been made.

Lake District electrification (now cancelled) was estimated to cost £16 million.<sup>65</sup> The Selby to Hull electrification is estimated to cost a total of £97.3 million, of which £94 million would be provided by the private sector (First Hull Trains).<sup>66</sup> Electrification between Wigan and Bolton is estimated to cost £37 million.<sup>67</sup>

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<sup>62</sup> *ibid.*

<sup>63</sup> DfT press notice, "[Rail electrification plan for Lake District](#)", 28 November 2014; *op cit.*, "[Privately-funded Selby to Hull electrification by the end of CP6](#)"; and [HC Deb 16 January 2014, c656W](#)

<sup>64</sup> [HCWPO 218298](#), 16 December 2014; and [HCWPO 4428](#), 1 July 2015

<sup>65</sup> *op cit.*, "[Rail electrification plan for Lake District](#)"

<sup>66</sup> *op cit.*, "[Privately-funded Selby to Hull electrification by the end of CP6](#)"

<sup>67</sup> [HC Deb 16 January 2014, c656W](#)

## 4. 'Electric Spine' & Midland Main Line



[Image of the Midland Main Line: [Network Rail](#)]

### 4.1 Overview

The southern section of the Midland Main Line from London St Pancras to Bedford was electrified in the early 1980s. In its July 2009 electrification document the Labour Government stated that it was “looking intensively at the costs and benefits of electrifying the Midland Main Line between London and Derby, Nottingham and Sheffield”, though it did not include any commitment to proceed with it.<sup>68</sup>

In the July 2012 HLOS the Coalition Government announced its intention to provide for an ‘electric spine’ from the South Coast via Oxford and the Midlands to South Yorkshire. This would involve electrifying the following parts of the Midland Main Line and beyond:

- Southampton Port – Basingstoke (conversion from 750 dc);
- Basingstoke – Reading;

<sup>68</sup> op cit., [Britain's Transport Infrastructure: Rail Electrification](#), para 80

Oxford – Leamington – Coventry;  
Coventry – Nuneaton;  
Oxford – Bletchley – Bedford (East West Rail core route);  
Bedford – Nottingham and Derby, and Derby – Sheffield (Midland Main Line); and  
Kettering – Corby.<sup>69</sup>

The HLOS also sought electrification of the route between Walsall and Rugeley Trent Valley.<sup>70</sup>

The Midland Main Line scheme involved realigning and replacing tracks, remodelling stations, reconstructing bridges, lengthening platforms and improving signalling from London St Pancras to Sheffield, via Luton, Bedford, Kettering, Corby, Leicester, East Midlands Parkway, Derby, Nottingham and Chesterfield.<sup>71</sup> Electrification would be provided over an extra 170 route miles.<sup>72</sup>

In June 2015 the Secretary of State announced that “better services can be delivered through works such as speed improvement. Electrification will be paused: I want it to be done and done well; it will be part of our future plans for the route”.<sup>73</sup> In September the Government announced that the scheme would be ‘unpaused’ but with delay to the delivery timetable.<sup>74</sup>

However, as set out above, in July 2017 the Secretary of State, Chris Grayling, announced that the Government no longer intended to proceed with electrification of the MML north of Kettering to Sheffield and Nottingham. He said:

The next operator [of the East Midlands franchise] will be required to deliver modern, fast and efficient trains. This includes a brand new fleet of bi-mode intercity trains from 2022, delivering more seats and comfort for long-distance passengers. The provision of these trains will replace plans to electrify the line north of Kettering to Sheffield and Nottingham, improving journeys sooner, without the need for wires and masts on the whole route, and causing less disruption to services. We do not intend to proceed with plans to electrify the line from Kettering to Sheffield and Nottingham, and there will be further investment to come to ensure Sheffield is HS2-ready.<sup>75</sup>

## 4.2 Timetable & cost

Before the ‘pause’, announced in June 2015 Network Rail was planning that the route north of Bedford be electrified to Corby by the end of 2017, Nottingham and Derby at the end of 2019 and Sheffield at the end of 2020. In September 2015 it was announced that the line north of Bedford to Kettering and Corby would be completed by 2019 and

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<sup>69</sup> op cit., [High Level Operating Statement](#), para 35

<sup>70</sup> ibid., para 41

<sup>71</sup> Network Rail, [Midland main line improvement programme](#) [accessed 27 July 2017]

<sup>72</sup> [HCWPO 222242](#), 2 February 2015

<sup>73</sup> [HC Deb 25 June 2015, c1068](#)

<sup>74</sup> op cit., [“TransPennine and Midland Mainline electrification works to resume”](#)

<sup>75</sup> [HCWS85](#), 20 July 2017

the line north of Kettering to Leicester, Derby/Nottingham and Sheffield by 2023.<sup>76</sup> Electrification of the line north of Kettering has now been cancelled.

In November 2014 the regulator put the cost of the Midland Main Line electrification at £1.18 billion.<sup>77</sup> To July 2015 contracts awarded for the Midland Main Line totalled £250 million.<sup>78</sup> The Government also said that following the 'unpause' £90million was provisionally allocated to the MML from NR's Passenger Journey Improvement Time (PJIF) fund to 2019.<sup>79</sup>

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<sup>76</sup> *ibid.*

<sup>77</sup> *op cit.*, [ECAM letter to Network Rail](#)

<sup>78</sup> [HCWPO 4428](#), 1 July 2015

<sup>79</sup> [HCWPO 45662](#), 13 September 2016

## 5. Gospel Oak to Barking



[Image: [Network Rail](#)]

In June 2013 the Coalition Government announced it would provide £115 million in funding for the electrification of the Gospel Oak to Barking line in North East London.<sup>80</sup>

Preparatory work to install 550 piles started in October 2015. There was a phased closure of the line from June 2016 to February 2017. Passenger services on the electrified route are scheduled to begin on 30 June 2017.<sup>81</sup> New electric four-car trains enter operation in spring 2018.<sup>82</sup>

As at June 2015 the Department for Transport had allocated £90 million towards the project and stated that no estimate had yet been made of the total anticipated cost.<sup>83</sup>

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<sup>80</sup> HMT, *Investing in Britain's Future*, Cm 8669, June 2013, para 3.21

<sup>81</sup> [HCWPO 551](#), 4 June 2015

<sup>82</sup> Network Rail, *Gospel Oak to Barking Electrification* [accessed 27 July 2017]

<sup>83</sup> [HCWPO 966](#), 8 June 2015

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