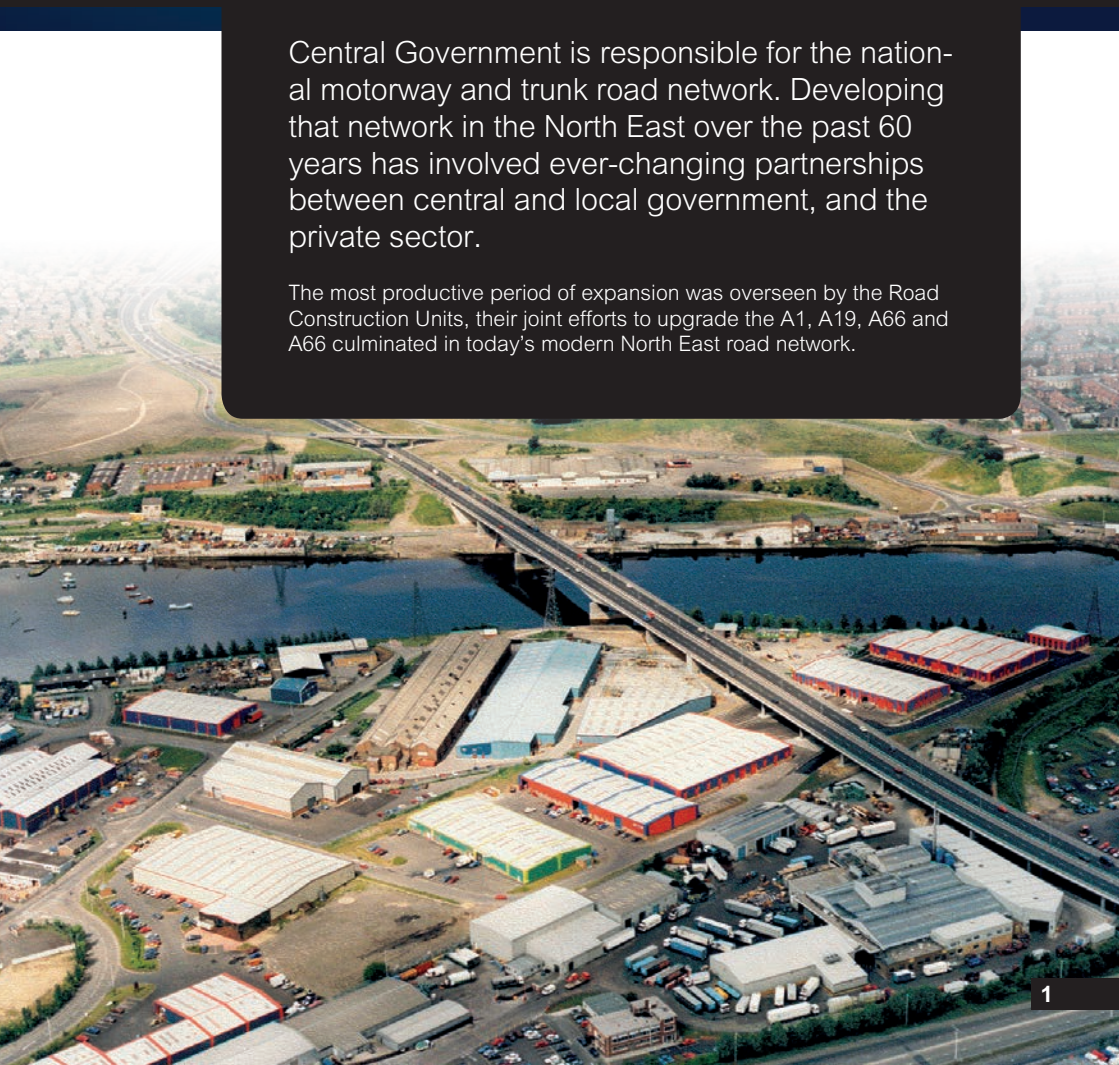


Motorway and Trunk Road Development in the North East

Central Government is responsible for the national motorway and trunk road network. Developing that network in the North East over the past 60 years has involved ever-changing partnerships between central and local government, and the private sector.

The most productive period of expansion was overseen by the Road Construction Units, their joint efforts to upgrade the A1, A19, A66 and A66 culminated in today's modern North East road network.



Background

Motorways and trunk roads in the UK are the only example of a complete infrastructure network funded solely by central government since the Roman Empire started building roads here in 43 A.D. Today, routes like the M1, M6 and A14 are managed by the Highways Agency, on behalf of the Department for Transport. This differs from the local road system where highway authorities take on those responsibilities.

In 1936, the Institution of Highway Engineers produced some of the first outline motorway proposals. The County Surveyors Society (CSS) followed suit in 1938, producing its own detailed map of 'suggested motorways', borne out of pre-war visits to Germany and the USA, where road networks were more developed. The CSS was made up of senior highways officers of local County Councils.

The principle of a new route for the A1 through County Durham was established in the early 1930s with the building of the Chester-le-Street and Birtley Bypasses, immediately before the Second World War. Interestingly, as early as 1943, also saw the first proposals for a Tyne Tunnel at an estimated cost of £2.5m.

However the full picture of a national road network did not appear until the Ministry of Transport outlined their proposals in 1946. Finally, the Special Roads Act, 1949 paved the way for constructing all future motorways in the UK but, due to an enormous maintenance backlog on local roads, combined with post-war austerity, the economics of motorways fell on stony ground.

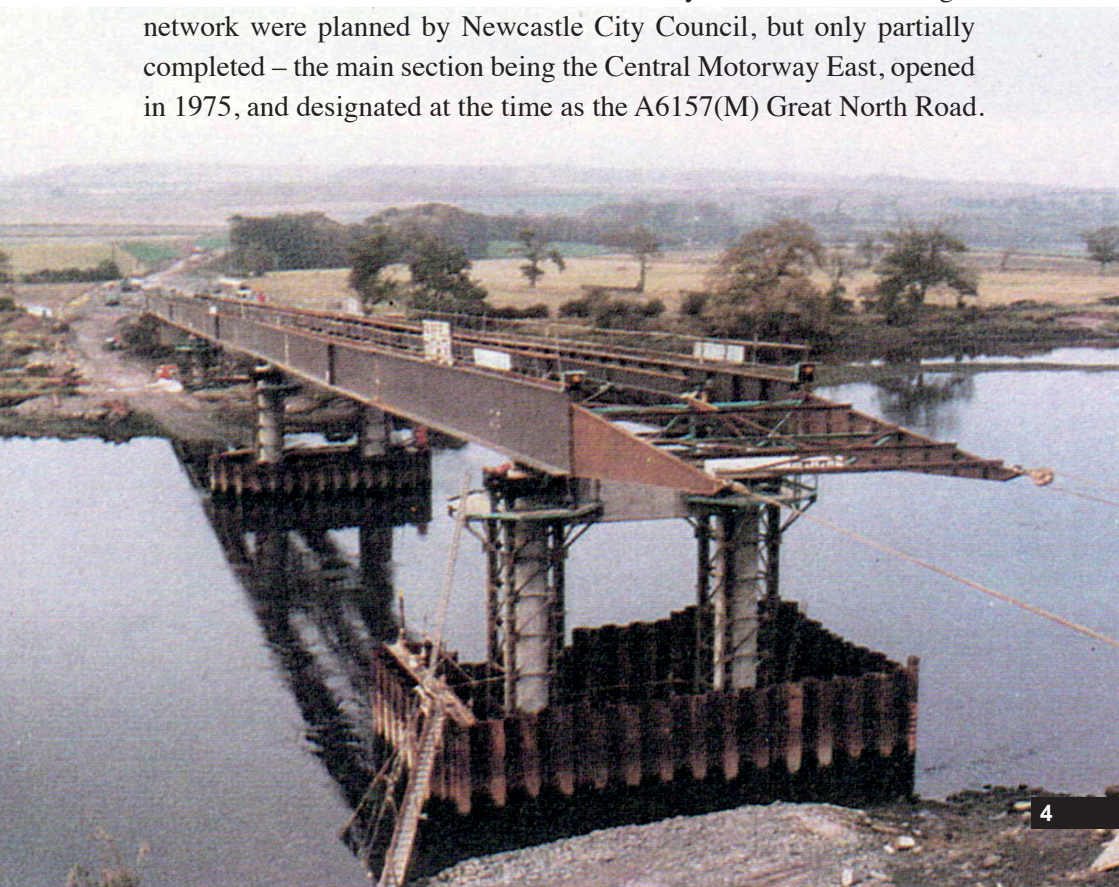


Constructing the Modern North East Road Network

Some seven years after the Special Roads Act, 1949 came into force the commitment to build the first two motorway schemes was finally made in February 1955. The result, the Preston and Lancaster Bypasses, were opened in December 1958. A year later, a further 73 miles of motorway had been completed, including the first large sections of the M1. A substantial national programme of highway construction was finally under way. Subsequent proposals for motorway expansion into our region were prepared in 1963 by Durham County Council and Darlington Bypass became the first section of motorway to be completed in the county in May 1965. This was followed by the 22 mile long Durham Motorway, built in four sections and opened in September 1969. Throughout the 1970s and early 1980s saw major improvement to the A19 trunk road through Cleveland and Durham, including bypasses of Sunderland, Seaham/Seaton, Easington, Castle Eden, Wolviston and Billingham, eventually giving a continuous dual carriageway route to the Tyne Tunnel.

Northumberland County Council was equally busy developing schemes to upgrade the A1 through Northumberland to the Scottish border. From south to north, an 18 year period saw major improvements to the route, including Wide Open to Seaton Burn Diversion (1969), Seaton Burn to Stannington Bridge (1970), Stannington Bridge to Clifton (1987), Morpeth Bypass (1970), Felton Bypass (1981), Alnwick Bypass Stage 1 (1970) and Stage 2 (1985) and Berwick upon Tweed Bypass (1983), together with many smaller improvements. However, as the schemes were all built to different standards, it did not result in a continuous dual carriageway throughout the county.

At the same time, the A1 trunk road ran through the centre of Newcastle and Gateshead. A series of urban motorway links to the strategic network were planned by Newcastle City Council, but only partially completed – the main section being the Central Motorway East, opened in 1975, and designated at the time as the A6157(M) Great North Road.





The only other significant element completed was the Gateshead Viaduct. Whilst improving conditions for local traffic, fierce opposition and, finally, funding constraints, put paid to the rest of the plans. The A1 trunk road was eventually re-routed onto the Gateshead and Newcastle western bypasses, in 1991.

During this period, County Councils in England carried out the majority of design work as well as supervision of construction as agent authorities. Consultants were also employed, particularly on cross-boundary schemes and where major bridgeworks were involved. The need to deliver an extensive road building programme and meet the design standards of the 1960s and 1970s led to many innovations, including the first use of bespoke computer software and digital mapping, both of which are now highly sophisticated and common place.

While central government remained responsible for the overall strategy of motorway development, there was a close association between the Ministry of Transport and members of the County Surveyors, as both shared the majority of professional expertise at the time.

The Rise and Fall of the Road Construction Units

In 1967, to make best use of available expertise, the Government formed a number of Road Construction Units (RCUs), tasked with the design and construction of motorways and trunk roads in England. Each RCU had a number of Sub-Units staffed largely by employees seconded from the highway departments of county councils, and some employees of the Ministry of Transport, who retained responsibility for policy direction, standards and kept hold of the purse strings.

The North East RCU was based in Harrogate, North Yorkshire, with two Sub-Units at Durham and Wakefield, which, between them, undertook most of the highway design and supervision of construction. Sub-contracted consulting engineers were also regularly employed to provide specialist support. This arrangement reached its peak in 1972 when the RCU completed 237 miles of motorway and trunk road.

The Durham Sub-Unit delivered many significant schemes, including the A1(M) Birtley Bypass and A194(M) White Mare Pool to Black Fell improvement, both of which were completed in April 1970. Other major schemes within the North East RCU were the A69 Heddon/Horsely and Hexham Bypasses, A1(M) 'Durham motorway' and the A19 Billingham and A66 Stockton/Thornaby Diversions in Teesside. In North Yorkshire saw the A19 Thirsk and A64 York Bypasses, together with the Balkholme-Caves section of the M62 in Humberside, which incorporated the first lengths of continuously reinforced concrete pavement in the UK.

The RCUs were active for around 14 years. There were periods of intense work and also quieter periods with reduced programmes, especially post 1977 following a spending review on motorways and trunk roads. In 1978, the Department of Transport began discussions to review organisational arrangements and a possible reversion to agency arrangements. As well as a significant reduction in the road construction programme, local authorities were also required to further reduce spend on highway maintenance.

In 1981, Government unexpectedly announced that, with a reduced workload, the large RCUs were no longer appropriate. The Sub-Units were transferred to the private sector, along with their remaining programmes and the majority of staff. Bullen and Partners took on the responsibility of the Durham Sub-Unit and continued to deliver the remaining schemes in the North East. While controversial at the time, the changes opened up a new era for private sector consultancies which remains prevalent to this day.

Fluctuating Workloads and Administrative Changes

The largest project inherited by Bullens from the Durham Sub-Unit was the A1 Newcastle Western Bypass, opened in December 1990, at a cost of £88m. At the time, the Minister for Transport confirmed the Government's commitment to create a continuous motorway on the line of the A1, between London and Newcastle. Today, this is now achievable using the M1 and A1(M), barring one short remaining section between Leeming Bar and Barton in North Yorkshire.

Expenditure on roads increased again in the early 1990s, but as the decade progressed, many motorway and trunk road schemes were deferred or cancelled due to environmental objections and financial pressures. However, 'Design, Build, Finance and Operate' (DBFO) schemes were awarded to private contractors to maintain and enhance routes over a 30 year period. This allowed schemes such as A69 Haltwhistle Bypass and the A19 Norton to Parkway Improvement to go ahead, the monies being paid back to the DBFO contractor by the DfT through a 'shadow toll' arrangement.

Another milestone in the UK's motorway and trunk road history came in April 1994 with the creation of the Highways Agency – a distinct executive organisation within the Department for Transport (DfT). Its objective was to improve transparency, accountability and take over management of the road programme, which following a wholesale review, saw some schemes cancelled or transferred to regional programmes. For retained schemes, the Agency was responsible for administering contracts for design, construction and maintenance, along with establishing consistent standards across the whole spectrum of highway development.

In 1998, the Highways Agency's role was reviewed and expanded to that of 'network operator'. An emphasis was placed on managing a route through maintenance of infrastructure and implementing traffic management and network control to reduce congestion, increase journey time reliability and make the best use of existing assets. In a sense, a return to the philosophy of 1949!

Nevertheless, during the late 1980s, improvements to the A1 had continued in Yorkshire and eventually, in the 1990s, the Department of Transport turned its attention to upgrading the route to motorway standard, as had been recommended in earlier feasibility studies. This commenced in the mid 1990s and only completed in the spring of 2012, with the opening of the Dishforth to Leeming Bar upgrade. However, this left a short section unfinished – Leeming Bar to Barton, as mentioned previously. It is hoped this will eventually be completed in the not too distant future – despite it being just outside the area, it is a vitally important connection to the North East economy.

The management and funding arrangements for trunk roads were restructured again in 2001, when some 30% of the network not considered as core routes were subsequently de-trunked, as outlined in the Government paper 'The New Deal for Trunk Roads in England', published in 1998. Many of the roads to be de-trunked were brought up to relatively good standard by the Highways Agency, prior to the responsibility for management, maintenance and any further improvements being passed to the relevant local highway authority. In the North East, those trunk roads transferred included the A167 in County Durham, and the A696/A68 north from Newcastle Airport to the Scottish border, in Northumberland.

Maintenance Arrangements

Prior to 1986, motorways and trunk roads were maintained largely using agency arrangements with the County Councils, who used their resources to co-ordinate operations on the whole of the highway network in their area. Since then, maintenance has been contracted out to the private sector, overseen in England by the Highways Agency.

The national network was split into a number of areas, each with an Area Team (known as the Managing Agent) and Managing Agent Contractor (MAC), who were employed as consultants and contractors, where required. These were soon replaced by Asset Management Contracts and, for a short while, a consortium comprising Northumberland County Council, Newcastle City, North Tyneside and Gateshead won the initial contract to manage trunk roads in Northumberland. Today, we have Area 14, covering the whole North East region – some 305 miles of motorway and trunk roads along with over 420 structures. At present, Area 14 is managed by Aone+ Integrated Highway Services, a consortium of Halcrow, Colas and Costain.

Exceptions to this are those routes under a DBFO private arrangement over a 30 year period, which in the North East are the A168/A19 Dishforth to Tyne Tunnel and the A69 Newcastle to Carlisle, both of which are part of the Trans European Network.

A recent addition to the regional road network was the completion of the Second Tyne Crossing. Opened by Her Majesty the Queen on the 18 July 2012, it relieved a bottleneck along the A19 route, although it is not technically part of the trunk road – the Tunnel being owned by the Tyne and Wear Integrated Transport Authority, a consortium of local authorities. The second tunnel was delivered by a Public Private Partnership between the owners and TT2 Ltd, a private company created specifically for the project, and who also have responsibility for management and maintenance of the Tyne Tunnels for 30 years.



Celebrating our Successes

It has taken the full 60 year history of the North Eastern Branch to bring the region's motorway and trunk roads to their present stage of development. Many upheavals occurred in local government, county boundaries and administrative arrangements but infrastructure development continued to progress, despite the changes. How the highway network develops in the future remains to be seen – private sector funding and road user charging remain on the agenda and are constant subjects for debate.

In the meantime, credit must be given to the dedicated and professional staff of county surveyors and highways departments, consulting engineers and contractors for the significant achievements made over the past 60 years in planning, designing and building the region's motorways and trunk roads that we all use today.

Thanks to Roger Elphick OBE of the CIHT North Eastern Branch, for preparing this article. Roger is the former Director of Environment at Durham County Council.