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1952-2012
CIHT North Eastern Branch

Sixty Years of

Keeping the North East Moving

The A69 Carlisle to Newcastle DBFO

In the 1990s the Highways Agency devised a system called Design, Build, Finance and Operate (DBFO) whereby a private company would be appointed to operate and maintain a specified route for 30 years on the basis of an agreed financial arrangement. The DBFO schemes usually included the construction of a major improvement scheme that had been prepared ready for construction.

What is DBFO?

The Highways Agency formally launched its use of the Private Finance Initiative (PFI) to procure road services on various parts of the motorway and trunk road network in August 1994. These contracts were known as Design, Build, Finance and Operate (DBFO) Contracts.

The method generally used by the Highways Agency for procuring construction and maintenance of a road was to let contracts for separate tasks. For example, there would be a design agent, a contractor and a maintenance agent. Although each party performed its specified task efficiently, there was little incentive for the parties to collaborate to maximise overall value for money for the Highways Agency.

Furthermore, previously unknown factors tended to have a financial impact and as a result there was often a significant increase between the tendered cost and the final out- turn cost of a project. However, with the introduction of DBFO Contracts there was now the opportunity to transfer the responsibility for designing, constructing, financing and operating a length of motorway or trunk road to a single DBFO company.

The DBFO company could consider its obligations over the full life of the contract, usually 30 years, taking account of all the risks inherent at each stage of the project. By transferring these risks to the DBFO Co there were now very few circumstances in which the Highways Agency's liabilities could be increased and this provided them with an accurate, predictable spend profile for a given section of road over a 30-year period.

The first DBFO Contract awarded was for the A69 Carlisle to Newcastle, to a private company called Road Link (A69) Ltd. The Contract commenced on 1 April 1996 and will end on 31 March 2026.

It included the construction of the Haltwhistle Bypass and its subsequent operation and maintenance, together with maintenance of the rest of the 52-mile long route between Carlisle and Newcastle for the 30-year period.

Shadow Tolling

In accordance with the terms of the DBFO Contract, the Highways Agency pays Road Link (A69) Ltd a fee, which is based on the number of vehicles using the road. These payments are known as shadow tolls (as opposed to real tolls), as payment for road usage is made by the Highways Agency rather than by the road user. There are some adjustments made for safety performance and lane closures.

Shadow tolls involve a payment per vehicle using a section of the A69 road, in accordance with a payment structure agreed at contract award. The shadow tolls increase over time in accordance with an agreed indexation formula. Different payments are due for traffic within different traffic bands and these payments also vary depending on the length of the vehicle.

The A69 has been divided into 13 links for the purpose of counting the traffic and determining the shadow tolls. The toll rate reduces as the numbers of vehicles increase. The top rate is set at zero and therefore the maximum liability for the Highways Agency is capped. As you would expect, the traffic counters detect vehicle numbers to a high degree of accuracy and are available 24 hours per day, 365 days per year. The counters will remain in position for the 30-year contract period.

The Haltwhistle Bypass scheme had been prepared by the Highways Agency and their consultants for the scheme by conventional procedures to the point that only the construction of the works was required. As an incentive for Road Link to complete the construction as early as possible in the 30-year DBFO contract, the shadow toll payments were initially set at a much-reduced level. In this case the A69 shadow tolls were set at 50% but then increased to 100% on completion of the bypass.

Road Link started construction of Haltwhistle Bypass on 1 April 1996 and completed the works on 22 May 1997. The works involved the construction of a 3.2km single carriageway to the souutharound the town of Haltwhistle.

The Highways Agency's programme for the scheme was 18 months and Road Links original programme was 16 months. However, once work started and with the incentive of receiving the full toll payments on completion of the works Road Link were able to accelerate the works and complete the scheme in just under 14 months. This provided benefits to the people of Haltwhistle with the early opening of the bypass as well as significantly reducing the overall disruption to road users while the works were taking place.

Performance

In addition to the shadow toll payment there are also two aspects in connection with performance payments.

Safety Performance Payments – One of the key objectives of the Highways Agency is to reduce accident levels on the trunk road network. Road Link was therefore encouraged to identify safety improvement schemes on the A69 and submit details to the Highways Agency for approval. Accidents where personal injury occurs have a recognised economic cost to the community at large and this provides a mechanism for funding.

Where a scheme to improve safety is approved, Road Link constructs and pays for the scheme and is recompensed by receiving a proportion of the economic cost of each personal injury avoided in the following 5-year period. Accidents avoided are determined by comparing the actual statistics with data over the 3-year period prior to the implementation of the scheme.

On the A69, Road Link identified that between 1994 and 1997 there had been a number of road traffic accidents at a junction on a section of dual carriageway. After considering the accidents in detail it was determined that most of the accidents involved vehicles approaching from the side road and attempting a right turn across the dual carriageway. By restricting right-turns from the side roads (i.e. allow left turn only) the cause of most of the accidents could be eliminated. A scheme was designed on this basis and was approved by the Highways Agency.

Road Link constructed the safety scheme in early 1998. Over the next 5-years there were no personal injury accidents at the junction and Road Link not only recovered the initial capital costs of construction but received a Safety Performance Payment.

Lane Closure Charges – delays caused by lane closures are a significant issue for both the Highways Agency and the road user. A financial incentive was therefore included in the DBFO Contract whereby a deduction would be made from the shadow toll payment when the DBFO Co closes lanes on the road. The size of the deduction depends on the number of lanes closed, the duration of the closure and the expected traffic at the time.

On the A69, lane closure charges apply when vehicle numbers would normally exceed 500 per hour on the single carriageway or 1200 per hour on the dual carriageway. Road Link therefore carefully plans all its work so as charges associated with any lane closures required to undertake the works are minimised. This is reasonably easy for routine maintenance works as lane closures are generally only required on a temporary basis and only for short durations.

However, in terms of major maintenance when closures are required for long periods and on occasion when they cannot be removed easily e.g. when re-waterproofing a bridge deck, then careful planning is required. This involves both the timing of the works and how they are carried out. The time of day or month to complete the works is chosen to minimise lane closures and in addition innovative techniques are developed so the works can be completed in the shortest time possible.

As a result of lane closure charges being included in the DBFO Contract, Road Link now completes the vast majority of major maintenance schemes at night, usually in the summer months between the hours of 8pm and 7am. Bonuses are also included in our major maintenance contracts whereby the contractor can receive extra payment for early completion of the works. This reduces the lane closure charges paid to the Highways Agency and also ensures delays to road users are minimised.

Later Improvements

Construction of the long-awaited bypass around Haydon Bridge was completed in March 2009. The Highways Agency scheme included 3km of road together with the construction of four new bridges. In addition various landscaping and environmental works were also completed so as mitigate the impact of the bypass on the surrounding countryside. The new bypass removes 12,000 vehicles per day from the village (of which approx. 2,000 are HGV's) and provides a significant improvement for A69 road users and Haydon Bridge residents.

The Haydon Bridge Bypass was funded by the Highways Agency as a new addition to the A69 route. The new road now becomes the maintenance responsibility of Road Link but the existing road through the village was transferred to Northumberland Council.

An area of land at Haltwhistle was identified by the local authority as a business park with the intention of encouraging economic regeneration in this area. Direct access to the land on each side of the A69 was to be taken from the Haltwhistle Bypass. The Highways Agency gave approval for access off the A69 and the scheme was completed with developer funding in early 2009.

Conclusions

DBFO Contracts have accelerated the introduction of cost efficiencies, innovative techniques and whole-life cost analysis into the design, construction and maintenance of road schemes.

It is argued that DBFO Contracts using the shadow toll payment mechanism have delivered real value-for-money savings for the Highways Agency when compared to traditional methods of procuring road construction and maintenance.

The toll banding structure means the Highways Agency expenditure is capped and they have obtained an accurate picture of their financial liability for 30 years for the A69.

Safety Performance and Lane Closure Charges encourage Road Link to consider safety as well as minimising delays at roadworks and by improving both there are measurable benefits not only for Road Link and the Highways Agency but for all A69 road users.

Road Link (A69) Ltd are confident that since 1996 they have ensured that the A69 is a well-maintained, safe and reliable all-weather trunk road link across the north-Pennines and that this will continue until 2026.

Thanks to Trevor Walker of Road Link (A69) Ltd, for preparing this article

If you enjoyed this article, try also:

Sixty Years of Highway Maintenance

The A1 Trunk Road

The A19 Trunk Road

Memories – surface dressing

Memories – winter services

Running the Tyne and Wear Metro

The Tyne and Wear Metro is a light rail system with 78km of track and 60 stations, many of them interchanges with bus and other rail services to provide integrated public transport. It was conceived in 1971, opened in 1980, completed in 1984 and extended in 1991 and 2002.

While faithfully serving the travelling public for over 30 years, political upheaval, market deregulation and cost pressures have ensured the way Metro is run and managed has continuously evolved. But with a major modernisation programme now under way, its future looks bright.

The Original Metro

The Tyne and Wear Metro is a light railway rapid transit system, initially built with 55km of track and 44 stations to serve parts of North Tyneside, Newcastle, Gateshead and South Tyneside. Detailed planning was started in 1971, as a core element of a planned integrated passenger transport system, with construction commencing in 1974. The original system was fully open by 1984. Two extensions to Newcastle Airport and to Sunderland were added to the system by 2002.

Operating the System

Metro was originally conceived in 1971 by the former Tyne and Wear Passenger Transport Authority, a regional body to promote and manage public transport on behalf of local authorities in the area. In 1974 Tyne and Wear Metropolitan County Council (T&WMCC) came into being and set up the Passenger Transport Executive (PTE) to continue the management of public transport and administer funds on behalf of the council. In 1996 the PTE took on the trading name Nexus.


Airport
Bank Foot
Fawdon
Regent Centre
Longbenton
Benton
Northumberland Park
West Monkseaton
Callerton Parkway
Kingston Park
Wansbeck Road
South Gosforth
Four Lane Ends
Palmersville
Shiremoor
Monkseaton
Whitley Bay
Ilford Road
West Jesmond
Cullercoats
The coast
Jesmond
Haymarket
Chillingham Road
Meadow Well
Tynemouth
Newcastle City Centre
Monument
Wallsend
Howdon
St James
Manors
Byker
Walkergate
Hadrian Road
Percy Main
North Shields
Central Station
River Tyne
Gateshead
Felling
Pelaw
Jarrow
Simonside
Chichester
Hebburn
Bede
Tyne Dock
South Shields
Gateshead Stadium
Heworth
Brockley Whins
Fellgate
East Boldon
Seaburn
Stadium of Light
St Peter's
River Wear
Sunderland City Centre
Sunderland
Pallion
University
South Hylton
Millfield
Park Lane
METRO
Main Bus Interchange
Rail Interchange
Ferry (A+B+C tickets valid)
Park and Ride
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public transport info
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0871 200 22 33
Calls cost 10p per minute plus network extras
© Nexus

Nexus owns Metro, and the Shields Ferry. It funds those bus services requiring public subsidy, and also main line rail services between Sunderland and Newcastle. There were difficulties during construction of the Metro in 1976/77 between the PTE, (then) British Rail whose lines were being converted, and the rail unions as to who should own and operate Metro. The PTE eventually prevailed.

T&WMCC was abolished in 1986 and since then Nexus has owned and managed Metro on behalf of the Tyne and Wear Integrated Transport Authority (ITA), which brings together councillors from the five unitary authorities of North Tyneside, Newcastle, Gateshead, South Tyneside and Sunderland in a single strategic body. In 1996, British Rail was privatised but again Nexus held on to ownership of Metro.

Further changes took place in 2010 when DB Regio Tyne and Wear Limited (a subsidiary of the German transport corporation) was appointed to operate Metro to a specification set by Nexus. However, Nexus continue to own, manage and modernise the system, with the ITA having overall responsibility for fares policy and Nexus taking all fare revenue.

The ITA receives money for all of its services from a levy on the five district authorities, in proportion to their population. They also apply for and receive grants from central Government and other sources. The revenue from fares and advertising keeps the subsidy per journey lower than comparable UK systems but fares in themselves do not meet the full cost of operating Metro, even with the highest patronage per kilometre of any light rail system outside London.

In recent years Metro has covered just below 70% of its operating and maintenance cost from fares revenue with the remainder coming from national and local Government subsidy. In 2011, the income to Metro was £41.5m while the operating cost was £60.5m.

Users of the Metro would observe that it is a well used frequent service, with trains often packed at peak times and still well occupied in evenings and weekends. The timetable has changed over the years to respond to demand. It has settled down to a 12 minute frequency for all parts of the system, with extra trains at peak times. The 'green' and 'yellow' routes overlap between South Gosforth and Pelaw to provide a train every six minutes and additional peak services increase the frequency to a train every three minutes through this 'central area'. The great benefit of this is that during busier times of day, passengers don't need to look at a timetable for the majority of journeys but just turn up for the next available train. There are real time indicators on all platforms to inform passengers.

The fact that the standard two-car trains, with a crush-load capacity of 600, always stop and allow people to board and disembark quickly gives the service a considerable level of reliability. Passenger numbers rose to a 20-year high in 2009 of 41 million journeys, though there has been a recent falling back in the current economic climate to 37.5 million.

Further Improvements

In the decade that followed the Sunderland line's opening, new stations and amenities were added to the existing Metro network, which now totals 78km. The opening of Northumberland Park Station in 2005 was an example of how high quality public transport can enhance economic development.

The £5.7m station in North Tyneside is at the heart of a large new housing and retail project by private developer Northumberland Estates. The station was funded by the developer and quickly became the busiest in the area, used by 640,000 passengers a year.

There were 1,500 homes within 800 metres walking distance when the station opened on what was a mixed brown and greenfield site on the urban fringe. Further housing continues to be provided in 2012 close to the station. Northumberland Park is also five minutes by dedicated bus to Cobalt, one of the largest new office parks in the UK.

Northumberland Park was Metro's 59th station and in 2008 the 60th opened at Simonside. The latter £3.2 million project was funded by Nexus from land sales and a grant from the European Regional Development Fund. The station is a wayside halt in a deprived community in South Tyneside with low levels of employment and car ownership. It creates a quicker and more frequent public transport link to employment and training opportunities in South Shields, Gateshead and Newcastle.

By 2006 the focus was on making the case to Government for funds for two strategic programmes. These were to secure the system's long-term future as assets and infrastructure approached the end of its planned life of 30 years, and to modernise ticket sales. Meanwhile continual improvements were made to amenities at key locations.

Pelaw station, the main change point for passengers between lines from South Shields and Sunderland, was upgraded in 2007 with an internal glass waiting area installed on the island platform plus covered entrance routes. The car park at Hebburn was tripled in size in 2009 in a developer-funded project.

Between 2008 and 2010, the deep underground station at Haymarket used by six million passengers a year was completely rebuilt. The project was funded through the lease of air rights above the station, at the north end of Newcastle's main Northumberland Street shopping area, to trigger a £20m mixed use retail and office development, named Haymarket Hub.

Nexus raised £6 million investment from this, which provided a new street-level concourse with increased retail, a third escalator, and remodelled interiors throughout, creating a brighter and more spacious feel. Haymarket showcased a new evolution for Metro station design from architects Sadler Brown, the first major change since the opening of the Sunderland line in 2002 and the original architectural templates of the Faulkner Brown practice, set down in the 1970s.

Vitreous enamel panelling was retained but with individual panels manufactured to a much smaller 'letterbox' shape, allowing the creation of curved surfaces in place of the square appearance of older stations. Off-white was replaced by a cleaner true white internally contrasting with black for signage and exteriors. Elements of the original Metro identity – the use of the bespoke Calvert font in signage, the 'supergraphic' giant station name on platform walls, and the iconic 'yellow M' logo – were retained and enhanced to provide strong brand continuity.

Haymarket proved a design success and blueprint for the refurbishment of further stations. It also featured a new art commission, Canon, by Lothar Goetz, with colour interventions at points of passenger amenity, such as exits and information points.

Sunderland station also benefitted from an innovative funding mechanism and the input of artists in the refurbishment of platforms, completed in 2010. Three artists contributed to the challenging project to improve the low-ceilinged 150-metre island platform, the most notable being Jason Bruges Studio, which created an animated light wall populated by the shadowy moving figures of 'ghost' passengers.

The Sunderland Metro station is shared with national rail services, but £7m capital funding was obtained through the Department for Transport via the principle of hypothecation of service decrement costs. The sum represents the prospective revenue to be saved over 18 future years by reducing the frequency of regional 'heavy rail' trains between Sunderland and Newcastle from two to one an hour and replacing them with the cheaper Metro service.

Metro: All Change

The bid to modernise Metro was based on research that showed that every £1 invested in the system generated £8 in the regional economy. Compared to the consequences of letting the system decline and fail, the successful outcome ensured the next decade will see fundamental change.

The £25 million Government-funded Ticketing and Gating project will see Metro's original Creuzet machines replaced in 2012 by new models accepting note and card payment for the first time. The machines are smart-enabled and linked to the return of gate lines at 13 station and validators at all 60 in preparation for the roll-out of the Pop card brand.

Smart ticketing on Metro is the foundation for the wider introduction of the technology across the north east, both for public transport and other public services, education and commercial applications, through NESTI (North East Smart Ticketing Initiative – a collaboration of 12 local authorities and the Tyne and Wear Integrated Transport Authority).

The delivery of the *'Metro: all change'* modernisation programme dwarfs this in capital terms, with a £350m funding commitment from 2010 to 2021 for the wholesale renewal of Metro infrastructure (with the exception of the 'new' Sunderland line), stations and trains. This, combined with local contributions takes planned investment to £385m, representing the largest transport project in the region's history.

Work is already well underway in phases moving around the Metro system. Much is 'behind the scenes' through the replacement of track and technology in a continuing series of weekend and sometimes longer line closures.

The project is delivering the refurbishment of the original 90 Metrocars, the first of which entered service in early 2012, along with refurbished stations, such as Chillingham Road, Meadow Well and Howdon which are already complete.

More information on the Metro and other Nexus services can be found on the website www.nexus.org.uk.

Thanks to Huw Lewis of Nexus for preparing this article.

If you enjoyed this article, try also:

'Building the Tyne and Wear Metro'

'Innovation and Infrastructure in the Bus Industry'

'Railways in the North East'

Sixty Years of Highways Maintenance

Many aspects of highway maintenance have been transformed over the last sixty years. This has been driven by the development of computerised highway asset management systems, the development of analytical methods of assessing road surface condition, the development of new materials, changes in public sector procurement to bring in the private sector and improved integration with other transport policy areas.

Highway maintenance has embraced these changes but the decisions made by the highway engineer are still at its heart and perhaps this has not changed at all. Roads remain one of the most important physical assets for which public authorities are responsible. Effective maintenance and management is crucially important to both users and the community at large and its safe and efficient operation provides vital support to the national and local economies.

What is Highways Maintenance?

The term highway maintenance covers a wide range of different general activities which can be grouped together as follows:

- ***Reactive Maintenance*** *includes responding to inspections, complaints or emergencies eg filling potholes, clearing and making safe damage resulting from traffic accidents*
- ***Routine Maintenance*** *includes surface patching work, cyclic activities such as grass cutting, weed spraying, gulley cleaning, road sweeping and maintenance of planted areas and trees within the highway*
- ***Programmed Maintenance*** *is normally carried out to a planned schedule and includes surface dressing, resurfacing, strengthening or reconstruction of roads or footways. It also includes kerbing and road drainage improvement*
- ***Winter Services*** *which seek to keep the network functioning safely by salting and clearance of ice and snow*
- ***Emergency Response*** *to weather and other emergencies affecting the highway network*
- ***Regulating and Inspecting*** *the activities of others within the road network*

What are the Changes?

The last twenty five years in particular has seen many changes in how highway maintenance is carried out. They are largely as a result of the development of sophisticated road condition assessment and information management systems, new developments in road surfacing materials, new ways in which highway maintenance is procured, improved integration with other aspects of transportation and improvements in winter maintenance techniques.

Road Condition Assessment and Information Management Systems

An essential part of deciding where and when road maintenance can best be undertaken is a reliable way of assessing the condition and strength of the road surface. Only by doing this can the highway engineer determine road maintenance programmes which make most effective use of the restricted resources available, choose the right maintenance technique and reliably prioritise the different locations requiring treatment.

In 1952 the assessment of road condition, the determination of priorities and maintenance solutions was largely subjective drawing heavily on the individual highway engineer's experience.

However since the late 1970s there has been continuing development of computerised analytical methods of measuring road condition and determining priorities and treatments. One of the aims was to provide improved road surface condition data across the road network on which the highway engineer could base his decisions.

An early such method was CHART (Computerised Highway Assessment of Ratings and Treatments). This used a visual survey carried out by surveyors walking along the road measuring visual defects and recording them in a standardised way. It became a requirement for the trunk road network and it was adopted by most highway authorities for the A class roads.

The Deflectograph survey was developed for measuring the strength the structure of the road surface and, based on this, a methodology for estimating how many years the road would last until failure occurred. This type of survey was carried out by a large (and expensive) survey vehicle travelling at walking pace along the road. Its use became a requirement on the trunk road network in the early 1980s but due to their high cost, there were only a very small number of vehicles in operation in the country. One however was operated by the Highways Laboratory at Durham County Council.

The above survey techniques provided valuable information on which the highway maintenance engineer could base his judgements. However they were slow to carry out and usually required lane closures or stop/go traffic control to protect survey operatives. As traffic volumes grew, this caused increasing delays to traffic.

Consequently there were pressures to develop automated machine surveys which could assess the road surface condition at normal traffic speeds. After much development work, this type of survey first became available around 2000 and was known as **SCANNER** (**S**urface **C**ondition **A**ssessment of the **N**ational **NE**twork of **R**oads).

Another vehicle based survey SCRIM (Sideway-force Coefficient Investigation Machine) is carried out at near normal traffic speeds and this measures the wet skid resistance of the road surface. This helps to lower accident rates by identifying locations where there is a risk of skidding on wet roads. Ground penetrating radar is also now available to show the thickness of construction layers of road along whole sections, which can supplement the taking of cores samples.

Over the last twenty five years the development of information management systems has transformed the way in which highway maintenance is managed. They have enabled large quantities of data on road condition to be stored, together with data on what is in and on the whole road network (e.g. numbers and location of road signs, number of gullies). The combination of detailed inventory information and pavement condition data has enabled comprehensive asset management systems to be developed. Ready access to and analysis of this data has greatly enhanced the planning of maintenance work and helped in demonstrating the level of funding needed to keep the road network in an acceptable condition.

Utility companies have the statutory right to install and maintain their apparatus in the highway and this needs careful management by every highway authority as it has maintenance implications. Comprehensive management systems have been developed to ensure that these works are undertaken safely and traffic disruption is minimised. Trenching and reinstatement of the highway also results in surface, structural and environmental damage which affects pavement condition by reducing

the life of the carriageways and footways and creating increasingly patchy surfaces.

Developments in Road Surfacing Materials

The choice of what materials to use in the road surface is largely influenced by the type of road, the volume and speed of traffic and the particular site location. This choice will determine how the road surface stands up to the loading and constant wear and tear imposed on it by the traffic.

Traffic growth over the last sixty years and increases in the size of heavy goods vehicles have placed the road surface and underlying construction layers under increasing stress. To meet this, the road surfacing industry has carried out extensive research and development and now many new proprietary products are available. Generally these newer options have binders which have been modified by the addition of polymers to give enhanced performance properties.

Traditional road surfacing materials (hot rolled asphalt and bitumen macadam) have been supplemented by a whole range of new options. These include stone mastic asphalts / thin surfacings and slurry / micro surfacings, give the highway engineer a wider range of surfacing materials to choose the most cost effective maintenance solution. A Glossary of road surfacing types is given at the end of this article.

Traditional surface dressing techniques, which have been around for over 100 years, have also seen development. Improvements such as polymer modified binders and the introduction of techniques such as "racked in" dressings, using two sizes of stone, have provided more stable surfaces and reduced chipping damage.

Even the basic action of filling in potholes has not been immune from change. Previously potholes were filled manually with bituminous material and usually compacted by hand. Now a mechanised technique (Jetpatcher) is available in which the material is forced into the pothole by compressed air, with consequent better durability and operational time savings.

The recycling of aggregate from existing roads is now becoming a more common occurrence. This not only conserves a valuable raw material but it also can be cost effective. Recycling technologies are advancing rapidly. Increasingly the surfacing industry is developing ways of reducing the carbon footprint of road construction and maintenance both in the production of materials, transport and laying techniques.

Changes in Procurement

In the first half of the last sixty years, carrying out highway maintenance was the preserve of the local highway authority's own Direct Labour Organisation (DLO), with input from specialist contractors (e.g. surfacing and surface dressing contractors) as required from time to time for specific schemes or programmes of work. However some local authorities with extensive road networks to look after such as County Councils did find it cost effective to operate their own surfacing and surface dressing gangs as well.

The introduction of Compulsory Competitive Tendering (CCT) for local authority "blue collar" services in the late 1980s radically changed the way in which highway maintenance was delivered. As a result of CCT, for the first time, private contractors were brought into the delivery of the highway maintenance service as a whole, rather than just for specialist services. However in some local authorities the DLO was successful in retaining the highway maintenance work in-house.

The requirement for CCT was removed by central government in the late 1990s. However it has left a legacy of a more commercial approach applied to service delivery and the involvement of the private sector in

local authority highway maintenance work through partnership arrangements with the local authority or through out-sourcing.

The maintenance of Trunk Roads, such as the A1 and A19 is the responsibility of central government and until the early 1990s they carried this out through agency agreements with the County Councils. In a move parallel to CCT on local roads, central government changed to a regime of competitive tendering involving private sector consultants for management services and contractors for works services. Initially these two aspects were separate contracts, but in later rounds of tendering they were combined.

In 1992 central government introduced the concept of Public Private Partnerships (PPP) as a means of attracting private capital and expertise into the delivery of public services. As part of this, central government introduced Design Build Finance Operate (DBFO) arrangements on the A69 and A19 (south of the River Tyne) Trunk Roads. Both included aspects of new build – for the A69 the Haltwhistle Bypass, and the A19, improvements between Norton and Parkway. The arrangements also included maintaining the routes, together with long lengths of adjoining road network, for a thirty year period up to 2027.

Private Finance Initiative (PFI) is another variant of PPP, where a whole service is managed by a private company at an agreed cost over a specified number of years. A handful of local authorities in some parts of the country have introduced a PFI for the whole of their highway maintenance service, but, in this region, the approach has only been taken up for street lighting as a joint venture in North Tyneside / Newcastle and in Sunderland.

Integration with Transport & Strategic Policies

Over much of the last sixty years the planning and delivery of highway maintenance has often tended to have been poorly integrated with other highway works and wider policy areas. At best, this did not provide opportunities for adding value between services and, at worst, led to unresolved conflicts between policies, programmes and priorities of different services.

However the Comprehensive Performance Assessment regime introduced after 2000 for local authorities has created a stimulus for policy integration between services. This is now apparent with local authorities' capital funding for highway maintenance provided through the Local Transport Plan (LTP). This encourages the promotion of highway maintenance in the wider context of all public spending on the road network and other transport facilities.

It is now recognised through the LTP that the development of a comprehensive Highway Asset Management Plan (HAMP) is fundamental to demonstrating the value of adequately funded and well planned highway maintenance in delivering the wider objectives of corporate strategy, transport policy and value for money.

Winter Maintenance

Winter maintenance plant has evolved over the last sixty years with the continued development of powerful dedicated specialist vehicles for gritting and snow clearing, together with improved systems for converting general highway maintenance vehicles for use as gritters and snow ploughs.

However, perhaps the biggest change in recent times has been the introduction by most highway authorities of ice prediction systems. These include roadside sensors at key locations and coupled with thermal mapping of the road network give the winter services manager instant access to actual conditions across the road network. This information is also accessed by the Weather Forecasting organisation and helps them refine and improve their predictions.

The de-icing agent, rock salt, is an expensive material and there is now increasing guidance on ensuring, for different conditions, that optimum rates of spread on the road surface are used. Stock management and control has improved and the benefits of storage in purpose built salt barns, rather than open stockpiles, to prevent leaching out is recognised.

In a recent development, the Highways Agency has moved to treating the trunk road network with pre-wetted salt. In this technique the gritter carries brine as well as salt and the two are mixed just prior to spreading. The advantages of this are better retention of the salt on the road surface and a quicker de-frosting action. However this does reduce the salt carrying capacity of the gritter.

The trend over the last fifteen years has been for milder winters with reduced snowfall, but the relatively harsher winters and higher snowfall in 2009 and 2010 have been a reminder of conditions more common forty or fifty years ago.

Thanks to Malcolm Smith, of CIHT North Eastern Branch, for preparing this article.

If you enjoyed this article, try also:

The A69 Carlisle to Newcastle DBFO

Highway Authorities in the North East

Memories – surface dressing

Memories – winter services

Memories – the 'Yellow Circus'

Glossary of Road Surfacing Terms

Bitumen Macadam – a well proportioned mixture of aggregate particle sizes to give a dense matrix on compaction which is held together by a low bitumen content binder. Its strength largely is derived from the interlocking of the aggregate particles. It is laid by a paving machine and is generally used on roads with lower traffic volumes.

Hot Rolled Asphalt – a traditional material used to surface roads with higher traffic flow and it consists of two components, the surface course mixture and high skid resistance stone chippings pre-coated with bitumen. The surface course mixture is made up of a bitumen binder mixed with intermediate quality small sized aggregate. Its strength is derived from the cementing together of the binder/aggregate mix. It is laid to the required thickness (usually 40mm) using a paving machine. The pre-coated chippings are now spread on to the laid surface to give the final compacted surface a texture and a skid resistance.

Recycling – the technology for recycling road aggregates is advancing rapidly and additional developments include the use of glass and other recycled waste products in the surfacing course.

Typical methods of recycling road aggregates include:

- Repave which involves the heating the existing road surface to 150 degrees C and scarifying it up to a depth of 30 mm. Re-profiling is carried out straight away using an oscillating floating screed. The process is completed by the immediate application of new surfacing material and compaction. The heat retained by the scarified material from the existing surface welds it together with the new surfacing material.

- Remix is similar to repave but the broken up existing road surface is removed, crushed, graded, reheated and mixed with some new material and binder before being re-laid and compacted at the original site.

- Hot recycling is similar to the remix process, except that the existing road surface material is removed by planing. It is then removed off-site, crushed, graded and heated, the material is mixed with binder and re-laid and compacted. This process can also be done on a smaller scale on-site by using portable machinery.

Slurry / Micro Surfacing – cold laid, very thin proprietary surfaces incorporating a bituminous emulsion binder with fine graded aggregate and filler. The application is either by machine or hand and typical the laid thickness is less than 15mm. A single application giving a thickness of about 6mm is usually referred as a slurry. Micro surfacing incorporates a polymer modified binder and is often a two coat application up to a thickness of 15mm. They have similar properties to surface dressing in sealing the road surface and restoring skid resistance, but additionally, particularly the thicker applications can reshape and re-profile the existing road surface.

Stone Mastic Asphalt – a proprietary surfacing used for the running surface of the road. It is made up of a high content of coarse aggregate particles which interlock to form a stone skeleton. This is filled by a high bitumen content binder and a filler. It has been developed to give improved resistance to deformation which stems from more aggregate to aggregate contact than other types of surfacing.

Surface Dressing – is a long established cost effective method prolonging the life of the road surface by sealing it to prevent water penetration and arresting disintegration of the existing surface, as well as restoring skid resistance. The process is relatively fast and consists of spraying a bituminous adhesive coat on the existing road surface, followed by spreading a layer of high quality aggregate chippings. The bituminous adhesive coat can be modified by the addition of polymers to enhance performance. At higher stress sites the technique of 'Racking in' is used. This is the successive laying of one layer of binder followed by two layers of chippings, the second layer being of a smaller size.

Thin Surfacings – are a grouping of modern proprietary surfacings which have been developed to give safer, durable and quieter road surfaces. They include stone mastic asphalt. Depending on circumstances and the particular proprietary surfacing they can be laid at thicknesses down to 18mm.

The Port of Blyth

The Port of Blyth is located at the mouth of the River Blyth in Northumberland. It was a key port for the coal trade, which reached its peak in the early 1960s, but within another ten years, was declining quickly.

Like many others, it could simply have ceased trading and become a derelict of the industrial past. But the port reinvented itself, attracting other cargo, improving, modernising its facilities and diversifying to continued success. Now it looks to be at the forefront of the renewables industry, using its strategic location to service the development of offshore wind power generation in the North Sea.

The Port of Blyth and its facilities lie on both banks of the River Blyth estuary, seven miles north of Tynemouth, on the Northumberland coast. It is a tidal deep water port, accessible in nearly all weather conditions and provides modern cargo handling facilities.

History

While recorded use of the site as a port dates back to the 12th century, it was not until 1788 that the first elevated staithe was constructed, along with the 'High Light' lighthouse which remained in service until in 1984 when it gave way to more modern navigation aids.

The Blyth Harbour and Docks Board was formed in 1853 and with the Harbour Act of 1858, dredging began at the harbour to allow larger access for ships. In 1882 an independent Statutory Trust was formed to manage the port, an arrangement that continues to this day. Because of this, all surpluses are reinvested to improve facilities at the port for the benefit of stakeholders and the region.

Historically, the port's trade was dominated by coal exports from the numerous local mines. This was enhanced with a railway link to a staith south of the river 1849. Coal shipments increased rapidly to 200,000 tonnes per year, reaching 5.5 million tonnes per year in the 1930s and making it the largest coal exporting port in Europe. It peaked at 7.0 million tonnes in 1969.

Shipbuilding also had an important rolw to play in the port, and this element gre throughout the 19th and early 20th Century, particularly during the two World Wars.

By the late 1960s the coal trade was declining. Local mines closed one-by-one and the port suffered accordingly. The same was true for the shipbuilding industry, with the last yard closing at the port in 1966.

Reinvention

By the early 1970s the port's future looked extremely bleak. However a reversal of fortune came when a major aluminium smelter was established five miles north at Lynemouth. With it came an import terminal, built at the port to handle the large volumes of raw materials.

The 1970s also saw expansion of the paper import trade from Finland, and by 1998, Port of Blyth was a major paper import terminal, handling 0.5 million tonnes that year.

Commercially, the import trade was aggressive, and the loss of paper import contracts in 2000 was a major blow to the port. Once again though, reinvention was the key to survival, and the port diversified into container handling, plywood, project cargo for offshore and renewal energy sectors, bulk commodities such as cement, stone, grain, fertiliser and animal feed and, perhaps ironically, coal imports. A new bulk terminal at Battleship Wharf was built in 2006, including a rail link, to handle the throughput of goods.

In recent years the port has invested heavily in the renewable energy sector with several major projects. The first came in 1992 when Blyth Harbour Wind Farm was constructed on the East Pier. It was followed in 2000 by the first pilot offshore wind farm in the UK, about a kilometre out to sea.

In 2002, the New and Renewable Energy Centre was established at the port to develop and test new energy technologies and equipment. This became the National Renewable Energy Centre (NAREC) which has invested over £160m in new test facilities and an offshore demonstrator site, due to commence operations this year (2012).

The Port Today

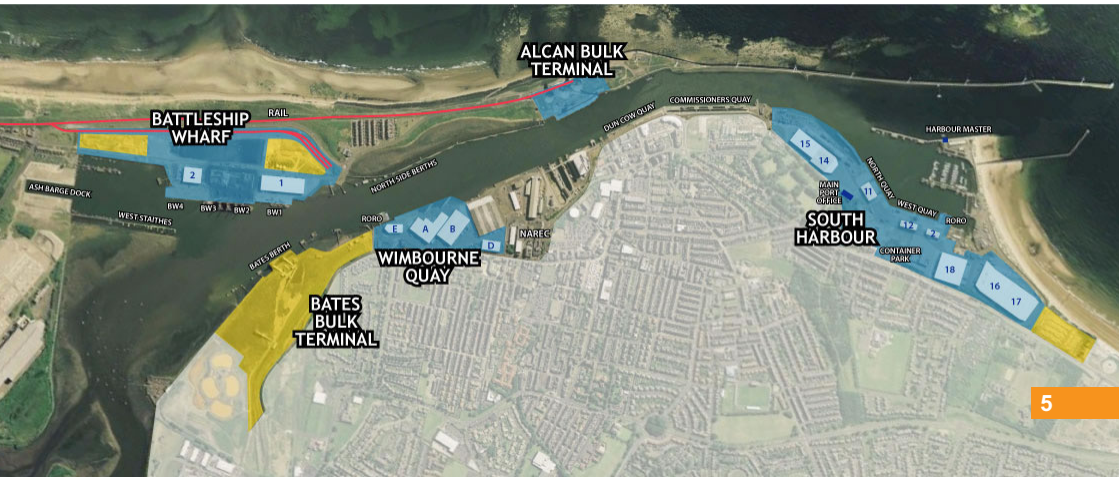
The harbour facilities offered by the Port today consist of five sites, on both sides of the river estuary, as shown on the plan. Each site offers different facilities, with three also having rail links.

South Harbour provides two deep water berths, a Roll-on/Roll-off (RoRo) pontoon and over 35,000m^2 of warehousing. It is a "clean terminal" for paper products, containers, plywood and pulp, as well as project cargo including wind turbines.

Wimbourne Quay has a single berth with a RoRo pontoon, limited Lift-on/Lift-off (LoLo) options and 27,000m^2 of warehousing. It handles log exports and general warehousing.

Bates Bulk Terminal is a large site of 9.5 hectares with a rail link, open storage and loading conveyors. It is a potential site for port expansion or redevelopment.

Battleship Wharf was redeveloped in 2006 at a cost of £10m to provide a 15 hectare bulk terminal with an extended 4 berths quay up to 9m draft, 10,500m^2 of bulk warehousing, open storage and a rail link. It handles all bulk cargo (coal, aggregate, agribulks, bagged cargo etc).



Alcan Bulk Terminal is a deep water (10.4m) import terminal which handled 0.5 million tonnes per year of Alcan raw materials, until the aluminium smelter closed in 2012. It has a rail link and storage silos.

Today the Port handles about 1.5 million tonnes of cargo each year.

The Future

In early 2012 it was announced the Alcan aluminium smelter was to close, a fresh blow to the local economy, and the port which had handled the bulk import of raw materials for the smelter.

Nevertheless, as before, the port continues to diversify, by maximising its other cargo handling trade, and promoting its strategic location in relation to offshore wind power generation in the North Sea.

In a partnership arrangement with Northumberland County Council, the port has established the Blyth Estuary Renewable Energy Zone. The initiative offers development opportunity sites both in and adjacent to the port, to attract manufacturing and provide harbour facilities for the developing offshore renewable energy industry in the North Sea.

The port is also looking to provide facilities to handle biomass material for a proposed new power station on the site previously used to generate power for the Alcan smelter. If constructed, it would burn around 0.5m tonnes of biomass per year.

More information on the Port of Blyth can be found at www.portofblyth.co.uk.

Thanks to Malcolm Smith of CIHT North Eastern Branch, for preparing this article.

Additional thanks to Alan Dodd, Port Director, for useful comments and supply of photographs.

THE CHARTERED
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1952-2012
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Highway Authorities Over Sixty Years

For the last 60 years, the responsibility for the region's non-trunk road network has rested with local authorities. The independent county boroughs, in place in 1952, gave way to the large metropolitan councils of the 1970s and, with a number of intermediate steps, to the unitary authorities, in place in 2012.

Consequently, the number of authorities involved with managing the 9,800 miles of local roads in the North Easy has reduced considerably, from 53 to 12. We chart the course of reorganisation which takes the highway authorities to where they are today.

The CIHT North Eastern Branch covers the counties of Northumberland, Durham, Tyne & Wear and Teesside – a region accommodating nearly 10,000 miles of roads to meet the travelling needs of the community, businesses and industry. The public bodies responsible for improving, maintaining and managing this network are called highway authorities.

Approximately 9,800 miles (98%) of the road network is 'non-trunk' and therefore falls under the jurisdiction of the highway authority, whose duties, within their own boundaries, are discharged by the particular local authority. The remaining 200 miles (2%) of motorway and trunk roads are the responsibility of the Highways Agency.

The only constant in local government from 1952 to 2012 has been change and this has affected how the region's road network is maintained and improved. Of particular importance was the Local Government Act 1972, which instigated perhaps the biggest upheaval in 1974, though further changes have since taken place.

This article takes a look at some milestones in local government history and the impacts felt on the region's highway authorities.

1952 to 1974

Local government during this period was based on a two tier system, with county councils above a patchwork lower tier of urban and district councils, and non-county boroughs. The lower tier authorities were relatively small, with limited powers of self government, often shared with the county councils. The more populated areas of Tyneside, Wearside and Teesside however, were designated as county boroughs, and were independent, self governing authorities.

Generally the rural districts covered larger areas of sparsely populated countryside, whereas the urban districts and non-county boroughs were small in area, more densely developed and with larger populations. This was also the case for the county boroughs.

Local highway responsibilities 1952 to 1974

Type	No.	Examples	Highway responsibilities
County Councils	**3**	Northumberland, Durham, North Riding of Yorkshire	All roads in rural district areas In non-county boroughs and urban districts – main roads and other classified roads if not subject to agreed delegation
Non-County Boroughs	10	Wallsend, Berwick upon Tweed, Durham, Redcar	Unclassified roads within boundaries Other non-main roads to varying extents by agreement with the county council
Urban Districts	**32**	Billingham, Tow Law, Felling, Prudhoe, Long Benton, Gosforth	Unclassified roads within boundaries Other non-main roads to varying extents by agreement with the county council
Rural Districts	18	Alnwick, Rothbury, Chester-le Street, Easington	None
County Boroughs	**8**	Newcastle, Middlesbrough, Sunderland, Tynemouth	All roads within boundaries

Responsibility for the region's road network was split between the different types of authorities as shown in the following table, which also shows the numbers of each type in the region during this period. Local Authorities 1952 to 1974 presents this in full following this article.

Nationally, throughout the 1950s and 1960s there was growing realisation that local government, in its present form, could not cope with the rapidly changing economic landscape. In the North East, some changes were already being made, the most notable being the creation of Teesside Borough Council in 1968. This brought together the previous authorities covering Middlesbrough, Stockton, Redcar, Thornaby, Billingham and Eston, along with parts of other urban and rural district councils south of the River Tees. This brought the whole road network on both sides of the Tees estuary into the jurisdiction of one council.

A more comprehensive national reform was on the cards however, and with the Local Government Act 1972, came the largest upheaval in local government history.

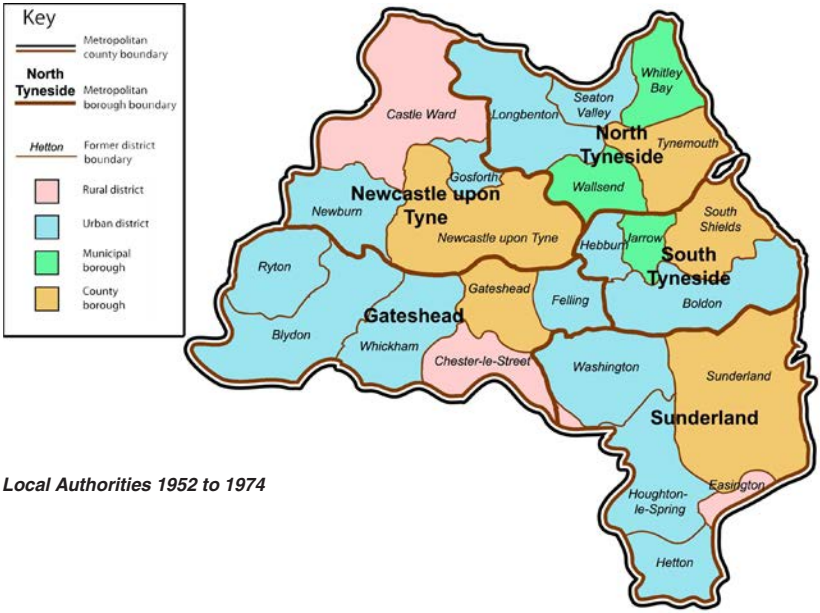
The Reorganisation of 1974

On 1st April 1974 the Local Government Act, 1972 came into force. All existing local government structure in England Wales (outside Greater London) was abolished and replaced with a two tier system. It created 45 new counties – six metropolitan, the remainder non-metropolitan.

The six new metropolitan councils were based on the Greater London 'model' and created to address specific issues of administering large conurbations. Of the remaining non-metropolitan councils, three new counties were created with the aim of uniting areas based on river estuaries (Avon, Cumbria and Humberside), whereas the rest were based on previous historic county boundaries, but with some significant changes and mergers.

Under the second tier of reorganisation, the 45 new counties were further subdivided into smaller administrative areas, forming metropolitan boroughs, and districts within the non-metropolitan counties. The implications for North East local government were the new counties of Northumberland and Durham, created similar to the previous ones, but with some reductions in size and boundary changes to accommodate the Tyne and Wear Metropolitan County Council and the non-metropolitan county of Cleveland.

The new second tier district councils in Northumberland and Durham were quite different to the previous urban and rural district councils, prior to 1974. As they covered larger areas, there were fewer of them. In Tyne and Wear, five new metropolitan boroughs were formed, some of which retained familiar names – Newcastle, Gateshead, Sunderland – but with increased geographic areas, taking in some of the adjacent rural area and smaller settlements. The figure shows the two-tier system of Tyne and Wear Metropolitan County Council.



Local Authorities 1952 to 1974

In the south of the region, Cleveland County Council was based on the previous short lived Teesside Borough Council with the addition of Hartlepool and an extension down the coast to south of the Tees.

The new county councils became responsible for the non-trunk road network but, in practice, entered into agency agreements with the majority of the lower tier authorities for delivery of some highway services. These agreements varied considerably, and were often limited to a district's rural areas with the county remaining in control of the principal and urban roads within its boundary. This approach, unfortunately, tended to perpetuate the previous lack of clarity experienced by the public over which authority was responsible for roads in their locality. However the reverse was true in Tyne and Wear, and Cleveland, where just one authority assumed full control of the road network, from strategic policy through to routine maintenance.

Local Authorities 1974, following this article, shows the highway responsibilities at the time.

1986 to 2012

The uniform two-tier structure lasted only twelve years until 1986, when the metropolitan county of Tyne and Wear was abolished, it might be argued, for political rather than practical reasons. The lower tier authorities of Gateshead, Newcastle, North Tyneside, South Tyneside and Sunderland were retained, becoming unitary authorities responsible for all services within their boundaries. In effect, they reverted to the county boroughs of pre-1974 days, once again becoming separate highway authorities, albeit with a larger geographic area. The need for a joined up highways and transport strategy across Tyne and Wear was not overlooked however, and joint working arrangements and collaborative partnerships developed between the authorities.

Cleveland County Council was also eventually abolished in 1996 with Middlesbrough, Stockton, Hartlepool and Langbaurgh (renamed Redcar and Cleveland) becoming unitary authorities fully responsible for the road network in their areas. A year later, Darlington became a unitary authority, breaking free from Durham County Council and becoming entirely responsible for its road network. Again this was a reversion to its pre 1974 state, albeit with a larger geographical area.

The Northumberland and Durham two-tier system continued until 2009 when the district authorities were abolished, leaving the two county councils as unitary authorities, and highway authorities, of their particular road networks.

As of 2012 the position across the region is one of a number of unitary authorities of varying geographic size and extent of road network for which they are responsible. It has been possible, in this situation, to take advantages of economies of scale to deliver more cost-effective highway services, along with eliminating ambiguity in the supply chain, and to the public, over who is responsible for the road network.

Thanks to Malcolm Smith of the CIHT North Eastern branch, for preparing this article.

If you enjoyed this article, try also:

Motorway and Trunk Road Development in the North East

Types of Local Authorities

County councils were first established in England & Wales by the Local Government Act 1888. They were created to administer certain 'main' services including education, town & country planning, police, fire and highways. However some of these functions were often delegated to the non-county boroughs, urban districts and rural districts within the county. They were all abolished as administrative units in 1974, replaced by metropolitan and non-metropolitan county councils.

County boroughs were also established by the Local Government Act of 1888 from the historic municipal boroughs. They were created to administer larger cities (usually with a population > 50,000) and were not subject to the jurisdiction of the county within which they were geographically situated. They were the equivalent of today's unitary authorities with powers of both county council and a non-county borough council. They were abolished in 1974.

Non-county boroughs were created by the Local Government Act 1894 from the historic municipal boroughs that had not been designated county boroughs by the 1888 Act. Their powers and functions included housing, refuse collection, cemeteries, markets, libraries and parks. 'Main' services were provided by the county council. The non-county boroughs were abolished in 1974, but some of the new district councils were granted borough status, which meant little more than having a 'figurehead' mayor preside over council meetings rather than a chairman.

Urban district councils were created by the Local Government Act 1894 and were based on and the old urban sanitary authorities and local boards of health. They did not have the history and tradition of the non-county boroughs but their powers and functions were almost the same. They were abolished in 1974.

Rural district councils were also created by the Local Government Act 1894 and were the old rural sanitary districts. Their principal powers and functions included housing, water supply, sewerage and refuse collection. 'Main' services were provided by the county council. They were abolished in 1974.

Metropolitan counties (Greater Manchester, Merseyside, South Yorkshire, Tyne & Wear, West Midlands and West Yorkshire) were created by the Local Government Act 1972 as part of the first tier of a uniform two-tier system across England. They were responsible for strategic planning, traffic and transportation, passenger transport authority, highways, police, fire and refuse disposal in the larger conurbations. Where appropriate they had the powers to enter into an agency agreement for defined services with the second tier district authorities whereby that district acted as the county's agent e.g. for highway maintenance. All the metropolitan counties, including the Greater London Council, were abolished in 1986.

Metropolitan districts were the second tier authority in the metropolitan counties and were responsible for municipal airports, education, libraries, planning, social services, housing and refuse collection, among others. Certain highway responsibilities were delegated to the districts through agency agreements with the metropolitan counties. They became autonomous unitary authorities upon abolition of the metropolitan counties in 1986.

Non-metropolitan counties (sometimes referred to as shire counties) were created by the Local Government Act 1972 and along with the metropolitan counties were the first tier of the two tier system introduced in 1974. With varying degrees of changes to boundaries they were formed from the historic counties although several disappeared completely. Three new counties were based on river estuaries (Cleveland, Avon and Humberside) and had more or less the same functions as their metropolitan counterparts, including highways, and the same power to enter into agency agreements with the second tier district authorities.

Non-metropolitan districts were the second tier in non-metropolitan counties and were responsible for many of the functions of their metropolitan counterparts, apart from education and social services. Many exercised highway responsibilities to varying degrees, through agency agreements with the county council. In the North East they were abolished in 2009 when Northumberland and Durham county councils became unitary authorities.

Unitary authorities are independent self governing authorities which are today's equivalent of the pre-1974 county boroughs. They are responsible for all services within their boundaries, including highways. On the abolition of Tyne and Wear Metropolitan County Council in 1986 and Cleveland County Council in 1996, the constituent districts became unitary authorities. Since then further reorganisations created unitary authorities from previous districts (Darlington) and county councils (Northumberland and Durham).

Local Authorities 1952 to 1974

1st Tier	2nd Tier			
County Councils	**Non-County Boroughs**	**Urban Districts**	**Rural Districts**	**County Boroughs**
Northumberland	Berwick upon Tweed Blyth Morpeth Wallsend Whitley Bay	Alnwick Amble Ashington Bedlingtonshire Gosforth Hexham Long Benton Newbiggin-by-the-Sea Newburn Prudhoe Seaton Valley	Alnwick Belford Bellingham Castle Ward Glendale Haltwhistle Hexham Morpeth Norham and Islandshires Rothbury	Newcastle upon Tyne Tynemouth
Durham	Durham Jarrow Stockton on Tees* Thornaby on Tees*	Billingham* Chester-le-Street Consett Crook and Willington Felling Hebburn Hetton Houghton -le-Spring Ryton Seaham Shildon Spennymoor Stanley Tow Law Washington Whickham	Darlington Durham Easington Lanchester Sedgefield Stockton Weardale	Darlington Gateshead Hartlepool South Shields Sunderland Teesside**
North Riding of Yorkshire	Redcar*	Guisborough (part) Loftus Saltburn and Marske-by -the-Sea Skelton and Brotton Eston*	Stokesley (part)	Middlesbrough* Teesside**

Key: * to 1968;
** from 1968

Local Authorities 1974

1st Tier County Councils	2nd Tier District Councils	Highway Responsibilities
Northumberland CC		Highway Authority for all non-trunk/motorways within administrative boundary
	Berwick upon Tweed	Agency Agreement for maintenance of unclassified roads in Berwick urban area
	Alnwick	None
	Castle Morpeth	Agency Agreement for maintenance of all roads in Morpeth urban area
	Tynedale	Agency Agreement for maintenance of unclassified roads in Hexham, Prudhoe and Stocksfield
	Blyth Valley	Agency Agreement for maintenance of all roads in District Council area (except A189)
	Wansbeck	Agency Agreement for maintenance of all roads in District Council area (except A189)
Durham CC		Highway Authority for all non-trunk/motorways within administrative boundary
	Derwentside	Agency Agreement for maintenance of non-main roads in defined built up areas (2)
	Chester -le -Street	Agency Agreement for maintenance of non-main roads in defined built up areas (2)
	Darlington (1)	Agency Agreement for maintenance of non-main roads in defined built up areas (2)
	Durham	Agency Agreement for maintenance of non-main roads in defined built up areas (2)
	Wearside	Agency Agreement for maintenance of non-main roads in defined built up areas (2)
	Teesdale	None
	Sedgefield	Agency Agreement for maintenance of non-main roads in defined built up areas (2)
	Easington	Agency Agreement for maintenance of non-main roads in defined built up areas (2)
Tyne & Wear Metropolitan CC (3)		Highway Authority for all non-trunk/motorways within administrative boundary
	Newcastle	Agency agreement for all roads (4)
	Gateshead	Agency agreement for all roads (4)
	N Tyneside	Agency agreement for all roads (4)
	S Tyneside	Agency agreement for all roads (4)
	Sunderland	Agency agreement for all roads (4)
Cleveland CC (5)		Highway Authority for all non-trunk/motorways within administrative boundary

1st Tier County Councils	2nd Tier District Councils	Highway Responsibilities
	Middlesbrough	Agency agreement for all roads [6]
	Stockton	Agency agreement for all roads [6]
	Hartlepool	Agency agreement for all roads [6]
	Langbaurgh on Tees	Agency agreement for all roads [6]

Notes	
	(1) to 1997 and thereafter a unitary council
	(2) Agency Agreements terminated in 2004
	(3) abolished in 1986
	(4) after 1986 became a unitary authority
	(5) abolished in 1996
	(6) after 1996 became a unitary authority
	Langbaurgh on Tees was renamed Redcar & Cleveland on becoming a unitary authority in 1996

Highway Authorities in 2012 – Lengths of County Road Networks in Miles by Authority and Road Class

Authority	Principal Motorway	Principal Rural	Principal Urban	B Class Rural	B Class Urban	C Class Rural	C Class Urban	Unclassified Rural	Unclassified Urban	Total
Northumberland County	0.0	250.5	22.9	380.3	15.7	903.8	43.4	1,194.8	302.9	3,114.3
Durham County	0.0	203.4	21.8	221.1	28.6	395.1	36.5	770.7	555.1	2,232.3
Darlington	0.0	23.5	8.6	12.2	6.3	56.0	11.7	59.2	148.6	326.1
Gateshead	0.0	17.6	19.9	11.5	16.9	21.6	37.8	90.3	332.2	547.8
Hartlepool	0.0	10.9	12.3	0.7	4.8	7.8	6.7	26.8	172.9	242.9
Middlesbrough	0.0	2.1	17.9	3.6	6.0	2.6	13.8	6.0	255.8	307.8
Newcastle upon Tyne	1.5	0.8	40.4	6.8	22.8	8.9	44.9	34.5	428.7	589.3
North Tyneside	0.0	9.6	38.5	11.1	11.0	1.1	19.8	32.1	358.3	481.5
Redcar and Cleveland	0.0	39.8	13.7	7.8	4.6	21.1	7.6	138.4	179.3	412.3
South Tyneside	0.0	10.3	18.1	4.2	16.4	1.5	19.4	17.7	250.8	338.4
Stockton-on-Tees	0.0	19.4	26.0	2.1	6.2	43.1	19.6	51.1	342.3	509.8
Sunderland	0.0	18.4	38.4	11.6	18.6	14.1	29.2	56.8	511.9	699.0
Total	**1.5**	**606.3**	**278.5**	**673.0**	**157.9**	**1,476.7**	**290.4**	**2,478.4**	**3,838.8**	**9,801.5**

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The Port of Tyne

A Snapshot of Past and Present

The term ‘carrying coals to Newcastle’ could have been invented specifically for the Port of Tyne, as it handled the majority of coal exports from the local mines in the late nineteenth and early twentieth centuries.

In the sixty years from 1952 to 2012, the Port has changed and diversified, handling all manner of goods for import and export, along with modern passenger facilities, to become a thriving business serving the North East.

The Past – 1952

From the Branch's inception in 1952, until 1968, the Port of Tyne was managed by the Tyne Improvement Commission (TIC) which helped lay the foundations of what was to become the modern day port of today.

Nationally recognised, the Port of Tyne was a major exporter of coal at the time, with some 9.4million tonnes exported in 1952 via five dedicated facilities: Whitehill Point, Jarrow, Howdon, Dunston Staithes and Tyne Dock. Although a reduction on pre-war exports, the Port was still seen as an important coal shipping centre.

In 1952 the Port was also the second largest ship builder and the largest ship-repairing port in the world – its dredged depths accommodated the majority of cargo vessels afloat.

Many cargoes were imported and exported from the Port. Just some interesting examples include: apples, bananas, bricks, butter, canned meat, canned fish, carpets, carrots, cement, chalk, cheese, cherries, chocolate, dates, dog food, dried eggs, electric cable, flagstones, flour, glass bottles, goatskins, grapes, grass seed, Iron castings, lemons, marble, nails, oatmeal, paper, prunes, rags, rock salt, rubber tyres, sand, sheep skins, soap, split peas, steel scrap, sugar, tea, teak, tobacco, tomatoes, treacle, wall paper, wax, wheat and wool.

The main activities at Albert Edward Dock on the north bank of the Tyne was the importing of timber, pit props and sawn wood, and the export of sulphate of ammonia and the shipment of motor vehicles to Scandinavia. An astonishing 220,426 pit props and 157,552 other timber items were handled at the dock in 1952. Its importance led to the Pyman Bell and Co Timber Yard at Albert Edward Dock and Jarrow being mechanised to expedite the handling of timber cargoes.

In 1952 a total of 126,000 passengers passed through the Port of Tyne – almost all travelling to or from Norway or Denmark. The Norwegian passenger and mail services were operated by Fred Olsen Lines and a Danish service to Esbjerg operated twice weekly during the summer months with passenger numbers in excess of 10,000. In addition the Cairn-Thomson Line operated a regular service from Newcastle to Canada.

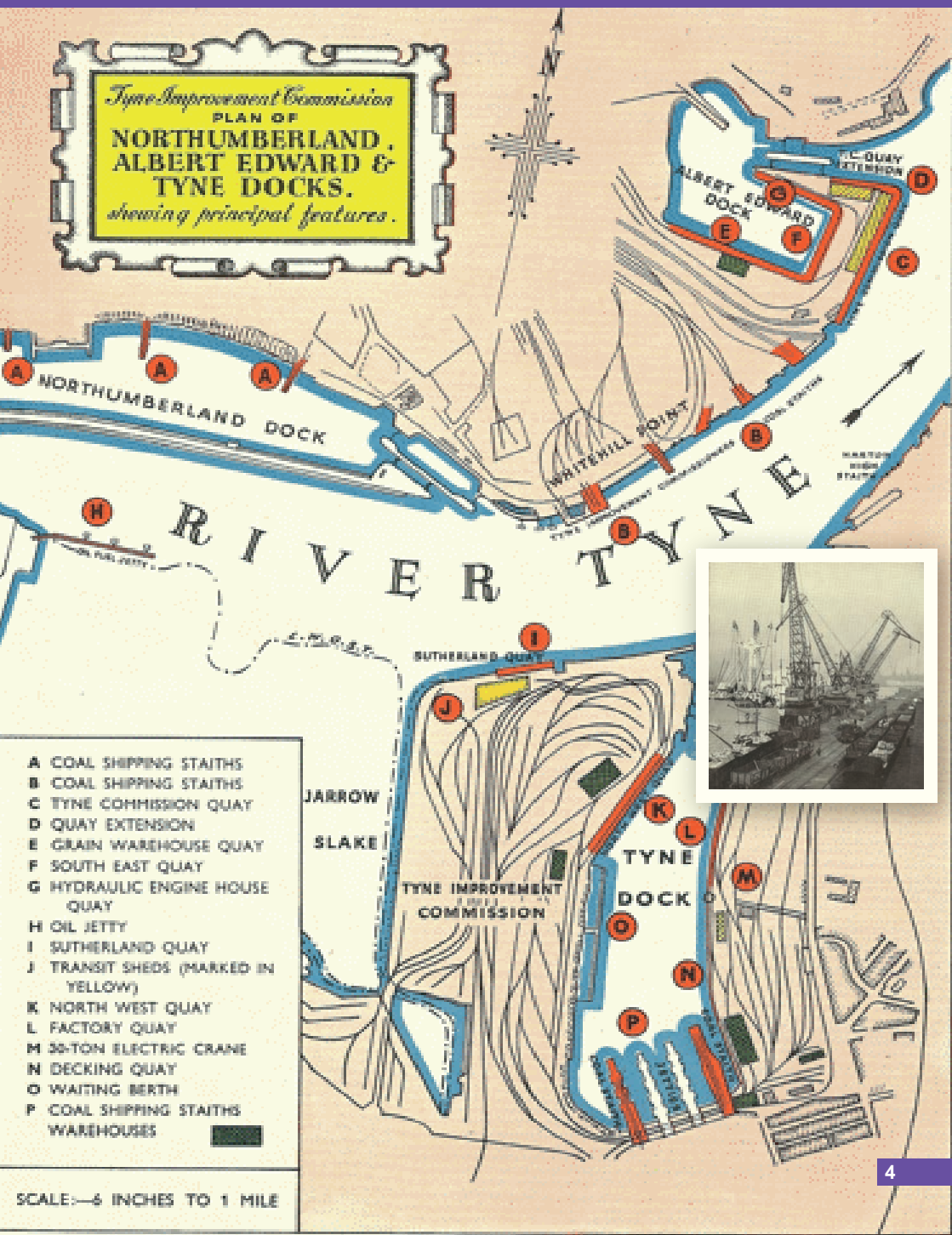
Proverbially, the 'carrying of coals' to Newcastle was actually quite the reverse – the export of this commodity to every corner of the globe was Newcastle's primary economic activity. In the 1930s 20million tonnes of coal was exported annually, though by 1952 this had reduced to 8.5million tonnes, along with 9,342 tonnes of beer, 17,578 tonnes of fresh fruit, 239,764 tonnes of grain and 699,120 tonnes of iron ore being handled by the Port.

The growing commercial importance of iron ore to the Port in 1952 brought about the construction of a dedicated import facility at Tyne Dock. Opening the following year, it initially handled over 1.4million tonnes of imported iron annually, the majority of which served the Consett Steel works.

From 1947, the TIC spent £175,255 on Capital and Major works as the Port went through a period of rapid progress. Many of the quays known today opened in the 1940s and 1950s and helped overall turnover swell to £1.4m in 1952.

Private enterprise was also making substantial contributions to local development, including the Rank Hovis Flour Mill and Spillers Flour Mill – the former closing in 1981 and transformed into the Baltic Centre for Contemporary Art in the late 1990s, while Spillers Mill was less fortunate, it finally being demolished in 2011.

PLAN OF THE TYNE COMMISSIONERS' DOCKS
showing principal discharging and loading facilities



Present Day - 2012

Sixty years on, in 2012, the Port of Tyne and its Tyne Dock estate are virtually unrecognisable. In fact, there is no Dock.

From its heyday and record coal exports in 1913 (totalling 7million tonnes in a single year) to dereliction by the 1960s, the four staiths leading coal to the dock were demolished in the late 1970s and the southern end of the dock subsequently in-filled to increase available development space. In 2010 the construction of the new Tyne Tunnel brought with it the opportunity to infill the remainder of the dock with spoil from the site – an innovative, cost-effective and sustainable engineering solution – creating 14 acres of additional land to facilitate further business development for the Port's stakeholders and regenerate the regional economy.

The Port of Tyne is now one of the UK's major deep sea ports and an important trading gateway to Europe and beyond. Investment of over £100m in the past 10 years has created the infrastructure to deliver continued growth of the Port's diverse businesses. These include conventional and bulk cargoes, car terminals, cruise and ferries, logistics (containers, warehousing and distribution) and a portfolio of commercial property. A £5 million investment in 2011 to deepen the Tyne further made it possible for the Port to handle 83% of the world's global fleet of cargo vessels.

Despite the industry's highs and lows, coal has continued its intrinsic link with the region, and with 2.1m tonnes imported in 2011, most of it destined for the power generating companies, the Port of Tyne is currently the UK's fourth largest coal handling port.

The Port's three car terminals saw a record number of cars pass through it in 2012 – 667,000 in all – keeping its place as the UK's number one

car exporter and the fifth largest in Europe. Demand for components at the nearby Nissan plant in Sunderland, along with rising consumer demand for retail goods, helped drive the number of containers to a record 71,000 twenty feet equivalent units.

This all helped the Port to a record turnover of £60m and profits of £9m, producing the best financial performance in its history. The critical role good transport infrastructure plays in delivering this success, not just to the Port but the region's wealth, cannot be over-stated. In 2011 the Port is estimated to have added over £467m to the North East economy and supported almost 9,500 jobs.

The Port of Tyne has transformed its business model to become more commercially responsive to changing market conditions. It is leading developments in renewable energy and, in 2010, commissioned Europe's largest wood pellet handling and storage facility. With its asset base and geographical location, it is well placed to meet the needs of the emerging offshore wind turbine manufacturing industry.

Further investment in new facilities, new markets, improving its rail infrastructure and strategic land acquisitions will secure the Port of Tyne as one of the UK's largest deep sea ports and enable further expansion in the years ahead.

Thanks to David McLaren of Port of Tyne for preparing this article. Further information can be found at www.portoftyne.co.uk