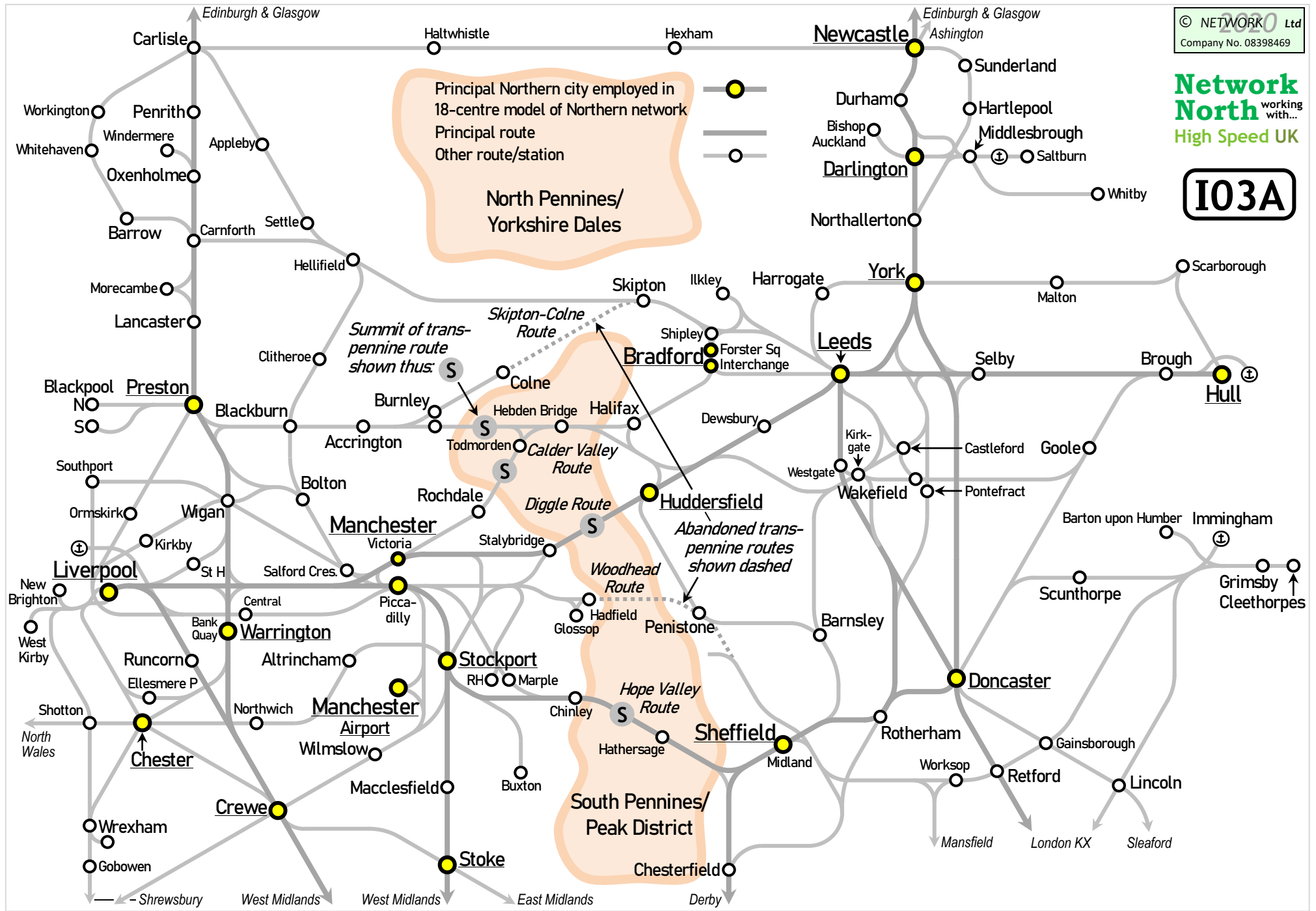


HIGH SPEED UK : I03

Infrastructure Diagrams illustrating HSUK/Network North proposals for development of Northern network

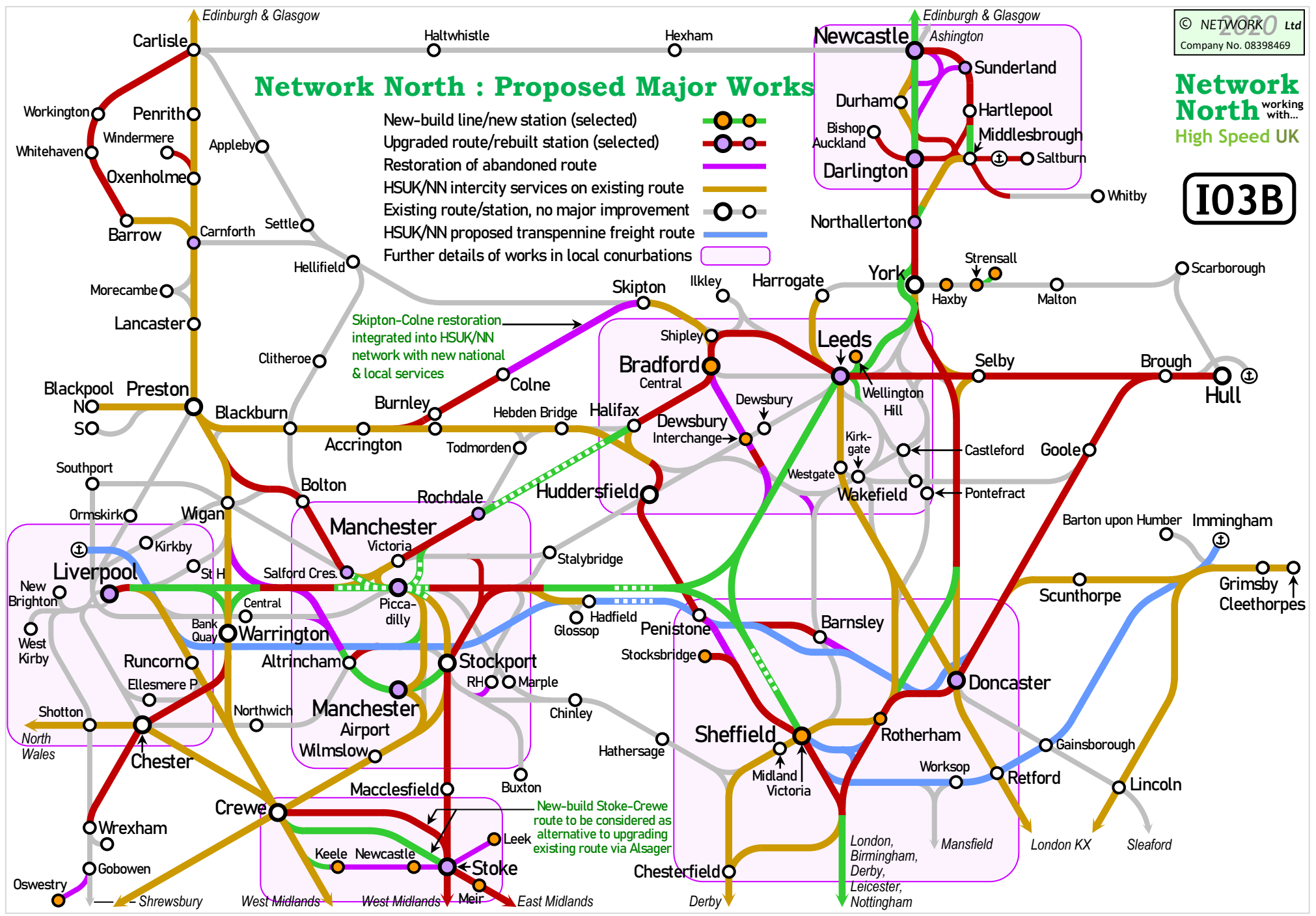
- I03A Existing Northern network**
- I03B HSUK/NN Proposed Passenger Works**
- I03C HSUK/NN Passenger Works Classified**
- I03D HSUK/NN Proposed Freight Works**
- I03E HSUK/NN Freight Works Classified**
- I03F HSUK/NN Proposed Electrification**
- I03G HSUK/NN Electrification Works Classified**
- I03H HSUK/NN Intercity & Local Network**
- I03I HSUK/Network North Intercity Services**
- I03J HSUK/Network North 'Tube Map'**
- I03K Current Government Proposals (CP974)**
- I03L Current TfN proposals (2024 STP)**

April 2024 Update



Network North : Proposed Major Works

- New-build line/new station (selected)
- Upgraded route/rebuilt station (selected)
- Restoration of abandoned route
- HSUK/NN intercity services on existing route
- Existing route/station, no major improvement
- HSUK/NN proposed transpennine freight route
- Further details of works in local conurbations



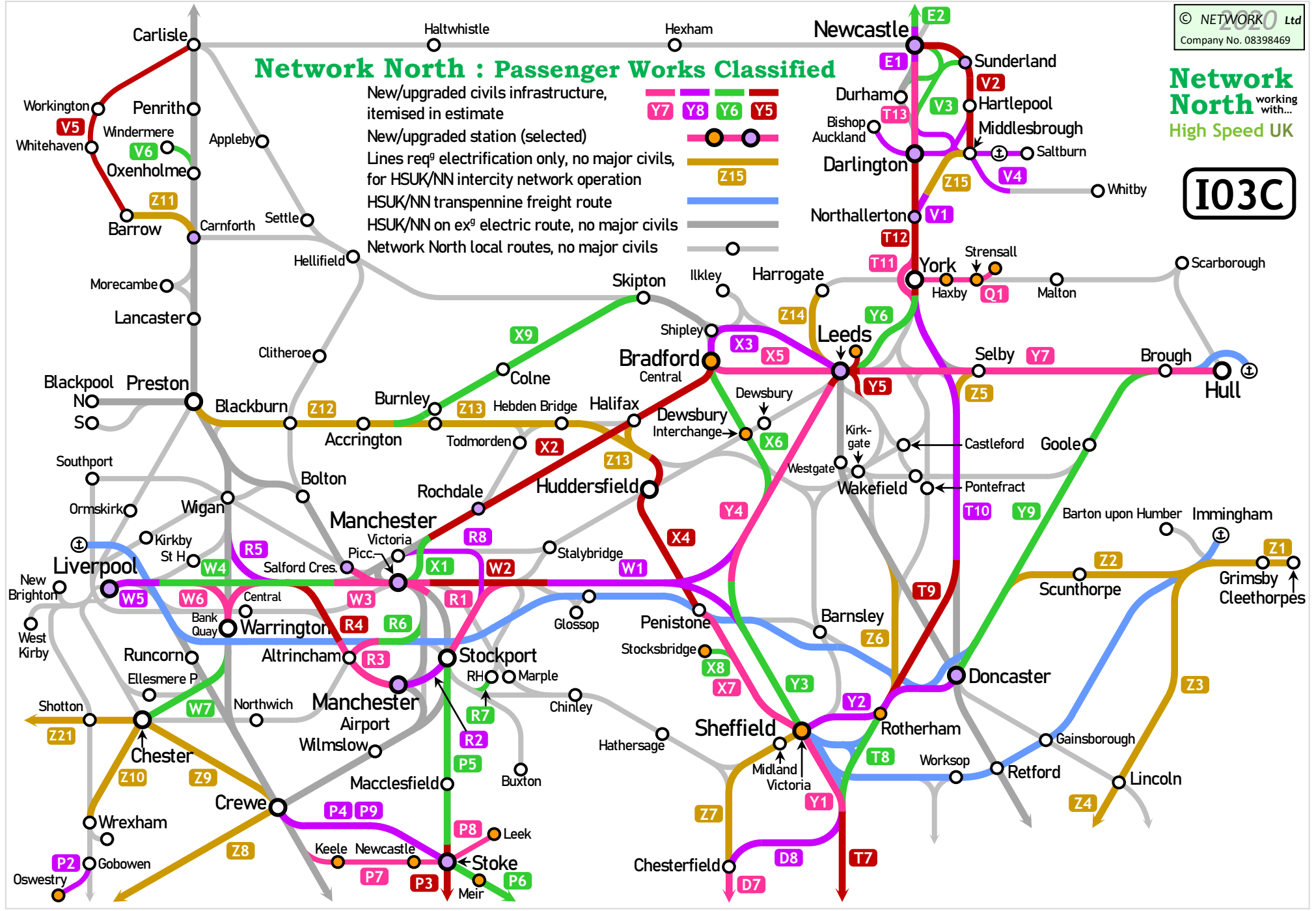
Skipton-Colne restoration integrated into HSUK/NN network with new national & local services

New-build Stoke-Crewe route to be considered as alternative to upgrading existing route via Alsager



Network North : Passenger Works Classified

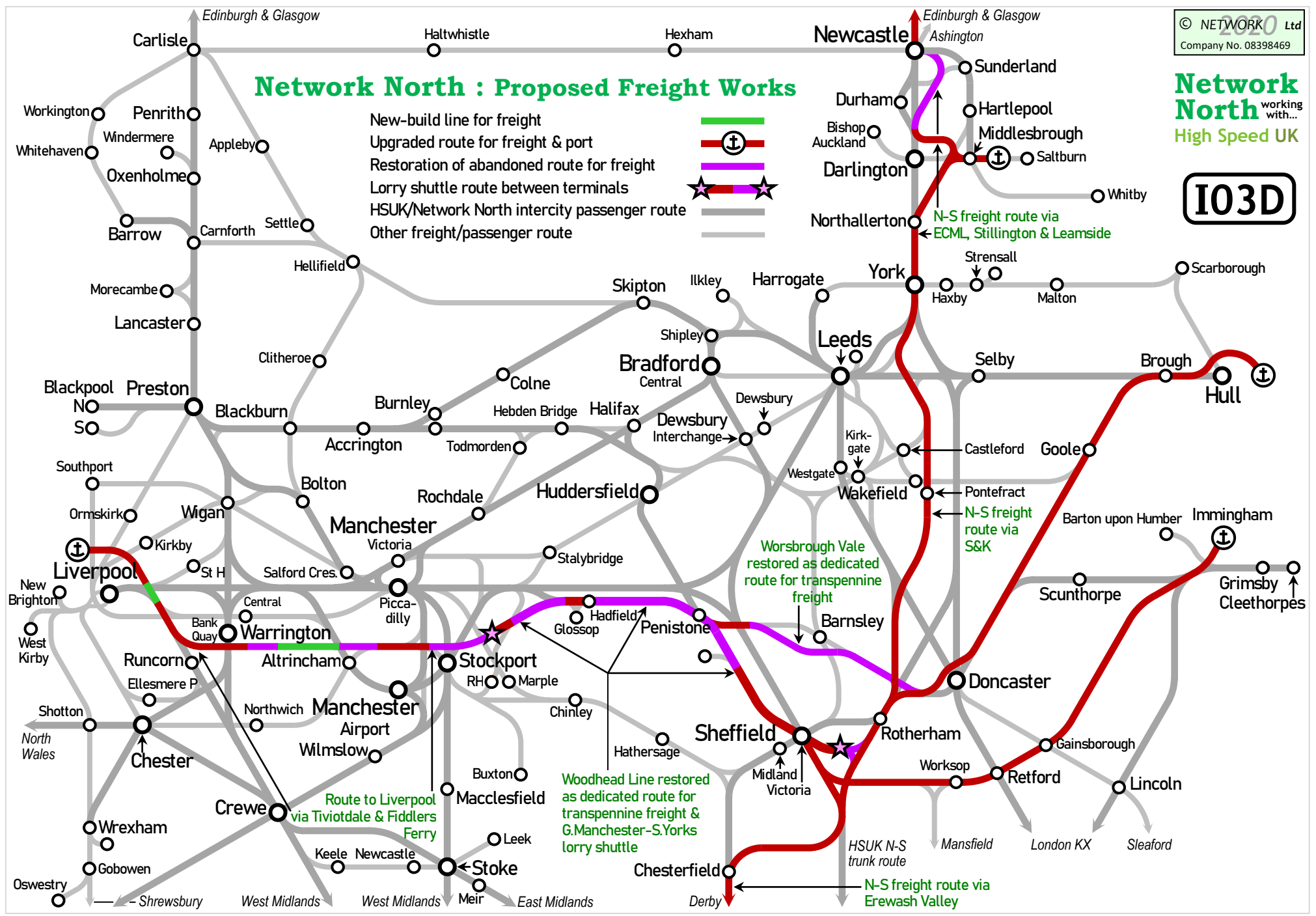
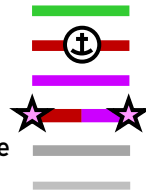
- New/upgraded civils infrastructure, itemised in estimate
- New/upgraded station (selected)
- Lines req^d electrification only, no major civils, for HSUK/NN intercity network operation
- HSUK/NN transpennine freight route
- HSUK/NN on ex^g electric route, no major civils
- Network North local routes, no major civils





Network North : Proposed Freight Works

- New-build line for freight
- Upgraded route for freight & port
- Restoration of abandoned route for freight
- Lorry shuttle route between terminals
- HSUK/Network North intercity passenger route
- Other freight/passenger route



Woodhead Line restored as dedicated route for transpennine freight & G.Manchester-S.Yorks lorry shuttle

Worsbrough Vale restored as dedicated route for transpennine freight

N-S freight route via ECML, Stillington & Leamside

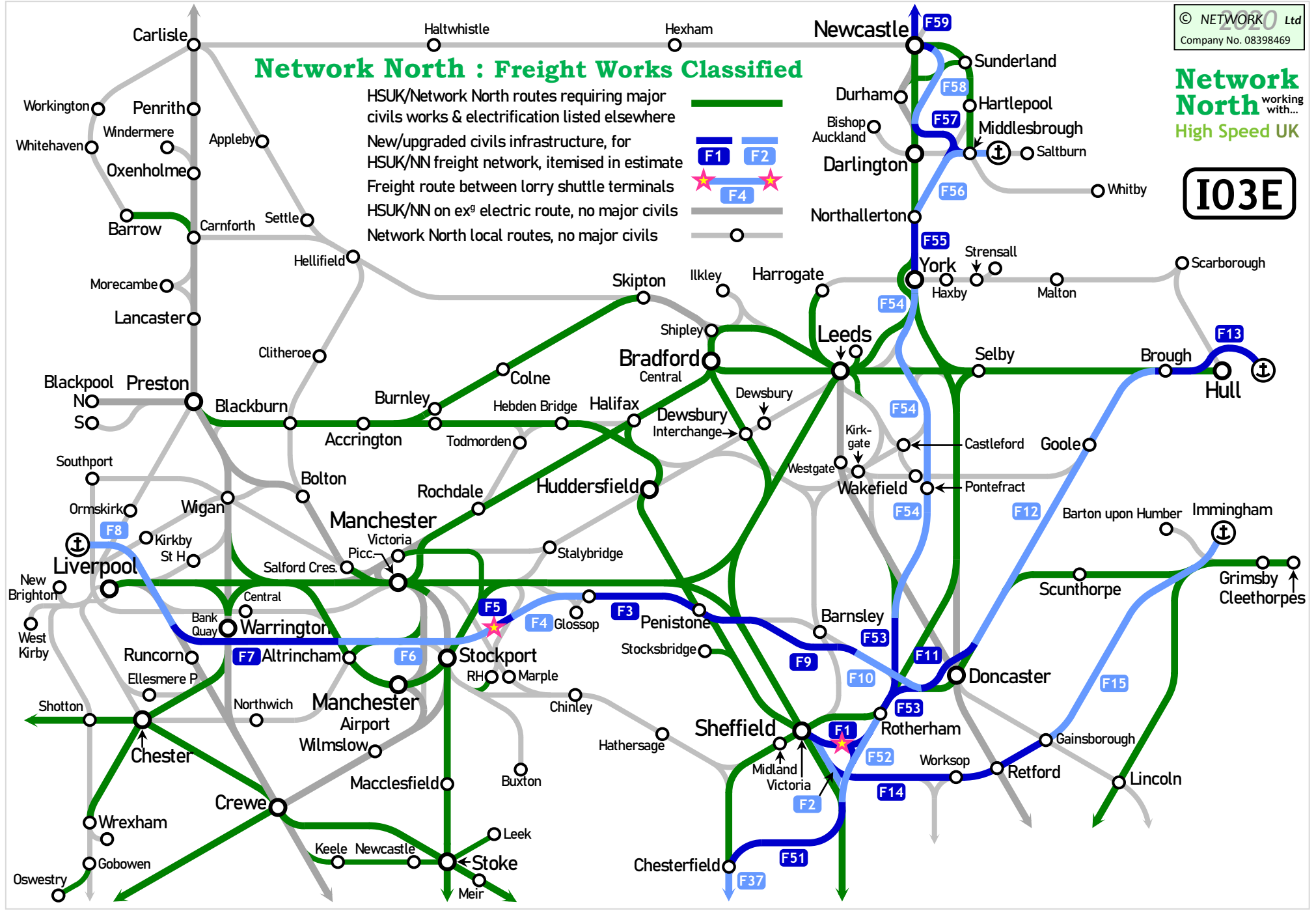
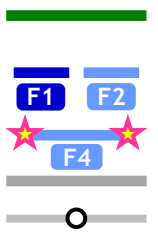
N-S freight route via S&K

N-S freight route via Erewash Valley

Route to Liverpool via Tiviotdale & Fiddlers Ferry

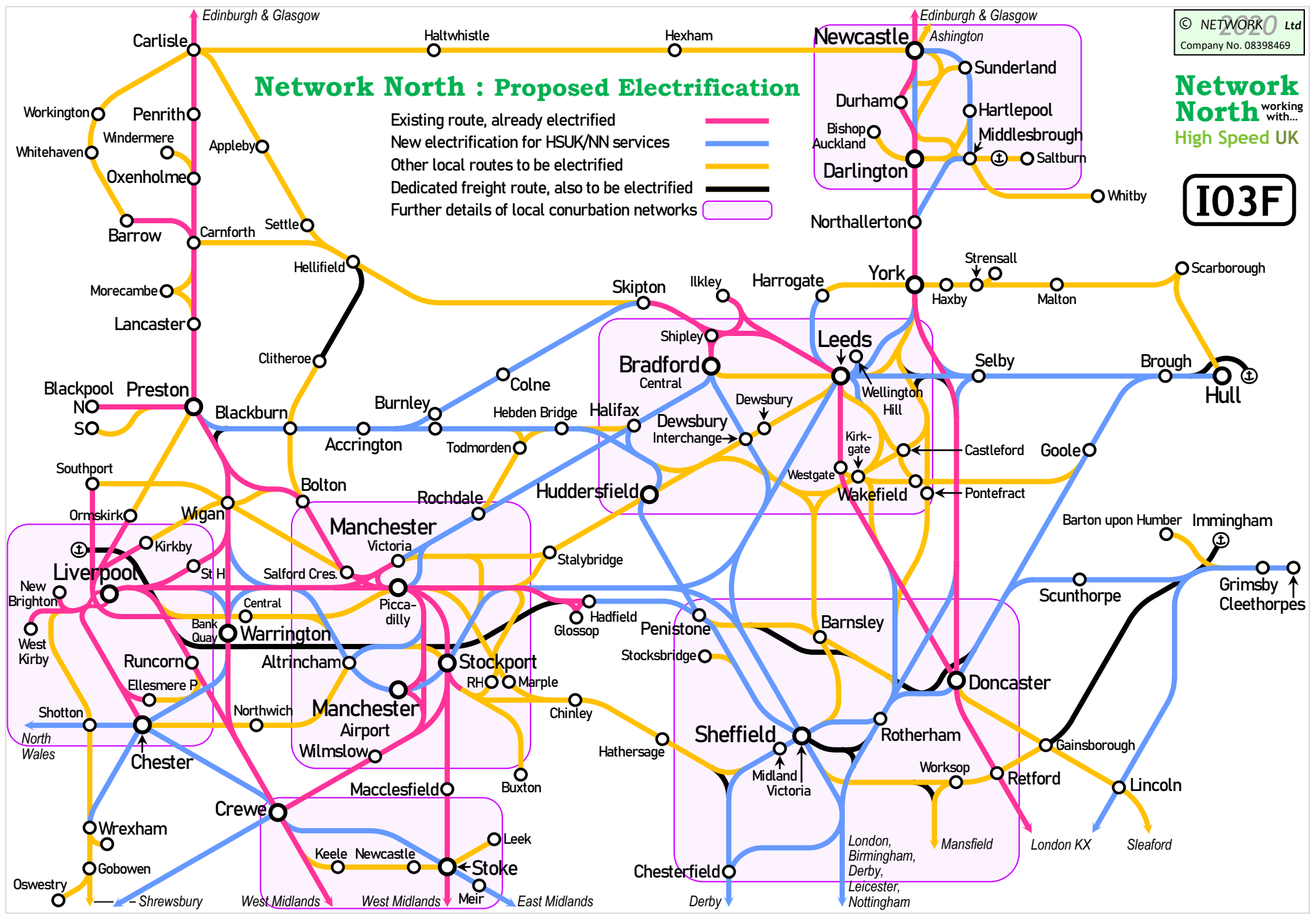
Network North : Freight Works Classified

HSUK/Network North routes requiring major civils works & electrification listed elsewhere
 New/upgraded civils infrastructure, for HSUK/NN freight network, itemised in estimate
 Freight route between lorry shuttle terminals
 HSUK/NN on ex⁹ electric route, no major civils
 Network North local routes, no major civils



Network North : Proposed Electrification

- Existing route, already electrified —
- New electrification for HSUK/NN services —
- Other local routes to be electrified —
- Dedicated freight route, also to be electrified —
- Further details of local conurbation networks



Network North : Full System Electrification

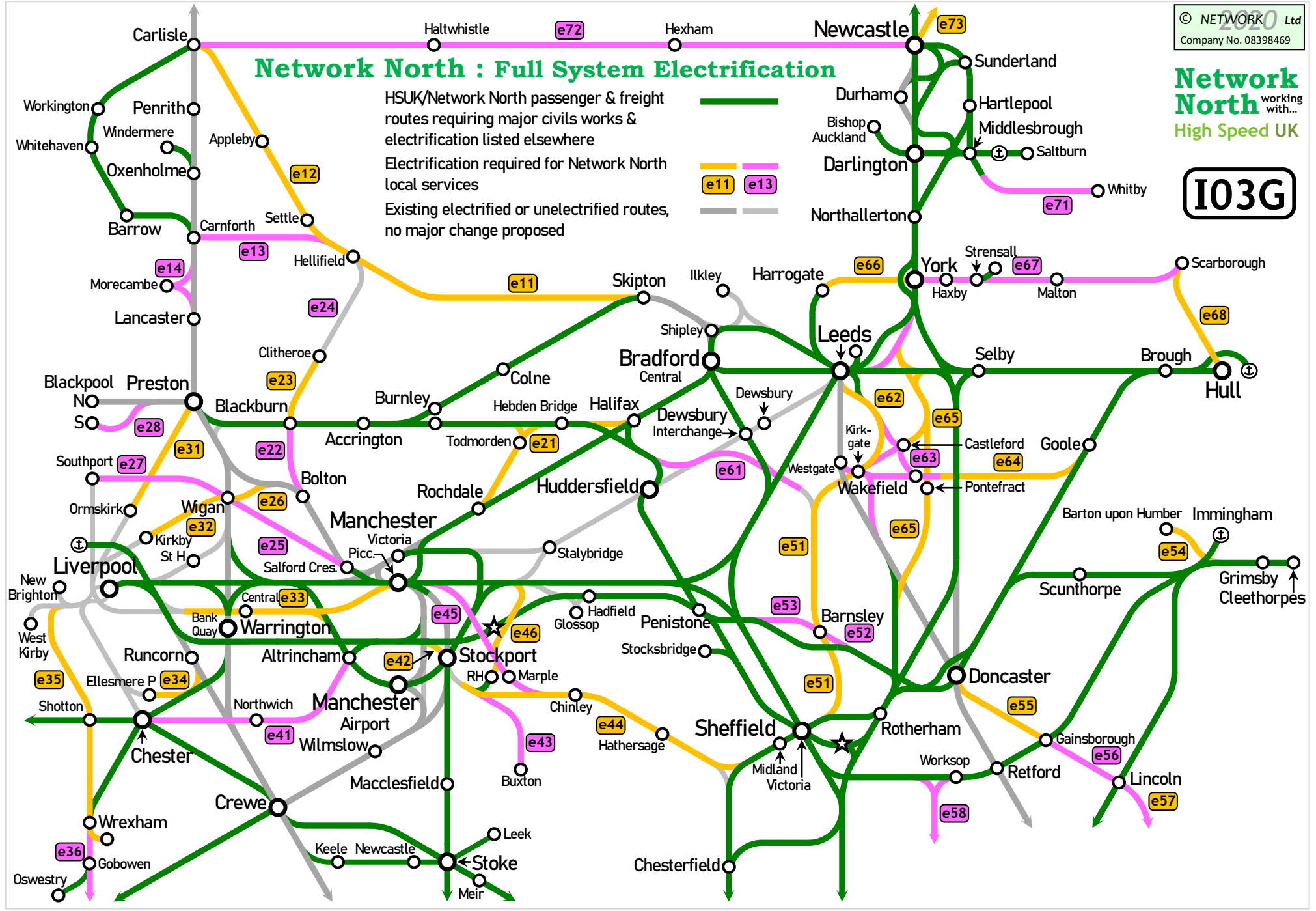
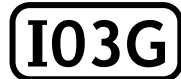
HSUK/Network North passenger & freight routes requiring major civils works & electrification listed elsewhere

Electrification required for Network North local services

Existing electrified or unelectrified routes, no major change proposed



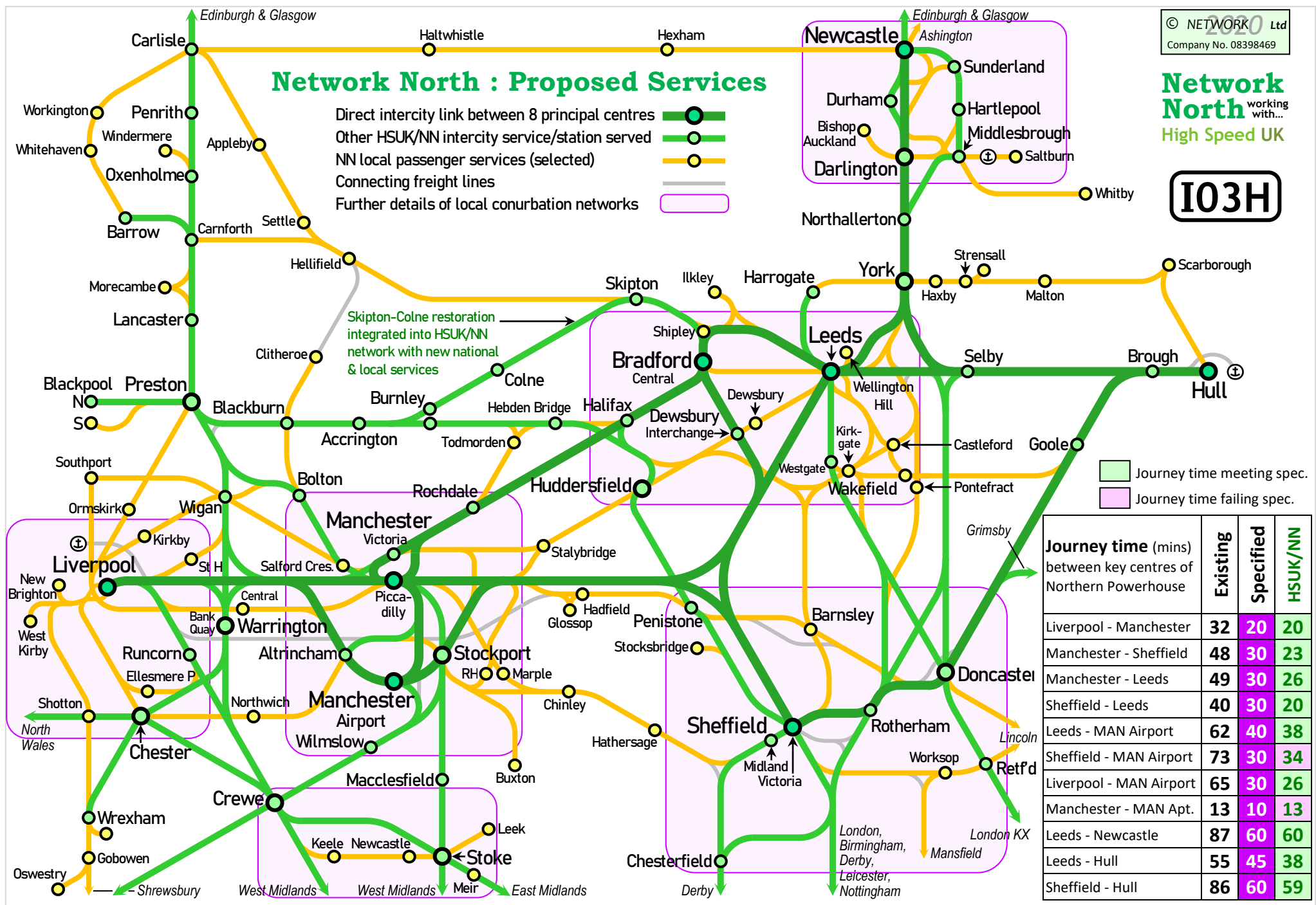
Network North working with...
High Speed UK





Network North : Proposed Services

- Direct intercity link between 8 principal centres ●
- Other HSUK/NN intercity service/station served ○
- NN local passenger services (selected) ○
- Connecting freight lines —
- Further details of local conurbation networks

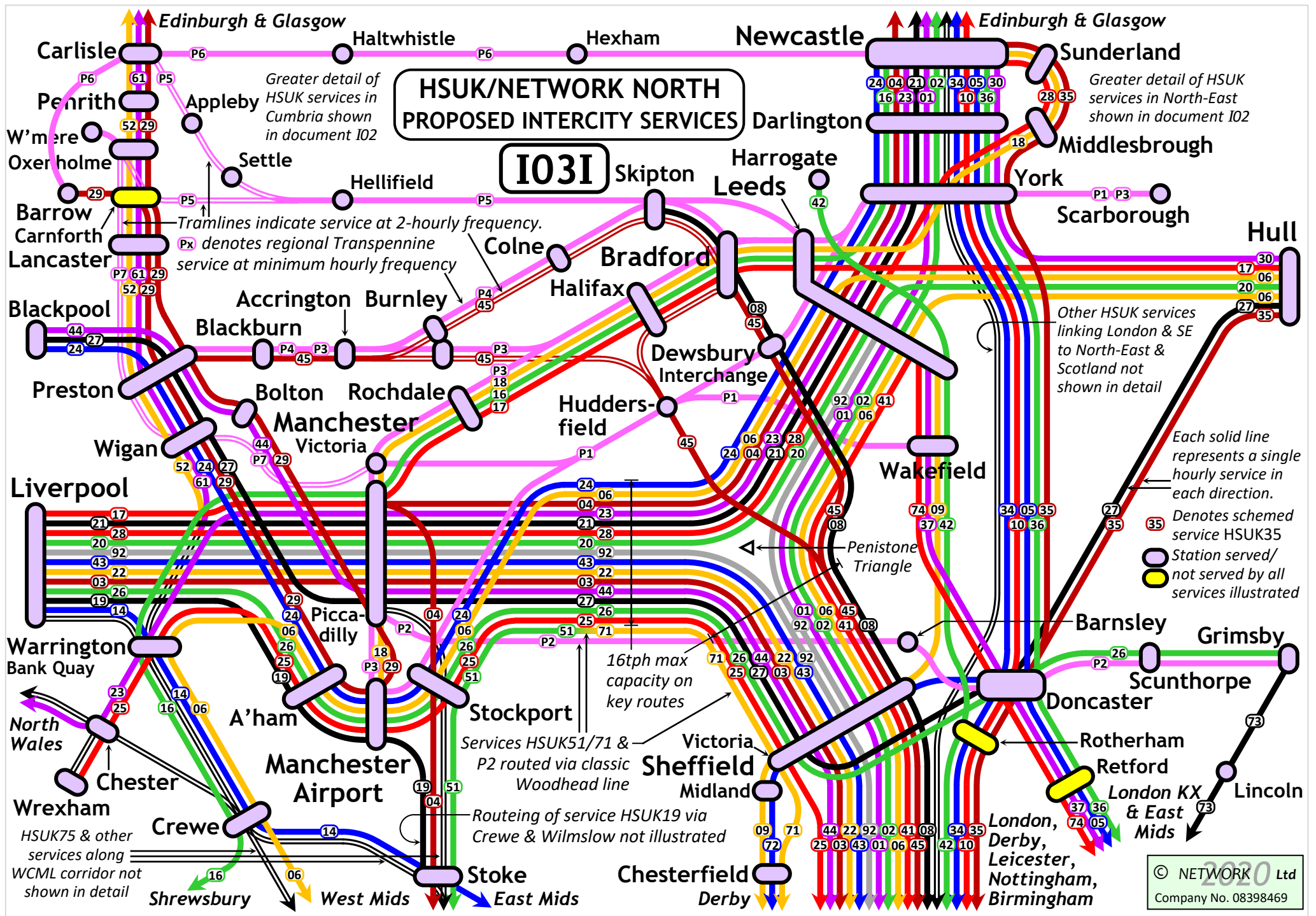


Journey time meeting spec.
 Journey time failing spec.

Journey time (mins) between key centres of Northern Powerhouse	Existing	Specified	HSUK/NN
Liverpool - Manchester	32	20	20
Manchester - Sheffield	48	30	23
Manchester - Leeds	49	30	26
Sheffield - Leeds	40	30	20
Leeds - MAN Airport	62	40	38
Sheffield - MAN Airport	73	30	34
Liverpool - MAN Airport	65	30	26
Manchester - MAN Apt.	13	10	13
Leeds - Newcastle	87	60	60
Leeds - Hull	55	45	38
Sheffield - Hull	86	60	59

HSUK/NETWORK NORTH PROPOSED INTERCITY SERVICES

I03I



Greater detail of HSUK services in Cumbria shown in document I02

Greater detail of HSUK services in North-East shown in document I02

Tramlines indicate service at 2-hourly frequency.
Px denotes regional Transpennine service at minimum hourly frequency

Other HSUK services linking London & SE to North-East & Scotland not shown in detail

Each solid line represents a single hourly service in each direction.

35 Denotes schemed service HSUK35
Purple oval Station served/
Yellow oval not served by all services illustrated

16tph max capacity on key routes

Services HSUK51/71 & P2 routed via classic Woodhead line

Routing of service HSUK19 via Crewe & Wilmslow not illustrated

HSUK75 & other services along WCML corridor not shown in detail

London, Derby, Leicester, Nottingham, Birmingham

HSUK PRIMARY LINKS IN NORTHERN POWERHOUSE REGION ALL PRINCIPAL CITIES FULLY INTERLINKED

To calculate journey times on longer routes
(e.g. Newcastle-Leeds) add 2 minutes 'dwell
time' at intermediate stations

Newcastle-Leeds JT = 15+2+26+2+15 = 60

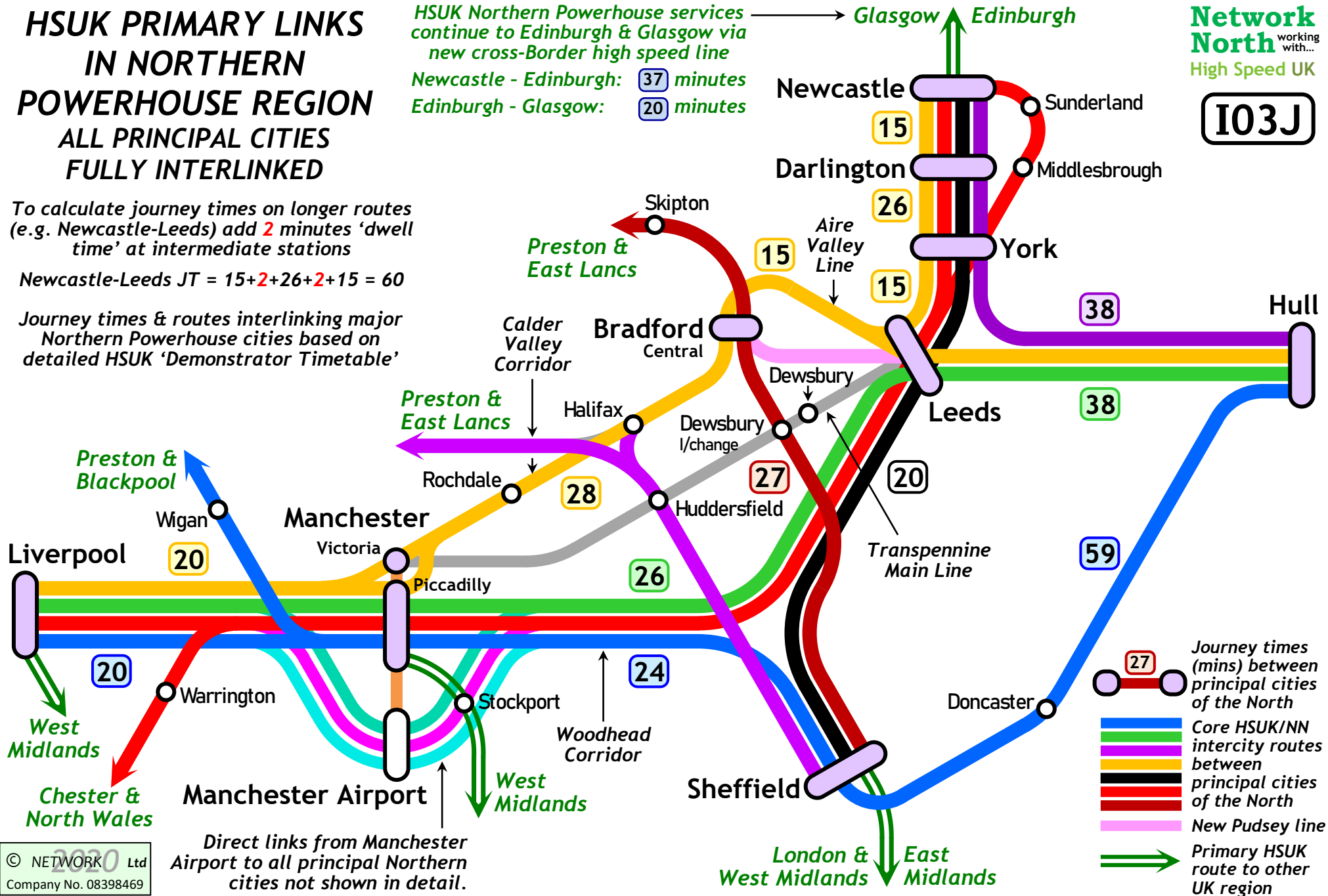
Journey times & routes interlinking major
Northern Powerhouse cities based on
detailed HSUK 'Demonstrator Timetable'

HSUK Northern Powerhouse services
continue to Edinburgh & Glasgow via
new cross-Border high speed line

Newcastle - Edinburgh: 37 minutes
Edinburgh - Glasgow: 20 minutes

**Network
North** working
with...
High Speed UK

I03J



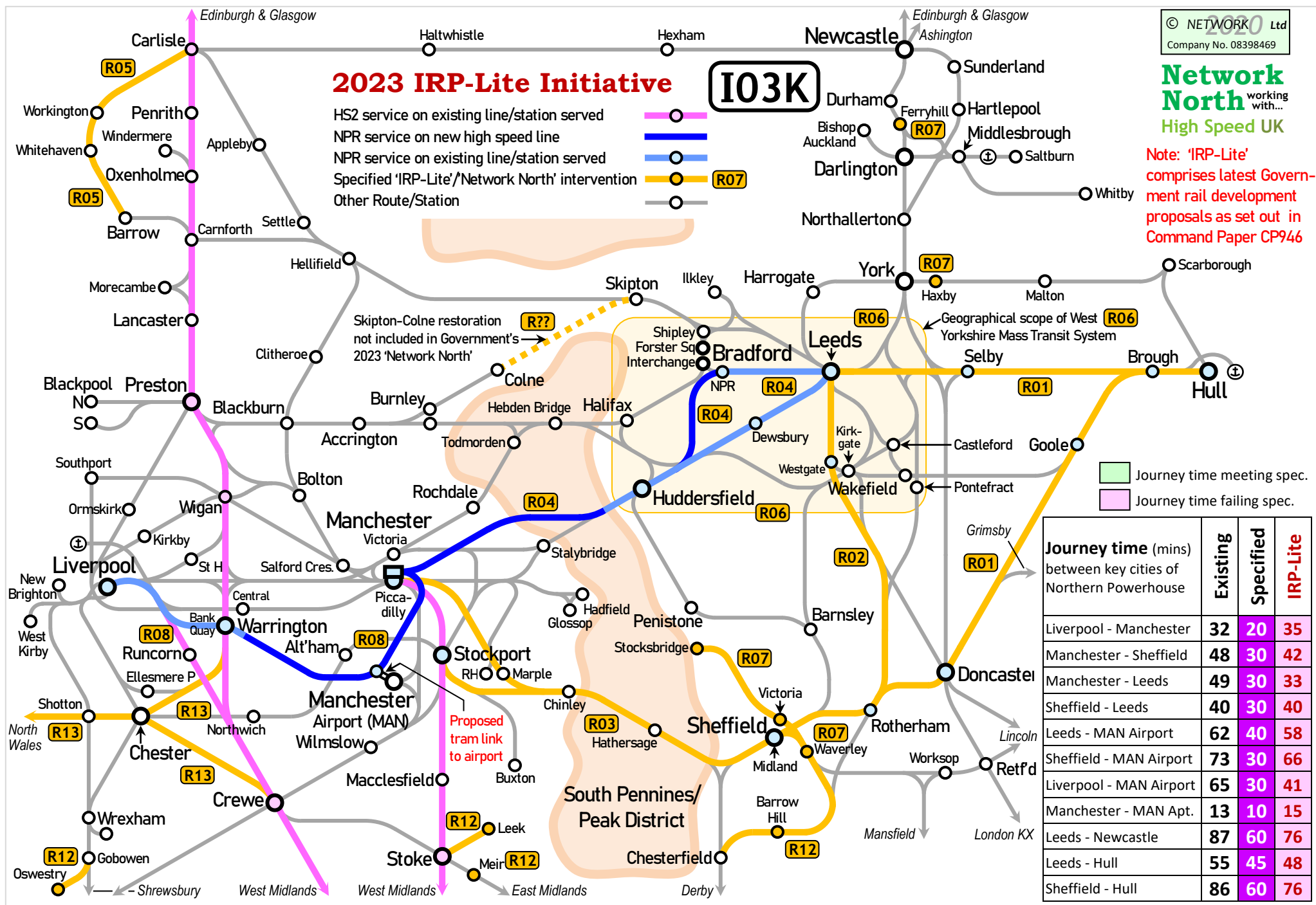
Direct links from Manchester
Airport to all principal Northern
cities not shown in detail.

Note: 'IRP-Lite' comprises latest Government rail development proposals as set out in Command Paper CP946

2023 IRP-Lite Initiative

I03K

- HS2 service on existing line/station served ○
- NPR service on new high speed line —
- NPR service on existing line/station served ○
- Specified 'IRP-Lite'/Network North intervention ○
- Other Route/Station ○



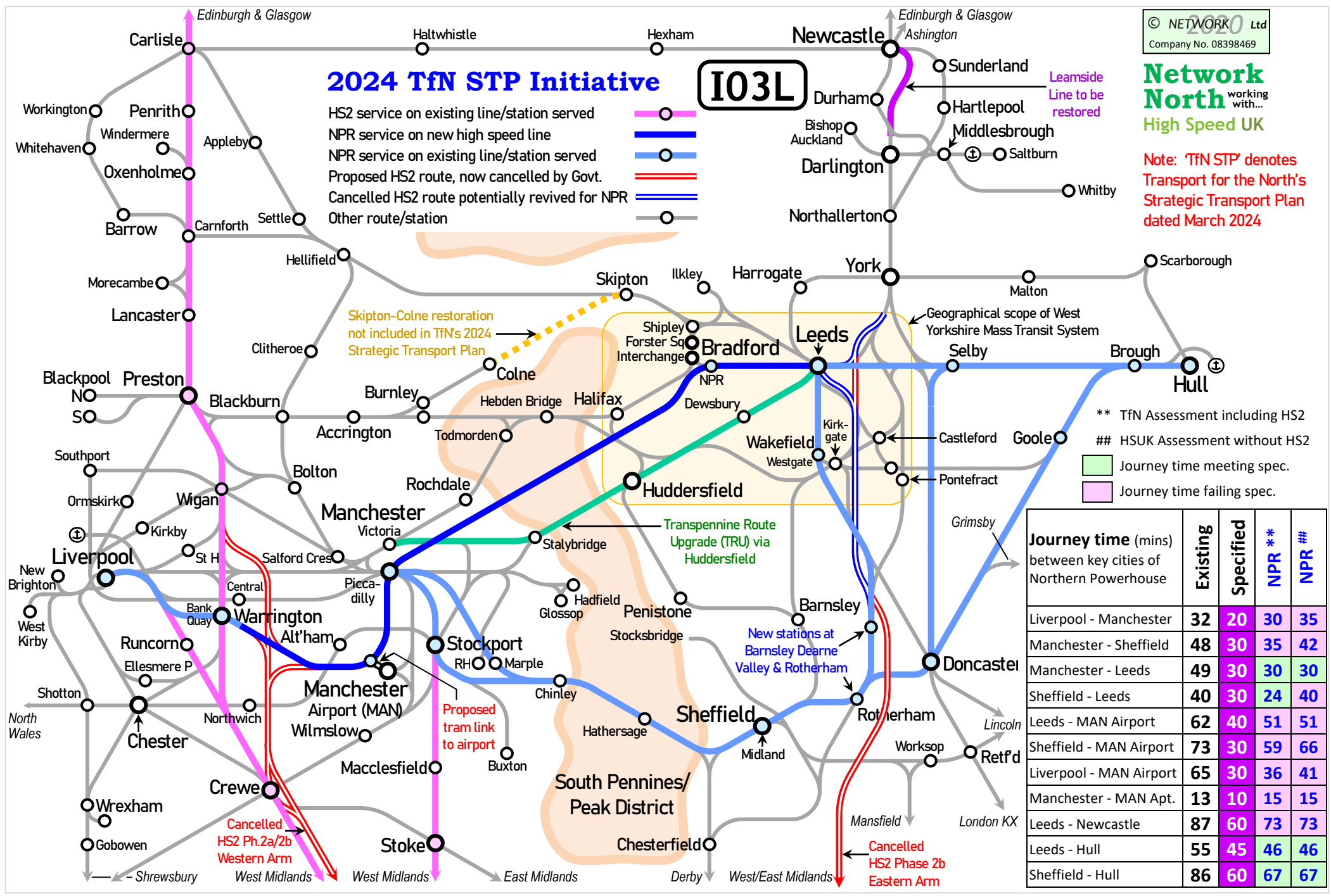
Journey time (mins) between key cities of Northern Powerhouse	Existing	Specified	IRP-Lite
Liverpool - Manchester	32	20	35
Manchester - Sheffield	48	30	42
Manchester - Leeds	49	30	33
Sheffield - Leeds	40	30	40
Leeds - MAN Airport	62	40	58
Sheffield - MAN Airport	73	30	66
Liverpool - MAN Airport	65	30	41
Manchester - MAN Apt.	13	10	15
Leeds - Newcastle	87	60	76
Leeds - Hull	55	45	48
Sheffield - Hull	86	60	76

Note: 'TfN STP' denotes Transport for the North's Strategic Transport Plan dated March 2024

2024 TfN STP Initiative

I03L

- HS2 service on existing line/station served
- NPR service on new high speed line
- NPR service on existing line/station served
- Proposed HS2 route, now cancelled by Govt.
- Cancelled HS2 route potentially revived for NPR
- Other route/station



Skipton-Colne restoration not included in TfN's 2024 Strategic Transport Plan

Geographical scope of West Yorkshire Mass Transit System

Transpennine Route Upgrade (TRU) via Huddersfield

New stations at Barnsley Dearne Valley & Rotherham

Proposed tram link to airport

Cancelled HS2 Ph.2a/2b Western Arm

Cancelled HS2 Phase 2b Eastern Arm

- ** TfN Assessment including HS2
- ## HSUK Assessment without HS2
- Journey time meeting spec.
- Journey time failing spec.

Journey time (mins) between key cities of Northern Powerhouse	Existing	Specified	NPR **	NPR ##
Liverpool - Manchester	32	20	30	35
Manchester - Sheffield	48	30	35	42
Manchester - Leeds	49	30	30	30
Sheffield - Leeds	40	30	24	40
Leeds - MAN Airport	62	40	51	51
Sheffield - MAN Airport	73	30	59	66
Liverpool - MAN Airport	65	30	36	41
Manchester - MAN Apt.	13	10	15	15
Leeds - Newcastle	87	60	73	73
Leeds - Hull	55	45	46	46
Sheffield - Hull	86	60	67	67