THE NATIONAL ROUTEING GUIDE IN DETAIL

(examples do not use current Routing Guide data)

The National Routeing Guide has 6 sections, **A**, **B**, **C**, **D**, **E** and **F**.

A

Section A explains the rules and procedures for using the Routeing Guide and lists routeing point groups created to improve interchange opportunities by offering a wider choice of train services and station amenities.

B

Section B (the pink pages) lists all stations. Some stations are routeing points. Some are members of routeing points groups. The rest are related stations. Stations which are routeing points or members of a routeing point group are printed in capitals.

To look up a journey in the Routeing Guide, an origin and destination routeing point are needed. If a journey does not have an origin routeing point and a destination routeing point, its permitted route is (1) the shortest route served by a regular passenger service or (2) a route no more then 3 miles longer or (3) any other route permitted by an easement.

A related station cannot be used to look up permitted routes in the Routeing Guide. Only routeing points can be used for that. All related stations are therefore associated with the nearest routeing point or routeing point group in each direction. A related station may have up to 4 associations.

Example 1	
Penarth has one routeing point, Cardiff Central. Journeys from Penarth to stations beyond Grangetown must go through the routeing point.	

Station name		Associated routeing points			
		1	2	3	4
Penarth		Cardiff Central			

Example 2 Acle has two routeing points, Ipswich and Norwich.				
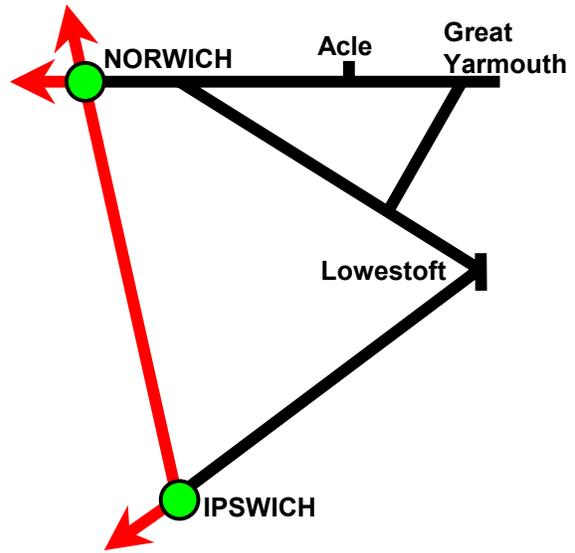
Station name	Associated routeing points			
	1	2	3	4
Acle	Ipswich	Norwich		

|				
Example 3 Pulborough has three routeing points, Brighton Group, Ford and Horsham. The list of routeing point groups in Section A shows that the Brighton Group includes two stations: Brighton and Hove.				
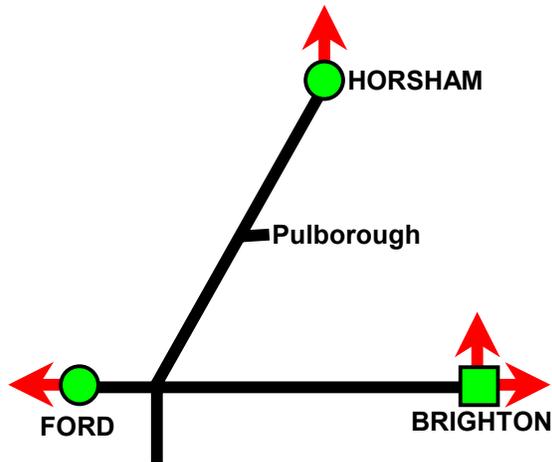
Station name	Associated routeing points			
	1	2	3	4
Pulborough	Brighton Gp	Ford	Horsham	

Example 4	
Ashburys has four routeing points, Manchester, Stockport, Sheffield and Huddersfield.	
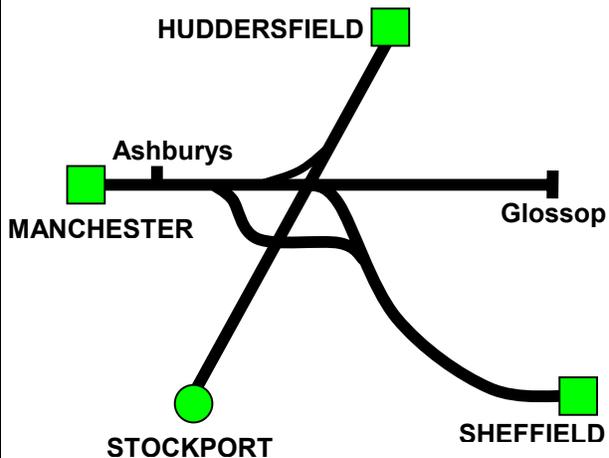
Station name	Associated routeing points			
	1	2	3	4
Ashburys	Manchester Gp	Huddersfield Gp	Sheffield Gp	Stockport

Example 5
Clapham Junction has no associated routeing points because it is a routeing point.
Each routeing point entry has a list of maps that the routeing point appears on.

Station name	Associated routeing points				
		1	2	3	4
CLAPHAM JUNCTION	Routeing point on maps CS:LB:LK:LM:NK:PD:SC:WR:WV:WW:WX				

Sometimes a station has no scheduled passenger service to one of the routeing points to which it is related. These routeing points should be ignored.

FINDING APPROPRIATE ROUTEING POINTS

Any routeing point can be used, provided it does not
- use routes not permitted for the journey
- cause doubling back (passing through the same station twice between origin and destination)
- make the journey double back through the origin or destination station unless the fare permits (for example Ealing Broadway to Swindon via London).
- allow travel by a route which does not satisfy the fare-check rule. This rule is explained in the box below.

The fare-check rule

Question
A passenger wants to travel from A to D. Station A is related to routeing point B and station D is related to routeing points C and E. The fares route is "Any Permitted". There is a better train service via C than via E. Is the journey allowed via C?

Answer
The fare-check rule is that a journey is allowed by an origin or destination routeing point if the fare for the whole journey via that routeing point is not less than the fare from the origin to the destination routeing point and not less than the fare from the origin routeing point to the destination.

Method
Find the fares A–D, A–C and B–D.
If fare A–D is not less than fares A–C and B–D, travel via C is allowed and C is deemed to be an appropriate routeing point for the journey.
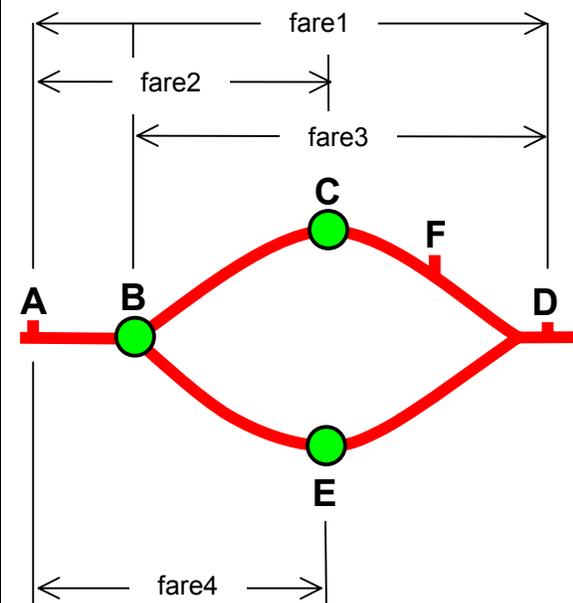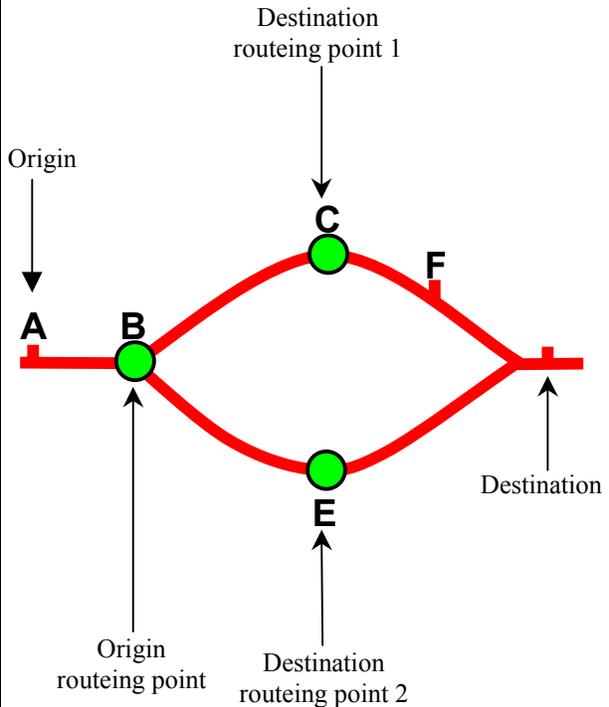If fare A–D is less than fare A–C or B–D, travel via C is forbidden and C is deemed not to be an appropriate routeing point for the journey.

C is an appropriate routeing point if
$$fare2 =< fare1 >= fare3$$
E is an appropriate routeing point if
$$fare3 =< fare1 >= fare4$$

All fares comparisons must be made using the **same ticket type**. No other intermediate fares are compared. Even if another intermediate fare (A–F) is higher than the fare for the whole journey, it does not forbid the route.

Destination routeing point 1

Origin

Origin routeing point

Destination routeing point 2

Destination

fare1
fare2
fare3
fare4

Finding a permitted route when the origin and destination stations do not have a routeing point in common.

Question: A passenger wants to go from Lydney to Church Stretton. As no fares route is shown against the fares for this journey in the Fares Manual, permitted routes are determined by the Routeing Guide.

The National Rail Timetable shows services via Newport, via Birmingham and via Worcester and Hereford.

Section B (pink pages) shows Lydney with three routeing points (Newport, Bristol Group and Gloucester Group)

Station name	Associated routeing points			
	1	**2**	**3**	**4**
Lydney	Bristol Gp	Gloucester Gp	Newport Gwent	

and Church Stretton with two (Shrewsbury and Craven Arms).

| Station name	Associated routeing points			
	1	**2**	**3**	**4**
Church Stretton	Craven Arms	Shrewsbury		

The rail network map shows 3 possible routes.
1. Lydney–Newport–Hereford–Craven Arms–Church Stretton
2. Lydney–Gloucester–Hereford–Craven Arms–Church Stretton
3. Lydney–Gloucester–Birmingham–Wolverhampton–Shrewsbury–Church Stretton
Which of these possible routes are permitted?

Apply the fare-check rule.
*   A fares check shows that the fare Lydney–Shrewsbury is greater than the fare Lydney–Church Stretton so Shrewsbury is not an appropriate routeing point.
*   The fare Gloucester–Church Stretton is less than the fare Lydney–Church Stretton so Gloucester Group is an appropriate routeing point.
*   Fares checks show that Newport–Church Stretton is less than Lydney–Church Stretton so Newport is an appropriate routeing point.
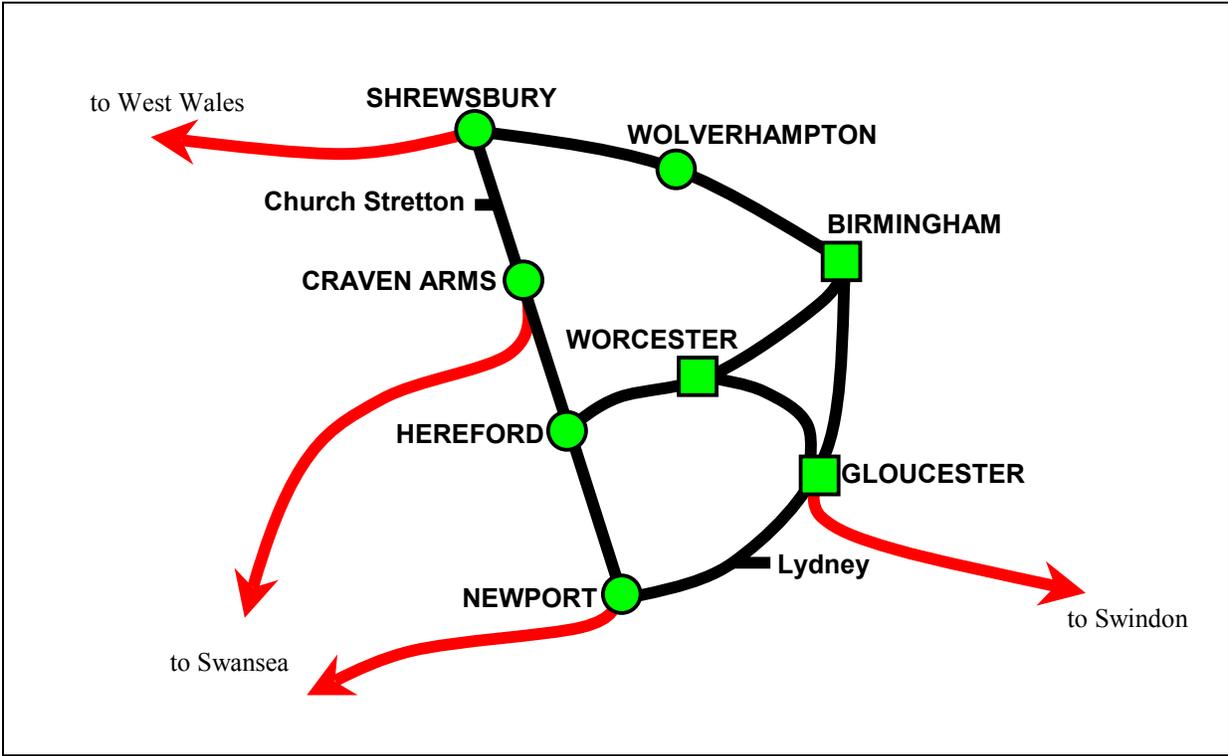
Next look up the permitted routes between Gloucester Group and Craven Arms and between Newport and Craven Arms on the yellow pages. When tracing these routes on the maps you must avoid Shrewsbury because it is not an appropriate routeing point for this journey. Any routes you can trace successfully on the maps between Gloucester Group and Craven Arms or Newport and Craven Arms avoiding Shrewsbury and without doubling back are permitted routes.

Gloucester Gp	Craven Arms	BD+CE	BD+WR

Newport Gwent	Craven Arms	BD

Finding a permitted route when the origin and destination stations have a routeing point in common.

If there is a common routeing point, the permitted route is the shortest route or a route which is longer by no more than 3 miles. Also permitted is the route followed by direct trains to and from the common routeing point if the journey is made on those trains.
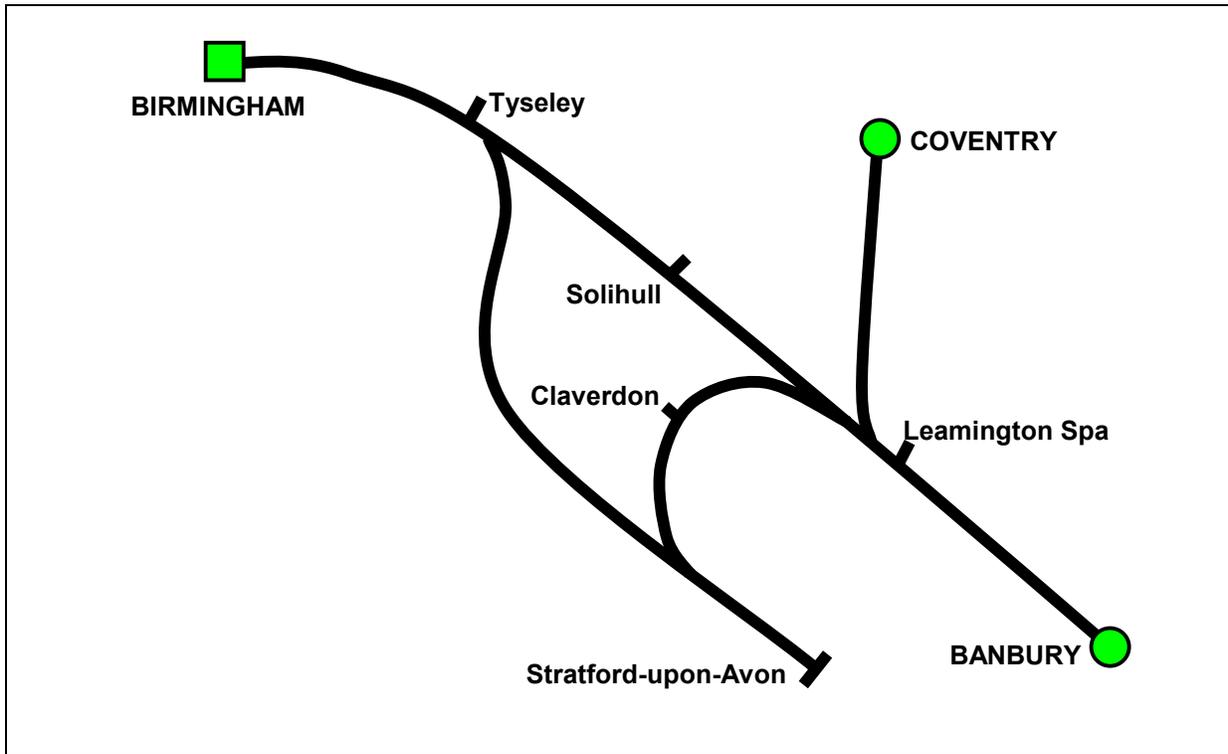
Stratford-upon-Avon and Solihull have three routeing points in common: Birmingham, Coventry and Banbury. The shortest route is not via any of the routeing points but via Claverdon. Routes via Banbury and Coventry fail the route test for doubling back at Leamington. Changing at Tyseley is not permitted because it is over 3 miles longer than the shortest route and trains from Stratford-upon-Avon to Birmingham do not call at Tyseley. But the journey is valid on direct trains from Stratford-upon-Avon to Birmingham and from Birmingham to Solihull. Note, however, that if the same journey is made by trains which are not direct to and from Birmingham, this ceases to be a permitted route.

C

Section C (the yellow pages) lists all journeys between pairs of routeing points and the route codes for the permitted routes. Journeys are listed alphabetically by origin and destination. As the permitted routes are the same in both directions of travel it makes no difference which way round the journey is looked up. Sheffield to Inverness has exactly the same permitted routes as Inverness to Sheffield and the same is true of every other listed journey.

Sheffield Gp	Inverness	CE+ER	CE+NE	ER+PS	LM+MM	LM+MM+CS+PS	LM+PS
		PS+ZZ					

Inverness	Sheffield Gp	CE+ER	CE+NE	ER+PS	LM+MM	LM+MM+CS+PS	LM+PS
		PS+ZZ					

Route codes are strings of map names and plus signs. The simplest route code is a single map. If your journey is Cambridge to Ipswich and the route code is CN then the whole journey can be traced on CN and no other map is allowed. Many journeys cannot be traced on a single map and need linking with other maps to allow a complete tracing. Sheffield to Inverness has a route CE+ER which means use map CE and then map ER. You may only trace journeys across maps at the points where they touch. CE and ER touch at Nottingham, Grimsby, Doncaster, Wakefield, Leeds, York, Hull, Goole and Selby so one of those locations must be in the journey.

Being able to trace the journey on a map or combination of maps does not mean a good train service follows the route of your choosing. Some will be better than others. To choose the best one for you, consult the National Rail Timetable.

Sheffield to Inverness has 7 different route codes. You may choose any route you can find which does not double back, pass through a station forbidden by the fares route, or avoid a station which the fares route demands.

D

Section D contains the maps referred to by route codes in Section C. Maps must not be used until the permitted routes have been identified in Section C.

If the route code is a single map, for example CS, then the only permitted routes are those that can be traced between the origin and destination on that map alone.

If the route code has several maps, route tracing must observe the following rules:
1. Tracing must start at one of the ends of the route code.
2. All maps must be used.
3. Maps must be used in strict sequence, first to last or last to first, according to the end of the route code where reading began.
4. Tracing may move from map to map only at a point where the two maps touch.
5. Once route tracing has left a map it cannot return to it.
6. Journeys may not double back except between stations which are members of a routeing point group for interchange or unless an easement permits it.

If there is a route "LONDON" as one of the permitted routes in the Routeing Guide, the range of permitted routes via London is discovered by the following method:
1. Look up the permitted routes from the origin routeing point to London.
2. Look up the permitted routes from London to the destination routeing point.
3. Work out the range of permitted routes for the whole journey by combining any route found in (1) with any route found in (2). All possible combinations are permitted routes for the journey except those with a repeated map.

Example: Portsmouth–Derby has a route LONDON in the Routeing Guide. Section C (the yellow pages) has the following routes for the journey Portsmouth–London:

Portsmouth Gp	London Gp	CW+LB	CW+SC	CW+SC+LB	CW+SD+LB
		MW+WX	PD	WW	

and London–Derby:

London Gp	Derby Gp	CE+LM	MM				

Combining every route Portsmouth–London with every route London–Derby gives the complete range of routes from which a permitted route may be picked:

CW+LB+LM+CE	CW+LB+MM
CW+SC+LM+CE	CW+SC+MM
CW+SC+LB+LM+CE	CW+SC+LB+MM
CW+SD+LB+LM+CE	CW+SD+LB+MM
MW+WX+LM+CE	MW+WX+MM
PD+LM+CE	PD+MM
WW+LM+CE	WW+MM

If combining maps gives a route code with a repeated map, for example WX+LM+CS+LM, that would not be permitted because it breaks rule 5 of the route tracing procedure that a map once left cannot be returned to.

Routes created from the route LONDON in the yellow pages do not oblige you to change in London. For example Oakham to Brighton has the route LONDON which yields LB+MM. This allows the journey Oakham – Leicester – Bedford – Brighton, changing at Bedford and continuing via Thameslink to Brighton.

Sometimes origin and destination are on the same map, but the permitted route between them is not permitted by that map. For example, both Ashford International and Lincoln appear on map CS, but the permitted route between Ashford International and Lincoln is not CS.

E

Section E lists easements which apply to routeings.

An easement that **extends permission** is a **positive** easement.

An easement which **narrows permission** is a **negative** easement.

Journeys between the stations shown on the ticket by direct trains; or by the shortest route which can be used by scheduled passenger services (including change of trains); are always following a permitted route. Journeys following a route given by the Routeing Guide are following a permitted route.

A journey not obeying these rules is not taking a permitted route unless a positive easement allows it.

A journey which follows a route otherwise permitted by the Routeing Guide may be forbidden by a negative easement.

Easement types:

- Local easements, which allow a longer journey to the origin routeing point or from the destination routeing point, or which allow doubling back on this part of the journey. They may also forbid doubling back on this part of the journey.

- Routeing point easements, which allow a routeing point to be used which the fares check would otherwise forbid. They may also disallow a routeing point which the ordinary rules of the Routeing Guide would permit.

- Doubleback easements, which permit passing twice through the same station on the portion of the journey between the origin and destination routeing points.

- Map easements, which allow journeys that routes permitted by maps do not include.

- Fare route easements, which permit a journey which does not pass through the station named in the fares route.

- Manual easements, which exist only as text in the computerised version of the Routeing Guide

- Circuitous route easements, which are applied to valid journeys to make them invalid because they go by roundabout routes.

Map, double-back and fare route easements are always positive. Circuitous route easements are always negative. Other kinds of easements can be positive or negative.
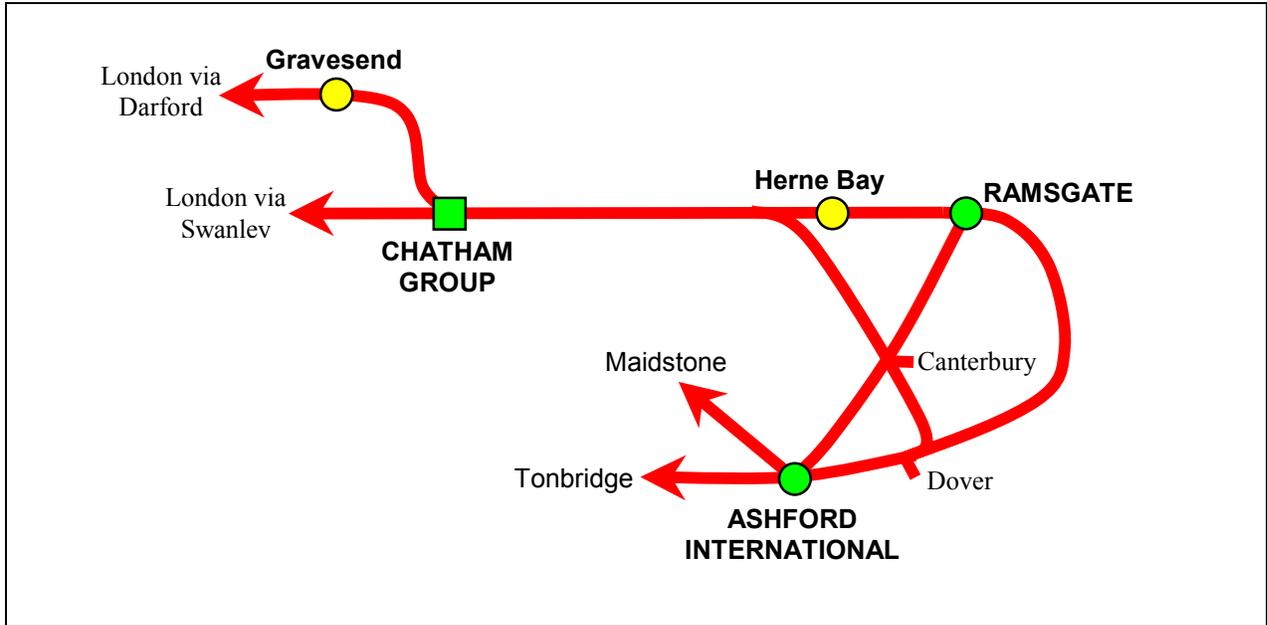
When you have chosen your journey, look to see if an easement applies to it.

JOURNEY EXAMPLES (not current Routeing Guide data)
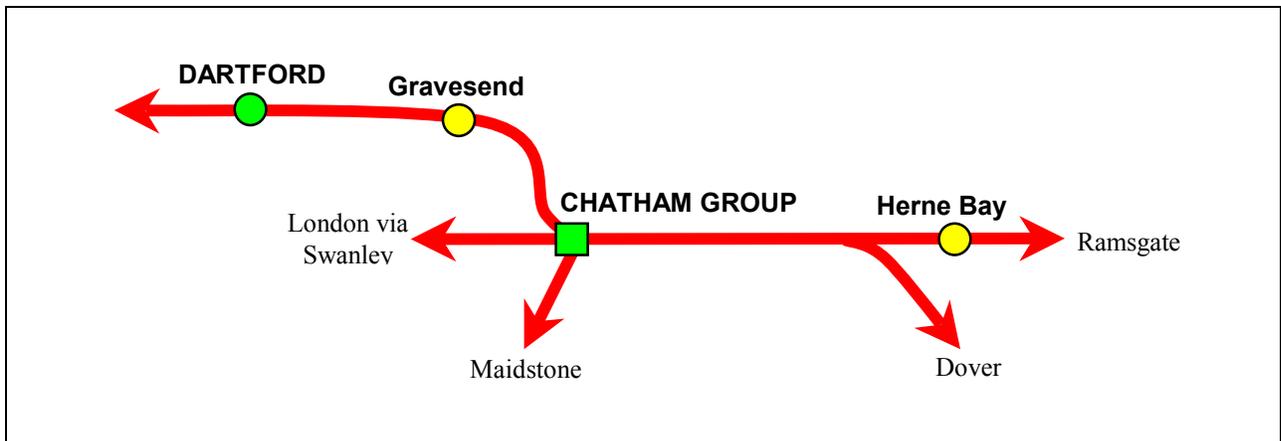
Example 1: HERNE BAY TO GRAVESEND

Step 1: Find routeing points for the origin station.

| Station name | | Associated routeing points | | | |
		1	2	3	4
Herne Bay		Ashford International	Chatham Gp	Ramsgate	

Step 2: Find routeing points for the destination.

| Station name | | Associated routeing points | | | |
		1	2	3	4
Gravesend		Chatham Gp	Dartford		

Step 3: Compare the routeing points for origin and destination.

| Station name | | Associated routeing points | | | |
		1	2	3	4
Herne Bay		Ashford International	Chatham Gp	Ramsgate	

| Station name | | Associated routeing points | | | |
		1	2	3	4
Gravesend		Chatham Gp	Dartford		

Both stations have the Chatham Group as a routeing point. If there is a common routeing point, the permitted route is the shortest distance between them which has a regular scheduled train service whether or not it passes through that routeing point. It is also a permitted route if the journey can be made by direct trains from the origin to the common routeing point and from the common routeing point to the destination.

So the permitted route for this journey is via the Chatham Group. That is the route of shortest distance.

For some journeys, though not for this, a train operator may allow the journey via a longer route as well as the shortest. This could be because the regular passenger service by the shortest route is infrequent. If a journey is permitted by a more generous route the easement allowing it is listed in Section E of this guide.
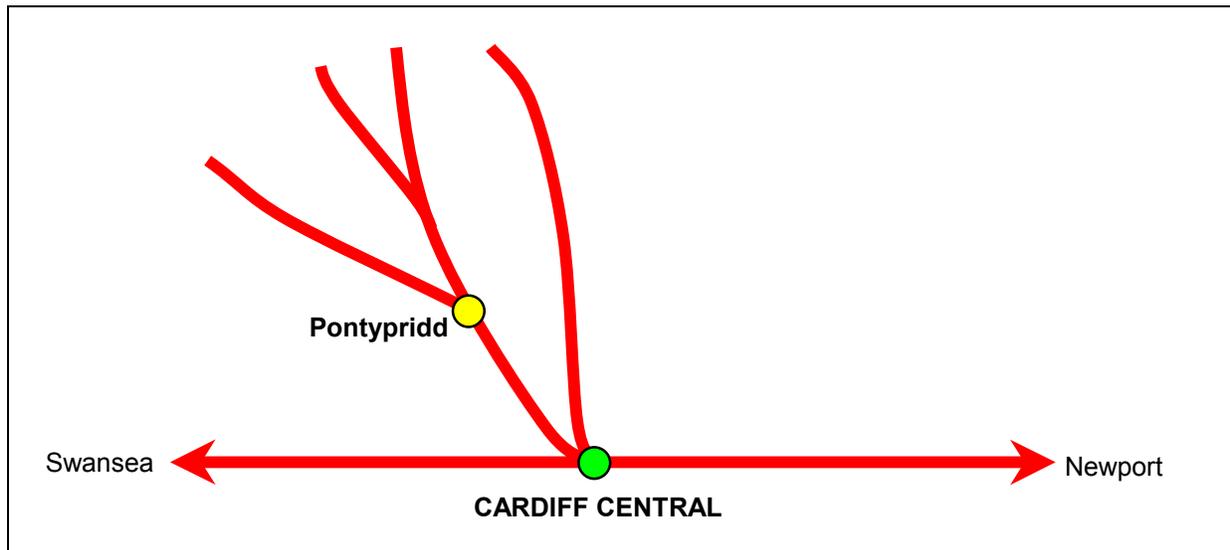
Example 2: PAR TO PONTYPRIDD

Step 1: Find routeing points for the origin station.

| Station name | | Associated routeing points | | | |
		1	2	3	4
Par		Plymouth Gp			
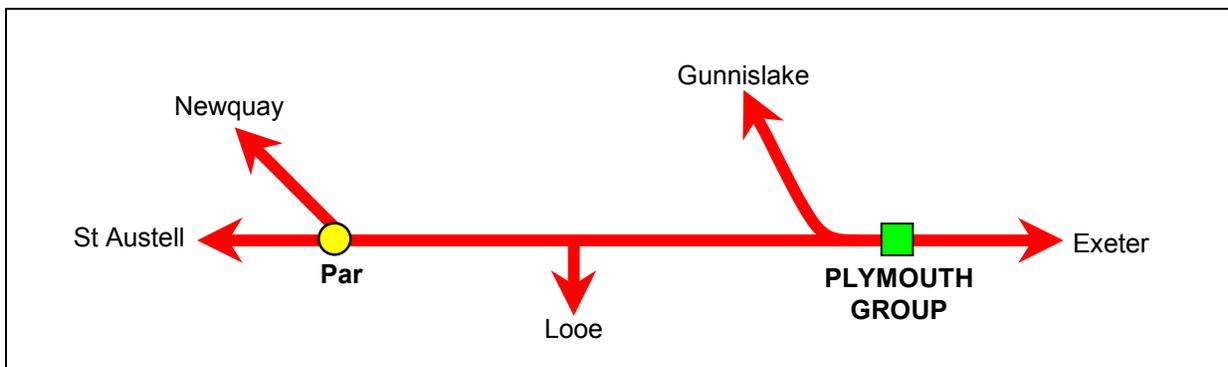
Step 2: Find routeing points for the destination.

Station name		Associated routeing points			
		1	2	3	4
Pontypridd		Cardiff Central			

Step 3: There is no routeing point common to Par and Pontypridd.

Step 4: Choose appropriate routeing points.

Par has one routeing point, Plymouth Group, so no further selection is necessary. Pontypridd has one routeing point, Cardiff Central so no further selection is necessary.

Step 5: Permitted routes

On the yellow pages the permitted routes between Par and Pontypridd will be the same as those between Plymouth and Cardiff. So look for a journey from Plymouth to Cardiff. As routes are always reversible Cardiff to Plymouth will have the same routes.

Step 6: Find the route codes for the journey from the yellow pages.

Journeys between...		Permitted routes					Sept 2002
Plymouth Gp	Cardiff Central	CE	CE+WE				

Step 7: Trace the journey on the maps to find its permitted routes.
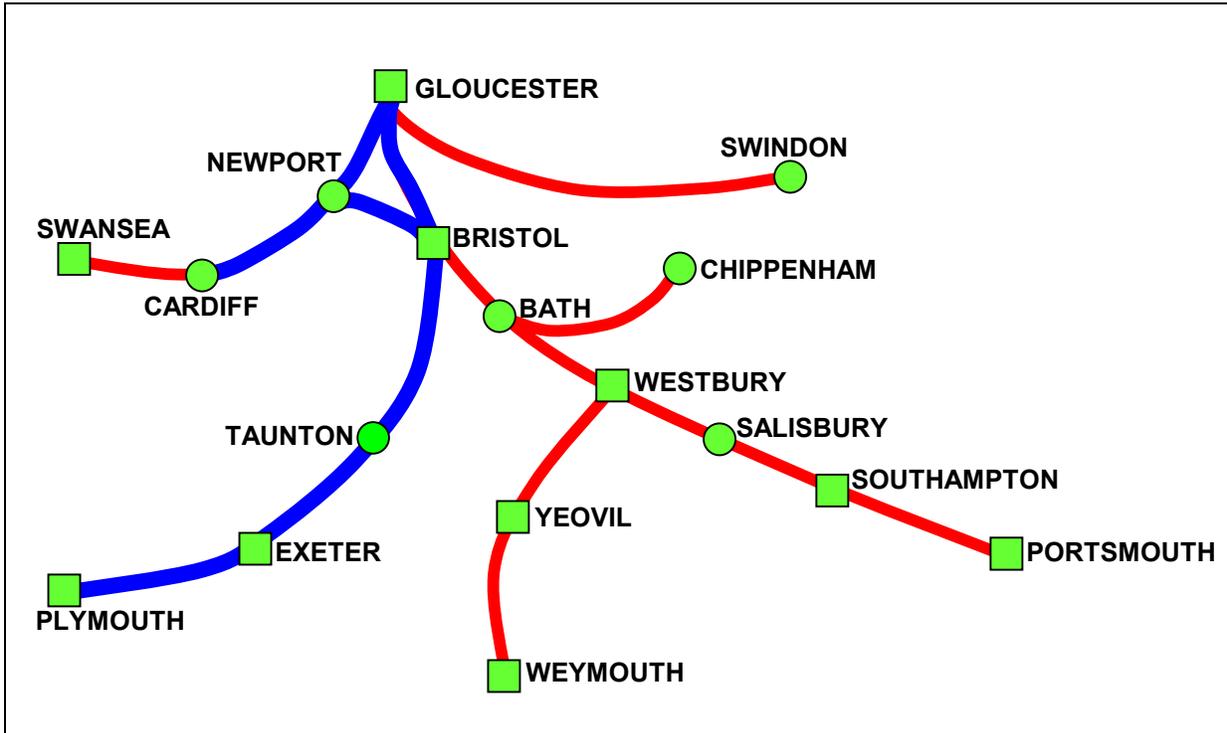
Using CE, the journey may go via the Bristol Group to Newport and Cardiff or via the Gloucester Group.

CE+WE allows the journey via Westbury, Bath, Bristol and then via Newport or Gloucester Group and Newport.
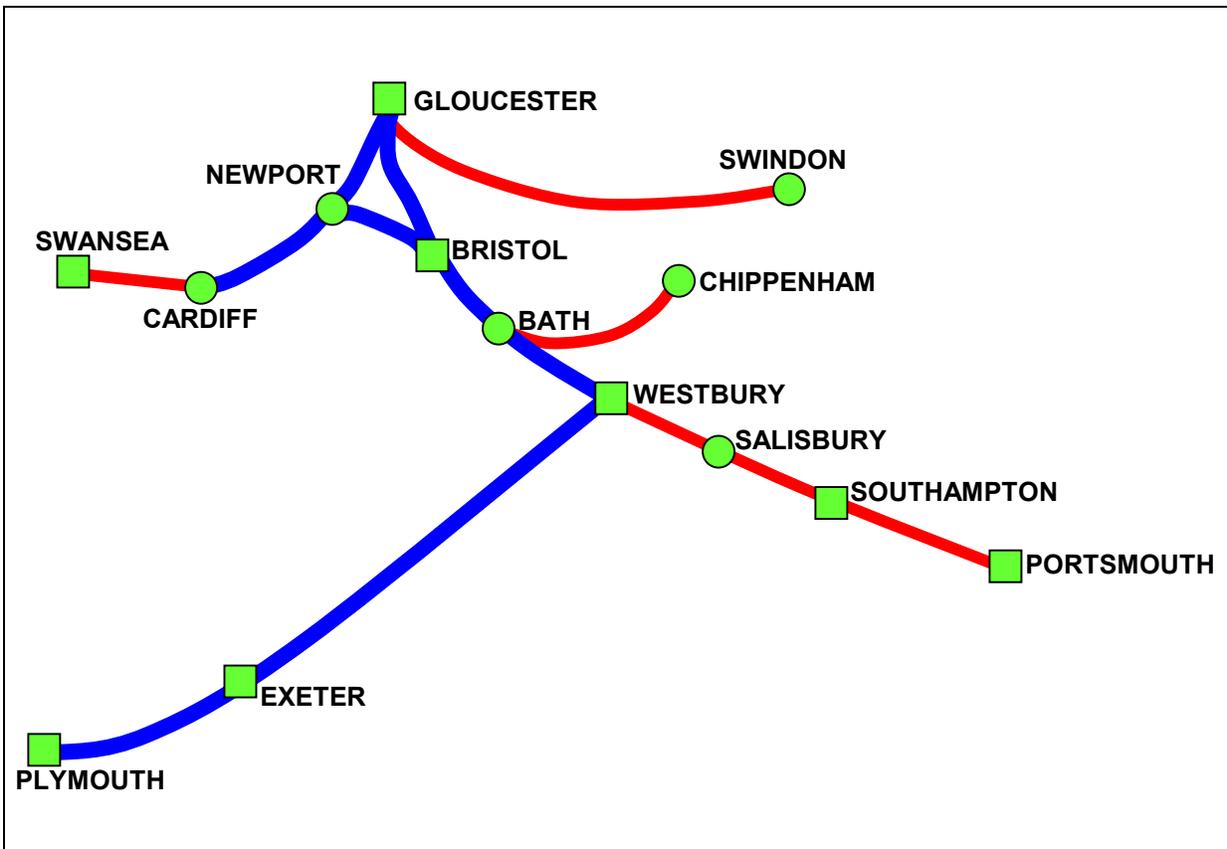
When tracing the journey you may not double back (travel through the same station twice) unless an easement allows it. The permitted route is via the shortest distance to the first routeing point over which a scheduled train service runs, then via the permitted route, then via the shortest distance with a scheduled train service from the destination routeing point to the destination.

Step 8: Easements

No easements apply to this journey.

Example 3: LONDON TO HUDDERSFIELD

Step 1: Find routeing points for the origin station.

Station name	Associated routeing points			
	1	**2**	**3**	**4**
LONDON BLACKFRIARS	London Group routeing point on maps AS:CS:EA:EE:ER:GC:LB:LK:LM:MM:NK:PD:SC:TS:WA:WE:WR:WV:WW:WX:ZZ			
LONDON BRIDGE	London Group routeing point on maps AS:CS:EA:EE:ER:GC:LB:LK:LM:MM:NK:PD:SC:TS:WA:WE:WR:WV:WW:WX:ZZ			
LONDON CANNON STREET	London Group routeing point on maps AS:CS:EA:EE:ER:GC:LB:LK:LM:MM:NK:PD:SC:TS:WA:WE:WR:WV:WW:WX:ZZ			
LONDON CHARING CROSS	London Group routeing point on maps AS:CS:EA:EE:ER:GC:LB:LK:LM:MM:NK:PD:SC:TS:WA:WE:WR:WV:WW:WX:ZZ			
LONDON EUSTON	London Group routeing point on maps AS:CS:EA:EE:ER:GC:LB:LK:LM:MM:NK:PD:SC:TS:WA:WE:WR:WV:WW:WX:ZZ			
LONDON FENCHURCH STREET	London Group routeing point on maps AS:CS:EA:EE:ER:GC:LB:LK:LM:MM:NK:PD:SC:TS:WA:WE:WR:WV:WW:WX:ZZ			
London Fields	Cambridge	Highbury & Islington	London Gp	Stratford London
LONDON KINGS CROSS	London Group routeing point on maps AS:CS:EA:EE:ER:GC:LB:LK:LM:MM:NK:PD:SC:TS:WA:WE:WR:WV:WW:WX:ZZ			
LONDON LIVERPOOL STREET	London Group routeing point on maps AS:CS:EA:EE:ER:GC:LB:LK:LM:MM:NK:PD:SC:TS:WA:WE:WR:WV:WW:WX:ZZ			
LONDON MARYLEBONE	London Group routeing point on maps AS:CS:EA:EE:ER:GC:LB:LK:LM:MM:NK:PD:SC:TS:WA:WE:WR:WV:WW:WX:ZZ			
LONDON PADDINGTON	London Group routeing point on maps AS:CS:EA:EE:ER:GC:LB:LK:LM:MM:NK:PD:SC:TS:WA:WE:WR:WV:WW:WX:ZZ			
London Road Brighton	Brighton Gp	Lewes		
London Road Guildford	Dorking Gp	Epsom	Guildford	Surbiton
LONDON ST PANCRAS	London Group routeing point on maps AS:CS:EA:EE:ER:GC:LB:LK:LM:MM:NK:PD:SC:TS:WA:WE:WR:WV:WW:WX:ZZ			
LONDON VICTORIA	London Group routeing point on maps AS:CS:EA:EE:ER:GC:LB:LK:LM:MM:NK:PD:SC:TS:WA:WE:WR:WV:WW:WX:ZZ			
LONDON WATERLOO	London Group routeing point on maps AS:CS:EA:EE:ER:GC:LB:LK:LM:MM:NK:PD:SC:TS:WA:WE:WR:WV:WW:WX:ZZ			
LONDON WATERLOO EAST	London Group routeing point on maps AS:CS:EA:EE:ER:GC:LB:LK:LM:MM:NK:PD:SC:TS:WA:WE:WR:WV:WW:WX:ZZ			

Step 2: Find routeing points for the destination.

Station name	Associated routeing points			
	1	2	3	4
HUDDERSFIELD	Huddersfield Group routeing point on maps MM:PN			

Step 3: There is no routeing point common to London and Huddersfield. London and Huddersfield are both routeing points and have no associated routeing points.

Step 4: It is unnecessary to discover if the routeing points are appropriate because both stations are routeing points and there is no choice.

Step 5: Permitted routes

As both stations are routeing point groups the journey can be found on the yellow pages as it is.

Step 6: Find the route codes for the journey from the yellow pages.

Journeys between...	Permitted routes					Sept 2002
London Gp	Huddersfield Gp	EE+PN	ER+PN	LM+PN	MM	PN+EE+WA

Step 7: Trace the journey on the maps to find its permitted routes.

The yellow pages list 5 routes for this journey. If the ticket is unrouted or has the route "Any Permitted", any of these routes may be used. There is also a routed fare via Manchester. A ticketholder with a ticket routed "Manchester" must go via Manchester and therefore only has a choice of those routes in the list that include Manchester. This excludes MM. If the "Any Permitted" fare is less than the "Manchester" routed fare, the ticketholder may not go via Manchester. If the "Any Permitted" fare is more than the "Manchester" routed fare it may be used via Manchester.

- EE+PN allows via Lincoln and Leeds. The full range of permitted routes includes travel via York.
- ER+PN allows via Grantham and Leeds. The full range of permitted routes includes travel via York.
- LM+PN allows via Nuneaton, Stoke and Manchester. The full range of permitted routes includes travel via Birmingham, Stafford and Crewe.
- MM allows via Leicester and Sheffield.
- PN+EE+WA allows via Cambridge, Ely, Peterborough, Lincoln and Leeds. The full range of permitted routes includes travel via York.
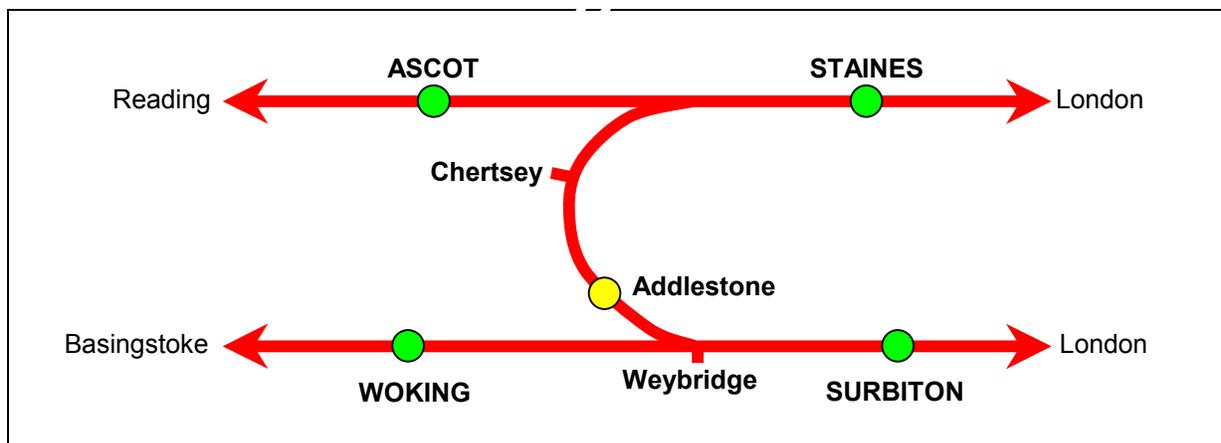
When tracing the journey you may not double back (travel through the same station twice) unless an easement allows it.

Step 8: No easements apply to this journey.
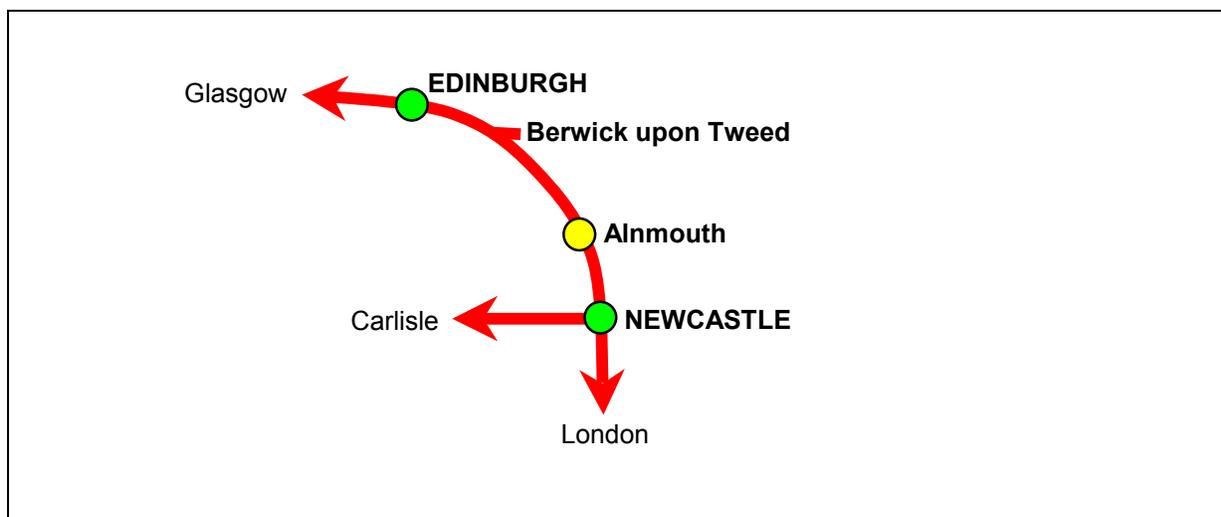
Example 4: ADDLESTON TO ALNMOUTH

Step 1: Find routeing points for the origin station.

Station name		Associated routeing points			
		1	**2**	**3**	**4**
Addlestone		Ascot Berks	Staines	Surbiton	Woking

Step 2: Find routeing points for the destination.

Station name		Associated routeing points			
		1	**2**	**3**	**4**
Alnmouth		Edinburgh Gp	Newcastle		

Step 3: Addlestone is not a routeing point. It has 4 routeing points: Ascot, Staines, Surbiton and Woking.

Alnmouth is not a routeing point. It has 2 routeing points: Edinburgh and Newcastle.

There is no common routeing point.

Step 4: Choose appropriate routeing points

Appropriate routeing points from Addlestone are those which do not have a higher fare to Alnmouth than Addlestone and which do not result in doubling back.

Ascot has a higher fare to Alnmouth than Addlestone so it is not an appropriate routeing point.

Woking is not an appropriate routeing point because it results in doubling back between Weybridge and Woking.

Surbiton and Staines fares to Alnmouth do not exceed Addlestone fares so they are both appropriate routeing points.

Appropriate routeing points for Alnmouth are those which have fares that do not exceed Alnmouth fares.

Edinburgh has higher fares to Addlestone than Alnmouth. Newcastle fares are lower. Therefore Edinburgh is not an appropriate routeing point and Newcastle is.

Step 5: Permitted routes

Permitted routes for the journey are the same as those allowed for the journeys Staines to Newcastle and Surbiton to Newcastle.

Step 6: Find the route codes for the journey from the yellow pages.

Journeys between...		Permitted routes					Sept 2002
Staines	Newcastle	LONDON					

Journeys between...		Permitted routes					Sept 2002
Surbiton	Newcastle	LONDON					

These generate the routes:

WX+EE	WX+ER	WX+MM+PS+ER
WX+EE+NE	WX+MM+ER	WX+WA+EE+NE
WX+WA+EE	WX+ER+NE	

Step 7: Trace the journey on the maps to find its permitted routes.

- WX+EE allows via Clapham Junction, London Kings Cross, Peterborough, Lincoln, Doncaster and York.
- WX+EE+NE allows via Clapham Junction, London Kings Cross, Peterborough, Lincoln, Doncaster, Leeds and York.
- WX+WA+EE allows via Clapham Junction, London Liverpool Street, Cambridge, Ely, Peterborough, Lincoln, Doncaster and York. The full range of permitted routes also includes Kings Cross and Stevenage.
- WX+ER allows via Clapham Junction, London Kings Cross, Peterborough, Grantham, Doncaster and York.
- WX+MM+ER allows via Clapham Junction, London St Pancras, Bedford, Sheffield, Leeds, York. The full range of permitted routes also includes Wakefield, Pontefract and Selby.

- WX+ER+NE allows via Clapham Junction, London Kings Cross, Peterborough, Grantham, Doncaster, Leeds and York
- WX+MM+PS+ER allows via Clapham Junction, Bedford, Leicester, Sheffield, Doncaster, and York. The full range of permitted routes includes Derby, Nottingham, Retford, Wakefield and Leeds.
- WX+WA+EE+NE allows via Clapham Junction, London Liverpool Street, Cambridge, Ely, Peterborough, Lincoln, Doncaster and York. The full range of routes also includes Stevenage, Wakefield and Leeds.

Crossing London from map WX allows the following routes on London Underground:
- Waterloo or Victoria or Vauxhall or Richmond to Kings Cross or St Pancras
- Waterloo or Victoria or Vauxhall or Richmond to London Liverpool Street
- Waterloo or Victoria or Vauxhall or Richmond to Finsbury Park

Once the Underground journey is broken it may not be resumed on the same ticket.