ARUP

Transport for Wales

# North Wales Metro Bus Integration

## Phase 1: Current State Assessment

EXECUTIVE SUMMARY

15th July 2020

# Executive Summary

## Current State Assessment

The preliminary study of the current bus system has focused on bus passengers' perspectives and on the performance of elements of the overall bus system as outlined in Figure 1.

**Bus Users:** Enhancing services for existing passengers and attracting additional passengers are key objectives. It should be recognised that non-bus users are far more numerous than bus users and attracting them to use buses will require more than a Business-as-Usual approach.

**Bus System Components:** Bus services are made up of a range of components parts – all of which need to interact and combine to create a holistic 'offer' to passengers.

**Cross-cutting Themes:** All of the components will need to be improved to contribute to addressing the North Wales Metro aspirations of Integration, Innovation, and Decarbonisation. Stakeholder engagement will also be a key theme in developing the North Wales Metro programme.

For the purposes of this preliminary review, a qualitative summary assessment of the current state of the bus system elements in North Wales is indicated on a Red, Amber or Green (RAG) scale (based on a qualitative comparison with best practice examples elsewhere in the UK and overseas).

R — Not in line with best practice. Significant change required to improve bus services and address cross-cutting themes.

A — Minor improvement needed, or significant change in a defined area to meet best practice. Changes required to improve bus services and address cross-cutting themes.

G — Good example of best practice. None or limited change required to improve bus services and address cross-cutting themes.

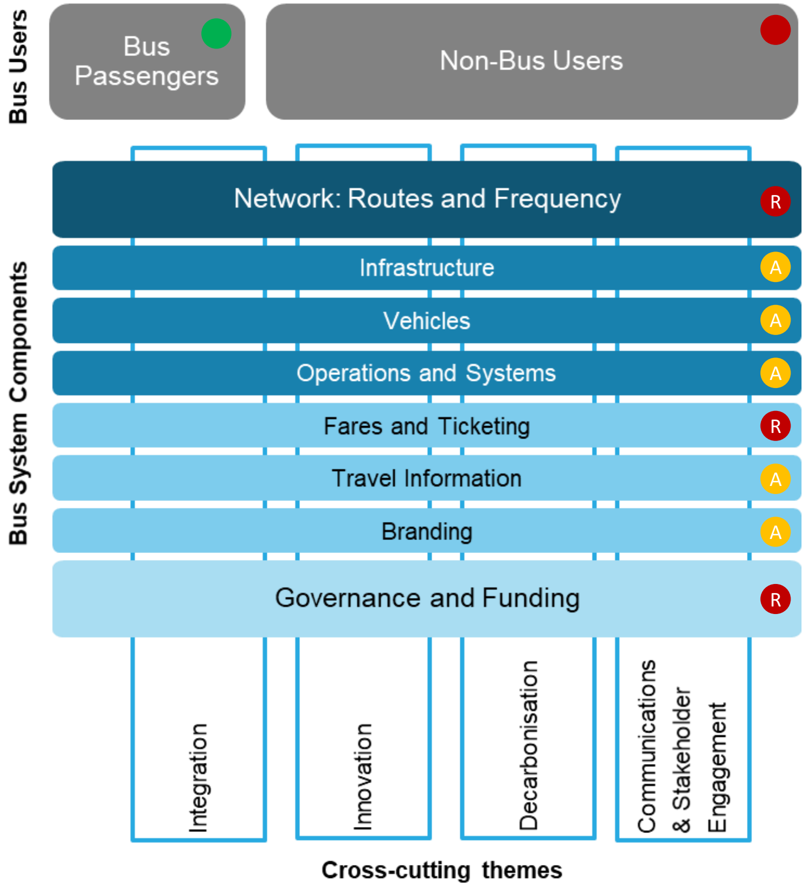


**Figure 1: Bus System Elements and Strategic Themes**

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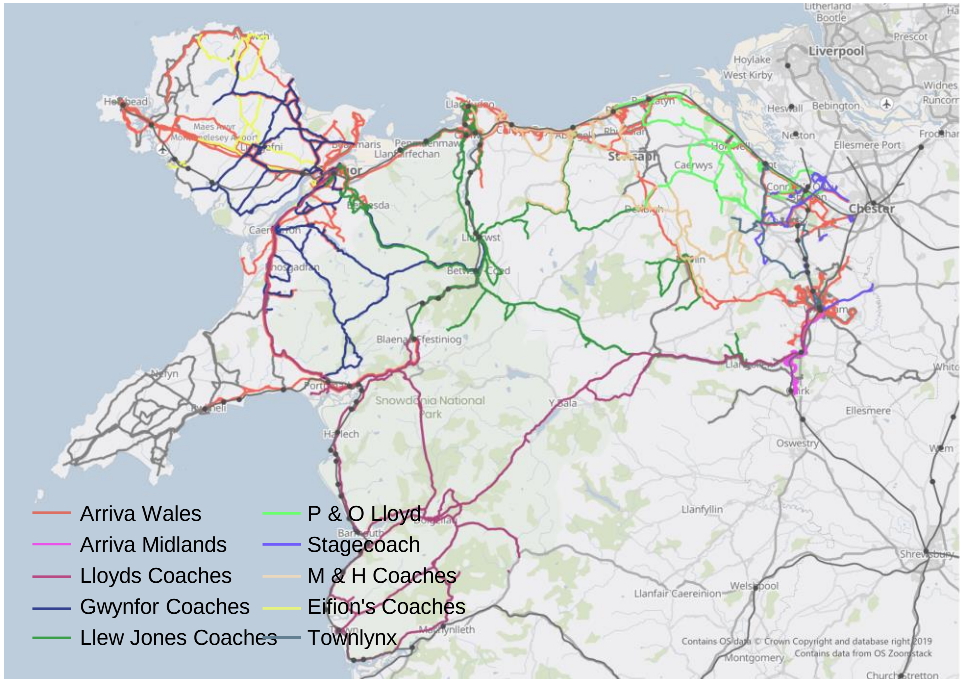
## Current State Assessment: Current Services (2018-19)


**Weekday Frequency**

- 15 mins or less
- 15 – 30 mins
- 30 – 60 mins
- 60 +




| No. | Route Type | Weekly Kilometres | Proportion |
|---|---|---|---|
| 1 | Arriva | 321,500 | 57% |
| 2 | Lloyds Coaches | 53,500 | 10% |
| 3 | Gwynfor Coaches | 36,500 | 6% |
| 4 | Llew Jones Coaches | 23,000 | 4% |
| 5 | P & O Lloyd | 20,000 | 4% |
| 6 | Stagecoach | 15,000 | 3% |
| 7 | M & H Coaches | 14,500 | 3% |
| 8 | Eifion's Coaches | 11,000 | 2% |
| 9 | Townlynx | 10,500 | 2% |
| 10 | Other operators (24) | 56,330 | 10% |

# Executive Summary

## Current State Assessment: Initial Findings (1)

### Bus Passengers

RAG: G

- Overall satisfaction amongst existing customers is good at 89%. Value for money, information and journey times/reliability are key concerns for passengers that are not satisfied.
- A high proportion of passengers use the bus because they have no alternative and tend to use the bus regularly.
- 79% of bus passengers do not have access to a car. This compares with 20% of all residents in North Wales with no car access.
- Concessionary users make up around half of all passengers, and are much more satisfied than younger users, which reflects the often circuitous routings to maximise coverage but which makes bus journey times slower which dissuades time-sensitive passengers.

### Infrastructure

RAG: A

- There are over 5,500 bus stops in North Wales (25% urban, 75% inter-urban/rural; many are in good condition, Bus stations are generally well laid out.
- However, many bus stops are often in poor condition and are inconsistent across networks. Upgrade of bus stops is generally carried out on an ad-hoc basis where funding is identified for an improvement scheme.
- Waiting and ticketing arrangements mean that passengers often wait for one another to board/alight/pay resulting in delay and exposure to weather - compared to urban bus systems in Europe which generally allow passengers to pre-pay for tickets and board immediately via multiple doors (which is a particular benefit to disabled passengers).
- Traffic congestion in some urban corridors slows down bus services and adds to operational costs. This impacts the ability of services to attract passengers as journey times and reliability are highlighted as an issue for passengers.

### Attracting Non-Bus Users

RAG: R

- Journey-to-work mode share on some urban corridors is at 20% - 30% which shows that bus can be attractive for journeys at or under 40-50 minutes.
- Mode share of bus in Wales is low at an average of 32 trips per inhabitant per annum (about 3% overall mode-share in North Wales), and has been declining by 1.4% / yr. This can be divided down to 54 trips per +60 years age inhabitant, and 23 trips per <60 inhabitant.
- Government and operator spending is often channelled into upgrades on single routes or corridors (e.g. Wi-Fi on board, bus stop upgrades) rather than fundamentally addressing network connections and co-ordination i.e. focus is on marginal improvements for existing passengers, which will not deliver a step change in patronage.

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### Vehicles

RAG: A

- Average age of buses is 11 years, compared to typically 7-8 years in other parts of UK. Arriva have commented that investment has been withheld due to uncertainty e.g. Bus Services (Wales) Bill.
- Almost all buses are diesel fuel, very few ultra low emission vehicles. Operator depots are not equipped for change to ultra low emission vehicles.
- There are around 450 buses in North Wales. Buses are generally single decker buses with a single double door at the front of the bus. Boarding is via a single door with every passenger paying the driver – which slows down journeys (and adds operating cost) and dissuades new customers.

### Network: Routes and Frequency

RAG: R

- Journey-to-work patterns across modes are focussed on the 5 'Metro hub' localities (supporting the importance of these local bus networks).
- Provision is focused on individual service lines with little of no co-ordination between services in terms of timings, especially in the evenings.
- The household catchment within 600m of bus stops is high at around 90%; however, high catchment does not necessarily lead to high usage as this depends on service frequencies and range of *practical* destinations
- There are very few 'turn-up-and-go' frequency services (i.e. every 12 minutes or better). The main services are generally operated at 20 – 60 minutes resulting in some high frequencies on major corridors where services converge.
- Local authorities (tendered routes) and operators (commercial routes) tend to make incremental changes to existing services and routes over time, which does not provide the stability necessary for long term growth.
- Very low levels of passengers changing between bus and rail (1%) reflecting poor co-ordination and ticketing integration across modes.
- The networks are mainly focused on journeys to and from the town centres – and hence do not form a good connection between residential areas and major edge of centre employment areas e.g. Wrexham Industrial Estate (700 jobs) has limited bus connectivity.

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# Executive Summary

## Current State Assessment: Initial Findings (2)

### Operations and Systems

RAG: A

- North Wales has around 25% of the total bus vehicle kilometres in Wales, dominated by Arriva, who operate 57% of all vehicle kilometres.
- Over half of annual bus mileage is on routes which are partially subsidised i.e. commercial in the daytime with operators paid to operate buses in evenings / Sundays
- In 2018 only 16 services were fully commercial; whereas around 160 services were supported by local government

| Route Type | Weekly Km | % |
|---|---|---|
| Commercial | 75,500 | 13% |
| Partially Subsidised | 339,500 | 60% |
| Wholly Subsidised | 146,500 | 26% |

### Branding

RAG: A

- Bus governance means that branding is left to operators, some of whom create a 'brand' while others have limited investment in marketing.
- This fragmented and inconsistent approach to branding is in conflict with the need to gain passengers' trust (in particular for journeys with two or more legs) – which is essential if people are to make a lifestyle choice to use buses on a regular basis.
- Attracting passengers to use bus services as a 'network' requires the bus network to be presented and marketed as a single network rather than individual services.

### Fares & Ticketing

RAG: R

- Value for money is perceived poorly amongst fare payers in North Wales, and concessionary users are also much more satisfied than younger users.
- Ticketing is not integrated between different operators which significantly reduces the range of destinations for passengers and creates confusion.
- Very little connection and co-ordination between local buses, inter-urban buses (e.g. Traws Cymru), and rail services. There are no integrated network wide bus tickets - and PlusBus is can only be bought on rail services.
- The lack of integrated ticketing is a major barrier to adopting bus travel as a regular lifestyle choice.

### Travel Information

RAG: A

- Travel information is provided in an inconsistent manner by operators, is not presented on a 'network' basis, and without information on connections to other services, rail and Active Travel links.
- The lack of network maps makes it very difficult for potential new bus users to understand which journeys could be made. In particular it is difficult to understand where and how to transfer between services.
- There is a complex service numbering system which is difficult to understand for potential users e.g. there are two No. 5 services operated by different companies in Wrexham.

### Governance and Funding

RAG: R

- Only 13% of network kilometres operated are commercial, with the other 87% relying on S63 contracts and de-minimus funding.
- Over 2/3rds of overall revenue is provided by Welsh Government and Local Authorities (including Concession Fare reimbursement). Concession Fare reimbursement contributes more to overall revenue than conventional fares.
- There is a strong influence of regulatory arrangements on the ability to operate a co-ordinated and 'unified' network in North Wales (and elsewhere in the UK). Research on this topic underlines that "*good network planning can make a very significant contribution towards …. efficient use of resources and high quality service to the passengers*".
- Current regulatory arrangements mean a lack of overall planning, which creates inefficiencies and shortfalls, summarised as follows:
  - The **Inefficient** use of bus resource with duplication and lack of co-ordination on some corridors;
  - Limited Origin-Destination Trips available by Bus, mainly limited to destinations on single bus routes due to **poor provision for transfer**;
  - Difficulty of introducing fully **integrated ticketing** in a competitive market. Regulatory arrangements effectively creates a barrier to allowing passengers to use buses as a holistic network;
  - Fragmentation of the bus sector with a variety of different organisations responsible for elements of bus systems;
  - Instability of the Network - perpetual change of bus networks, either due to operators needing to adjust or delete services to modify their costs, or due to local authorities' tendency to procure short-term one or two-year tenders for subsidised services. This lack of stability seriously impedes the trustworthiness and attractiveness of the bus service as a reliable and long-term network.
  - Complex network with large number of individual services, operated by a variety of private operators, with non-intuitive numbering system. Network maps are not provided, and it is noted that transfer opportunities between services are not identified.

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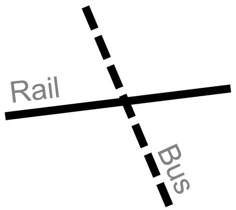
# North Wales Bus Network Approach

A passenger-centric approach is needed to make bus suitable for a wider number of journeys and user groups. This can be achieved by establishing local 'journey-to-work' networks focused on the core urban centres, a regional network of bus and rail services, and rural and feeder services, with co-ordination and interchange between services.

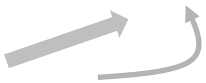
## Local Bus Networks

- Local core networks of rationalised, high frequency bus services (focused on the five major employment areas at Wrexham, Deeside, Coast Central, Conwy Coast and Menai).
- Consistent operating hours and service frequencies
- Interchange between services designed into the network and improved integration at rail hubs (with integrated ticketing and real-time passenger).
- Single branded network map and easy-to-understand bus numbering system.
- Integrate active travel facilities to increase catchments.



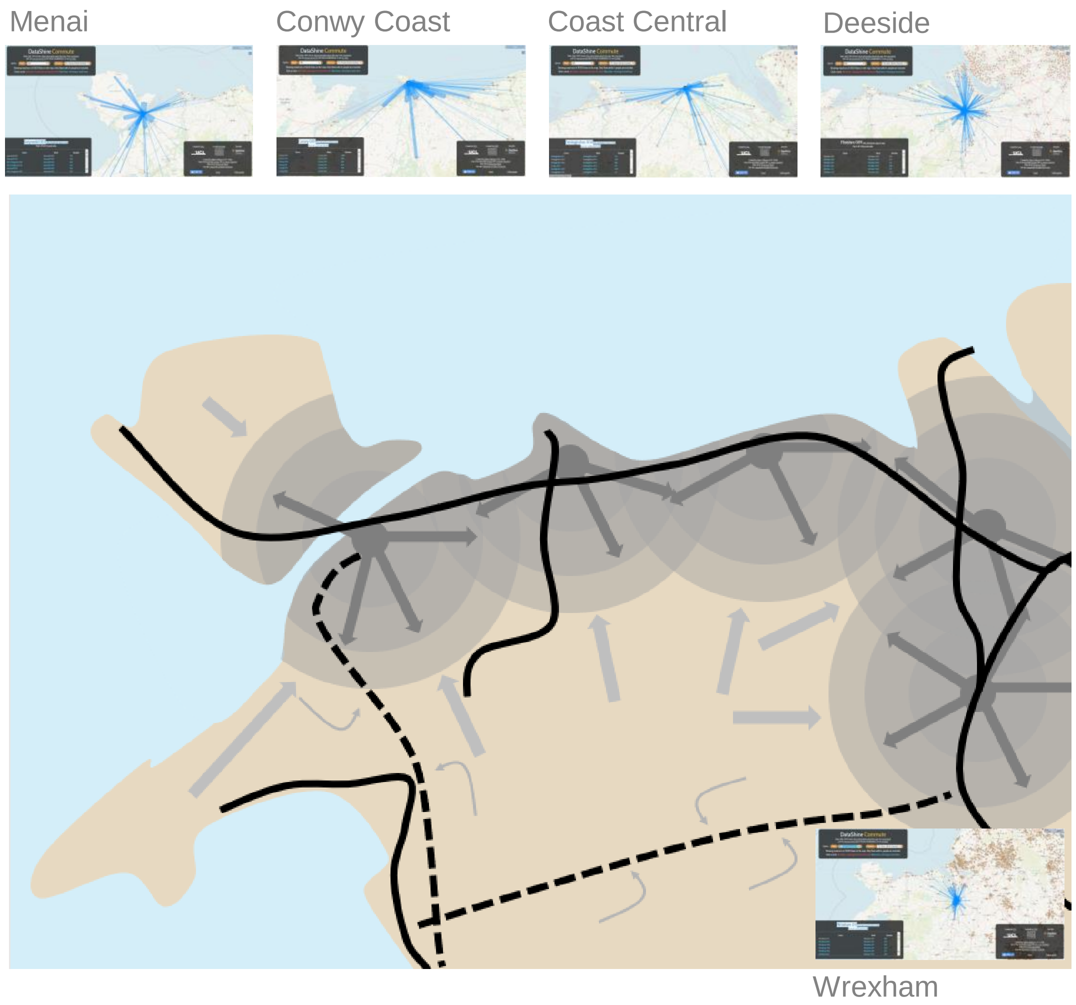

## Regional Strategic Network - TrawsCymru & Rail

- Network of strategic longer distance regional services travelling directly between towns, with consistent operating hours and clock-face frequencies (e.g. 08:15, 09:15, 10:15 etc)
- Single branded network map and easy-to-understand bus numbering system with integrated ticketing (combined with rail)
- Increased focus on interchange to increase destinations by bus (with integrated ticketing and real-time passenger).



## Rural Services / Feeder Services / Demand Responsive Services

- Subsidiary feeder/social routes which link to the local and regional networks at interchange points.
- Demand responsive transport as an alternative for low usage bus services.

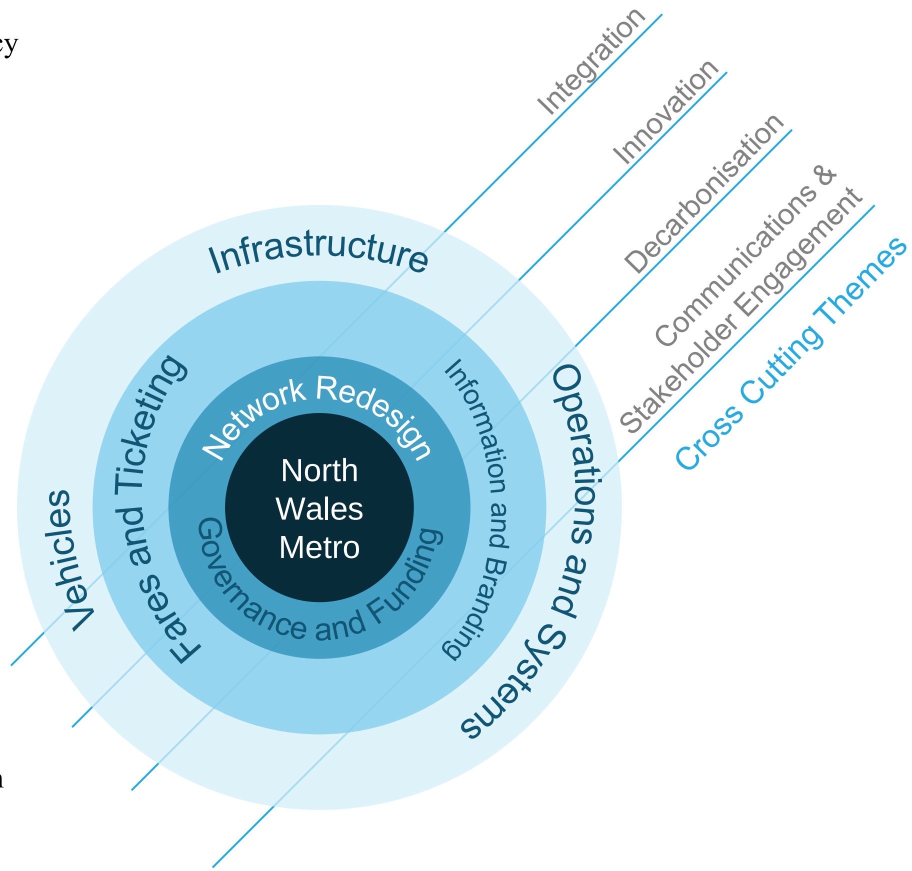


# Supporting Measures to Deliver Transformational Networks

Wider reform of governance and funding arrangements for bus in Wales will be a key enabler for transforming bus networks. Supporting measures across all elements of the bus system will be necessary to enhance journey-making for passengers.

The key change to attract and retain passengers is to provided a rationalised, simplified and coordinated network. Changes to the bus network will need to be supported by interventions across other bus system components:

- Governance and Funding: wider reform/consolidation of funding and introduction of emergency funding following COVID-19 pandemic provides scope for agreeing network changes and levels of service with operators;
- Infrastructure: Measures to improve corridor speed and bus stop/transfer hub infrastructure;
- Vehicles: Define vehicle characteristics to support network proposals (e.g. improved boarding/alighting) and environmental objectives;
- Fares and Ticketing: Tickets shall be usable on all local network services to catalyse transfer journeys, with upgrade for regional travel (and for rail/bus journeys);
- Information: Simple network maps with transfer locations shown to provide intuitive journey-making for passengers;
- Branding: Local networks branded and marketed, integrating with regional bus / rail networks and with Active Travel facilities and links (and demand responsive / future mobility); and
- Operations and Systems: Bus operational measures (e.g. depot, fuelling, layover) to support network and infrastructure proposals.




Changes should address cross-cutting themes:

- Integration and co-ordination, including integration with rail, in respect of spatial arrangement of services, timing of services and ticketing for passengers;
- Innovation in respect of technology such bus ticketing, information, and demand responsive, in respect of governance and cost-efficiencies and interchange design;
- Incorporation of low carbon and low emission technologies in bus operations; and
- A bus strategy with bus operators and bus users and local communities able to participate and influence strategy and implementation plan.

# Phase 2: Planning and Design Investigations and Delivery Plan for an Integrated Network

Phase 2 consists of design and plan activities for networks, infrastructure and associated operations and systems - to provide a holistic and customer-focused transformation with a clear delivery programme.

NWEAB: **North Wales Regional Bus Strategy** — **COMPLETE**

North Wales Metro Bus Integration: **Phase 1 Current State Assessment** — **COMPLETE**

The Phase 2 work builds on the **North Wales Regional Bus Strategy** carried out for NWEAB and the **Phase 1 Current State Assessment** investigation.

**Phase 2.1**
**Travel Demand and Future Blueprint**

**Phase 2.2**
**Network Improvements and Assessments**

**Phase 2.3**
**Interventions Programme**

Stage 1 — **Detailed assessment of existing and future travel needs**

**Sep-Oct 2020**

WP0: Project Inception and Stakeholder Plan

WP1a: Detailed travel needs assessment

WP1b: Customer Experience Principles and Personas

Stage 2 — **Establish Network and Operations Principles**

**Sep-Nov 2020**

WP2a: Develop North Wales Bus Network operating blueprint

WP2b: Develop North Wales Network principles / guidelines

Stage 3 — **Devise & Analyse Bus Network and Associated Improvement Measures**

**Nov 2020 – Jan 2021**

WP3a: Devise new bus network plans

WP3b: Develop infrastructure measures

WP3c: Develop vehicle / operations plan

WP3d: Outline Information, Marketing, Systems and Organisational Measures

Stage 4 — **Analysis and Assessment of Bus Improvement Measures**

**Jan-Feb 2021**

WP4: Appraise and refine network plans and associated improvement options

Stage 5 — **Develop Interventions Programme**

**Mar-Apr 2021**

WP5: Define intervention programme; Identify funding & procurement models

**Phase 3: Delivery**