New Parkway Stations

Guidance for promoters and funders on engagement with Highways England and Network Rail

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Co-authored by Network Rail and Highways England
Purpose and audience for this document

When attempting to establish the case for new infrastructure to either the road or rail networks, both Highways England and Network Rail assess how the wider transport system would be affected by the changes as well as what functionality the new infrastructure would introduce. For example, risk of added congestion on additional train services and/or connected roads.

A parkway is a railway station, normally on the outskirts of a regional or city centre which can also serve as a park and ride interchange allowing further onward travel. Where any parkway proposals are considered, there are important common factors to be analysed and if a parkway station is deemed to be the right transport solution, this will allow stakeholders, funders, and planners to discuss with Highways England and Network Rail what a feasible parkway station might look like.

Both networks have experienced significant change because of Covid-19. Through this guidance and by working together, we can ensure infrastructure investment is targeted in the right locations, notably where our networks can complement each other, and in support of the government’s housing agenda, facilitating the most appropriate and sustainable transport options that connect new residential communities to the centres where people work and recreate.

The intention is that this document will provide guidance for those assessing a parkway solution in their local area such as:

- Local Stakeholders, such as Local Authorities and Local Enterprise Partnerships
- Third party funders
- Strategic Planners

Although Highways England’s remit covers only England geographically, this document refers to the UK for simplicity.

This is the first co-authored document developed in collaboration between Highways England and Network Rail.

![Figure 1: Tiverton Parkway Station](https://en.wikipedia.org/wiki/Tiverton_Parkway_railway_station#/media/File:2019_at_Tiverton_Parkway_-_platform2.JPG)
Introduction

The Importance of Collaboration

Highways England and Network Rail recognise the need to collaborate. This means not just between the two organisations but with all stakeholders. For this to be successful, all parties must be willing to collaborate and actively support each other to deliver the best results for our customers and funders.

Highways England and Network Rail have collaborated in the past, particularly through delivery. This document is part of a commitment from both organisations to imbed this collaboration into our normal way of working and bringing focus to how it can aid better strategic planning. This document also serves as a call to arms for its readers to support the road and rail industries in achieving these goals.

Most transport infrastructure is physically separated between modes. Within road and rail, there are notable exceptions, such as level crossings and bridges. However, for our customers, whether they are passengers or freight users, it is one transport system and our customers expect it to function as such. This is only possible if we work together to enable greater opportunities and avoid inadvertent adverse effects on other parts of the system.

While this document focuses on parkway stations, the principles around early engagement and considering the wider transport system can be applied in many other aspects.

Increasingly Integrated Transport

Transport infrastructure is key in facilitating the journeys of the UK population for work and leisure. It enables the UK economy, allowing people to travel greater distances to work and provides further connectivity which supports a range of other infrastructure types. A multi-modal transport system with effective integration is significantly greater than the sum of its parts and better serves the UK economy.

It is important to stress that transport systems have always had the potential for integration and many of our customers have been making multi-modal journeys or shipments for many decades, if not centuries. What has changed is digital technologies enabling more sophisticated supply chains and empowering passengers to make more complex connections, sometimes rerouting on the go. Improved station designs have also played a role in increasing the integration of transport networks, and as they evolve to be increasingly focused on customer needs, they will help improve this integration and help us deliver better end to end services.

Robust transport planning ensures that the various transport modes available are as integrated as possible to ensure a seamless journey for users of the transport network.
The development of parkway stations can be a good example of this efficient planning and potentially support

- More efficient access into local and regional urban centres,
- Relieving pressure on the Strategic Road Network (SRN)\(^2\), and
- The low carbon agenda set by government \(^3\)

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**Working across government**

This document has been produced by Highways England and Network Rail reflecting the ongoing collaboration between government arm’s length bodies (ALB’s).

The guidance provided reflects the requirements of both road and rail users across the UK and prevents transport interventions being developed without a strategic appraisal/oversight.

To drive further value Highways England and Network Rail are working with other ALBs such as Homes England to develop transport proposals aligned to wider governmental aspirations; e.g. housing growth, economic connectivity and de-carbonisation.

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\(^2\) Managed by Highways England, the SRN consists of the motorways and trunk roads in England.

\(^3\) The UK has committed to a net zero carbon emissions target by 2050

Key considerations

Our Purposes

Connecting people and businesses through facilitating safe journeys will always be a core purpose of our transport system. However, Highways England and Network Rail also provide important platforms for supporting wider government agendas. This can influence how we prioritise delivering on our core purpose. The following are strong examples of wider government agendas that should be considered:

**Achieving net zero greenhouse gas emissions by 2050**
Shifting freight from road to rail has been a long-standing ambition, particularly on more congested parts of the Strategic Road Network. Despite growing uptake in low emission vehicles, it remains preferable to provide commuters with better rail links as an alternative to road transport. This is part of wider sustainability agendas, including reducing embedded carbon and other harmful impacts on the environment.

**Making trade as frictionless as possible**
Frictionless trade will always be sought by businesses. This is now receiving heightened attention in the wake of the UK’s exit from the European Union. There is likely to be greater focus paid to the smooth operations of road and rail links to and from the UK’s ports.

**Supporting economic growth**
Economic growth will be enabled in part by frictionless trade. Trade in general is supported by connected people and businesses to economic centres and new opportunities. Making existing connections more affordable and efficient is important for reducing barriers to trade.

**Meeting the UK’s housing needs**
With limited space to build affordable new homes, connecting areas with greater availability to places with higher employment opportunities is an important function of a transport system.

**Investing whilst keeping borrowing and debt under control**
Providing safe transport infrastructure while meeting wider goals must be achieved at the lowest possible costs. This reduces the burden placed on the users of the network and the UK’s taxpayers. In addition to reducing costs, schemes bringing third party investments to the road and rail networks will be viewed favourably.

Each potential station proposal will have specific circumstances, however there are important common factors which need to be considered when assessing whether a parkway station is the right transport solution. If a parkway station appears to be the right transport solution, this document is a starting point, allowing stakeholders, funders, and planners to discuss the specification of a new parkway station with Highways England and Network Rail.

It is recognised that upgrades or relocations of existing stations may provide greater benefits than the construction of a new parkway station. Similarly, it may be determined that the best solution requires no changes to physical infrastructure. This could be achieved through significant
changes to existing timetables or through substantive changes to ticket pricing structures, driving changes in consumer behaviour. It is likely that supporting infrastructure, such as the supporting road network, will be required in such cases.

Making informed decisions for the optimum solution requires early engagement with Highways England, Network Rail and other relevant stakeholders. Early engagement also supports keeping as many options open as possible for the longest amount of time.

**Integrated Transport**

The rail and road infrastructure are part of the wider transport sector, encompassing trains, cars, lorries, as well as active travel modes, such as cycling. It is important to consider not just parkway stations but all station environments in this wider context.

![Figure 2: Oxford Parkway Station](https://www.networkrailmediacentre.co.uk/resources/oxford-parkway-station)

Access to the rail network is an important consideration of many surface access strategies, particularly airports. The location of parkway stations near to other transport hubs such as ...

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4 [https://www.networkrailmediacentre.co.uk/resources/oxford-parkway-station](https://www.networkrailmediacentre.co.uk/resources/oxford-parkway-station)
airports can help to further increase modal shift and relieve pressure on the surrounding road network.

As noted by Transport for London, there are four key areas to an interchange:

- **Efficiency** - operations, movement to and within the interchange, sustainability
- **Usability** - accessibility, safety, personal security, protection
- **Understanding** - legibility, permeability, wayfinding, information
- **Quality** - perception, built design, spaces, sense of place

Given the variety of differing modes which can be supported by parkway stations and to ensure maximum wider transport benefit realisation, integration with each mode should be given consideration:

- Road users
- Buses / Light Rail
- Taxis / Ride-hailing
- Bicycles (including cycle-hire and electric)
- Air
- Ports

The role and function of each of these modes in and around a potential station location should be fully considered to understand the impact they might have. For example, a new station under consideration close to a port, particularly one with spare capacity, could be impacted by changes to freight movements on the surrounding networks.

**The role of road and rail**

The SRN and the mainline railway are integral parts of the combined transport network, integrating with wider parts of the road network and other railways, such as local metros. A safe and efficient network supports national and regional economies by providing certainty, improving access to markets, enabling competition, improving labour mobility, enabling economies of scale, and helping to attract inward investment.

Parts of the transport network are at capacity, particularly on commuter routes during peak times. Not only does this make for a less comfortable experience, it reduces service reliability and impedes service recovery during disruption. The impact on existing services must be carefully considered.

The SRN is a reliable way for millions of people to get to work, however it must also prove reliable for its long-distance and most road-reliant customers such as freight hauliers. As a result, and where possible, alternative solutions for local traffic that can reduce the pressure on the SRN will be encouraged. This can include supporting public transport in places where the SRN is already under heavy pressure.

Where new developments are proposed, Highways England is keen to maximise opportunities that reduce car-use and are more sustainable. Park and Ride options, including Parkway stations, in the

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right locations, have the potential to do this, reducing traffic flow into our major urban centres and economic hubs.

*Figure 3: Liverpool South Parkway*

[https://www.networkrailmediacentre.co.uk/resources/liverpool-south-parkway-railway-station](https://www.networkrailmediacentre.co.uk/resources/liverpool-south-parkway-railway-station)
Going about it

Engagement

The rail and road networks form part of an increasingly integrated suite of modes providing transport services to the public. Enhancements to the network such as parkways should be targeted to address one or more specific issues forming the basis for a strategic case for change.

Rail and road factors have a significant role in understanding whether a parkway enhancement is likely to be popular among rail users. Analysis of census data, road usage, rail demand and connectivity and spatial factors can increase understanding of the likely impact of parkways and help make the case for funding.

In promoting and preparing proposals for possible parkways, it is important that strategic infrastructure providers are engaged with as early as possible. Working collaboratively, it is then possible to:

- consider the most appropriate locations for parkway development;
- assess the potential impact of proposed parkway development proposals on the rail network and SRN.

At Network Rail, this would allow sufficient time to assess how any new infrastructure would affect existing services. A new station alone may not guarantee the additional services desired. There are a variety of factors to be considered such as:

- The current agreements in place with the Train Operating Company;
- How additional services may impact the available capacity and performance of the network;
- The current track access agreements in place

At Highways England, early engagement will help to ensure an understanding of possible impact, allowing complex issues to be identified, analysed and resolved as soon as possible.

When planned properly and strategically, thus enabling development and forming parts of statutory plans, this process provides the most appropriate way for proposals as it identifies land allocation and sets out realistic funding propositions, including thorough use of funding agreements and related agreements such as Land Value Capture.

Planning

In meeting the country’s future housing needs, it is critical that new development is planned properly so that it takes advantage of existing infrastructure safely and efficiently. Where large strategic new developments are considered, these need to have effective transport links and should not rely on single modes.

The preparation of local plans provides an opportunity to support a pattern of development that minimises the need for travel, minimises journey lengths, encourages sustainable travel, and
promotes accessibility for all. This can contribute to the achievement of environmental objectives and reduce the cost to the economy arising from the environmental, business and social impacts associated with traffic generation and congestion.

Planning for parkways in an integrated and strategic way is a critical stage in developing consensus around a proposition that supports existing and future demand. Both Highways England and Network Rail will work with stakeholders to identify opportunities to introduce travel reduction and demand management measures through the local plan. Highways England’s planning guide, “Planning for the Future” sets out in more detail how proposals impacting the SRN should be discussed and developed, mindful of commitments to supporting environmental and social aims.

**Collaboration**

Holistic planning is required to assess whether rail or road solutions are the most appropriate solution for strategic transport questions. Due to their multi-modal nature, parkway solutions to strategic issues should be particularly focused on interactions across modes. They should also consider how the station environment can influence the use of the station and the passenger experience.

It should be recognised Network Rail and Highways England do not have sole responsibility for the UK road and rail networks. Where a parkway is being proposed, the extent to which key stakeholders also identify the proposed parkway as a strategic priority will be taken into consideration. Sub National Transport Bodies are increasingly influencing wider transport strategies and transport specification. Local Enterprise Partnerships provide accountability for wider economic connectivity. Early engagement with STB’s and LEPs on potential parkway proposals will help ensure wider transport benefits are being accounted for.

**Funding**

Improvements to the rail network – and new stations in particular – can cause a significant land value windfall for properties near the station. Often these coincide with investment in a local area through housing development and regeneration. While positive on a local scale, the localised benefits must be considered against the externalities of all existing users who will experience longer journey times due to the additional stop.

Developers may also be asked to contribute a portion of the land value uplift engendered by the rail improvement as a third-party funding contribution. This can help offset the cost to government and hence make the scheme’s value-for-money proposition stronger and hence make the scheme more likely to materialise.

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Figure 4: Luton Parkway Concourse

Figure 5: Luton Parkway

8 https://www.networkrailmediacentre.co.uk/resources/znak8-6edej-bdwm1-cazz1-l6chx
9 https://www.networkrailmediacentre.co.uk/resources/sclmk-1bnki-1f3yg-mzcmv-40shx
Further details

Demographic factors

Census data

Demographic data is a useful starting point for assessing the viability of prospective parkway stations. Census data contains a vast source of demographics and can also be spatially mapped to determine characteristics in the areas immediately surrounding prospective stations. Transport to work data is available within the census and explicitly states respondents’ mode of transport for getting to and from work.

In addition, census data can be mapped based on drive time catchments to give even more relevant demographic insights that are particular to the areas immediately surrounding a prospective parkway station – for example, the number of households located within 20-minute drive from a prospective location during congested conditions at 7:30am on a Wednesday morning.

Success Criteria

Criteria relating to demographic data can be used to assess one prospective location against another. The criteria relate to having enough potential users with road access, a high propensity to travel by rail, sufficient economic justification for a financial investment in the railway, and a realistic prospect of being able to attract trips away from the strategic road network.

Following joint consideration of these conditions and of the performance of Parkway stations opened since 2000, the criteria below were identified as minimum standard thresholds during a review of successful existing parkway stations:

- **Volume of Nearby Households with Car Access**: Contains at least 54,000 households with car access within a 20-minute drive time catchment
- **High-Value Employment**: Contains at least 57,000 level 4 educated (tertiary) individuals within a 20-minute drive time catchment
- **Economic Mass**: Contains at least £3.5bn in total household income within a 20-minute drive time catchment
- **Easily Accessible from Strategic Road Network**: Located within 6 miles from the Strategic Road Network (SRN)

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10 Higher education levels increase the propensity to travel by rail and are often associated with needing to travel further to achieve good job “fit” as this leverages employee skills and knowledge.
Station Designs

When considering the station environment, it is important to recognise that rail stations are almost invariably sites of modal interchange, as the first and last sections of passengers’ journeys are not at the stations in themselves. It is therefore important to understand why proposed locations are a good site for a parkway station: what value does it bring to the region?

Network Rail already provides guidance on new stations for promoters and developers in its ‘Investment in Stations’ document.\(^{11}\) It also provides details of some of the considerations reviewed when building new stations in ‘Station Design Principles’.\(^{12}\) Some factors which will be of interest to Highways England and Network Rail in the building of parkway stations may include:

- The provision and accessibility of surrounding local roads
- Adequate access to parking;
- Drop-off facilities, \(^{13}\) or;
- The potential for intermodal exchange.

Network Rail seeks to use inclusive design principles to:

> remove physical, attitudinal and procedural barriers that impact on people’s experiences of our spaces and places. It offers design principles that lead to better environments, strategies that make good business sense, and potential economic drivers that will include social benefits... Creating inclusive spaces and places… relies on providing up to date information, clear signage, good lighting, strong visual contrasts and accessible websites, apps and written materials. All these elements combined will contribute to a more positive passenger and employee experience.\(^{14}\)

Developing stations which have step free access, for example, not only assists wheelchair users, but also passengers with luggage, push-chairs, or bikes. The environment surrounding the station needs to fit in with the current road network to ensure a continuous flow of traffic.

Therefore, it is vital that the health and safety of station users is considered when interfacing between modes. Air Quality Management Areas, where a local air quality action plan is in place, for example, may be negatively affected by an increase in cars travelling through it to access the parkway station.\(^{15}\)

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\(^{12}\) Network Rail, ‘Station Design Principles’, [https://cdn.networkrail.co.uk/wp-content/uploads/2019/03/Station-design-principles.pdf](https://cdn.networkrail.co.uk/wp-content/uploads/2019/03/Station-design-principles.pdf)

\(^{13}\) The proposed parkway area may need to have the requisite land as well as planning permission to support development.


\(^{15}\) [https://uk-air.defra.gov.uk/aqma/](https://uk-air.defra.gov.uk/aqma/)
Road Considerations

Road Demand

Current and future demand for the SRN is affected by a range of demographic, economic, lifestyle, technological, and resource factors. Future forecasts predict that traffic growth on the SRN will continue to increase, ranging between growth of 32% and 66% by 2050. This is underpinned by a continued rise in total population and increase in journeys from older drivers.

However previously established patterns of behaviour are changing – for example there is an increasing trend of more young people not learning to drive and as well a greater tendency for people to see mobility as a service provided by other operators.\(^\text{16}\) There is an increasing need to assist people in considering their transport choices or determining where travel is needed through use of data and journey information and aiding modal integration at strategic locations.

Locations relative to road networks

For the purposes of a parkway station, efficiency of traffic flow, particularly around the peaks is important as this could affect existing congestion on the road network. It is important to also consider the location of parkway stations in relation to capacity and provision of the Major Road Network (MRN) and local roads, as these roads provide vital links between the SRN and parkways.

Place-based context is critical to understanding the potential of parkways and the extent to which they will benefit the SRN. A parkway directly adjacent to a motorway function will have a very different impact to one further away from the SRN, yet both could attract markets to rail that would otherwise use road. Urban centres with air quality challenges are increasingly keen to understand the impact of road traffic, especially at peak time, using both strategic and local networks in as efficient a manner as is possible. Finally, costs directly associated with driving will also be a factor – for example the cost of city centre parking compared to parking charges at the parkway.

\[\text{Figure 6: SRN}^{17}\]

\(^{16}\) As distinct from the concept of ‘Mobility as a Service’ the integration of multiple transport modes provided through a single platform or ticket.

\(^{17}\) https://highwaysengland.co.uk/about-us/our-roads/
Rail Considerations

Rail demand and connectivity

The volume of existing rail flows is an excellent source of data for assessing the viability of new parkway stations. The more rail users in an area, or on a major origin-destination flow, the more likely that a prospective parkway station will be successful.

A review of existing parkway stations yielded the additional insight that successful parkway stations are often positioned on the periphery of a major urban centre in order to serve rail flows to another city (often London or Manchester). A parkway station serving flows from an urban centre to another often far-away city is much more likely to be heavily utilised than one that only provides road users with rail links for the last few miles into an urban centre. For example, Oxford Parkway is extremely successful because it serves people living on the periphery of Oxford that want to travel into London (and not just those wanting to go into Oxford).

Prior to the consideration and development of a new parkway station, or the redevelopment of an existing station to fulfil the same objectives, there should be a robust assessment of viable alternatives which could include the relocation of/or improved access and facilities at existing stations. Consideration should also be taken to ensure that location of any proposed station aligns with Network Rail route strategies and long-term plans in addition to the circumstances of the rail network in that location.

A significant indicator of the viability of a prospective location is whether the intercity flow between the prospective station’s major urban centre and the city it is connected to has a large volume of existing rail demand. In such a case, a new parkway station on the periphery would abstract some passengers from the intercity flow while enabling residents of the periphery to gain access to the rail service without needing to enter the urban centre’s core. This added convenience would also be expected to encourage new users to take up the rail service, generating new passengers in addition to those that are abstracted.

Volume of revenue on major flows

The volume of revenue is another significant metric to consider when assessing the viability of a prospective parkway station. Large and high-value flows have the potential to generate more revenue than smaller and lower yield rail journeys. Although any incremental revenue accrues to the train operating company, this can be assumed to flow back to the government through any concessionary train service agreements in place. This revenue can therefore be assumed to offset the costs to government from converting to or creating a new parkway station, hence increasing its viability as a value-for-money proposition.

Rail fare zones

The specific geography of an area may also give rise to the practice of ‘rail heading’. When a station(s) adjacent to a passenger’s local station offers a more attractive fare, a road user may prefer to drive to a station that is further to take advantage of the reduced cost. This may be particularly applicable on the boundaries of municipal areas where fares are controlled. While the higher fares outside of such zones may yield additional revenues, helping the value-for-money proposition of the scheme, it may also make the station less viable if potential users prefer to
avoid the station to benefit from a reduced rail fare at a neighbouring station. Many users may also be overly sensitive to the rail fare by ignoring some elements of the true cost of driving an additional distance (which may consist of time, fuel, road tax, vehicle maintenance and depreciation, etc.) since some of these costs are less noticeable than the direct cost of a rail ticket.

Service frequency and calling patterns

To be successful, a prospective parkway station needs to offer an appealing rail service to passengers. Stations that already have frequent services are more attractive to parkway users since they can feel confident that they will not have to wait too long to catch their train. Where a new parkway station is proposed, the need for new services must be agreed with the relevant train operators, and in some cases may benefit from being included in franchise agreements.

More calling services also provides additional capacity for prospective users, which can influence demand by increasing the likelihood of getting a seat on the train. A similar effect is achieved when longer trains are already planned to be introduced on a line – as the additional parkway passengers will be more easily accommodated in such cases.

Externalities to existing passengers

In cases where a station is not well served (for example, only having 1-2 trains per hour), the conversion to a parkway could coincide with an increase in the number of calling services. While this would obviously be favourable to prospective parkway users, the downside is that all existing passengers on the calling service will experience longer journey times. To assess whether it is worthwhile to add station calls, the benefits of the additional call must be weighed against the added journey time for all existing passengers.
About our networks

The Strategic Road Network

The strategic road network (SRN) consists of the country’s motorways and major A roads, providing strategic routes right across England. It provides the arteries of the country’s road network and is one of the biggest and most significant publicly owned economic assets in the country.

It comprises approximately 4,400 miles of road (1,865 miles of motorway and 2,571 miles of trunk roads) and plays a critical role in national and local economic prosperity by connecting businesses and people and enabling employment and productivity growth.

Britain’s mainline railway

The railway infrastructure in England, Wales and Scotland comprises around 20,000 miles of track, 30,000 bridges, tunnels and viaducts and thousands of signals, level crossings and stations. Of the approximately 2,500 stations, just 20 are managed by Network Rail, with the remainder being managed by the train operating companies.

It is Europe’s fastest-growing railway and provides vital links for businesses and communities. Every day, more than 4.8 million journeys are made across the network. People depend on Britain’s railway for their daily commute, to visit friends and loved ones and to get them home safe every day.
Checklist

A summary checklist of the different factors that should be considered when developing a parkway proposal:

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<th>Strategic case</th>
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<tr>
<td>a) Is there a clear strategic case for a parkway in this location? Please check Highways England’s Route Strategies and Network Rail’s Long Term Planning Process strategies (for Network Rail contact the Regional Investment Director).</td>
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<td>b) How does this proposal meet the strategic objectives of relevant Sub-National Transport Bodies and Local Enterprise Partnerships?</td>
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<td>c) How does the location perform against the advisory success criteria set out in the guide?</td>
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<td>d) Are there opportunities of integration with other transport modes, such as coach &amp; bus, taxis and active travel?</td>
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<td>e) Is there an understanding on the impact on existing rail services, rail facilities (i.e. existing stations / available parking) and existing passengers’ journey times?</td>
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<td>f) How might this increase or reduce pressure on the SRN and wider road network?</td>
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<th>Contacts</th>
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<td>g) Is your organisation clear on key contacts with Highways England and Network Rail’s contact to progress this discussion?</td>
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