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A VISION FOR THE GOVERNANCE OF THE MAJOR ROAD NETWORK

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Foreword

Following the significant and positive response of the Rees Jeffreys Road Fund 2016 paper 'A Major Road Network for England', authored by David Quarmby and Phil Carey, we were pleased to have the opportunity to lead one of a pair of new Major Road Network papers which have been commissioned by the Fund's trustees.

The Major Road Network presents an exciting opportunity to transform the second tier of England's highways. Much has been written and discussed within the industry over the last two years of the need to fund the Major Road Network sufficiently with both the capital and revenue resources required to achieve the desired outcomes. However, we believe that good stewardship of the Major Road Network will need more than a secure and sufficient funding allocation. There is a significant governance challenge which will need to be overcome to ensure the approach delivers to expectation.

Within this paper, we have outlined our views on this challenge and how it might best be approached. A key principle we've identified is the need for substantial involvement of the Subnational Transport Bodies and for that involvement to be undertaken in the right way. In our view, these appear to be best placed to lead on many aspects of network governance. However, these are not all in a consistent position to discharge those responsibilities... yet.

We trust the following paper will be of interest to you. We particularly hope that it is thought provoking to those in various positions across our highway industry from the Department for Transport through to our local highway authorities.

The authors, February 2019

About the Authors

STEVEN GREEN

Steven has led the WSP (UK) Intelligent Transport Services (ITS) discipline since 2017 following the equivalent role as Business Unit Director ITS in the acquired Mouchel business. Steven's variety of roles over time has enabled him to be involved in many technical innovations within the ITS and highways arena, ITS technical services in a maintenance and operation environment, delivery of significant software platforms to underpin service transformation as well as delivery of technically and programmatically challenging multidiscipline major projects. This varied experience provides Steven with an excellent insight into all aspects of the highways market combined with an excellent understanding of the challenges a Road Administration has in day to day operation of the road network and challenges in delivering improvements onto a live network environment.

Steven's experience includes hands on involvement within key projects within the company and is conversant with current best practice adopted and innovative techniques within the industry.

LUCY WICKHAM

Lucy is a Director of the WSP (UK) ITS Discipline and is responsible for the Operations and Safety Group. She has over 30 years' experience in all aspects of technology application and safety in the operation and management of the highways environment.

She has significant experience of leading inter-disciplinary teams to ensure projects are delivered safely with demonstrable and evidenced outcomes. She led and co-ordinated the cross-discipline subject matter expert groups designed to develop collaborative working, share knowledge and engender lean processes in the delivery of Highways England investment programmes in accordance with road infrastructure safety management standards.

She was responsible for developing innovative outcome based solutions for the highways operating environment and the evidence based approach to safety management on the UK Managed Motorways programme.

Lucy co-authored 'The Compliant Motorway', a World Road association (PIARC) award-winning paper in the Road Maintenance and Operation category, in 2011.

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Mark is a consultant within the ITS division at WSP, having joined the company in 2016 following a degree in PPE at Oxford University and several years spent teaching in England and China. Mark works within the Operations & Safety team at WSP and is involved in working with local highways authorities to ensure their ITS strategies are 'Future Ready' and receptive to the opportunities presented by the Major Road Network approach.

The authors would particularly like to thank Mark Fell for providing project leadership for this paper. In addition, we would like to thank Matthew Lugg, Ian Patey, Phil Barton, Ryan Bridger, and Chris Jones for offering guidance and technical direction in the writing of this paper; the course taken by this paper has been heavily influenced by conversations with this group.

Executive Summary

The original Rees Jeffreys Road Fund report 'A Major Road Network for England' was published in 2016; it identified opportunities to improve the current operation and governance of English roads.

Whilst the Strategic Road Network (SRN) is managed by one body (Highways England) according to common network-wide metrics with substantial and coherent funding, local roads are run by local highways authorities (LHAs) with varying levels of prioritisation, strategic collaboration, operational targets, and funding. The opportunity exists to improve the approach taken to planning and operating the more significant trunk roads on the local authority network. This has the potential to deliver better outcomes for road users and regional economies.

A further 3,800 miles of local authority-controlled 'A' roads which fit the criteria of supporting England's regional economies and supporting growth were identified and termed as the Major Road Network (MRN).

Following a positive response to the earlier report from across the highways sector and public consultation earlier in 2018, the Department for Transport (DfT) is pursuing the creation of a MRN in England. The emerging subnational transport bodies (STBs) have urged the government to ensure they have an integral role in the MRN's definition and implementation.

The question of the extent to which the STBs should be empowered to govern and manage England's major roads is yet to be answered; the powers granted to them by DfT appear primarily advisory and consultative, with particular responsibility for devising regional transport strategies which the government has a statutory obligation to formally consider when making funding/planning decisions. Whilst the STBs appear to be well positioned to take on responsibility for directing and managing the MRN, it can be argued their powers should be expanded even further in the governance of England's major roads.

This paper defines a vision which seeks the right balance for the STBs' role amongst the existing transport authorities in England (DfT, Highways England, LHAs) to ensure effective governance of England's major roads.

In particular, this paper recommends:

- Greater empowerment and clarity for the STBs role and responsibilities.
- Consideration of the MRN as a natural 'testing ground' for on-road innovations eg road user charging, HGV platooning, autonomous/ connected vehicles, etc which could benefit UK plc.
- STBs to be designated as the unequivocal leading bodies for directing regional transport policy, with Highways England guaranteed representation on STBs at the regional level.
- A portion of DfT funding for the MRN programme should be allocated directly to the STBs with the intention of a) promoting regional economic rebalancing, and b) encouraging innovation and efficiency savings in delivery.
- Business cases should be developed away from exclusive reliance on benefit cost ratios (BCRs) towards a more holistic set of criteria (regional rebalancing, settlement connectivity, etc).
- An 'executive council' of STBs should be considered as a pan-STB body for direct dealing with DfT and Highways England and to drive coordination and uniformity of STB standards.

For the MRN itself, a definition of what a 'fit for purpose' MRN and common performance metrics across the network are needed, which can satisfy the twin demands of the need for greater network consistency and an understanding of the network's diversity. 'A Major Road Network for England' recognises four different types of road which together comprise the MRN; different standards will be required for these different roads, with different definitions of what a 'fit-for-purpose' road will look like and different governance regimes for planning, safety, operations, asset management, and technology in place.

This paper makes six specific recommendations for enhancing the overall governance regime for the MRN:

1. The MRN is comprised of four fundamentally different kinds of roads; a high level of uniformity should be sought across these tiers, but governance regimes and performance metrics should be primarily focused on these four separate tiers of road.
2. Intelligent Transport Systems (ITS) is of fundamental importance in ensuring MRN journey times and safety performance remains at or above standard sustainably and without breaking the bank. DfT should acknowledge this in its investment criteria.
3. A tool for assessing the impact of operational interventions on the MRN should be developed.
4. Maintenance is of fundamental importance in road performance and network consistency; DfT needs to shift towards more of a 'whole life investment decision' perspective and including maintenance funding for schemes, particular given the anticipated dependence of automated vehicles on legible roadside markings and infrastructure.
5. Consideration should be given to subcontracting maintenance to Highways England across the MRN.
6. Allocating funds directly to STBs – or keeping an emergency fund available – would enable STBs to solve non-major network problems with greater pace and agility than the DfT proposed model allows for.

The results of installing an effective governance regime for England's major roads can be traced through the consequences for these roads (ensuring they are fit-for-purpose – intuitive and consistent to use, offering value for money and economic benefits, and 'Future Ready') to the specific benefits they offer (in terms of safety, journey time reliability, and experience for road users, and in terms of unlocking growth for the English economy).

Finally, this paper acknowledges the inherent uncertainty of planning for the future, particularly under the fast-changing circumstances of England's current transport network; looking at some of the issues expected to impact the MRN in the future, it explores how scenario planning may help England's major roads remains resilient in the near future and beyond, and how governance can help in this process.

1

Introduction

1. Introduction

'A MAJOR ROAD NETWORK FOR ENGLAND'

'A Major Road Network for England' (henceforth 'the Quarmby/Carey RJ report') was published by the Rees Jeffreys Road Fund in 2016. The Quarmby/Carey RJ report identified opportunities to enhance the operation and governance of English Roads.

3,800 miles of local authority-controlled 'A' roads were identified by the report as being particularly important to the success of England's regional economies and essential for supporting growth. This proposed premium tier of local authority roads was termed as the Major Road Network (MRN).

Following a positive response to the earlier report from across the highways sector and public consultation earlier in 2018, the Department for Transport (DfT) is pursuing the creation of a MRN in England. The burgeoning sub-national transport bodies (STBs), meanwhile, have taken impetus from the Quarmby/Carey RJ report's publication and, in response to the DfT consultation, have urged the Government to ensure STBs have an integral role in the MRN's definition and implementation[1].

Existing and emerging responsibilities for road governance at local, regional, sub-national, and national level are intricate and intertwined; we are therefore dependent on a complex web of relationships to deliver the vision of the MRN as a game-changing approach to the planning, management, and operation of England's major roads.

This paper proposes a route through the challenges in delivering the MRN, and will examine the benefits that could be expected from a consistent 'MRN approach to governance' and the conditions necessary for realising this. In particular this paper will examine:

- Governance of the MRN: what governance is and isn't, why good governance is essential to the success of the MRN, particular governance issues such as corporate responsibility, funding, and decision-making structures, and an overview of which organisations might provide governance leadership for the MRN – LHAs, Highways England, DfT, and the STBs.
- The critical role of the STBs in directing the approach to the MRN at a regional level: their current and potential powers and constitution, funding sources, and the incentives which may be required for Highways England and LHAs to cooperate fully in their creation and development.
- Challenges for the STBs in realising an effective MRN: exploring the balance required in negotiating the extremes of continuity and change, top-down and bottom-up dominance, mandated common national requirements and local idiosyncrasies, structural rigidity and flexibility – in order to create an MRN which effects meaningful change whilst proving beneficial (or at least acceptable) to all parties, providing the foundation for the long-term success of the MRN as a concept – England's major roads planned and managed as networks at a regional level, facilitated by meaningful and effective collaboration between England's major transport bodies.
- What the MRN aspires to achieve in practice: establishing how 'fitness for purpose' can be defined for the variety of roads incorporated within the MRN network and how to establish multiple tiers of target performance metrics to help achieve meaningful improvement in the areas of safety and operations, whilst also ensuring the MRN strives towards being 'Future Ready', particularly in regard to infrastructure, technologies and demand management techniques.
- The outcomes which would define a 'successful' MRN implementation for the road user.
- A look at the challenges, opportunities, and next steps which lie ahead for the MRN: using Scenario Planning techniques to explore the range of potential paths available for the evolution of the MRN.

1 www.midlandsconnect.uk/latest-news/sub-national-transport-bodies-issue-unprecedented-joint-response-to-major-road-network-consultation/

DEFINING THE MRN

DfT has built on the groundwork provided in the Quarmby/Carey RJ report to suggest its own indicative MRN[2] comprised of circa 5,000 miles[3] of LHA-controlled A-roads; the quantitative (traffic flows, volume of freight traffic) and qualitative (linking major conurbations, economic activity, transport hubs etc) criteria it has based this on – and the resulting MRN map – are similar to those laid out in the Quarmby/Carey RJ report, with the added criteria explicitly stated of ensuring that: a) de-trunked roads are included in the MRN (where appropriate); b) the MRN forms a coherent network; and c) the MRN works in conjunction with the SRN to provide mutual access and resilience.

The indicative MRN proposed by DfT is displayed in Figure 1. DfT has noted that the exact composition of the MRN will be subject to review (every 5 years proposed in the 2018 MRN consultation)[4] to reflect changing road use over time.

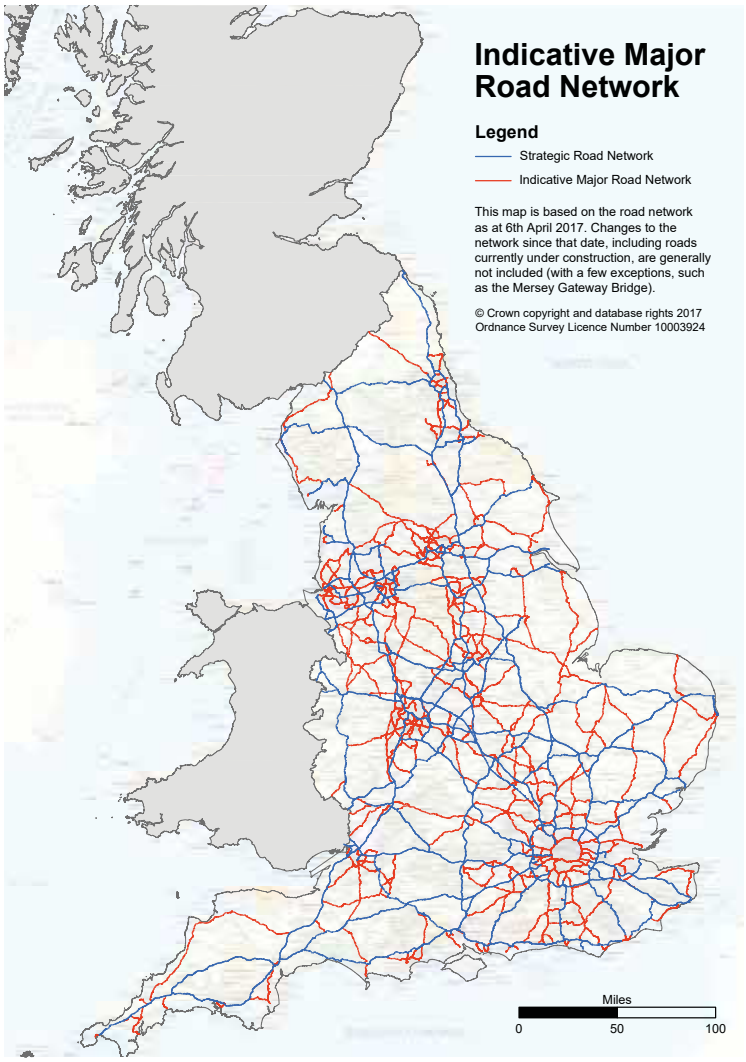

Figure 1 – Department for Transport Indicative Major Road Network (2018)

2 A Major Road Network for England', p.14
3 www.gov.uk/government/news/major-road-network-investment-to-boost-motorists-journeys
4 'Proposals for the Creation of a Major Road Network', p.26

WHY IS THE MRN NEEDED?

Governance

The SRN is relatively well-resourced and effectively planned; guaranteed funding enables Highways England to develop highly detailed Road Investment Strategies (RIS) over five-year road periods. LHA-controlled roads, by contrast, suffer from uncertain and disparate funding sources with consequent shortfalls in effective planning and operation (particularly maintenance) regimes for these roads. Spend per route-mile on the SRN was calculated in the Quarmby/Carey RJ report as being x5.5 greater than equivalent spend for LHA-controlled A-roads, as shown in Figure 2[5]. These problems are exacerbated by disparities between the governance and management regimes of LHAs, with no nation-wide standards on what 'fit for purpose' roads look like or defined metrics to measure LHA-controlled roads in performance.

At present English roads operate under a two-tier system. The Quarmby/Carey RJ report argues that such a structure is simplistic; that a class of road exists between these two tiers – the MRN – which merits greater certainty of funding and consistency of planning than LHA-controlled roads receive at present, and that the current governance structure for England's roads is not adequate for managing this new class.

An MRN approach would seek to increase cooperation between LHAs and Highways England and enhance strategic planning at a regional level.

Table 2.1: Summarised comparison of relative spend on the Strategic Road Network and on local highway authority 'A' roads

Total spend in 2015/16	£'000 per route-mile	£'000 per lane-mile	£'000 per million vehicle-miles*
Strategic Road Network	643	146	16
Local authority 'A' roads	117	51	12
Forecast spend in 2019/20			
Strategic Road Network	911	207	16
Local authority 'A' roads	108	47	11

*Per vehicle miles figures are for maintenance spend only

Source: Supporting Document 1, based on just over a third of 2014/5 maintenance-only spend for all LHA roads being on LHA 'A' roads and the small length of LHA motorway.

Figure 2 – Quarmby/Carey RJ report, relative spend on SRN and LHA-controlled A-roads

5 'A Major Road Network for England', p.8

Road user

Road users regularly using roads on the proposed MRN face a significantly lower quality of road than users on comparable SRN roads. Asset condition, safety, and performance outcomes on LHA-controlled A-roads lag well behind outcomes for comparable roads on the SRN[6]. In addition, the incoherence of the current governance regime – of LHAs not working well consistently with each other, or with Highways England – can lead to incoherent traffic management tactics to the detriment of road users on both the SRN and LHA-controlled roads – for example, road users being diverted towards roads suffering congestion problems due to communication failures.

Incoherent governance is matched by incongruent road management and operation; with no common framework of standards (eg performance metrics) agreed between LHAs, roads may be managed and operated in significantly different ways depending on the LHA in which the road is based, leading to significant disparities in road standards which undermine the (performance-enhancing) ambition to provide a consistent, intuitive environment for road users.

An MRN approach promises to enhance performance for the (by definition) significant numbers of users of these roads, developing 'fit for purpose' governance, management, and operational regimes to ensure 'fit for purpose' major roads.

Economy

Adopting an MRN approach would also bring significant economic benefits at the regional and national levels. To be considered 'fit for purpose' major roads must play a role in connecting markets – housing with jobs, suppliers with producers, producers with consumers. The MRN cannot be considered as 'fit for purpose' in this respect given its failings, whether its roads are viewed in isolation (poor performance due to under-funding and under-planning) or as a network as a whole (incoherent, incongruent, lacking defined standards and metrics). The problem is exacerbated by the regional skew of the SRN, meaning that some regional economies (eg in the south-west) are dominated by second-tier roads.

The MRN at present represents an asset which is not being used to its full potential, failing to achieve standards commensurate with its importance and failing to provide adequate support and connectivity to both the SRN and other local roads. Without shared frameworks for investment planning or sharing best practice, LHA-led schemes too often fail to offer the best value they could. An MRN approach would intend to improve economic performance by enhancing the growth-supporting capabilities of England's major roads, and by working to improve the investment performance of the LHAs charged with managing these roads.

In facilitating residential, commercial and industrial development, the MRN can expect substantial funds from organisations which benefit directly via eg Section 106 developer contributions. In these scenarios the MRN is providing all-round benefits to English economy at a low cost to taxpayers and therefore providing its own justification.

6 Ibid., p.9

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Governance of the MRN

2. Governance of the MRN

Delivering and operating the MRN will require strong governance to ensure effective organisation and delivery of DfT's strategic goals. This paper focuses on ensuring that good governance is present. Figure 3 elucidates the difference between the governance, management, and operations roles in highway delivery.

Figure 3 – Governance, management, and operations in highway delivery

WHY DOES GOVERNANCE MATTER?

Considerations of governance can feel abstracted from the important considerations in assessing England's major roads: the day-to-day experience of road users and the ability of roads to support the regional and national economies. However, governance can affect these important considerations in a number of ways:

- Governance establishes what an organisation is doing and will continue to do: from a major roads perspective, it is an issue of governance that a set of England's roads are defined as the SRN and managed by Highways England, and that other roads are defined as local roads and managed by LHAs with no coordinating body (beyond DfT) providing focus for their efforts. Given the problems already identified for both road users and the economy which derive from England's two-tier road system, from historic under-investment and ineffective planning and management regimes for England's local roads, it follows that targeting these governance issues will reap significant benefits where it matters.

- Governance defines what a 'good' outcome is for an organisation over the long-term: governance involves a long-term focus and defines the broad objectives an organisation plans to achieve (the achievement of these objectives being part of the more tactical, short-term focus of management). If England's two-tier road system is problematic then what 'good' outcomes should we seek from an MRN? From a governance perspective:
  - ensuring the strategically-significant major roads in England are part of funding and planning regimes commensurate with their importance;
  - the MRN is managed increasingly as one coherent network;
  - the SRN, MRN, and local roads are managed in a way which ensures they are mutually complementary;
  - regional economic rebalancing; etc.

- Governance lays out a path for the achievement of the 'good' (and avoidance of the 'bad') outcome: governance requires a strategic vision for the achievement of an organisation's long-term goals. In part this involves establishing effective decision-making structures for ensuring the organisation is set up effectively to solve the problems it faces in achieving its goals; in part this will involve the pursuit of 'big ideas' an organisation should pursue in the achievement of these goals. For the MRN a point of emphasis in improving the performance and coherence of England's major roads lies in enhanced cooperation between the various bodies charged with managing these roads (DfT, Highways England, and LHAs).

- Governance persists: whilst management and operational regimes work on a shorter-term focus, and whilst (what are considered) 'good' management/operational approaches may change quickly according to the needs of changing circumstances, governance structures are usually more difficult to change and may give a more permanent structure to the work of an organisation. Getting the 'right' structure in place will therefore have a profound effect on an organisation's ability to be continually effective over the long-term. Whilst there is plenty of current enthusiasm for the MRN concept at various political levels, there is no guarantee that this enthusiasm will persist; it is therefore imperative that the governance structure for the MRN is designed in such a way that the MRN will be continually effective regardless of current levels of political will and/or appetite for cooperation. Such a structure may, of course, be designed to be flexible and responsive to change; this resilience would be appropriate for fast-changing environments where priorities and best practice approaches are rapidly changing; transport may be considered one such environment.

- Governance influences culture and behaviour: in determining the ultimate goal(s) an organisation is trying to achieve, and how the organisation will go about achieving these goals from a strategic perspective, there is ample scope for the governance side of an organisation to influence the behavioural and cultural side of an organisation. In determining the right values for actors within the organisation to follow, and setting appropriate expectations for actors within the system, effective governance can minimise the dependence of actors in the system to be led by proscriptive structures, enhancing the probability of effective conventions and *modi operandi* emerging. Trying to change ineffective governance-led behaviours later on can be a difficult and expensive process; getting things 'right first time' increases the probability of consolidating the right culture and behaviours early on – and therefore of organisational success.

GOVERNANCE APPROACHES

Consideration needs to be given as to where the 'engine of governance' should lie for the MRN. We have given consideration to four different entities:

- Local Highway Authorities (LHAs)
- Highways England
- Department for Transport (DfT)
- Subnational Transport Bodies (STBs)

This shortlist discounts the creation of a new MRN management body styled in the image of Highways England, which as a hypothetical new organisation doesn't seem to offer an efficient model for delivery and would unnecessarily increase the level of complexity regarding stakeholder relationships. We have also discounted an increased role for Local Enterprise Partnerships (LEPs) – this is not considered to be feasible given the variability in coverage, consistency, and amount of overlap with both LHAs and STBs in thinking.

That leaves four feasible options.

(1) Local Highway Authorities

LHAs already govern the roads being assigned to the MRN; it might be suggested that there is no strong reason why this arrangement should be discontinued. However, given the development of the MRN concept, this no longer appears feasible – the objectives of strategic investment and development, as well as network consistency of performance and measurement, demanded by the MRN concept cannot be delivered across the MRN if governed at this level. For governance to remain at this level would simply risk retaining the status quo.

(2) Department for Transport

If national consistency is required then governance implemented at a national level is required. At DfT level this would jeopardise the importance placed on local decision making which has been central to recent government transport investment procedures – tied to political checks and balances but ones firmly rooted in Whitehall. Whilst LHAs risk being 'too localised' and disparate, DfT lacks the localised intelligence and transport management networks to implement governance of the MRN without a significant investment in DfT resources and expansion of its role. That would not fit the mould of current political thinking and be at odds with wider policies that the MRN needs to be attuned with.

(3) Highways England

Highways England, with its area-based management approach, would be a more obvious fit, able to call on local insight and input and existing expertise whilst able, as an organisation at the national level, to manage the network as a whole. However, Highways England is further from elected political accountability than the aforementioned bodies, and the transfer in knowledge required from the LHA sphere may be unrealistic to achieve in the short and medium term. This may also be a politically unacceptable option – it is unclear how inclined Highways England would be to adopt this new role given the significant expansion in role and performance targets (without any clarity on how this would be funded) which this shift would entail, whilst LHAs are likely to express significant opposition to the removal of their power and responsibility for managing the MRN in their respective areas. Fundamentally, driving the governance of the MRN may risk diluting Highway England's strong and targeted focus on the primary arterial routes of the SRN.

(4) Subnational Transport Bodies

The best fit in our view would be at a level with a regional focus, with an ability to draw in expertise from LHAs and Highways England without being beholden to either whilst being few enough in number to allow for consistency with room for some variability to meet local requirements. On that basis STBs have been identified as the 'engine of governance' in the decision-making structures involved in managing England's major roads, capable of bringing enhanced cooperation and regional strategic thinking to the organisation of the MRN. This paper therefore will focus on the importance of the STBs and their role in the MRN concept.

3

Enter the Subnational Transport Bodies

3. Enter the Subnational Transport Bodies

STBs are groups comprised of LHAs in a self-determined region with the objective of preparing and implementing transport strategies for their area. The 2008 Local Transport Act gave DfT the power to establish STBs for the development and implementation of regional transport strategies which would contribute to local economic growth. STBs are currently at different stages of formation; the most advanced of these bodies (at the time of writing) is Transport for the North (TfN), which was first mooted in 2012, first met in 2015, and was established as a statutory body in 2018.

STBs have the potential to provide the 'missing link' between LHA-led schemes and road management at the local level, broader considerations of how such schemes interact with the wider regional transport network, coordination of schemes and network management with Highways England and the SRN, and questions of funding and national planning with DfT. STBs enable LHAs – which are to assumed have the most in-depth knowledge of their local networks and communities, and are therefore best placed to determine strategic local priorities and effective road management tactics – to retain a significant influence and direction over the MRN, whilst acting as a unifying force in bringing much-needed values of consistency, coherence, and best-practice sharing to the MRN and opening up lines of communication between the LHAs, Highways England, and DfT.

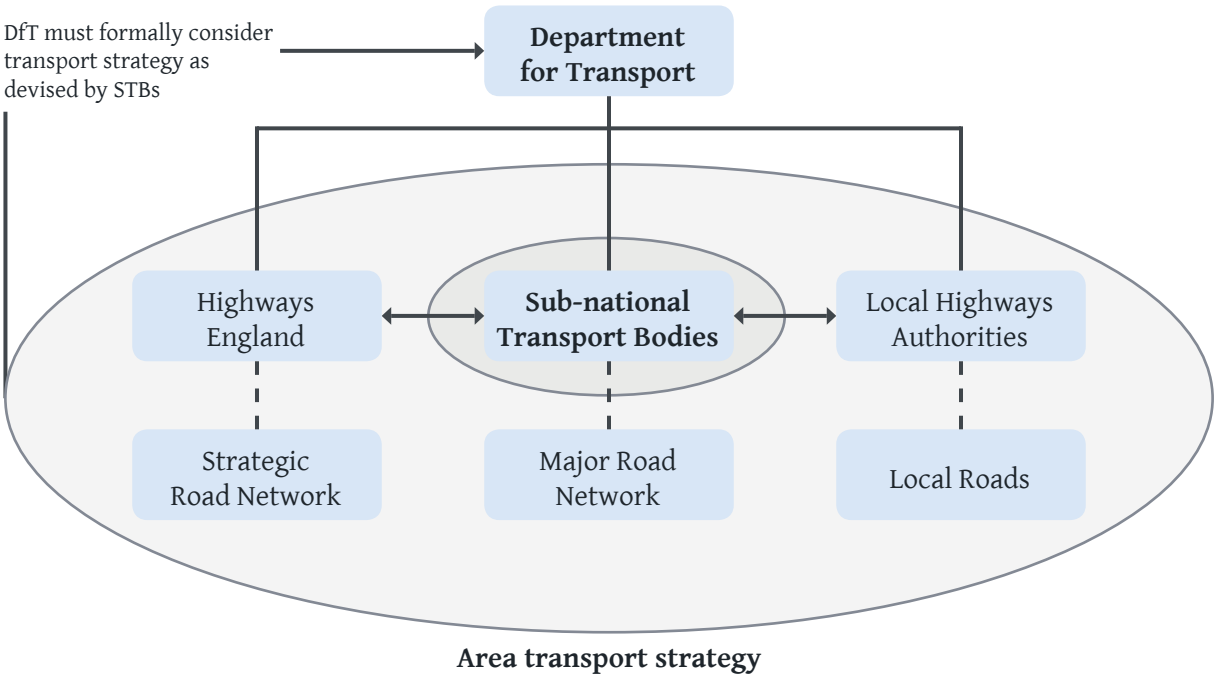

Figure 4 – Model road governance structure incorporating STBs (based on Transport for the North)

POWERS

The Local Transport Act 2008 outlines the general functions which an STB is empowered to carry out[7]:

> The Secretary of State may by regulations provide for an STB to have any of the following functions in relation to its area:
>
> a) to prepare a transport strategy for the area;
>
> b) to provide advice to the Secretary of State about the exercise of transport functions in relation to the area (whether exercisable by the Secretary of State or others);
>
> c) to co-ordinate the carrying out of transport functions in relation to the area that are exercisable by different constituent authorities, with a view to improving the effectiveness and efficiency in the carrying out of those functions.

On acquiring statutory status, DfT proposed to grant TfN the power to[8]:

- produce a statutory transport strategy for the North which the government must formally consider when taking funding decisions;
- fund organisations to deliver transport projects, for example, this could include transport operators delivering smart ticketing in the North;
- work with local authorities to fund, promote and deliver road schemes – and be consulted on rail franchises in the North; and
- take forward smart ticketing to bring in faster, easier rail travel.

The statutory powers of STBs are primarily advisory and communicative; the lack of decision-making powers for the STBs, uncertainty over how these powers will be manifested in practice (with functions exercisable jointly/concurrently with DfT and LHAs), and uncertainty over how STB-led schemes are to be funded in the long run, have been subject to challenge[9].

7 Local Transport Act 2008, Part 5a, 102H
8 www.gov.uk/government/news/north-set-to-become-first-region-in-country-to-get-new-transport-powers-from-government
9 eg. www.bbc.co.uk/news/uk-england-42663047

CONSTITUTION

The Local Transport Act 2008 provides a general overview of what constitutional features and STB must exhibit[10]. The legislation establishing TfN describe how the constitution of a typical STB may look in practice[11].

- Each constituent authority appoints either its leader or head of transport to be a voting member of TfN.
- Further co-opted members (who are non-voting) may be appointed by voting members of TfN.
- Each local transport authority appoints one of its elected members to be a co-opted member of TfN.
- TfN must appoint one chair and one (or more) vice-chairs from amongst the members (including co-opted members) of TfN each year.
- There are to be at least four meetings per year of TfN for the purposes of: approving/revising TfN's transport strategy; approving TfN's annual budget; adopting any changes to TfN's constitution.
- A Scrutiny Committee, with one member appointed by each voting member of TfN, is established to: review or scrutinise decisions made or actions taken by TfN; make reports or recommendations to TfN with respect to its discharge of its functions; make reports or recommendations to TfN on matters relating to transport within TfN's area.
- A Partnership Board, with its chair appointed by TfN, is established to advise TfN on matters relating to transport within TfN's area.

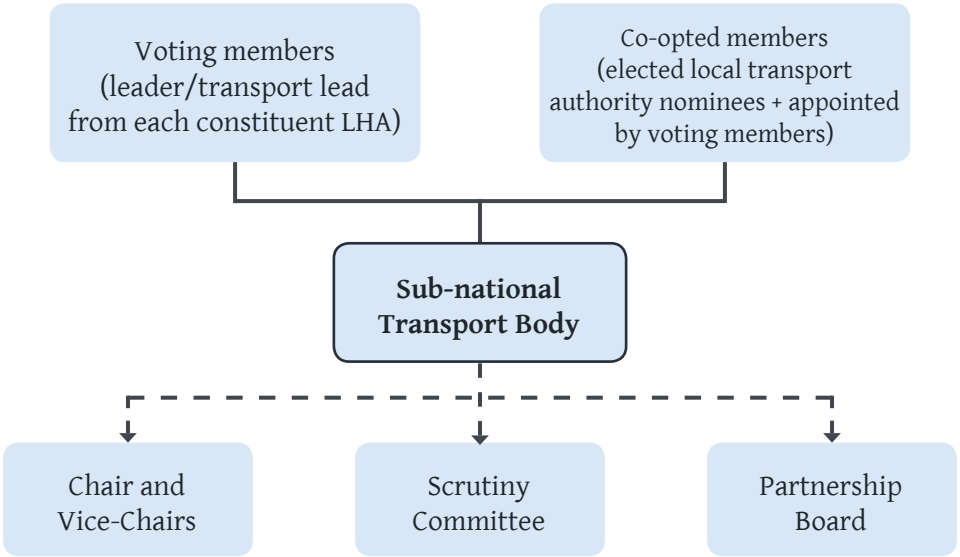

Figure 5 – Model STB constitution (based on TfN)

10 Local Transport Act 2008, Part 5a, 102G
11 The Subnational Transport Body (Transport for the North) Regulations 2017

FUNDING

STBs have statutory powers to direct regional transport strategic priorities and to apply for funding for priority schemes via DfT. DfT retains control of funding under the current model (as opposed to, say granting a certain amount of monies per five year period to each STB). The DfT has confirmed an intention for dedicated funding from the National Roads Fund (NRF) to be used[12]; however, the Association for Consultancy and Engineering (ACE) has suggested[13] that the growth in zero emission vehicles renders this funding source as precarious in the long run and suggests that other funding sources (eg ring-fenced funds from revenues raised from road user charging) need to be explored to guarantee a long-term future for the MRN.

STBS AND THE MRN

Just as the MRN is mooted to provide vital connectivity at a regional level, STBs have been developed to reintroduce strategic transport planning at the regional level. Together, the STBs and the MRN represent a step towards regionalism; STBs and the MRN should fill in the gaps within the governance of England's major roads, ensuring the network does not split off into two distinct tiers and the decision-making structure is poised effectively between the DfT, Highways England, and LHAs. Finding this poise, for the STBs and the MRN, is the challenge we face in achieving this vision for England's major roads.

Whilst STBs are the natural bodies to deliver this network, we propose that regional-level road governance is the missing link in the management structure for England's roads, and that the STBs should be further empowered to address this challenge in the right way.

12 Proposals for the Creation of a Major Road Network', p.28
13 Department for Transport Consultation: proposals for the creation of a Major Road Network ¬– ACE response March 2018, p.6

4

Achieving the Right Balance

4. Achieving the Right Balance

For the STBs to function effectively as the 'missing link' in England's highway management system, they need to be positioned effectively within the current structure, between the unified national voice of the DfT and the numerous LHAs. They need also to find a robust and sustainable relationship with Highways England, with a clearer definition of the overlapping powers and responsibilities for each body.

The MRN needs to be given an appropriate place in the multi-modal transport network, with a planning and long-term funding regime fit for its importance and function. Finding the right balance between these competing demands of local and national concerns is integral to the STBs and the MRN succeeding in enhancing the English road network, in finding a compromise between effecting meaningful change to the English road network whilst ensuring such change is acceptable to all parties.

Key governance issues to be considered when discussing the right balance for the STBs and the MRN include:

- **Structure** – defining the roles and responsibilities for DfT, Highways England, STBs, and LHAs in the governance of England's roads.
- **Coordination** – how governance feeds into management of England's road network, ensuring effective operational coordination between the SRN, MRN, and LHA-controlled local roads.
- **Funding** – ensuring sufficient money is allocated to the right locations to maximally benefit England's economy and road users, including setting appropriate investment assessment criteria.
- **Strategy** – establishing principles for how a regional, network-wide long-term strategic focus can be introduced to the MRN, with coordination at regional and national levels.

BETWEEN EVOLUTION AND REVOLUTION – DEVELOPING THE STBS AND THE MRN

The development of the STBs over the past decade represents a major development in the structure of English road governance over the past ten years. STBs are now the key drivers of coordination between the SRN, MRN, and local roads in their regions, and are expected to be the key drivers for MRN investment and planning decisions via STB development of regional evidence bases and business cases for DfT consideration.

Nonetheless, existing transport bodies continue to fulfil many of the same functions as they did before. Highways England has been largely unaffected by the growth of the STBs and the proposed approach to the MRN; LHAs have come together to form the STBs and been obliged to adopt more of a 'network approach' to investment planning, but remain the primary source of local intelligence and the primary advocates for central funds. DfT retains financial control of local roads. Whilst the STBs have taken an advisory and coordinating role, they have been granted few significant powers in the governance structure of England's roads.

The significant change to the governance structure of England's roads is already well under way, though it must be ensured that this momentum does not stall (eg for East and South-West STBs). Whilst DfT is displaying understandable caution in these early days of STB-driven regional strategies, we would argue that further change may be needed to ensure the STBs do not end up as 'paper tigers'.

As well as seeking continuing evolution in the extent of power granted to the STBs, we recommend a review of the statutory composition of the STBs themselves. The ability of STBs to entirely appoint their own scrutiny committees is of questionable merit. It is rarely a good idea for bodies to appoint their own regulators. It might be considered whether the scrutiny committee for STBs might

be composed of members not entirely appointed by the STB themselves; for instance, including representatives from Highways England, DfT, Transport Focus, Office of Rail and Road (ORR), other STBs, and so on.

Beyond the question of 'how much change' is needed, we might also consider 'what kind of change' is necessary. The MRN – with its high traffic flows, high rates of professional users, and STB-led management regimes – has the potential to be a fertile testing ground for emerging and disruptive road innovations such as HGV platooning, automation, road user charging, etc.

BETWEEN FLEXIBILITY AND RIGIDITY – RELATIONSHIP WITH HIGHWAYS ENGLAND

Flexibility in a system of governance is a positive virtue; overly proscriptive structures defining precisely how a system is to work may be removed from reality, may prevent pragmatic solutions and ways of working from developing, may strangle innovation, and may render an organisation incapable of adapting to changing circumstances.

Enabling actors within the system to develop effective, informal conventions on ways of working together can enable flexibility to 'fill in the gaps' in the structure of governance in a mutually beneficial way and even discover areas of improvement for the formal, more defined aspect of the structure.

Such flexibility is likely to be beneficial where there are incentives for working together – where there are areas of mutual benefit, and possibilities of communication, to exploit. Where these incentives do not exist, relying on informal working conventions is less likely to be effective. With no formal obligation to interact, actors within the structure may retreat into patterns of non-communication and non-cooperation.

At present the relationship between Highways England and the STBs has been minimally defined and flexibly conceptualised; there is an expectation that STBs and Highways England will naturally cooperate and develop effective ways of working together. There is no guarantee of this persisting in the long-run, particularly given the (at present) confusing overlap of powers between the two bodies, potential for conflicts over how scarce resources should be allocated between the SRN and MRN, and possibilities of repeated disagreements over where priorities should lie in managing the two networks.

Cooperation between the STBs and Highways England is being driven in part by the novelty of the relationship and current levels of political goodwill towards STBs and the MRN concept. There is no guarantee that this cooperation will persist once political attention is directed elsewhere; 'cooperation with the STBs' or 'support for the MRN' are not part of Highways England's KPIs and, if made so, would further complicate the power relationship between these bodies. To ensure the longevity and resilience of the STBs and their role in the governance of England's roads, the relationship between Highways England and the STBs should be further clarified and formalised.

The current overlap of powers between Highways England and STBs for strategic and regional planning is confusing and potentially contentious, particularly given the – at least partially – arbitrary separation of the SRN and local roads, a distinction the MRN concept would seek to blur further. To mitigate the problematic ambiguity of this power dynamic, this report recommends that the STBs are designated by DfT as the pre-eminent voice in determining overall regional transport policy, incorporating the MRN and SRN. STBs are the bodies best-equipped to bring a more holistic focus on network and corridor planning approaches, to the benefit of the economy and road users, as against the more exclusive SRN focus of Highways England.

Highways England has extensive expertise in areas such as investment planning, network management etc, which would be of significant benefit to the fledgling STBs facing such problems for the first time; DfT proposes a 'supporting' role for Highways England vis-à-vis the MRN[14], whilst ACE goes further in recommending that Highways England play a leading, coordinating role in the development of the MRN programme[15]. LEPs, identified in the Quarmby/Carey RJ report as the natural agents for ''joining the dots' of spatial planning, economic development, and transport interventions'[16], should also be ensured a formal place within the STBs. Both Highways England and the LEPs have expertise to offer the STBs and have a stake in the strategic transport decisions made by STBs. This report recommends both bodies are granted guaranteed representation on the STBs at a regional level, with positions available as co-opted board members and as members of the scrutiny committee.

BETWEEN TOP-DOWN AND BOTTOM-UP – RELATIONSHIP WITH GOVERNMENT

The DfT remains the ultimate power in English transport hierarchy; the extent to which this power should be devolved is questionable. DfT's presence offers the potential to resolve disputes between Highways England and the STBs, enabling the system to incorporate a degree of welcome flexibility, room for negotiation and accountability.

Whilst Highways England is fully funded for five-year periods to deliver programmes of investment, STBs may need to apply for funding for MRN schemes on a case by case basis directly from DfT having developed regional evidence bases to support investment planning.

There are advantages and disadvantages to this model. Advantageously, it helps to drive higher and uniform investment planning standards across the STBs; this will help to ensure better value for money from LHA-driven schemes than is currently the case. It will also act as an incentive to ensure those remaining LHAs operating without STB coverage – notably in the South-West and East of England – work quickly to establish STBs in their respective areas. CBI has highlighted the difficulties that some regions have faced in creating STBs and the potential for economic disparity between these regions and others given their inability to plan transport at a regional level[17]; this could lead to the very opposite of the regional economic rebalancing pursued as a primary objective by DfT.

However, DfT's degree of control over the funding vis-à-vis STBs and the MRN may be problematic. How this approach is to be managed remains to be clarified; if relying purely on benefit-cost ratios (BCRs) and traditional business cases, investment (as with rail) is likely to continue skewing towards better-resourced areas such as the South-East – once again undermining the emphasis on regional economic rebalancing. Beyond this, keeping a tight rein on finances removes a potential incentive for regions to innovate and experiment in investment planning, going beyond DfT criteria to provide superior investment planning and generate better practice for other regions to emulate.

This report recommends that a portion of MRN funding is given directly to the STBs according to a set ratio determined by DfT to support the objective of regional rebalancing; this will incentivise the rapid creation of STBs in regions where they do not currently exist and encourage STBs to innovate in their use of investment funds.

14 'Proposals for the Creation of a Major Road Network', p.29, 31
15 Department for Transport Consultation: proposals for the creation of a Major Road Network – ACE response March 2018, p.10
16 A Major Road Network for England', p.20
17 'Driving Delivery: Turning Plans into Action on Regional Infrastructure', August 2018, pp.16-21

DfT should also consider how business cases might be developed which make the case for investment beyond traditional criteria such as BCRs – towards a better-balanced economy, connectivity of settlements and transport modes, and so on. These would point in the direction of generating a more appropriate set of investment assessment criteria.

This report repeats a point made in the ACE report[18] – focusing on the MRN/SRN connection exclusively ignores the importance of local roads to road users. A risk exists to local roads in that any increase of funding to the MRN may come at the expense of local road funding, creating a new chasm between road types further down the line. The MRN concept should not ignore the importance of road users, and therefore investment criteria should not ignore the MRN's impact on local roads.

BETWEEN UNIFORMITY AND PARTICULARITY – RELATIONSHIP WITH THE LHAS

Uniformity is held up as a value for the STBs and the MRN to aspire to throughout this paper – consistency of structure within the STBs, of investment planning regimes, of experience for road users. However, this may be seen as impractical given the diversity of roads seen within the MRN, and at times even undesirable where the drive towards uniformity conflicts with the importance of 'intuitive' driving experiences in tune with local networks and circumstances.

From a governance structure perspective, DfT and Highways England currently deal directly with individual STBs; it seems structurally peculiar that there is not a pan-STB body charged with overseeing consistency of high standards across the STBs, and for negotiating with DfT and Highways England on high-level network and national planning issues. An STB executive, perhaps composed of STB chairs, vice-chairs, and relevant co-opted members from transport bodies of national importance (eg Highways England) to formally unite the STBs should be established.

From an investment planning perspective, it is an unequivocally positive development that MRN roads currently under LHA control are moving towards coherent regionally-driven corridor strategies. Broad uniformity of investment planning regimes with a regional focus should be the model going forward.

From an MRN perspective, simple uniformity is unachievable; the MRN comprises a variety of roads of significantly different characteristics. Imposing uniformity on this network would be counter-productive; it would neither 'feel' right nor be practically possible. It is right that the MRN remains managed by LHAs, with the local knowledge required to ensure roads are developed and managed in a way sensitive to local conditions.

But uniformity can be achieved in other ways. Rather than focusing on the MRN as a monolithic network, the roads within the MRN can be analysed into three or four distinct, similarly-configured 'tiers'. Focusing on these distinctions enables us to drive for like roads to resemble like roads, for performance metrics to be developed which can road performance of similar roads across the network, driving the network towards ever-increasing consistency and excellence. This vision of a 'fit for purpose' MRN provides the focus for the next section.

18 Department for Transport Consultation: proposals for the creation of a Major Road Network – ACE response March 2018, p.11

SUMMARY OF RECOMMENDATIONS

- STBs remain underpowered and what powers they do have remain ill-defined; there should be a move towards greater empowerment and clarity for the STBs.
- Broadly uniform constitutions for the STBs would be useful to ensure a degree of consistency.
- The composition of the scrutiny committee for STBs needs reconsidering; bodies appointing their own regulators exclusively is rarely a good idea. Scrutiny committees should be composed of appointees independent of the STB being scrutinised.
- The MRN should be considered as a natural 'testing ground' for on-road innovations eg road user charging, HGV platooning, autonomous/connected vehicles, etc.
- The relationship between the STBs and Highways England and the LEPs should be formalised, with Highways England and LEP representation on the LEPs as co-opted members and as members of the scrutiny committee.
- The role of STBs and Highways England in directing regional transport strategy is overlapping and confusing, particularly as the division between the SRN and the rest of the road network is (at least partially) arbitrary. STBs should be designated as the unequivocal leading bodies for directing regional transport policy, with Highways England guaranteed representation on STBs at the regional level.
- Remaining areas of England without STB coverage (South-West, East of England) should be incentivised to create STBs as soon as possible; it is right that DfT should strongly encourage all parts of the UK to plan transport at a regional level and to focus infrastructure spending on those bodies who are best placed to make investment decisions offering good value for money.
- At least a portion of DfT funding for the MRN programme should be allocated directly to the STBs with the intention of a) promoting regional economic rebalancing, and b) encouraging innovation and efficiency savings in delivery.
- Business cases should be developed away from exclusive reliance on BCRs to towards a more holistic set of criteria (regional rebalancing, settlement connectivity, etc).
- An 'executive council' of STBs should be considered as a pan-STB body for direct dealing with DfT and Highways England and to drive coordination and uniformity of STB standards.
- A definition of what a 'fit for purpose' MRN and common performance metrics across the network are needed, which can satisfy the twin demands of the need for greater network consistency and an understanding of the network's diversity. This will lead to a consideration of different 'governance regimes' for different tiers of the MRN.

5

MRN: ‘Fit for Purpose’

5. MRN: 'Fit for Purpose'

In discussing what a 'fit for purpose' MRN might look like, we need to understand the purpose for which the roads on the MRN have been configured and the function which these roads are expected to perform. We need a standard of what 'good' looks like before comparing the current network against this standard and seeking to push a network in this direction.

In reality, the MRN is comprised of a variety of road types with different characteristics. The Quarmby/Carey RJ report analyses the roads on the MRN into four road types[19]. These roads are summarised in Table 1:

	Type	Access	Location	Function	Other	Average speed	Predictable variation (congestion)	Unpredictable variation in journey time
Tier 1	Motorway-standard A-roads	Limited	Inter-urban	Inter-urban 'movement'	Well-suited for long-distance traffic, freight etc	High (60 mph)	Low	Low
Tier 1a	Major urban A-roads	Limited	Urban	Mixed	Subject to wider transport planning/ management of city LHA	Moderate (40 mph)	High	Low
Tier 2	Rural A-roads	Multiple	Rural	Largely 'movement' – links between secondary urban roads	Occasional 'place' needs for serving local communities	Moderate (40 mph)	Low	Moderate
Tier 3	Significant urban arterial roads	Multiple	Urban	Significant 'place' function	Greatest mix of road user types, with 'vulnerable' road users prevalent	Low (20 mph)	Moderate/ high	Moderate/high

Table 1 – MRN road types, definition

This report proposes that, beyond a general high-level framework of standards applicable to all MRN roads, the STBs should aim to establish separate (safety risk, operational, maintenance etc) governance regimes for the four tiers of road established in the Quarmby/Carey RJ report. These four different regimes would establish:

- definitions of what the 'standard' road should look like for each tier (as in Table 1 above); and
- performance metrics for assessing ongoing road performance for each tier.

Such a division of governance regimes is not unprecedented; safety risk governance for Highways England's 'Expressways' programme, acknowledging the diversity of roads proposed for upgrading to this standard, has divided prospective routes into three tiers based on the existing features of these roads.

19 'A Major Road Network for England', p.15, p.25

FIT FOR PURPOSE: STANDARDS

Road user

Key standards for road users will include comfort, safety, speed and reliability, predictability, availability of rest and catering, connection to the rest of the road network, and accessibility. Precise standards will differ widely across the tiers – tier 1 and tier 3 roads will not resemble each other in many of these respects. These standards arguably are most significant for tier 1 roads, which have a greater emphasis on 'movement' and are of most importance to regional and national economies.

Community

Key standards for the community will include noise reduction, air quality, severance, and visual intrusion. Roads with a significant 'place' function – most typically tier 3 roads – will require particularly robust standards for ensuring community acceptability.

Location

Urban tier 1a and tier 3 roads will be subject to quite different location standards than tier 1 and tier 2 roads: they will usually be subject to the transport policy frameworks and traffic management strategies of the urban LHA responsible for managing that city's roads, and will encompass a wider mix of road users (including vulnerable road users). Safety governance for these roads will therefore be considerably different.

'Future Ready'

Road transport is evolving rapidly in England; roads which are fit for purpose today may look out-of-date in the near future. It is therefore important for highways authorities to ensure road networks are 'Future Ready' – designed and maintained with an awareness of the challenges and opportunities presented by developments both within the transport sector and more widely in society. Technological changes to be accounted for include the impact of connected and autonomous vehicles (CAV), electrical vehicles (EV), 5G communications network, and the changing nature of data capture and provision on road networks; demand management techniques which are anticipated to become increasingly salient in the coming years include road user charging and HGV platooning. Ensuring the MRN can be designed and maintained to ensure it is 'Future Ready' will be a challenge; how to meet this challenge is considered further in Section 6 below.

FIT FOR PURPOSE: GOVERNANCE REGIMES

Technology

DfT has divorced the MRN concept from the Quarmby/Carey RJ report's emphasis on using technology to optimise MRN road performance, which is regrettable and should be reversed – from a capacity perspective, demand is expected to outstrip capacity improvements on tier 1 and tier 2 road over the long run, necessitating the use of Systems to ensure performance does not deteriorate unacceptably; from a safety perspective, technology provides an invaluable toolkit for all tiers of road and their respective problems.

Operations/capacity management

Highways England Concept of Operations could be used as network-wide 'best practice' for optimising capacity usage across the MRN. Technology should be used to manage complex traffic flows across the network. The greater emphasis on a) 'network thinking' facilitated by enhanced collaboration, and b) maximising traffic of people/goods rather than traffic flow, enabled by the regional, strategic focus of the STBs, will be invaluable for effective capacity management.

Integration of operations and a deep understanding of the differing roads involved across the MRN and wider road network is essential for aiding in correct operational decision making in reaction to unplanned events/incidents, and in ensuring that planned events/works are fully understood and timed to minimise impact on the road user. The operational governance regime needs to get in tune with (and, where necessary, on top of – in the form of demand management) levels of demand across the four tiers of road.

It might be worthwhile considering the development of a tool which would enable an impact assessment for different kinds of operational interventions on the network (similar to the approach already undertaken for safety management), as is currently being developed for the Highways England Expressways programme.

Safety management

Good safety governance depends on establishing an assured process that stands up to any potential scrutiny at a legal level. Network-wide safety best practices – including the *International Road Assessment Programme (iRAP) and Highways England's Customer Safety Charter* – should be adopted.

Risk assessment should be ex-ante rather than ex-post to make infrastructure safer and more forgiving, with an emphasis on getting things 'right first time'. These need to encompass a wider mix of road users (including vulnerable road users).

There needs to be significant sensitivity to the different safety issues affecting different tiers of MRN road – issues of road design, geometry, and speed limits will be highly salient for tier 2 governance, whilst protecting vulnerable road users will be more significant for tier 3 roads (on which they account for the majority of killed and seriously injured (KSI) casualties).

Nonetheless, 'consistency' and 'intuitiveness' are positive standards to aspire to – within tiers, between tiers, and between the MRN and other networks. The MRN should be governed under a 'safe systems approach, with uniformity in vehicles, infrastructure, and people key.

Asset management

The DfT's *Highways Maintenance Efficiency Programme (HMEP)* should be used as network-wide best practice for asset maintenance regimes.

DfT's MRN proposal suggested restricting MRN funding to major additions, improvements, or renewals[20]. This paper argues that this narrow focus is a significant error; roads should be conceived as whole life investment decisions; separating considerations of maintenance and asset renewal funding from STBs and the MRN money pot exhibits a flawed perspective on how significant proper maintenance and asset renewal are to road and network performance. This is particularly the case given the anticipated shift towards greater vehicle automation and consequent need for road markings and infrastructure to be constantly capable of supporting automated vehicles.

Consideration is needed into how best to manage maintenance and asset renewal across the network. Given the opportunity to exploit economies of scale and existing expertise, and to encourage uniformity of maintenance across the road network, subcontracting maintenance to Highways England could be an interesting option.

20 'Proposals for the Creation of a Major Road Network', pp.32-34

Planning

Allocating funds directly to the STBs would enable rapid intervention in improving or mitigating network performance, for example in cases where obvious bottlenecks are keeping network performance below speed standards, or where high congestion could be reduced via high value-for-money investments (or, particularly on tier 3 roads, by using demand management to maximise throughput by eg investing in improved multimodal integration).

OUTCOMES

Figure 6 outlines the flow from governance regime to broad consequences for England's major roads to the specific benefits experienced by road users and gains accrued by the English economy as a result of the enhanced governance of England's major roads. This flow demonstrates an answer to the question first posed in section 2: why does governance matter?

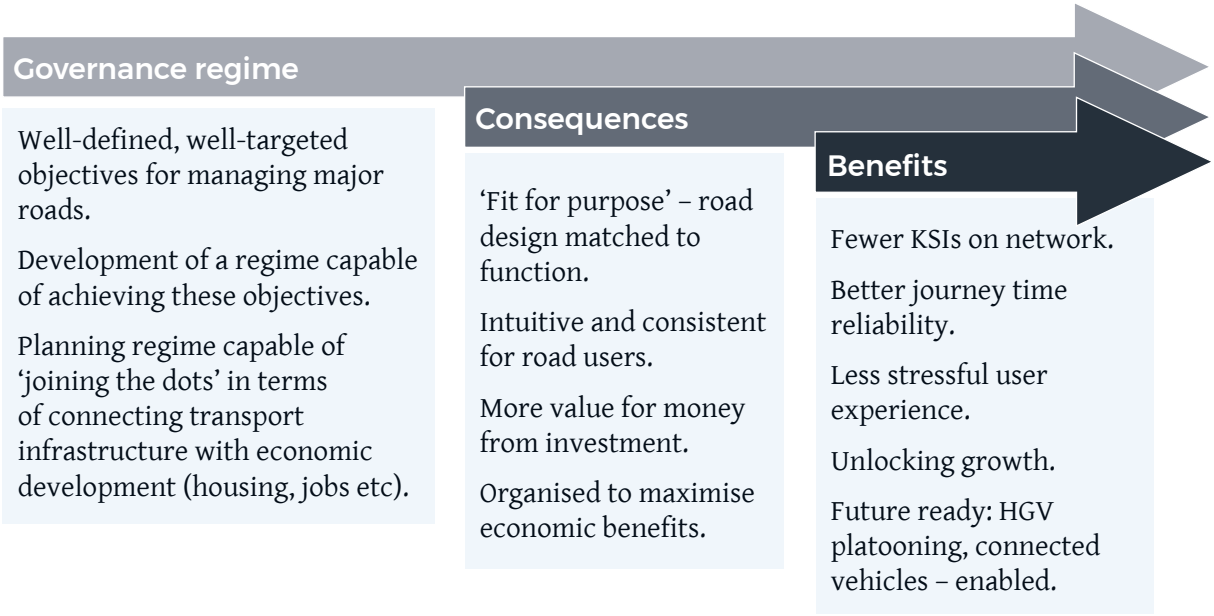

Figure 6 – Governance regime, consequences, and benefits for the MRN

SUMMARY OF RECOMMENDATIONS

- The MRN is comprised of four fundamentally different kinds of roads; a high level of uniformity should be sought across these tiers, but governance regimes and performance metrics should be focused and tailored to these four separate tiers of road.
- Technology is of fundamental importance in ensuring MRN journey time and safety performance remains at or above standard sustainably and without breaking the bank. DfT should acknowledge this in its future investment criteria.
- A tool for assessing the impact of operational interventions on the MRN should be developed.
- Maintenance is of fundamental performance in road performance and network consistency; DfT needs to shift towards more of a 'whole life investment decision' perspective and including maintenance funding for schemes. This is particularly important given the anticipated shift towards vehicle automation.
- Consideration should be given to subcontracting maintenance to Highways England across the MRN.
- Allocating funds directly to STBs – or keeping an emergency fund available – would enable STBs to solve non-major network problems with greater quickness and agility than the DfT proposed model allows for.

6

MRN: Into the Future

6. MRN: Into the Future

ENGLAND'S CHANGING ROADS

Circumstances change, and in road transport we are beginning to see an unprecedented pace of development. The way vehicles interact with the infrastructure is changing; for example connected vehicles are anticipated to be capable of reading road-signs and presenting information in vehicles, and perceiving and lane demarcation for lane assist systems. The way that data is gathered and presented to road users is changing as in-car technologies become more commonplace. We are in an era where technology disruption in road use is going to occur; the question is more 'when' than 'if'.

For the MRN to thrive as an effective network beyond the short-term it must be resilient and capable of adapting to these changing circumstances. How road administrations consider the possible futures within planning and governance is therefore critical to success. Things that are important today may be not in the future; similarly things that are not operationally critical now could become so. Being able to collectively see and develop approaches to solving problems consistently, irrespective of road type or operator, will ensure the best realisation of the potential benefits that technology presents. Consistently and collectively adjusting governance approaches in these areas could lead to a step change in network performance.

The recommendations in this report are considered appropriate for the governance of England's major roads now and in the near future; but they may not be appropriate in the medium to long term. Therefore we need to ask: how can good governance ensure the MRN approach survives and serve as an ongoing model for managing England's roads?

SCENARIO PLANNING

Scenario planning involves mapping out and analysing a set of possible futures ('scenarios'), assessing these scenarios for opportunities and threats and developing potential solutions in addressing these implications. Scenario development involves a five step process, as depicted in Figure 7.

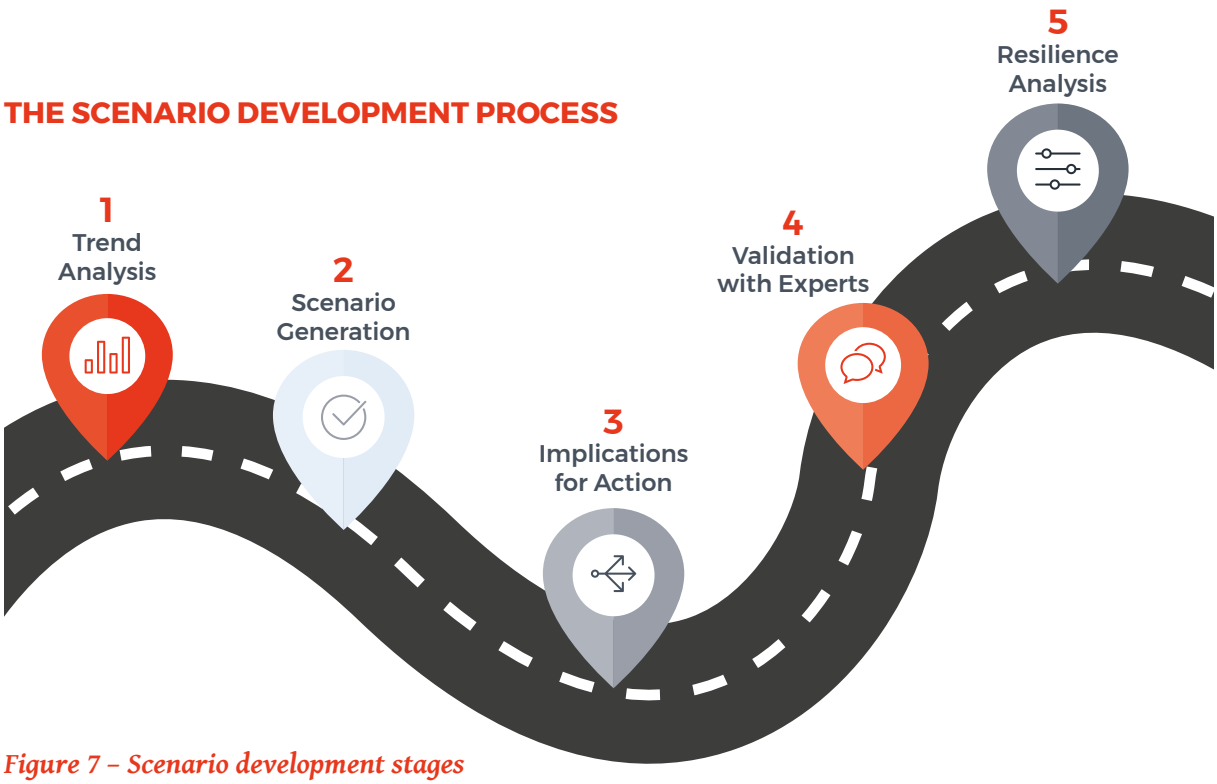

Figure 7 – Scenario development stages

Governance of the MRN needs to be established and sustained with the challenges of the future in mind. The risk that the MRN is funded, planned, and maintained based on what England's roads are like today will ensure the MRN concept remains behind the curve and will appear out-of-date almost as soon as it has become a part of our transport lexicon.

It would be wise for DfT to undertake a full scenario planning exercise for the future of the MRN to ensure the MRN is established as 'Future Ready', resilient to the challenges presented by the changing nature of transport and ready to exploit the opportunities presented by evolving transport technology.

Future-shaping trends to be considered as inputs into these scenarios will include:

- Climate change and low emission transport – MRN governance will need to account for the current political shift towards a low emission future by ensuring the MRN is planned to accommodate EV and associated infrastructure. As noted above, with the shift towards EV, thought needs to be given to how funding for the MRN can be maintained given the expected diminution of NRF funding. As a consequence of climate change, extreme weather events will become increasingly prominent in English life – planning for the MRN needs to account for these, both in terms of mitigating their impact and reacting to events as they happen. Ensuring adequate communication exists to guide drivers before and during such events will be key.
- Urbanisation and population growth – urbanisation and population growth are expected to lead to an increase in road use generally, and a shift towards greater road use in urban areas[21]. Where capacity cannot be significantly increased or capacity usage significantly enhanced via ITS, serious thought will need to be given to demand management. The governors of the MRN will need to consider which demand management techniques are most appropriate for keeping England's urban roads moving; road user charging, whether as applied to a particular road(s), a road network such as the MRN, or a general area (as with the London congestion charge) – would appear to be a particularly promising idea.
- Automation and Internet of Things (IoT) – the future course of CAV development has been and remains uncertain and erratic; vehicle autonomy is not the near-term fait accompli it has occasionally been portrayed as. It would be foolish, therefore, to go 'all in' and make the imminent arrival of CAV the basis of a medium to long term strategy for the MRN. Nonetheless, consideration needs to be given to the opportunities presented by connectivity to ensure the governors of the MRN make a sounder bet for the future. Of significant potential attraction to those in charge of investment planning would be the potential infrastructure savings to be had from CAV. VMS is an obvious example of an expensive technology which may no longer be needed if CAV, hooked up to the MRN communications network, can receive in-car tactical and strategic messages. CAV offers the possibility of maintaining a high level of service without building a huge amount of expensive new infrastructure. CAV also facilitates basic demand management tactics – for example in-car messages which might tell a driver to travel a certain route later, or to avoid a certain section of the network.

To ensure governance for England's major roads is established to confront the challenges and opportunities presented by these changes, this report recommends that a 'Future Ready' group is established at a national level – the STB executive proposed in this paper would be at an appropriate level to accommodate this group. Scenario planning exercises could inform best practice approaches when planning for the future, which would filter down to the STBs and their scrutiny committees. In this way, planning for the future can be embedded in the structure of English road governance.

21 www.sciencedirect.com/science/article/pii/S0301421512002649

SUMMARY

This paper has charted a vision for the governance of England's major roads which attempts to avoid the twin dangers of either a) advocating ineffectual reforms which do nothing to help improve the road user experience, or b) being excessively radical and unacceptable to any of the major parties invested in England's road network. This vision identifies the sub-national transport bodies as the natural coordinators of regional transport strategies across England, and takes the Major Road Network as a necessary building block to ensure growing local economies are plugged into wider regional and national economic structures. These 'missing links' are crucial in tying together England's disparate, disconnected transport network. This paper therefore emphasises the importance of empowering the sub-national transport bodies to ensure they can play the coordinating role which they are naturally equipped to play, and ensuring the MRN is funded and planned so as to ensure it can marry a consistent, intuitive experience for drivers with underlying road governance which is sensitive to the diversity of road types which make up the MRN.

There is a third danger which this vision seeks to avoid: short-term solutions at the expense of long-term sustainability. In part ensuring resilience into the future is a matter of getting the governance structure right. This paper has argued for a structure with roles and responsibilities sufficiently well-defined and well-located to ensure effectiveness and yet flexible enough to adapt to radically-changing circumstances over the medium and long terms. This structure emphasises institutional incentives towards collaboration, a marriage of central expertise and direction with local intelligence, and ensuring investment in England's major roads is planned such that these roads will be 'fit for purpose' immediately and into the future.

However, the dangers of short-termism go beyond structural concerns. Transport in England is changing at a rapid pace, in ways which remain uncertain and subject to constant revision. The governance of England's major roads must not fixate on the problems of today; today's solutions may look outdated very soon.

Given the uncertain nature of change in the transport industry, a number of scenarios will need to be developed and analysed in planning for the future of England's major roads. DfT must take a lead in ensuring the MRN is configured so as to be 'Future Ready', its planning having been informed by a thorough consideration of what circumstances will be faced by England's major roads in the short, medium, and long terms. ■