

The Case for Faster Buses

Technical Report



2FM Limited

Travel & Public Transport
Marketing & Communication

cpt



The Case for Faster Buses

The Role of Speed in England's Bus Networks

Confederation of Passenger Transport UK
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Publication Version



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Executive Summary

Overview

- Fast and consistent bus speeds are fundamental to the delivery of reliable, attractive and viable bus networks. This report illustrates and quantifies their importance and sets out the benefits that could accrue to the industry, the environment and the wider economy if speeds are increased.
- It is vital that we control and reduce bus running costs – currently, CPT figures show that these are £59 per hour for England outside London, and have risen by 26.3% since February 2022, 7.8% more than inflation.

The many advantages of faster buses (Chapter 2)

- Increasing bus speeds is about more than shaving minutes from journey times:
 - It is a catalyst for wide-reaching improvements in efficiency, economy, environmental stewardship, and social equity.
 - Fast, reliable buses empower individuals, and underpin prosperous, sustainable communities.
 - Policymakers, transport planners, and civic leaders should view faster bus services not as a luxury, but as a necessity for their place-making ambitions.
- By investing in infrastructure, technology, and service improvements that prioritise bus movement, towns and cities can unlock a huge range of benefits—reshaping the future of urban mobility for generations to come.

Why bus speeds are key (Chapters 3, 4 and 5)

- Speed is vitally important in determining how much it costs to run a bus route.
- This is because many of the main cost components are driven by the time taken to run the buses on each route from one end to the other.
- Decisions about the design of a company or authority's network will translate into the costs of operation.
- The key component is the operating speed. This will determine the resources needed, including:
 - the number of buses
 - the number of drivers
 - the requirement for engineering staff
 - the size of the depot needed to house them
 - the size of the administrative workforce
 - the amount of ancillary equipment
- The largest component of costs is labour, which accounts over 58% of the total.
- Changes in speed will affect many of these, including:
 - Fleet size – including ownership and maintenance costs
 - Labour requirements

- Depot size & equipment needed
- Taken together, these add up to more than 80% of bus operating costs.

The difference that speed makes (Chapter 5)

- The report provides an example of a typical 6km local bus route running every 10 minutes, and shows how the resources needed and the costs of operation vary when the route is operated at four different speeds, each drawn from real operations.
- We show that, on average, costs will rise or fall by around 7.5% for each mile an hour change in speed.

How speed and reliability affect demand (Chapter 5)

- Using the DfT recommended elasticity figure of -0.6, we estimate that, on average, demand rises by 1.3% per minute saved in journey time.
- We show how measures to make journeys more reliable and journey times more predictable can also affect demand. Measuring the change by reference to the total door-to-door journey time (known as Generalised Journey Time, or GJT), we estimate that each one minute reduction would result in a 2% increase in demand.

The benefits of faster buses (Chapter 6)

- We have examined the likely effects of a 10% increase in bus speeds.
- There would be three main benefits from delivering predictable journey times that are 10% faster than today, being:
 - Lower operating costs
 - More passengers and revenue
 - A host of economic and non-user benefits.
- Using data from DfT's Annual Bus Statistics, the CPT Cost Monitor and consultants KPMG, we have estimated what these benefits could be worth.
- We conclude that the 10% increase, applied in urban and suburban areas of England, could deliver significant improvements:
 - 2.6 billion faster trips for current passengers
 - 147 million extra passengers a year (growth of 4.0%) – that is 3 bus journeys a year for each person in England
 - £674m worth of funds to reinvest in improvements for bus passengers through:
 - £511 million in annual cost savings (a cut of 7.5%)
 - £164 million in extra revenue every year (3.8% more)
 - £5 billion worth of extra economic benefits (an increase of 7.4%)

Benefits in practice (Chapter 7)

- We know from experience that delivering better bus services works – there are examples from all over the country.
- We provide a series of case studies, which illustrate the improvements achieved in towns and cities across the country.

1. Introduction

1.1 The Purpose of this Report

- 1.1.1 This report explores the importance of improvements in the speed of bus services. Ongoing reductions in speed have largely been driven by traffic congestion, indiscriminate parking, and the growing volume of traffic. This impacts all aspects of the bus network including service quality, operating costs, passenger satisfaction, and demand.
- 1.1.2 Adopting wide-ranging measures to improve bus speeds has the potential to transform the economics of bus operation, which in turn could reduce the need for public spending, improve productivity, help to deliver modal shift targets and strengthen the overall benefits that the bus industry brings to the economy.
- 1.1.3 The report illustrates the improvements that could be delivered by the use of worked examples and real-world illustrations.

1.2 The Structure of this Document

- 1.2.1 The report considers first in Chapter 2 the wider policy advantages of faster buses, before turning in Chapter 3 to examine why time and speed are so crucial to the costs of operation.
- 1.2.2 Chapter 4 looks at the effect that speed of services can have on passenger demand, in terms of both journey time and the consequences for the reliability of services and the predictability of journey times.
- 1.2.3 In Chapter 5, we provide a worked example of the effect that changes in speed can have on an individual route, looking at both costs of operation plus demand and revenue.
- 1.2.4 In Chapter 6 we go on to consider the network-wide effects that could be delivered by delivering higher bus speeds, not only to the viability of the industry and the quality of service experienced by passengers, but also the wider contribution that bus networks make to society.
- 1.2.5 In Chapter 7 we report on some real-world examples of changes in speed on bus services, and we draw some overall conclusions in Chapter 8.

1.3 About the Authors

- 1.3.1 2FM Limited was founded in 1987 as a vehicle for investment and consultancy work undertaken by Chris Cheek with the support and advice of fellow directors Michael Anderson and Tony Depledge. This work was undertaken by Chris Cheek.
- 1.3.2 The project would be the Bus Industry Monitor database of knowledge and research about the industry, developed over the last 35 years by 2FM and its former subsidiary, Passenger Transport Intelligence Services Ltd (PTIS).

- 1.3.3 Chris Cheek has worked in the public transport industry for 54 years, in a variety of line management roles and, for the last 37 years, as an analyst and consultant. He is an experienced transport writer and author of both transport books and fiction.
- 1.3.4 Since the mid-1990s, Chris has been committed to the concept of quality bus operation and its promotion to the public, through his writing, his consultancy work and through the UK Bus Awards, the major award scheme he helped to found in 1996 and still helps to run.
- 1.3.5 He has worked extensively with and for CPT over many years, currently on the ongoing Cost Monitor project. Other projects have included:
- *Economics of Bus Operation in a Post-Covid World*, a seminar presentation to Scottish Government and other stakeholders, September 2022
 - *Revenue Funding for Bus Services and Bus Passengers (2021/22)*, research and report
 - *The Future of Bus Regulation in Wales*, with Tracsis Transport Consultancy (2022/23)
 - *Sustainable Buses for Scotland*: presentation to a joint ATCO Scotland/CPT meeting (September/October 2018)
- 1.3.6 Chris also worked on several earlier projects for CPT during his time as a director of The TAS Partnership, including *Investment for Congestion Relief: Options for Effective Public Funding for Buses* (2004), *The Economics of Bus Operation in Scotland* (2013), *A Five Year Vision for the Bus Industry* (2014) and *Catch the Bus in Wales* (2015).

2. The Advantages of Faster Buses

2.1 Overview

2.1.1 Public transport forms the backbone of urban mobility, shaping the daily lives of millions of people living in and around our towns and cities. It is essential to delivering government objectives including kickstarting economic growth, breaking down barriers to opportunity, and building an NHS fit for the future, as well as tackling the climate emergency.

2.1.2 Among the various public transport modes available, buses offer flexible, cost-effective, and widely accessible solutions. Yet, in many of our towns and cities, bus services are hampered by slow speeds – often the result of road congestion, frequent stops, and lack of priority in the allocation of scarce road space. Increasing bus speeds is a critical lever for improving public transport efficiency. In this introductory chapter, we explore the multifaceted advantages of boosting bus speeds, from operational and economic benefits to environmental and societal impacts.

2.2 Improved Efficiency and Reliability

2.2.1 One of the most immediate benefits of increasing bus speeds is the enhancement of service efficiency and reliability. When buses move more quickly, they can complete their scheduled routes in less time. This has several results:

- **Reduced Journey Times:** faster journeys for buses mean shorter journey times for passengers and more attractive schedules. This efficiency is especially significant for commuters, making public transport more competitive with other modes, including the private car.
- **Consistency and Predictability:** increased speeds, often achieved by implementing dedicated lanes or signal priorities, help buses adhere to schedules more reliably. This predictability fosters trust among users and encourages greater ridership.
- **Higher Service Frequency:** with reduced end-to-end journey times, the same fleet of buses can run more frequent services without requiring additional vehicles or drivers. More frequent buses reduce waiting times, further improving the attractiveness of the service.

2.3 Economic Benefits

2.3.1 Faster bus services provide numerous direct and indirect economic advantages for communities, operators, and passengers alike.

- **Cost Savings for Operators:** By reducing trip times, operators can serve more passengers with the same resources, improving operational efficiency. Fuel and maintenance costs per passenger decrease, as vehicles spend less time stuck in traffic.

- **Increased Productivity:** Shorter journeys free up valuable time for passengers, which can be channelled into work, study, or leisure. More generally, the country benefits from a more productive workforce and improved economic activity. This was highlighted particularly in the Eddington Transport Study, commissioned by the UK Government in 2005. The report stated: “There is clear evidence that a comprehensive and high-performing transport system is an important enabler of sustained economic prosperity: a 5 per cent reduction in travel time for all business and freight travel on the roads could generate ... cost savings [of] some 0.2 per cent of GDP.”¹
- **Boosting Local Business:** Efficient bus networks can encourage consumers to visit town and city centres, boosting local economies and aiding the revival of retail centres damaged by online competition and the Covid-19 pandemic. Reliable transport links are particularly valuable to small businesses that depend on regular flows of customers.

2.4 Environmental and Health Advantages

2.4.1 In an era of climate change and air pollution, the environmental implications of faster bus services are profound.

- **Reduced Emissions:** Buses that travel smoothly at steady speeds have lower emissions and use less energy than if they are slowing down, speeding up or sitting in traffic jams all the time.
- **Encouragement of Modal Shift:** When buses are fast and reliable, they attract riders who might otherwise choose private cars. This shift reduces the total distance travelled by motor vehicles, lessening traffic congestion. In turn, this would cut the overall environmental footprint of road transport in England, which in 2023 accounted for 89% of the country’s transport-related greenhouse gas emissions.² This helps to deliver the reduction in travel required by the Climate Change Committee in order to deliver the government’s net zero targets.
- **Improved Public Health Outcomes:** According to the World Health Organisation (WHO), there are four areas in which lower traffic levels and reduced congestion can contribute to improved public health.³ These are:
 - Cleaner air, reducing concentrations of particulate matter (PM) and ground-level ozone (O₃), including nitrogen oxides (NO_x) and carbon monoxide (CO). Higher air pollution concentrations increase the risk of cardiovascular and respiratory diseases, cancer and adverse birth outcomes, and are associated with higher death rates, estimated to cause up to 4.2 million premature deaths per annum worldwide. The annual mortality of human-made air pollution in the UK is roughly equivalent to between 28,000 and 36,000 deaths every year.⁴
 - Encouragement of walking to and from stops, contributing to daily physical activity. The WHO asserts that people who are insufficiently active have a 20% to 30% increased risk of death compared to people who are sufficiently active.

¹ Eddington Transport Study: Key Findings and Recommendations, para 1, December 2006

² Transport Energy and Environment Data Tables, Sheet ENV0201. Department for Transport, December 2025

³ See: <https://www.who.int/teams/environment-climate-change-and-health/healthy-urban-environments/transport/health-risks>

⁴ Air pollution: applying All Our Health. Office for Health Improvement & Disparities. <https://www.gov.uk/government/publications/air-pollution-applying-all-our-health/air-pollution-applying-all-our-health>. Accessed 9 February 2026.

- Lower traffic levels also reduce accidents. In England in 2024/25, 1,579 people were killed in accidents, with 28,317 seriously injured and 97,266 slightly injured.⁵ Many of those injured face long-term adverse health consequences.
- Reduced noise: the WHO states that environmental noise pollution is responsible for increased risk of ischaemic heart disease as well as sleep disturbance, cognitive impairment among children, annoyance, stress-related mental health risks, and tinnitus.

2.5 Enhanced Accessibility and Social Equity

2.5.1 Public transport is a social leveller, and increasing bus speeds can magnify this role, through:

- **Expanded Access to Opportunities:** Faster buses allow people to reach jobs, education, healthcare, and other essential services more quickly and conveniently, especially those living farther from city centres or in underserved communities.
- **Greater Social Inclusion:** Reliable, speedy bus services enable participation in civic, cultural, and social activities, bridging gaps between neighbourhoods and fostering a sense of community.
- **Affordability:** Improved operational efficiency can help keep fares affordable, making public transport accessible to a wider segment of the population, including low income households.

2.6 Urban and Traffic Management Improvements

2.6.1 Raising bus speeds can help to transform urban landscapes and mobility patterns.

- **Alleviation of Traffic Congestion:** When bus services are faster, more attractive, and better utilised, fewer private vehicles are needed. This modal shift reduces congestion, making roads safer and more efficient for all users.
- **Optimised Space Utilisation:** Buses can carry dozens of passengers in the space typically occupied by a handful of cars, with a single double-decker capable of taking as many as 75 cars off the roads. Prioritising bus movement through dedicated lanes and/or traffic signal priority ensures more efficient use of scarce urban road space.
- **Improved Land Use:** Enhanced bus corridors support transport-oriented development, encouraging higher-density, mixed-use communities that are less car-dependent and more sustainable.

2.7 Technological Innovation and Modernisation

2.7.1 Pursuing higher bus speeds often goes hand-in-hand with technological upgrades and transport innovation.

- **Adoption of Smart Systems:** Tools such as real-time tracking and traffic signal prioritisation are frequently introduced to improve bus speeds, benefiting both passengers and operators.

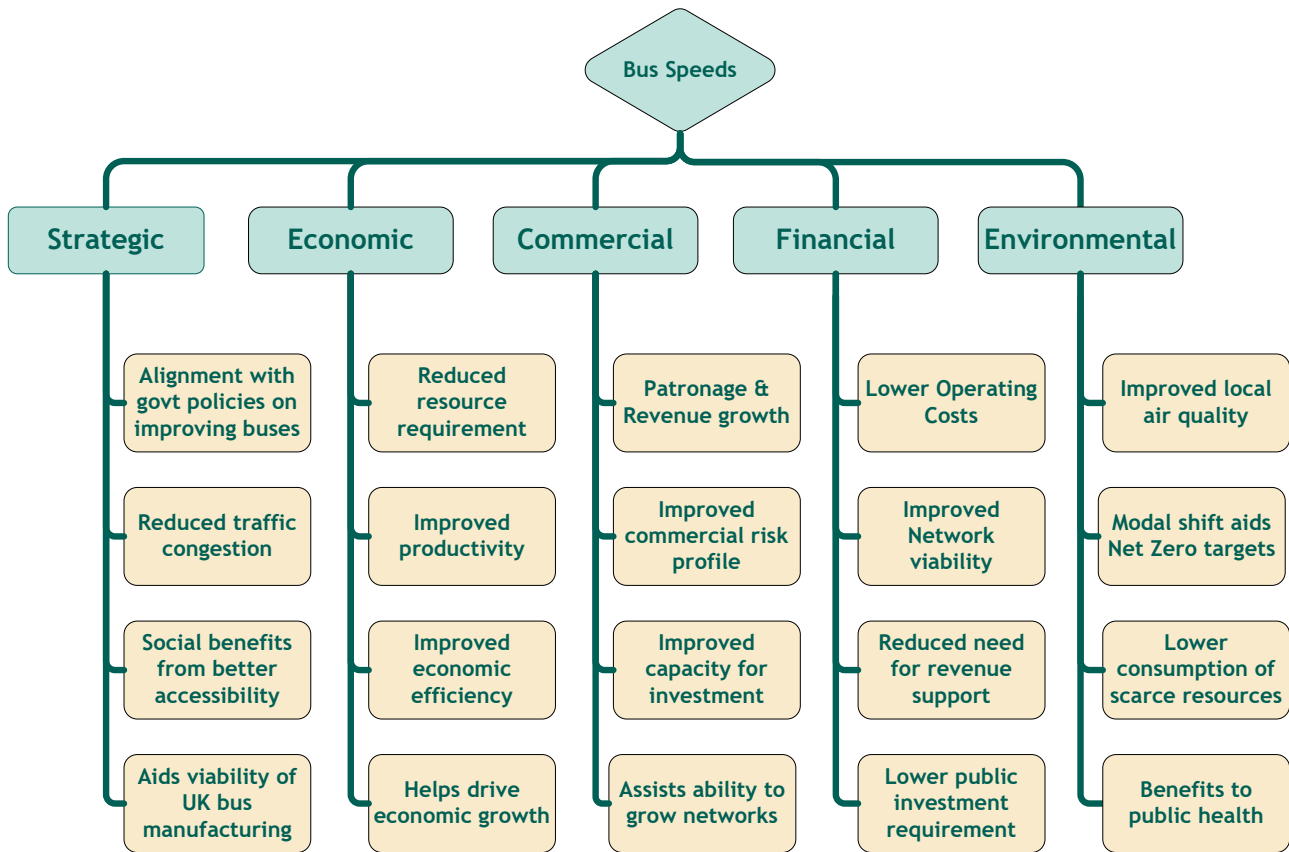
⁵ Reported road casualties in Great Britain, provisional estimates: year ending June 2025. Department for Transport.

- **Integration with Other Modes:** Predictability of journey times and on-time running enable buses to synchronise more easily and reliably with other transport modes, such as trains, trams, ferries and cycling infrastructure, creating seamless and efficient multi-modal networks.
- **Future-Proofing Mobility:** Investment in faster bus services demonstrates a commitment to sustainable transport, attracting residents and businesses that value modern, efficient infrastructure. Efficient, productive networks encourage investment in new zero emission buses, further reducing environment impact, making services more appealing and at the same time supporting a viable UK bus manufacturing sector.

2.8 Conclusion

- 2.8.1 Increasing bus speeds is not merely a matter of shaving minutes from journey times. It can be a catalyst for wide-reaching improvements in efficiency, economy, environmental stewardship, and social equity. Fast, reliable buses empower individuals, strengthen communities, and underpin prosperous, sustainable communities.
- 2.8.2 Policymakers, transport planners, and civic leaders should view faster bus services not as a luxury, but as a necessity for holistic urban progress. By investing in infrastructure, technology, and service improvements that prioritise bus movement, towns and cities can unlock myriad benefits—reshaping the future of urban mobility for generations to come.
- 2.8.3 The benefits considered in this chapter can be summarised using a format similar to the five business case format used in Treasury Green Book project appraisals, as can be seen in Figure 2-1. We look at the Strategic, Economic, Commercial and Financial benefits that could be achieved, with a fifth strand looking at the Environmental case.

Figure 2-1: The Case for Faster Bus Speeds



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3. The Potential for Cost Savings

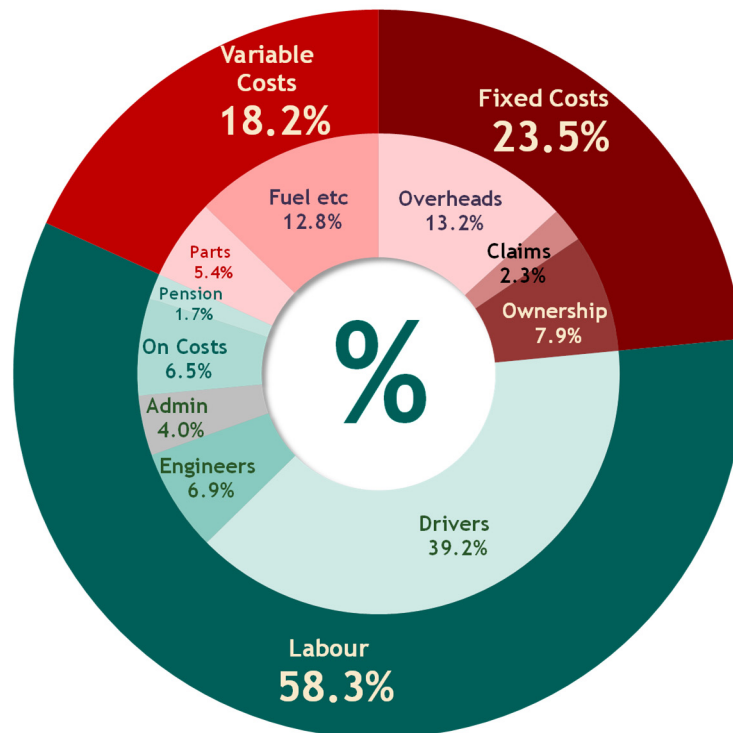
3.1 Modelling Movements in Costs

- 3.1.1 This chapter features a worked example of the cost changes prompted by different operating speeds on a notional urban bus route. The methodology is similar to that used in the author's previous publications, including the book *Understanding Buses*.
- 3.1.2 The latest version for this report has been comprehensively updated using unit cost and speed data collected from CPT members for June 2025 as part of the CPT Cost Monitor programme.⁶
- 3.1.3 The data shown can be viewed in two ways: as an illustration of the cost savings and improvements that can be delivered by speed improvements, but also as a warning of the cost consequences of the increased traffic congestion forecast by models of future demand.

3.2 The Structure of Bus Industry Costs

- 3.2.1 The graph at Figure 3-1 below shows how the costs of operating bus networks are broken down between the various components. As can be seen, by far the largest component is labour on 58.3%, and within that the largest is driver wages, which account for over 39% of all costs. Next comes the fixed cost of running the operation at 23.5%, followed by the variable costs – fuel, oil, tyres and spare parts – on 18.2%.

Figure 3-1: Breakdown of Bus Industry Costs, June 2025
Great Britain outside London



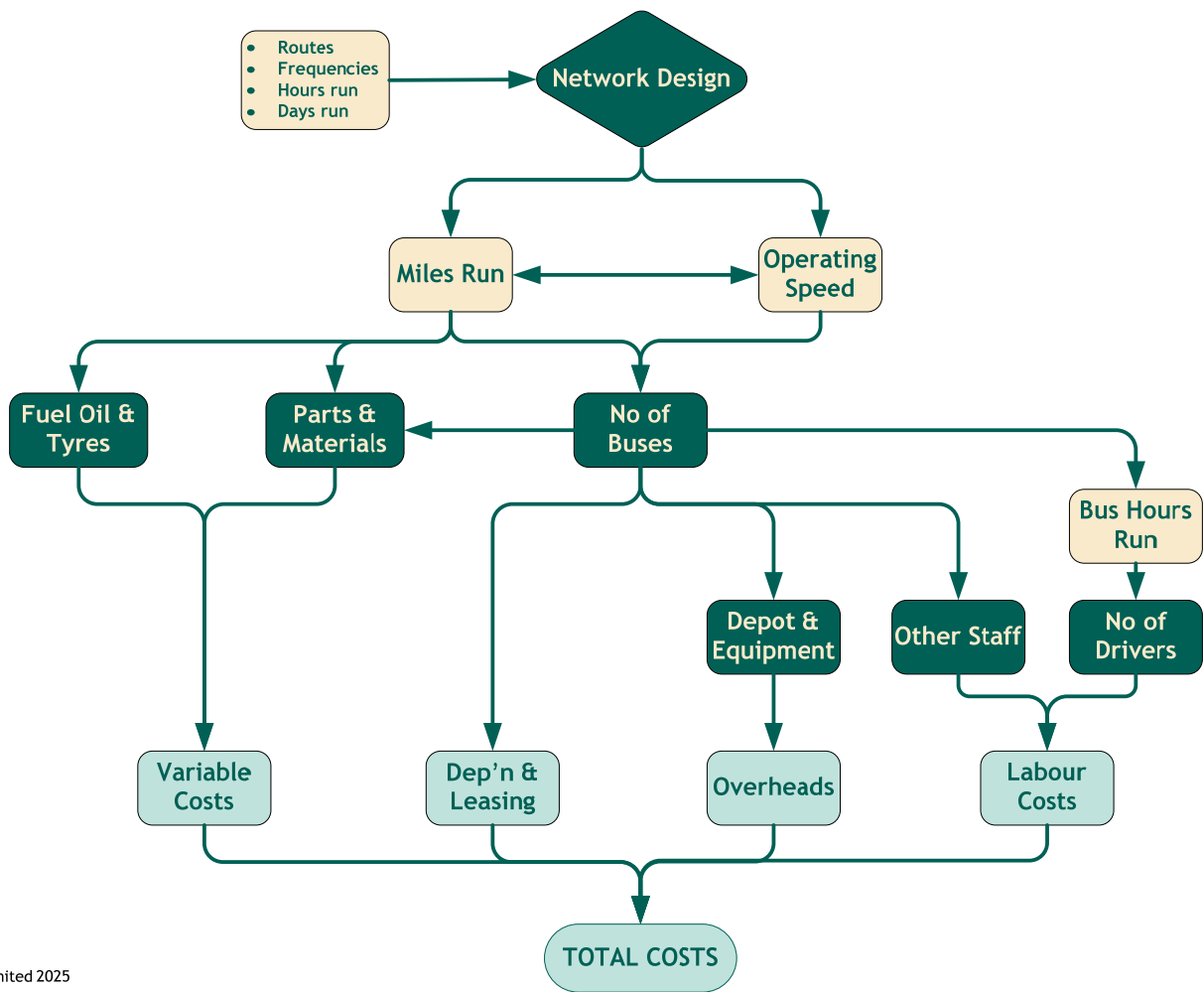
⁶ www.cpt-uk.org/cpt-cost-monitor

3.2.2

A surprising number of the components are influenced or determined by the time taken to run the buses from one end to the other of each route. This is illustrated by the chart at Figure 3-2. This shows how decisions about the design of a company or authority’s network will translate into the costs of operation, and how the key component is the operating speed. This will determine:

- the number of buses needed
- the staff needed to drive and maintain them
- the size of the depot needed to house them
- the number of supervisory and administrative staff needed to manage them.

Figure 3-2: The Importance of Time and Speed in Bus Costs



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4. Changes in Demand

4.1 Demand Elasticities

- 4.1.1 In principle, making services run faster should generate additional demand and revenue. The established method of estimating this increase is to use a measure of demand elasticity. This proposes that for $x\%$ change in bus speeds, an elasticity of demand of e will result in a change in demand of $y\%$.
- 4.1.2 There are established measures of elasticity from published academic studies, most well-known of which is the TRL report *The Demand for Public Transport, A Practical Guide* which dates from 2004.⁷ A major review of available evidence on the subject of time elasticities was published in 2012.⁸ More recently, a further study was undertaken for the Department for Transport in 2017 and published the following year.⁹ These studies can recommend a value, or a range of values for e , from which the expected changes in demand can be calculated.
- 4.1.3 The 2018 study noted the DfT's then current view in its Transport Appraisal Guidance was for a figure of -0.58. The recommendation from the 2018 study was similar at -0.60. However, it also recommended that there was a need for much more research to widen the amount of data from which conclusions could be drawn. Note that these recommendations apply to the in-vehicle time (IVT), i.e. the duration of the passenger's journey from boarding the bus to alighting again.

4.2 Reliability and Predictability

- 4.2.1 As we have seen, the calculation of a demand response to journey time changes is restricted to the actual time spent on the bus itself (referred to as “in-vehicle time” or IVT). We know, however, that consumers consider the time taken for the whole journey, literally from door to door, when evaluating different modes of transport – particularly private transport such as a car, bike or motorcycle.
- 4.2.2 Typically, this is measured using a concept called ‘generalised journey time’ (GJT) – which represents the total cost in time of a door to door journey. Thus, the GJT of a journey includes access time to and from bus stops, waiting and riding in the vehicle. This can then be added to the expenditure involved, to give the generalised cost that can be compared with the same figures for other modes.
- 4.2.3 The typical bus journey will involve four basic components, illustrated in the graphic at Figure 4-1 below:
- Walk time - from home to the bus stop to get on the bus
 - Wait time - time at the stop waiting for the bus to come along
 - In-vehicle time [IVT] – the time actually spent on the bus

⁷ Balcombe etc (2004), *The Demand for Public Transport, A Practical Guide*, published by the Transport Research Laboratory (TRL593)

⁸ Wardman, M. (2012), *Review and Meta-Analysis of U.K. Time Elasticities*. *Transportation* 39:465–490

⁹ Dunkerley, Wardman, Rohr and Fearnley (2018), *Bus Fare and Journey Time Elasticities and Diversion Factors for All Modes*, RAND Europe and Systra, for Department for Transport.

- Walk time – from getting off the bus to the ultimate destination.

Figure 4-1: The Components of Generalised Journey Time (GJT)



- 4.2.4 The two factors of reliability and predictability can affect this equation in a number of ways, particularly:
- Whether the bus turns up on time, so that the waiting time is as predicted when the passenger leaves home
 - Whether the bus adheres to the advertised journey time, or whether traffic conditions cause one or more delays. Congestion is notoriously unpredictable from day to day.
- 4.2.5 This is discussed further in our worked example in Chapter 5 below. The 2018 study by Dunkerley, Wardman, Rohr and Fearnley recommended a deduced elasticity measure for Generalised Journey Time of -1.1.

4.3 Applying the Elasticities

- 4.3.1 Local circumstances will, of course, vary and the impact of a journey speed improvement can often be lost in a package of measures such as new vehicles, improved infrastructure or changes in frequency. The overall effect of such a package can be estimated by calculating the resulting changes in the overall generalised journey time for using the bus, but this is a much more complex calculation and would not be appropriate for this exercise.

5. Worked Example: An Urban Bus Route

5.1 Key Variables

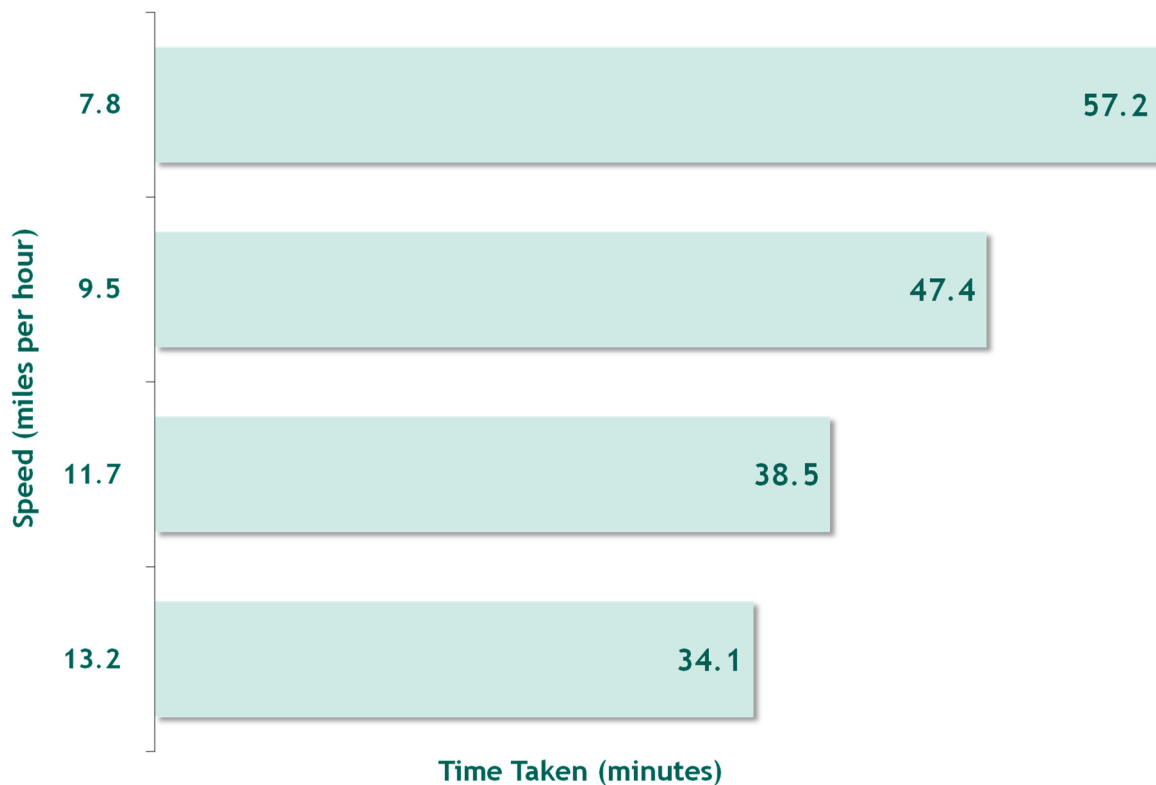
5.1.1 The key variables in driving the cost of our bus routes are **time** and **speed**. Some costs, particularly energy, lubricants and tyres, will also depend on **distance** – though energy consumption is also influenced to a measurable extent by speed.

5.2 The Sample Bus Route

5.2.1 An urban bus route runs for around 3½ miles (6 km) between the town centre and a local suburb – a round trip of 12 km. The service runs every ten minutes (six departures per hour) between 0600 and 1900 and every 20 minutes from 1900 to midnight.

5.2.2 Data from the CPT Cost Monitor shows that bus speeds in congested urban areas are limited to 7.8 mph.¹⁰ In our other cities and conurbations, this rises to 9.5 mph. In suburban areas, the average is 11.2 mph, whilst more rural and inter-urban networks achieve an average 13.2 mph. The effect of the different speeds is illustrated in Figure 5-1.

Figure 5-1: Time taken at Different Operating Speeds



¹⁰ Calculated from operator returns on the number of depot-to-depot bus hours and the kilometres run.

Calculating the Resources Needed

5.2.3 Having established what governs the resources needed to run a bus service (time, speed and distance), it is possible to calculate the level of resources, or inputs, which will be required to operate a given route. From there, we can calculate the cost of providing the service.

5.2.4 The resources will be determined by:

- The time taken from one end of the route to the other and back again
- The hours of operation
- The frequency of operation
- The distance travelled.

5.2.5 From this information, we can calculate:

- The number of vehicles we need
- The number of drivers we will need to employ (allowing for sickness and holidays)
- The distance each bus will cover and therefore how much fuel and oil will be needed, and the number of tyres used.

5.2.6 The operating characteristics of the route at these different speeds are summarised in Table 1 below. As can be seen, the resources needed fall as speeds increase.

Table 1: Sample Bus Route - Operating Characteristics at Different Speeds

Speed (mph)	7.8	9.5	11.7	13.2
Journey time + recovery (mins)	70	60	50	40
No of buses required	7	6	5	4
Bus hours required per day	111	93	80	62
Annual Bus Hours, 363 days per year	40,293	33,759	29,040	22,506
Annual Driver Hours	49,560	41,524	35,719	27,682
No of drivers required	24	20	17	13
Annual kilometres run	405,108	405,108	405,108	405,108
Diesel fuel consumed (litres, 000s)	344	344	344	344

The Impact on Costs

5.2.7 The annual cost of operating our sample service can be calculated using the resource data and the unit cost information taken from the CPT Cost Monitor. The results of these calculations are shown in Table 2 below.

Table 2: Operating Costs at Different Bus Speeds in the English Shire Areas

Speed (mph)	7.8	9.5	11.7	13.2
	£000	£000	£000	£000
Labour	1,497	1,252	1,050	805
Depreciation & Leasing	67	58	48	39
Semi-Variable Costs	42	36	30	24
Overheads	110	110	110	110
Fuel, Oil & Tyres	128	128	128	128
Maintenance	148	124	106	82
Claims & Insurance	41	35	29	23
Total Costs	2,032	1,742	1,502	1,212
% reductions over base		(14.3%)	(26.1%)	(40.4%)

Revenue and Profit Targets

- 5.2.8 Our current estimate is that the operator needs to make an operating profit of 8.5% to meet their financial obligations.¹¹
- 5.2.9 This figure enables us to estimate what the annual cash profit needs to be and see how it changes with the speed of the service. When buses can go faster, the amount of equipment needed goes down, so reducing the amount of capital employed in this business. This in turn reduces borrowing costs, and means that a smaller operating profit is needed to meet an operator's financial obligations.
- 5.2.10 Given a target revenue figure, we can also estimate the number of passengers we will need to carry to achieve that target. In this example, we have used the average fare for the English Shire areas in 2023/24, which was £1.46.¹²

Table 3: Target Operating Profit, Revenue and Patronage

Speed (mph)	7.8	9.5	11.7	13.2
Total Cost (from Table 2)	2,032	1,742	1,502	1,212
Target Operating Profit	189	162	140	113
Target Revenue	2,221	1,904	1,642	1,324
Annual Patronage Required (000s)	1,370	1,174	1,012	817

¹¹ Note that this assumes that government continues to contribute funding to the purchase of zero emission buses as in the ZEBRA programme.

¹² 2FM Analysis of Annual Bus Statistics, Department for Transport, Sheets BUS01 and BUS05.

5.3 Changes in Demand

- 5.3.1 In Table 4 below, we have applied the recommended elasticity figure discussed above to each incremental change in speed – from 7.8 to 9.5 mph, 9.5 to 11.2 mph and so forth. This gives an expected percentage increase in demand. The elasticity figure was -0.6.
- 5.3.2 Assuming a base patronage level of 817m passenger journeys from Table 3 above, we can use the percentage figure to suggest how many extra passenger journeys might be generated as a result of each improvement. It is possible to estimate the revenue gain, by applying an average fare.
- 5.3.3 It will be seen that the potential gains from the shifts in speed are substantial, ranging between 9.4% and 11.1% depending on the time saving achieved. In each case, percentage change in journey time and therefore demand will vary along the route: these numbers refer to the outer terminus.

Table 4: Demand Benefits from Speed Increases

Speed (mph)	7.8	9.5	11.2	13.2
Single leg journey time (minutes)	00:57	00:47	00:40	00:34
% change	-	(17.5%)	(14.9%)	(15.0%)
Demand increase @ -0.6 elasticity	-	11.1%	9.3%	9.4%

5.4 Reliability and Predictability

- 5.4.1 As we discussed briefly in section 4.2 above, changes in reliability and predictability can also have an effect on demand. Customer research has indicated over the years that both wait time and walk time are perceived negatively by passengers. In calculating the Generalised Journey Time (GJT) of a trip, they are therefore valued at double the actual.¹³
- 5.4.2 In our example in Table 5 below, we have assumed an average lateness on our example route of three minutes, and also that the bus is typically delayed by a further three minutes during its journey. This can be caused by a whole range of factors, including extra congestion, road works or a change in road layouts, causing a deterioration in the predictability of the advertised journey time.
- 5.4.3 Such delays will cause an increase in the GJT experienced by the passengers, affecting their propensity to use the bus for their journey. As we saw in paragraph 4.2.5 above, the recommended elasticity measure for changes in GJT is -1.1.

¹³ Dunkerley, Wardman, Rohr and Fearnley (2018), *Bus Fare and Journey Time Elasticities and Diversion Factors for All Modes*, RAND Europe and Systra, for Department for Transport.

Table 5: How Late Running and Delays Affect Generalised Journey Time

Times between the termini

Item (minutes)	Actual Minutes	GJT as Scheduled	GJT as Experienced
Walk time	5	10	10
Wait time	5	10	16
IVT	19	19	22
Walk time	5	10	10
Total GJT		49	58
Difference			9

5.4.4 This example shows:

- If reliability deteriorates by nine minutes, from 49 minutes to 58 minutes, that represents an 18.4% increase in GJT. As a consequence, demand from the outer terminus of our route could fall by 18.3%. This could be expected even if the increased GJT only occurred once or twice a week.
- On the other hand, if the journey as experienced is already 58 minutes, and we introduce measures to make the services reliable, and the journey time more predictable, then the GJT would fall from 58 to 49 minutes, which is a fall of 15.5%. This would result in a demand increase of 18.6% from the outer terminus, *even without changing the scheduled journey time.*

5.5 The Lessons from the Worked Example

5.5.1 Bus routes cost less to operate the faster they can go.

5.5.2 Reducing the number of buses needed to run a route creates significant savings in driver wages, maintenance costs and items such as insurance and ancillary equipment such as radios and ticket machines. It also lowers depreciation and/or leasing costs.

5.5.3 By lowering the capital employed in the business, savings can also lead to lower interest and borrowing costs, reducing the profit needed to meet operators' financial obligations.

5.5.4 Importantly, though, those savings can then be reinvested – alongside the revenue increase from extra patronage - in additional routes or higher frequencies, so improving the bus network in the area.

6. The Wider Benefits

6.1 Overview

6.1.1 As we saw in Figure 2-1 in Chapter 2, there is a wide range of benefits to be gained from faster bus speeds. This and the following chapters provide more details and attempt to quantify some or all of them, looking in particular at:

- industry viability
- economic benefits
- social benefits
- environmental benefits

6.1.2 Applying the potential gains we saw in our route-specific illustration in Chapter 3 to a wider area such as a county or region is not possible. In a given area, it is inevitable that some routes would benefit more than others, whilst routes that were predominantly inter-urban and rural in nature might only achieve marginal benefits when going into and out of town centres.

6.1.3 In order to assess the benefits using a common methodology, we have used the urban/rural definitions developed in 2011 by ONS and used by DfT, which are discussed in more detail below.

6.2 Assumptions

6.2.1 The central assumption we have used is that a network of bus priority measures, including universal traffic signal priorities, bus lanes and other measures, would be introduced. The effect would be to increase average bus speeds in urban areas by 10%, benefitting 80% of existing passengers in large urban areas and 40% in smaller urban areas. Passengers in rural areas would not be affected.

6.3 Patronage and Revenue Gains

6.3.1 The speed changes modelled are summarised in Table 6 below. The existing speeds are taken from CPT Cost Monitor returns from operations in the relevant areas. The urban/rural classification used is taken from central government analysis.¹⁴ This presents data on bus mileage and patronage outside London and in non-metropolitan areas in three categories: “other urban”, “urban with significant rural” and “largely or mainly rural”. These are illustrated in a map published by ONS, which is illustrated in Figure 6-1 below.

6.3.2 Using these assumptions, it is possible to estimate the patronage and revenue gains that would be available from such changes, alongside the changes in operating cost levels that could be expected to follow. These figures then underpin the analysis of other benefits that could accrue.

¹⁴ 2011 Rural Urban Classification for Local Authorities, Office for National Statistics

Figure 6-1: The ONS Map of Urban and Rural Classifications of Local Authorities

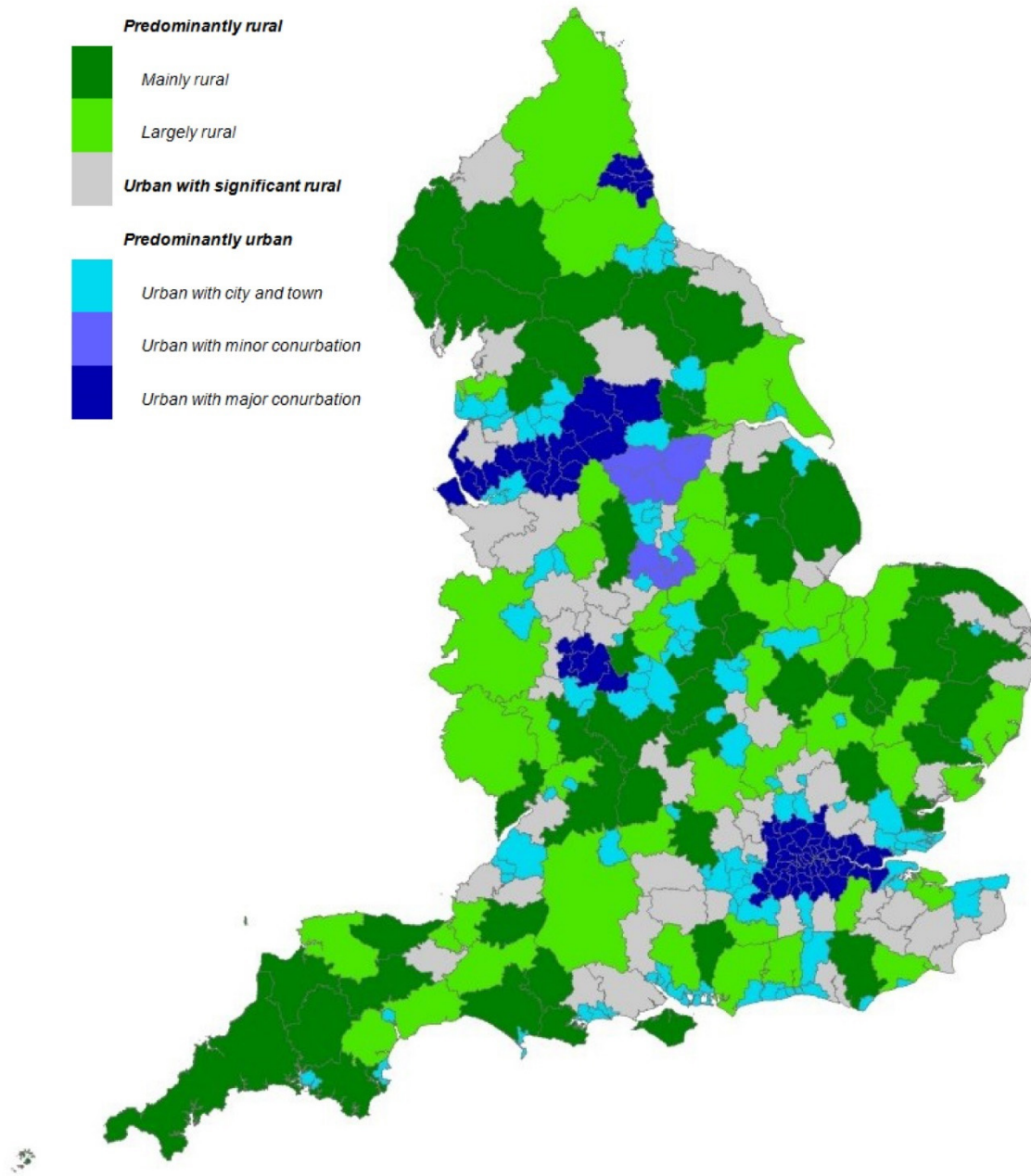


Table 6: Speed and Journey Time Changes Modelled

Item	Greater London	English Mets	English Shires		
			Other Urban Areas	Urban with Significant Rural	Largely or Mainly Rural
Patronage assumed to benefit (%)	80%	80%	80%	40%	0%
Current Speed (mph)	7.1	11.1	9.0	12.2	16.9
New Speed (mph)	7.8	12.2	9.9	13.4	16.9
Current Time for Average Journey	22.1	19.1	14.6	10.8	7.8
New Time for Average Journey	20.1	17.4	13.3	9.8	7.8
% change	(9.1%)	(9.1%)	(9.1%)	(9.1%)	0.0%

6.3.3 The resulting changes in demand and revenue are summarised in Table 7 below. In each case, the 10% uplift in speed gives a time saving of 9.1%. To calculate the additional demand, the elasticity used is -0.6, which gives a demand increase across the country of 4.0%. That would be 147.2m extra journeys – the equivalent of 3 bus journeys per person per year.

Table 7: Patronage and Revenue Gains

Item	Greater London	English Mets	English Shires			Total England
			Other Urban Areas	Urban with Significant Rural	Largely or Mainly Rural	
Estimated Bus Patronage in 2024/25	1,821	776	539	289	235	3,661
Assumed to benefit	1,457	621	431	116	0	2,625
Assumed time saving	(9.1%)	(9.1%)	(9.1%)	(9.1%)	0.0%	-
Patronage gains (%)	4.5%	4.5%	4.5%	2.2%	0.0%	4.0%
Patronage Gain (million journeys)	81.7	34.8	24.2	6.5	0.0	147.2
Revenue Gain @ average fare (£m)	69.5	43.8	39.7	10.6	0.0	163.6
New Total (million journeys)	1,903	811	563	296	235	3,808
New Passenger Revenue Total (£m)	1,697	1,019	1,053	555	443	4,433
Revenue gains (%)	4.5%	4.5%	4.5%	2.2%	0.0%	3.8%

6.4 Changes in Operating Costs

6.4.1 The costs for operating the networks have been estimated at existing speeds and the proposed revised speeds, assuming the same level of service supply as was delivered in 2024/25.¹⁵ Operating assumptions and unit cost calculations are the same as in the example discussed in Chapter 3, with data taken from the June 2025 CPT Cost Monitor survey. The savings by cost group in each area are shown in Table 8 below. The more detailed costing is contained in Appendix A.

Table 8: Summary of Annual Viability Improvements (£m) from a 10% Speed Increase

Item	London	English Met Areas	English Shires			England
			Other urban areas	Urban with Significant Rural	Largely or Mainly Rural‡	
Cost Savings						
Fuel, Oil and Tyres†	0.0	0.0	0.0	0.0	0.0	0.0
Labour Costs	153.4	84.6	65.1	41.3	0.0	451.0
Maintenance Costs	15.9	6.9	7.0	4.2	0.0	45.4
Semi-Variable Costs	6.3	3.5	2.8	1.8	0.0	19.0
Claims and Insurance	6.4	2.9	2.6	1.8	0.0	18.1
Overheads	18.3	13.8	12.6	8.5	0.0	74.1
Leasing & Depreciation	14.2	13.5	13.9	9.3	0.0	74.0
Total	214.4	125.2	104.0	67.0	0.0	510.6
Cost Savings (%)	8.6%	8.4%	8.4%	8.2%	0.0%	7.5%
Revenue Gains						
Total (from Table 7)	69.5	43.8	39.7	10.6	0.0	163.6
Total Improvement	283.9	168.9	143.7	77.6	0.0	674.1

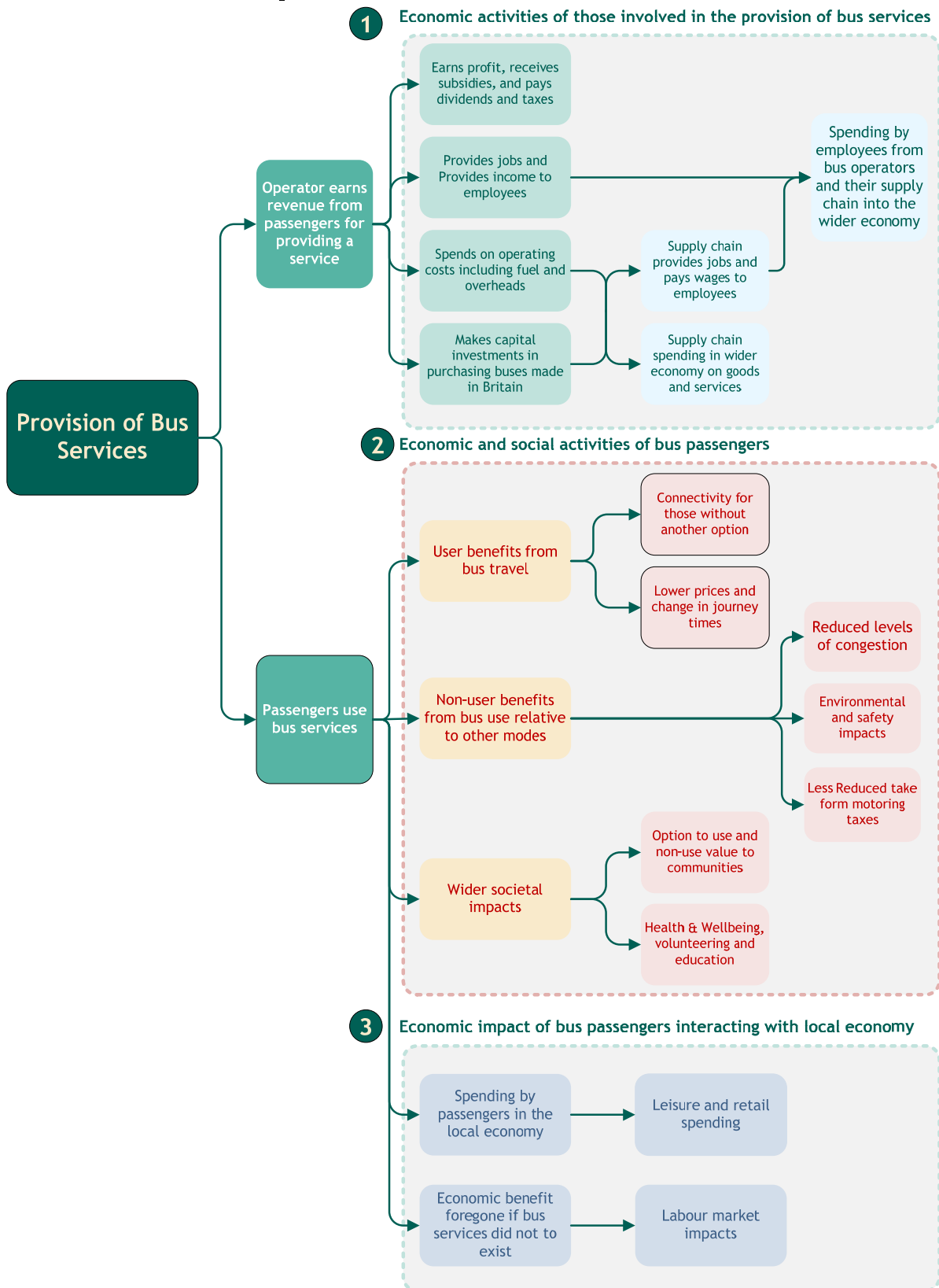
† because no change in service levels is assumed, these direct operating costs do not change. In practice, higher speeds should lead to lower fuel consumption, though there is insufficient data to model this.

‡ - No speed change is assumed in rural areas.

6.4.2 The overall result is a substantial improvement in industry finances totalling some £674m a year, comprising a revenue gain of £163.6m and cost savings of £510.6m. This could be invested in a combination of new zero-emission vehicles, additional services, lowering revenue support and improving network viability.

¹⁵ DfT Annual Bus Statistics 2025.

Figure 6-2: Identifying the Economic Benefits of the Bus¹⁶



¹⁶ Source: *The Economic Impact of Local Bus Services*, KPMG for the Confederation of Passenger Transport, September 2024, Figure 1

6.5 The Economic Benefits of Faster Buses

Introduction

- 6.5.1 The nature and extent of the bus industry's contribution to the wider economy has been well researched over the years, most recently in work commissioned by CPT from KPMG and published in September 2024.¹⁷
- 6.5.2 The report identifies three principal areas (or “lenses”) of impact, and sets these out in a chart, an edited version of which appears at Figure 6-2 above. The three areas are:
- Activities of service providers
 - The economic and social activities of bus passengers
 - The contribution of bus passengers to local economies.

Activities of Service Providers

- 6.5.3 This area covers the economic activity generated by the provision of bus services, including:
- Employment and payment of wages
 - Purchase of materials and services
 - Investment in vehicles and equipment
 - Profits earned by bus operators
 - Taxes paid (especially Corporation Tax and National Insurance Employers' Contributions).

Though savings in direct operating costs will reduce the economic contribution from this source in the short term, it will enable considerable improvements in the medium to longer term: we have already seen in paragraph 6.4.1 how the improved viability offered by faster services can benefit the economy through investment in more services, new and pollution-free vehicles.

Economic and Social Activities of Bus Passengers

- 6.5.4 This section of the evaluation considers:
- Increased connectivity and more affordable travel
 - Impacts on other road users
 - The option values of having bus as a mode
 - Wider social impacts.

Economic impact from bus passengers interacting with local economies

- 6.5.5 Spending undertaken in local economies by bus passengers, particularly leisure passengers, commuters and shoppers. These were evaluated by KPMG using survey results to determine the average spend per passenger journey for each of these three purposes. The spend is estimated at £35,465m a year at 2025 prices.

¹⁷ *The Economic Impact of Local Bus Services, KPMG for the Confederation of Passenger Transport, September 2024. Available at <https://www.cpt-uk.org/campaigns-reports/economic-impact-of-local-bus-services/>*

6.5.6 Patronage growth of the kind described in paragraph 6.3 above will enhance this contribution.

Valuation and Update

6.5.7 KPMG’s estimate of the value of the bus industry to the English economy was £59.8 billion. As time has moved on, we have updated the estimates to take account of changes in costs, the wider economy and alterations in both patronage and service levels during the year after their report was prepared. We estimate that the new valuation is £67.9 billion. The breakdown is summarised in Table 9 below. The remarks column explains the changes we have made. The figures for the three market segments in England are contained in Appendix B.

Table 9: Value of Buses to the Economy in England ¹⁸
£m Current Prices

Item	September 2024 report	January 2026 update	Remarks
<i>Activities of Service Providers</i>			
Taxes, wages and industry profit	5,135	4,514	Increase in unit costs to June 2025 levels and changes to service levels in 2023/24 and 2024/25
Supply chain impact of fleet renewal and labour impact	2,395	1,272	Changes in new vehicle deliveries in 2024/25 ¹⁹
Spending by employees in operations and supply chain	2,965	2,704	Uprated to 2025 prices using GDP Deflator. Small reduction in staff numbers
Total	10,495	8,490	
<i>The Economic and Social Activities of Bus Passengers</i>			
Increased connectivity and more affordable travel	7,700	8,549	Changes in patronage and service levels since 2022/23. Uprated to 2025 prices using GDP Deflator
Impacts on other road users	490	589	
Option of having buses as a mode	3,095	3,449	
Wider societal impacts	2,560	3,045	
Total	13,845	15,633	
<i>Contribution of Bus Passengers to Local Economies</i>			
Leisure spend	11,845	13,583	Increased patronage during 2023/24. Uprated to 2025 prices using GDP Deflator.
Commuter spend	7,775	9,350	
Shopping spend	15,845	20,871	
Total	35,465	43,803	
GRAND TOTAL	59,805	67,926	

¹⁸ Ibid, Figure 7

¹⁹ 2FM Analysis of Annual Bus Statistics 2024/25, Department for Transport, Sheet BUS06.

6.6 Social Benefits

Overview

- 6.6.1 Buses play a vital role in providing affordable access to services and facilities, especially to educational, training and employment opportunities. This applies to the entire population, and particularly specific age groups or sub-groups in society, such as young people, older people and disabled people.
- 6.6.2 Speeding up buses helps bus services fulfil this role in several ways:
- Directly:
 - By making the services faster, so reducing the generalised cost of bus travel, both absolutely and in relation to other modes
 - By improving reliability and predictability, improving the appeal of services to potential users
 - Indirectly:
 - improving the viability of the network
 - facilitating expanded service provision
 - enabling fare increases to be mitigated or even avoided altogether.
- 6.6.3 As already discussed, the KPMG report identified five ways in which the contribution of the bus could be evaluated.²⁰ They are:
- Fiscal savings in health services from increased employment
 - Fiscal savings from increased education
 - Improvements in overall health and well-being
 - The benefits derived from increased volunteering
 - Psychological well-being.
- 6.6.4 Taken together, these are estimated by KPMG to deliver benefits of £2,560m a year (£3,045m a year at 2025 prices).

Social Mobility

- 6.6.5 It is interesting to note that all four of the key drivers of social mobility identified by the Social Mobility Commission in their *State of the Nation 2022* report are dependent to a greater or lesser extent on good public transport links, especially (but not exclusively) for households without a car.²¹ The four are:
- Conditions of childhood
 - Educational opportunities and quality of schooling
 - Work opportunities for young people
 - Social capital and connections.

²⁰ *Op cit*, Appendix 2, Table 9, in which these are listed, and evidence is cited.

²¹ <https://www.gov.uk/government/publications/state-of-the-nation-2022-a-fresh-approach-to-social-mobility>

Policies for Young People

- 6.6.6 Young people are a particular focus for improvements to social mobility, with the need being the greatest in socially deprived areas and amongst the NEETs (Not in Education, Employment or Training) between the ages of 16 and 24. The NEETs total rose above 900,000 for the first time for a decade in the January to March quarter of 2024. More recent figures show that, during the July to September quarter of 2025, a total of 946,000 young people fell into this category in the UK.²² Of these, 39% were unemployed, and 61% were economically inactive. The total represented 12.7% of the total population in this age group.
- 6.6.7 The recent rise prompted the government to launch an independent review of the issue in November 2025. As well as identifying the causes, the review will also make recommendations aimed at re-engaging young people who are already NEET and stopping other young people from becoming NEET.

Older, Disabled and Chronically Sick People

- 6.6.8 It has been demonstrated that access to transport is an essential element of the quality of life agenda for all three of these groups. There is a growing body of evidence that mobility, especially on public transport, is positive for all three groups, as it can:²³
- Help maintain contact with friends and family
 - Reduce isolation and increase opportunities for interaction
 - Help reduce the impact of giving up driving
 - Reduce loneliness, mitigating consequent declines in well-being
 - Keep people more active, contributing to an active, healthy older population, and reducing demand for residential care and home visits.
- 6.6.9 For older and disabled people, the provision of free concessionary travel delivers a wide range of benefits. Research by KPMG and Greener Journeys in 2014, updated in 2017, suggested that, across the UK, it provided benefits to the wider community that were worth around 3.9 times the costs of provision.²⁴ The benefits included:
- Enabling volunteering
 - Physical health improvements
 - Benefits to other road users through reduced congestion, accidents and environmental impacts
 - Benefits to other bus users through increased service provision
 - Other benefits were identified in the report but not quantified, including enhanced retail activity, savings in social and child-care costs, savings in community transport provision and social inclusion.
- 6.6.10 It is inevitable that the decline in the use of concessionary passes since the pandemic has reduced the extent of the benefits generated. This fall amounted to 33.6% in England

²² NEET: Young People Not in Education, Employment or Training. Research Briefing, House of Commons Library. <https://commonslibrary.parliament.uk/research-briefings/sn06705/>

²³ The Future of Transport in an Ageing Society, Age UK. <https://www.ageuk.org.uk/>

²⁴ Bus 2020: The Case for the Bus Pass. <https://greenerjourneys.com/wp-content/uploads/2014/09/6-1.pdf>

outside London between 2018/19 and 2024/25, though there may have been further recovery since. There are several reasons for this, including but not limited to:

- Changes in consumer behaviour, including greater use of online transactions for retail, financial services and health treatments
- Stagnant or falling living standards during a period of high price inflation
- Reduction in service provision
- Unreliability of services especially during the driver recruitment crisis immediately after the pandemic.

6.6.11 There is an urgent need to appeal to concessionary passholders to recover the extent of societal benefits from the provision of concessions, and faster and more reliable buses is one way to assist this.

6.7 Evaluation of Environmental Benefits

6.7.1 KPMG calculated the environmental benefits of buses by determining the impact of additional car traffic in their absence. The benefits are calculated on the principles set out in the DfT's Transport Assessment Guidance. The evaluation methodology is set out in unit A5.4. From an environmental point of view, this covers:

- Congestion
- Road safety
- Local air quality
- Noise
- Greenhouse gas emissions.

6.7.2 For England, these were valued at £490m in 2024, and currently at £589m.

6.8 Net Zero Targets: The New Context

6.8.1 In addition to those quantified benefits, there is the question of modal shift from private car to public transport and active travel, which underpins the move towards Net Zero.

6.8.2 The current system originated in the Climate Change Act 2008, which amongst other things, set a target of 2050 for an 80% reduction in UK emissions of targeted greenhouse gases (later increased to 100% by the May government just before it left office in July 2019). The Act established a system of five-yearly “carbon budgets” to be set by the newly established Committee on Climate Change.

6.8.3 In its Seventh Carbon Budget published in February 2025, the Climate Change Committee (CCC) outlined its ambitions for movement towards net zero in transport by 2050.²⁵ This contains updated targets for modal shift, measured by a reduction in kilometres travelled by private car, compared with a 2023 baseline. The CCC seek reductions of 1% by 2025, 4% by 2030, and 7% by 2035. The budget states:

“More will need to be done to encourage a further shift away from cars towards alternative modes of travel... Improvements to make buses and active travel

²⁵ https://www.theccc.org.uk/publication/the-seventh-carbon-budget/#post-49721-_Toc187753756

more attractive, affordable, and accessible allow 7% of car demand to be switched to public transport and active travel by 2035, compared to the baseline.”

- 6.8.4 The committee states that their assumptions are informed “by evidence on successful public transport and active travel interventions in countries such as Germany and the Netherlands and in selected towns and cities in the UK”.
- 6.8.5 Importantly, the main emphasis of the modal switch to public transport is placed on the bus: “Modal shift in our pathway is primarily driven by a move to buses, cycling, and walking.”
- 6.8.6 The committee also notes that “the Government may wish to go further on modal shift for reasons beyond emissions reduction, such as reducing congestion and energy demand”. One suggestion would be to achieve an additional 3% modal shift from car to public transport or active travel by 2035.
- 6.8.7 Finally, the Committee recommends that the Government should deliver its modal shift ambitions by providing “local authorities with long-term funding and powers to deliver increases in public transport, walking, and cycling. Long-term clarity is also needed on what funding streams will be available to implement plans and additional powers for local areas to deliver an integrated public transport offer”.
- 6.8.8 **We would argue that adopting measures to help buses go faster and avoid traffic congestion would be a key part of the improvement that the Committee recommends.**

6.9 What the Modal Shift Targets Mean

- 6.9.1 It is important to understand the size of the change involved. As we have seen, the shifts identified as necessary in the Climate Change Budgets are measured in percentage changes in the distance travelled by private car.
- 6.9.2 In order to quantify what is entailed, therefore, we need to refer to the total distance travelled by private car and convert that to the number of passenger kilometres travelled (which is higher because there is more than one person in a car on many journeys) and to understand the current split by mode.
- 6.9.3 The figures for the last pre-Covid year and the two most recent ones are shown in Table 10, from which it can be seen that the car is dominant, accounting for around 85% of all passenger kilometres. Meanwhile, total demand had not yet fully recovered, and both bus and rail have yet to recover to the market shares they enjoyed before the pandemic.

Table 10: Travel Demand and Mode Share in Great Britain, Before and After Covid

Mode	2019		2023		2024	
	Passenger Km (Billions)	Mode Share	Passenger Km (Billions)	Mode Share	Passenger Km (Billions)	Mode Share
Car, Van and Taxi	697.8	84.0%	679.8	85.0%	687.7	84.6%
Bus & Coach	32.6	3.9%	28.9	3.6%	28.9	3.5%
Rail	80.4	9.7%	72.3	9.0%	77.2	9.5%
Motorcycles	4.8	0.6%	4.8	0.6%	5.1	0.6%
Cycling	5.8	0.7%	5.8	0.7%	5.7	0.7%
Domestic Air	9.2	1.1%	8.0	1.0%	8.5	1.0%
Total Demand	831.6	100.0%	799.6	100.0%	813.0	100.0%

Source: Transport Statistics Great Britain, Department for Transport, Sheet TSGB0101a.

- 6.9.4 As with previous CCC reports, it is envisaged that the target would be achieved by a combination of travelling less (e.g. working and/or shopping from home) and mode shift to active travel and public transport. However, as Table 10 demonstrates, the car is so dominant that even small shifts to bus or rail would represent a huge increase in demand.
- 6.9.5 Using DfT statistics on total demand for passenger transport, we can demonstrate the effects of achieving these targets.²⁶ Reducing the number of passenger km travelled by car, van and taxi by each 1% would cut demand by 6.9 billion passenger kilometres.
- 6.9.6 If all that demand were to switch to bus and coach, this would result in an increase from 28.7 billion to 35.5 billion, or 28.8%. At current average journey lengths, 5.8 km (3.6 miles), this would equate to 1.2 billion passenger journeys, or 28.9% of baseline (2023) levels.²⁷
- 6.9.7 On the basis of the current modal split in terms of passenger kilometres travelled, each one per cent of car demand that switched to public transport would increase demand by 28.9% on the bus network or 12.8% on the railways.

6.10 Evaluating the Modelled Speed Changes

- 6.10.1 The September 2025 update of the KPMG figures we saw in Table 9 have then been carried forward in order to estimate the benefits of the increased speeds discussed in paragraph 6.2 above. The results are shown in Table 11 below, again with explanatory notes in the remarks column.
- 6.10.2 As can be seen, we believe that the speed improvements modelled would improve the contribution by £5.0 billion to £72.9 billion.

²⁶ Transport Statistics Great Britain 2025, Department for Transport, Sheet TSGB0101

²⁷ 2FM Analysis of Annual Bus Statistics, Department for Transport, Sheets BUS01 and BUS03

Table 11: Improved Value of Buses from Speed Changes, England

£m - current prices

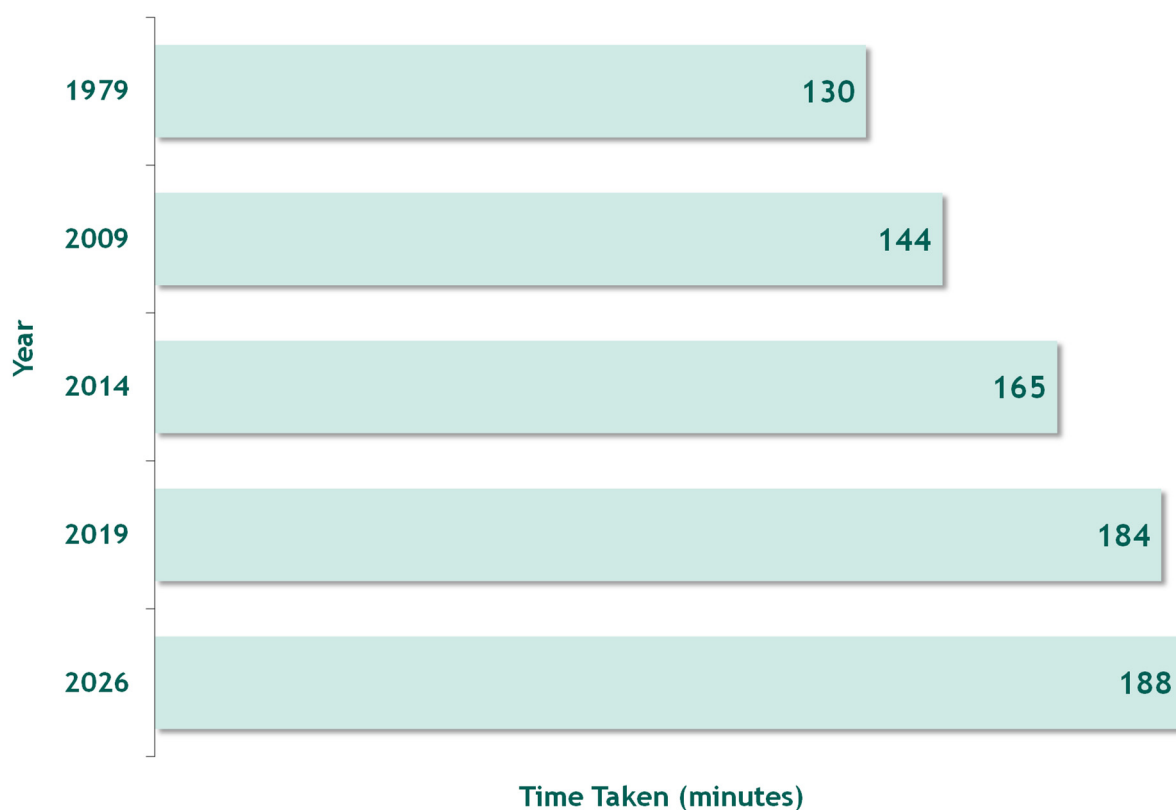
Item	At current speeds	At new speeds	Remarks
<i>Activities of Service Providers</i>			
Taxes, wages and industry profit	4,514	3,962	Improved financial performance, but lower operating costs
Supply chain impact of fleet renewal and labour impact	1,272	5,230	Revenue growth permits investment levels recover to levels required to maintain fleet age
Spending by employees in operations and supply chain	2,704	2,377	Reduced as a result of workforce savings
Total	8,490	11,569	
<i>The Economic and Social Activities of Bus Passengers</i>			
Increased connectivity and more affordable travel	8,549	8,549	No change in service levels assumed initially
Impacts on other road users	589	612	Additional passengers improving benefits
Option of having buses as a mode	3,449	3,449	No change in service levels assumed initially
Wider societal impacts	3,045	3,168	Additional passengers improving benefits
Total	15,633	15,778	
<i>Contribution of Bus Passengers to Local Economies</i>			
Leisure spend	13,583	14,133	Additional passengers improving level of spend
Commuter spend	9,350	9,726	
Shopping spend	20,871	21,709	
Total	43,803	45,568	
GRAND TOTAL	67,926	72,915	

7. Case Studies

7.1 Introduction

- 7.1.1 The history of the decline in bus speeds is a long one, and an excellent example is provided by Birmingham’s famous Outer Circle bus route, which has been providing crucial orbital links around the city’s outer ring road for a century, ever since it was introduced by Birmingham City Transport in April 1926. Currently operated by National Express West Midlands, the route covers 26 miles (43 kilometres).
- 7.1.2 In 1979, the running time round the complete circle was 2 hours and 10 minutes. In 2026, the peak running time is 3 hours and 8 minutes.²⁸ Kenyan athlete Kelvin Kiptum, the current world record holder for the 26-mile Marathon race, managed it in 2 hours and 35 seconds. The growth in the journey time is illustrated in Figure 7-1 below. The speed of the route has dropped from 11.9 mph to 8.3 mph

Figure 7-1: Running Times on the Birmingham Outer Circle since 1979



- 7.1.3 This chapter contains a series of case studies recording the benefits delivered by investment in bus priority measures such as busways, bus lanes, junction redesigns and queue relocation schemes. Several of the projects show that the resulting improvements are durable in the long term, and enable a “virtuous circle” of growth, investment and quality.

²⁸ Data kindly supplied by National Express West Midlands. The route is currently split at Erdington because of road works, with a four minute allowance for changeover. The four minutes has been deducted from the time shown.

- 7.1.4 We go on to examine a situation where service disruption has caused increases in journey times. Other examples can be found in the companion publication from October 2025, *The Role of Speed in Scotland's Bus Network* (available at: <https://bit.ly/BusSpeedReportScotland>).

7.2 Fastway, West Sussex

- 7.2.1 Fastway in West Sussex was a £38m investment in the Crawley area. It involved the implementation of a series of bus priority measures along two core routes linking Horley, Gatwick Airport and Crawley, including construction of a new bus only link and widening existing highways to provide a dedicated bus lane including sections of segregated bus way with kerb guidance. The original infrastructure was implemented in phases between 2003 and 2006. The services are operated by Go-Ahead Group subsidiary Metrobus, and now feature a fleet of 32 zero emission hydrogen buses delivered in 2024/25.
- 7.2.2 Compared with the previous services on the corridor, there was an increase in patronage of 160% over ten years, whilst there was a 19% reduction in traffic levels on the corridor between 2006 and 2013. There was an average reduction in journey times of 9.5 minutes, with reliability between 90% and 95%, and overall customer satisfaction rose from 91% to 96%. By 2019, total patronage on the Crawley bus network had grown by 151% since 2001, with Fastway being a significant factor ridership as well as helping to change perceptions of buses in the town. Total patronage in 2025 stood at 5.5 million.
- 7.2.3 According to KPMG in 2015, an economic assessment shows a benefit to cost ratio (BCR) of 4.6, indicating high value for money, and in line with the BCR estimated in the original business case (4.7).²⁹
- 7.2.4 Over the years since, the frequencies on the three Fastway routes have been progressively increased, and all the routes operate for 24 hours a day. Further improvements are in progress under the county's Bus Service Improvement Plan (BSIP), including measures to reduce journey times, and provide improved accessibility and passenger satisfaction. The existing infrastructure was supplemented in 2024/25 by a new bus lane nearly 1 km long which was constructed in Manor Royal Business District. Other works include improved bus stops, better surfacing and additional priority measures to further reduce bus journey times. In addition, neighbouring Surrey County Council is planning to introduce bus lanes in 2026 on the Fastway route which runs between Crawley and Redhill.

7.3 Fastrack, Kent

- 7.3.1 Another bus project that has shown consistent growth and development over a sustained period is Fastrack. Developed by Kent County Council in partnership with local councils, developers and bus operators, the brand has grown from a single route in March 2006 in the north of the county, to a network of six routes – including the county's only 24-hour bus route. In 2024, the concept was extended to a second location.

²⁹ 'An economic evaluation of local bus infrastructure investment', KPMG for Greener Journeys, September 2015.

Kent Thameside

- 7.3.2 Fastrack uses a combination of segregated (unguided) busways, bus lanes and traffic signal priority to provide faster journeys within the boroughs of Dartford and Gravesham, collectively known as Kent Thameside. The area has huge development potential, which will bring up to 50,000 new jobs and 25,000 new homes over a 15 to 25 year period. Past developments in the area served by Fastrack include the Bluewater Shopping Centre and Ebbsfleet International station.
- 7.3.3 The first phase was 23km long, including 5km of segregated running and 3km of bus lane. It recorded patronage of 1.75 million passenger journeys in the first year of service. In 2015, it was reported that the introduction of the two routes of Fastrack had led to a 19% modal shift from car to bus travel while 26% of passengers had a car available for the journey but chose to travel by Fastrack.³⁰ Annual patronage in 2025 totalled 2.6 million passenger journeys.
- 7.3.4 The network is planned eventually to cover 40km, of which 50% would be on segregated alignment and a further 25% in reserved lanes. The network serves vital local destinations including Dartford, Temple Hill, Bluewater, Darent Valley Hospital, Ebbsfleet and Gravesend.
- 7.3.5 Bus services are contracted by Kent County Council (KCC), and were initially provided under a net cost contract by local operator Arriva Kent Thameside. However, in 2024 a new 15-year gross cost contract was awarded to the Go-Ahead Group, enabling investment in a new fleet of 28 zero-emission battery electric buses into service. The new fleet takes advantage of opportunity charging infrastructure installed by KCC in Gravesend, with another unit to be provided in Dartford.
- 7.3.6 Since first opening, the scheme has seen incremental improvements to infrastructure (such as shelters and Real Time Information displays), extended routes and improved services, including fleet renewal (2015 and 2025). In 2023, there was a major £5.7m upgrade to the existing Urban Traffic Management and Control (UTMC) system. This enabled traffic signals at 41 junctions in Dartford, Ebbsfleet and Gravesham areas to give priority for buses. New bus lanes were also added. Further time savings were implemented in 2024, with £2.5m worth of improvements to a key junction at Rennie Drive, Dartford. The busy Fastrack junction was redesigned, cutting a further two minutes from journey times.
- 7.3.7 A new section of busway in the Whitecliffe development area of Ebbsfleet opened in August 2025. A £25m scheme to construct a new tunnel through the chalk spine under the B255 Bean Road between Bluewater Shopping Centre and the Whitecliffe development will further improve journey times when it opens in 2027. This will directly connect the centre to the new Ebbsfleet housing developments and Ebbsfleet International Railway Station.
- 7.3.8 Go-Ahead Group reports robust passenger growth in 2025. In January, average daily patronage was 6,397. By December, it was 7,795, an increase of 21.9%. This is attributed

³⁰ *Transport Business Case Report, Kent Thameside – Integrated Door-to-Door Journeys, Amey for Kent County Council, January 2015.*
https://www.southeastleap.com/app/uploads/Kent_Thameside_LSTF_Business_Case.pdf. Accessed 17 January 2026.

to general improvement to reliability and customer service as well as improvements to the network, such as the extension of the night route to Darent Valley Hospital and Gravesend.

Fastrack in Dover

- 7.3.9 The second application of Fastrack is in the port town of Dover. New road infrastructure has been provided for the service, including the construction of Red Kite Road, Farmstead Way, improvements to Dover Road, and a new dedicated bridge which runs across the A2. The project is designed to support new housing developments at Whitfield and the former Connaught Barracks site.
- 7.3.10 The service, operated by Stagecoach South East, was launched in November 2024. In April 2025, further improvement came in the form of the Pencester Road Contraflow scheme. This allows Dover Fastrack to serve Dover town centre more effectively with a route that provides bus priority and greater journey time reliability.
- 7.3.11 Since its introduction in November 2024, Kent County Council reports that Fastrack has seen strong and continued growth in patronage, and the service levels have been increased in response, with earlier journeys in the morning, and extra late evening journeys to meet the last high-speed trains from London.
- 7.3.12 The service is operated by a fleet of five Volvo BZL zero-emission battery-electric buses. A high-powered pantograph charger has also been installed Dover Priory railway station for opportunity charging during hours of operation.

7.4 The Oxford Congestion Charge Scheme

- 7.4.1 The scheme commenced operation on 29 October 2025. It involves the introduction of a congestion charge designed to prevent private cars from using the city centre as a "cross-city" route, aiming to divert such cross-city journeys to the ring road. At the same time, free travel has been introduced on the city's extensive Park & Ride network.
- 7.4.2 The scheme has been developed and implemented by Oxfordshire County Council as the highways authority with the support of Oxford City Council, who are helping to fund the free P&R element.
- 7.4.3 The scheme benefits all bus routes serving Oxford city by reducing congestion levels on all main bus routes. This affects approximately 250 buses run by the Oxford Bus Company, Stagecoach and other operators include Redline.
- 7.4.4 The £3.2m scheme involved the installation of six congestion charging points around the city, located at St Clements; Thames Street; St Cross Road; Hythe Bridge Street; Hollow Way (peak only) and Marston Ferry Road (peak only). Each point is effectively an automatic number plate recognition (ANPR) controlled bus gate: cars passing through the gate must pay a £5 daily charge, unless they have a permit. Permits are issued in differing numbers to local residents, carers, community / health care workers and business vehicles and are controlled through an IT back office registration system. Failure to pay the charge or use a permit attracts a PCN and the county council collects these in a similar way to the London congestion charge. The scheme is generating an estimated annual surplus of

£3.7m (c.£300k per month), and this revenue is ring-fenced for local transport schemes. Currently, a portion of the funding has been spent on introducing free bus travel from the city's five Park & Ride (P&R) sites, with the council still to determine how to spend the other surpluses, pending the outcome of an ongoing legal challenge to the scheme.

- 7.4.5 The scheme was funded by the County Council's allocation of BSIP capital funds, which funded the construction of the six ANPR-controlled bus gates and to procure the back office system. The scheme is also made possible by previous Low Traffic Neighbourhood (LTN) schemes in the Cowley and East Oxford areas, which blocked "rat runs" that could have enabled traffic to avoid the charging locations.
- 7.4.6 The Oxford Bus Company (OBC) reports a reduction of approximate 5.5% in running times on services within the Oxford SmartZone area since the scheme was introduced. This has been unevenly distributed, with run times improving more on roads benefitting directly from the free P&R offer (for example Abingdon Road) and less on roads without such direct benefit.
- 7.4.7 The company introduced new schedules to all its services in November based on the modelled expected changes in run times, and through this expected to be able to reduce its Peak Vehicle Requirement (PVR) by nine. These were to be redeployed into various service and frequency improvements. Following experience of operating the services, it has proved necessary to adjust the schedules in some areas to reflect real-world run times. Even so, in new February 2026 schedules, the business retained a PVR saving of seven compared with the pre-October requirement. All seven are being re-invested in additional bus mileage to support modal shift.
- 7.4.8 The combined effect of the congestion charge and the free P&R offer has resulted in a 44% growth in Park & Ride usage, equating to 10,800 extra return journeys from the car parks on OBC services each week. On the company's wider network, there has been 8% growth. Taken together, these two effects give an overall patronage increase of 12%.
- 7.4.9 These measures form part of the Oxfordshire Enhanced Partnership, which contains an agreement whereby operators agreed to invest in ZEBs in return for commitments from the LTA on improving bus speeds. Overall, these collaborative efforts have enabled significant fleet electrification, with £43.7m invested by bus companies in electric vehicles in return for commitments by the LTA to deliver a package of bus priority measures.

7.5 Portsmouth and South Hampshire

South East Hampshire Bus Rapid Transit (Eclipse)

- 7.5.1 Growth on successful projects is not just a short term phenomenon, and a good example of this can be seen in Hampshire, with the Eclipse project. This was a £25 million scheme, originally opened in April 2012. It featured an off-road unguided busway using a disused railway line, new bus shelters with CCTV and real time passenger information. A subsequent extension was constructed and opened in December 2021.
- 7.5.2 In 2015, KPMG were able to report to Greener Journeys that the project had seen 48% patronage growth over the first two years compared with the previous network, although

this was partly at the expense of non-busway local services which experienced reduced demand. There was a reduction in journey time variation from 27-30 minutes on local roads to 11.5-15.5 minutes on the busway. Reliability improved to between 85% and 99%.³¹

- 7.5.3 By 2018, Hampshire County Council's Director of Economy, Transport and Environment was able to report that Eclipse Busway Phase 1A had delivered significant modal shift.³² Approximately 20% of passengers had transferred from the car, and traffic had reduced by up to 2% on the parallel A32. There had been a 64% growth in patronage on the two Eclipse routes compared with the services they replaced, delivering a 12% increase in public transport use generally on the peninsula. More people were using Eclipse for their daily commute, and more passengers were transferring to rail at Fareham railway station. A particular area of growth had been in the student market for journeys to Fareham College. Approximately 2.4 million journeys each year were being now made on Eclipse, the busiest bus corridor wholly within Hampshire. The county council estimated that Eclipse had delivered up to £6.94 of benefit to users, non-users and the wider economy for each £1 invested, a benefit to cost ratio (BCR) of 6.94.
- 7.5.4 An £11.6m second stage was completed in December 2021, extending the dedicated busway by 0.6km and giving journey time savings of up to three minutes. At the same time, bus operator First Bus renewed the fleet.
- 7.5.5 In early 2024, First Bus introduced 12 WrightBus GB Kite Electroliner zero-emission buses, thanks to a collaborative ZEBRA bid with Hampshire County Council, as part of the wider, £28.6m project to introduce 62 zero-emission buses to the Solent area.
- 7.5.6 To further grow patronage, which is currently in excess of 30,000 customers per week, in August 2025 the E1 and E2 service levels were enhanced, utilising Hampshire County Council BSIP funding, with the following changes made between Gosport and Fareham:
- Monday-Saturday Peak frequency increased to every 6-7 minutes.
 - Monday-Saturday Off-Peak frequency increased to every 7-8 minutes.
 - Monday-Saturday Evening frequency increased to every 15-20 minutes.
 - Sunday frequency improved to every 15 minutes during the daytime, and every 20 minutes in the early morning and evening.
- 7.5.7 Further improvements to bus stop infrastructure, and vegetation reduction, as well as the refurbishment of Fareham Bus Station (a new interchange at Gosport opened late 2024) are planned for 2026.

The Portsmouth Buses Partnership

- 7.5.8 Portsmouth is the most densely populated city in Great Britain outside London. The city is the economic centre of the South East Hampshire region, attracting people for work and leisure from Gosport, Fareham, Havant, Waterlooville and the Isle of Wight. It has a multi

³¹ *An economic evaluation of local bus infrastructure investment*, KPMG for Greener Journeys, September 2015.

³² *Project Appraisal: Eclipse Busway: Completion of Phase 1*, Hampshire County Council, 17 July 2018. <https://democracy.hants.gov.uk/documents/20762/Report.pdf>. Accessed 15 January 2026.

award-winning Enhanced Partnership in place with the local bus operators, including First Bus and Stagecoach South.

7.5.9 However, the city's roads are reaching capacity, which is having a negative impact on productivity, economic growth and air quality. The region's geography means that there is a limit to what the authorities can do to improve the road network, so another solution is required – improved public transport improvement through an integrated approach, known as South East Hampshire Rapid Transit. The latest phase of this project was opened in the summer of 2024, and delivered a major improvement in bus journeys in the city centre.

7.5.10 This was delivered through three projects:

- Lake Road
- City Centre North
- City Centre South

Lake Road

7.5.11 Lake Road is a busy east-west route from the city centre to the residential areas of Landport and Fratton. This route was identified as it experiences congestion at peak times, especially in the morning. It is a key route for many bus services travelling in and out of the city, and forms part of a popular cycling route. A new westbound priority lane was added, open to buses, taxis, and cyclists, between Lake Road Roundabout and Cornmill Roundabout. Accompanying this, the council also installed safer, more direct pedestrian crossings, dedicated cycle paths and landscaping and seating improvements. The works were completed July 2024.

City Centre North

7.5.12 This scheme delivered a new bus-only access corridor, to avoid buses getting caught in, and adding to, congestion in the city centre particularly along the busy stretch of the A3 known as Marketway. This is a popular route for many bus and coach services travelling in and out of Portsmouth city centre and major interchange between bus, rail and ferry services at The Hard. Two new bus gates have been provided which enables the buses to avoid the congestion, alongside landscaping and pedestrian improvements.

City Centre South

7.5.13 Revised highway layouts, a widened junction and new traffic signals replacing a mini roundabout were introduced in the area adjacent to Portsmouth & Southsea station, to improve traffic flows and safety for pedestrians and cyclists.

The Results

7.5.14 Four bus routes in particular benefitted from the new routing and the associated priorities. The time savings within the city centre, kindly supplied by Portsmouth City Council, are summarised in Table 12 below. As can be seen, the time taken to travel on this section of route has been reduced by one third.

Table 12: Journey Time Savings in Portsmouth City Centre

Service Number	Running Time (minutes)		Savings	% of journey time saved
	Jul-2024	Jul-2025		
7	4:52	3:28	1:24	29%
8	4:53	3:22	1:31	31%
20	4:56	3:17	1:39	33%
23	4:43	3:16	1:27	31%
Overall	4:51	3:21	1:30	31%

7.5.15 These measures, alongside other improvements to bus services, including bus stop redesigns, zero-emission buses and changes to the city’s park and ride service, have together delivered a 41% increase in patronage over the last two years. This means that passenger numbers are now above pre-Covid levels.

7.6 The West Midlands Bus Alliance

7.6.1 The West Midlands Bus Alliance comprises local bus operators, local councils, Transport for West Midlands and local communities. Set up in 2015, the alliance works together to improve bus services, seeking to make bus travel cleaner, greener, safer and faster. The Alliance operates under the auspices of West Midlands Combined Authority (WMCA), as the local transport authority for the West Midlands and operates an Enhanced Partnership (EP) for the West Midlands, signed in June 2021.

7.6.2 Two of the most important bus priority projects implemented by the Alliance have been in Solihull and Harborne, both delivering worthwhile journey time savings and passenger growth.

Lode Lane, Solihull

7.6.3 Lode Lane is a major corridor linking Solihull with Birmingham Airport which also serves the Jaguar Land Rover factory, a major employer and home to some 9,000 jobs.

7.6.4 The Alliance supported a bid by Solihull Council to the local enterprise partnership (LEP) for £4.5m worth of bus lanes and priority on the corridor, enabling the installation in 2016 of two new sections of bus lane and a new bus gate through a busy town centre roundabout. As part of the initiative, bus operator National Express West Midlands provided a fleet of new high-spec ‘Platinum’ buses on the route, bringing the total investment to £6.75m.

7.6.5 The result was an all-day improvement in running times, with the main gain being during the morning peak period, when the journey time saving was eight minutes, benefiting 2,000 passengers a day. Patronage growth on the main routes on the corridor in the first year was 8.3%.

7.6.6 As a result of ongoing monitoring and enforcement of restrictions by the local authority, no degradation in performance has been seen in nearly 10 years of operation with journey times slightly improved over this period. Subsequently partners have supported the introduction of new bus priority along this route as part of the Sprint project, due to be ready in 2026.

Harborne Road, Birmingham

7.6.7 Harborne Road is a busy orbital route into central Birmingham, served by up to 22 buses per hour between Harborne High Street and Five Ways, carrying 1,500 peak passengers - more than the number of people travelling by car on the same route. It is one of the most congested corridors on the approach to the city centre.

7.6.8 The project added two new stretches of bus lane to supplement the existing one on the approaches to the Five Ways interchange. The result was a saving of eight minutes during the AM peak, reducing journey times and making services more predictable and reliable.

7.7 Aberdeen Bus Gates

The Scheme

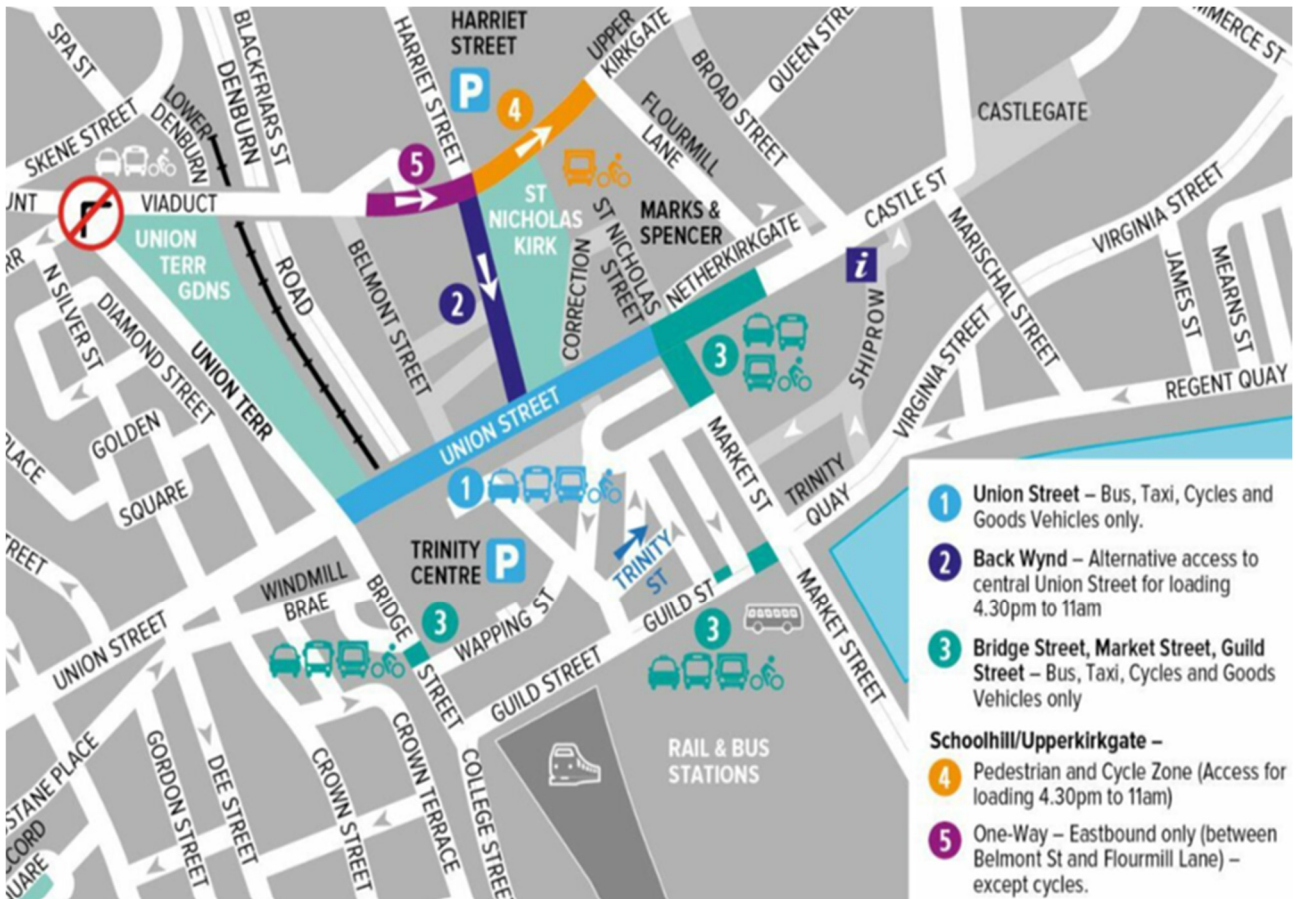
7.7.1 New bus gates were introduced to Aberdeen city centre as part of a major traffic management scheme. The gates restrict certain streets in the city centre to bus, taxi, cycle and goods vehicles only, including Union Street, Bridge Street, Market Street and Guild Street (see map at Figure 7-2).

7.7.2 The scheme was introduced in August 2023, with the priority works delivered by Aberdeen City Council, funded by a £200k grant from the Scottish Government’s Bus Partnership Fund (BPF) through the North East Bus Alliance. The new priorities affected five of First Aberdeen’s routes, with a combined daytime frequency of 15 buses per hour in each direction. The routes are shown in Table 13.

Table 13: Aberdeen Bus Gates: First Bus Routes Affected

Service No	Terminals	Via	Daytime Frequency (buses per hour)
3	Mastrick - Cove (Thistle)	City Centre	3
12	Torry - Heathryfold	Union Square and City Centre	4
13	Scatterburn - Golf Links	Queens Links Leisure Park	3
15	Airyhall - Balnagask Circle	Union Grove and Union Square	3
20	Guild Street - Hillhead Of Seaton	Old Aberdeen	2

Figure 7-2: The Aberdeen Bus Gates Scheme



The Results: First Bus

7.7.3 Over the two years since the gates were introduced, First Bus has seen on-time performance and passenger numbers rise and journey times reduced, despite the closure of Union Street for major road works since April 2024. Revenue gains and cost savings have been reinvested in service improvements and other initiatives.

Journey Times

7.7.4 Following the implementation of bus priority measures, the operator has achieved notable operational efficiencies, particularly on two routes:

- On service 3, end-to-end journey times have been reduced from 53 to 44 minutes – a fall of 17%
- On service 12, end-to-end journey times have been reduced 48 to 39 minutes, a fall of 18.8%.

On-Time Performance

Prior to the closure of Union Street, punctuality improved on four of the five routes by up to 12%. Even during the closure and consequential diversions, improvements have continued on two of the routes: the 13 (17.9%) and the 20 (5.7%).

Passenger Growth

- 7.7.5 Four of the five routes have remained comparable across the two years, giving like-for-like patronage growth of 12.7%. Route 15 shows a small fall, but this followed service alterations which saw the introduction of new variations and extensions on the corridor. Even allowing for this fall, the total patronage gain is still 11.0%. This implies an additional 430,000 passenger journeys a year.

Reinvestment

- 7.7.6 These improvements have contributed to measurable cost savings across the company's network, which have since been reinvested in service improvements and other initiatives across the core network. For example, mileage run has been increased on the four like-for-like services by 5.8%.
- 7.7.7 In 2024, these savings enabled First Bus to launch an initiative offering free bus travel every weekend throughout January, aimed at encouraging modal shift and enhancing the customer experience. The company continues to monitor year-on-year savings and remains committed to reinvesting efficiencies back into the network. This approach supports ongoing service enhancements and strengthens the customer offering.

The Results: Aberdeen City Council

- 7.7.8 Revenue generated from bus lane enforcement fines has been reinvested to support service improvements across both the city and the surrounding shire. A key outcome of this reinvestment has been the successful re-launch of Night Bus Services, introduced earlier this year. These services now operate across five key areas, providing vital connectivity during late hours and supporting the city's wider transport and accessibility goals.

7.8 The Cambridgeshire Busway

The impact of a speed restriction

- 7.8.1 The busway runs from the Cambridge Biomedical Campus to St Ives. Bus services operated on it also extend up to Huntingdon, RAF Wyton and Peterborough via conventional means. It is owned by Cambridgeshire County Council who then license bus operators to be able to use it. It is the world's longest Busway.
- 7.8.2 The Government Order used to construct it categorised it as a place of work rather than a roadway or railway. This means that it operates under a different health and safety regime, which makes operation more complex and has led to the current issue over pedestrian access to the track. Cambridgeshire tried once to have this amended, without success. Going forward to help the Busway to fulfil its full potential, any assistance which the Council could be offered to reclassify it as a roadway would be really useful.
- 7.8.3 From the outset Cambridgeshire County Council was keen to ensure the service operated to the highest possible safety and quality standards. This includes risk assessments; safe systems of work and a requirement that only operators who can show that drivers have had documented enhanced training are allowed to drive on the Busway.

- 7.8.4 Sadly, despite these thorough systems, there have been three fatalities. None of these was in anyway caused by negligence by either the bus or the driver or the systems the operators provide. As the Busway is classed as a place of work, the body who then looked at these incidents was the Health and Safety Executive.
- 7.8.5 HSE then prosecuted Cambridgeshire County Council in April 2025 who were then fined. To fulfil the requirement of the HSE to make it harder for pedestrians to be able to cross the live track, the Council decided to extend the fencing which they had already installed for the entire length of the Busway.
- 7.8.6 In discussing these fencing works there was some discussion of a speed limit but not what it would be. Speed on open sections of the Busway is usually 50mph.
- 7.8.7 One week before the start of works on 6th October 2025 the operators were notified that the revised limits would be 30mph, with 20mph on crossing places and in one place as low as 10 mph. This had a devastating impact on journey times, extending them by at least 45 minutes. To tackle this, Stagecoach had to put three extra buses into the cycle, along with other ancillary costs. Even with this resource on the St Ives section frequency dropped to every 20 mins and the 10 min frequency from Trumpington can only be maintained to 17:00.
- 7.8.8 The biggest impact on this has been on passenger numbers. According to the latest data, demand was 20% down on the previous year. The operators are working closely with the Council to encourage them to enhance the reach of their communications to assist customers to see a potential end to the disruption. This will hopefully prevent this decline from getting worse.
- 7.8.9 The cost to Stagecoach in additional costs and lost revenue in the financial year 2025/26 as a result of these works is forecast to be £738k.
- 7.8.10 Work on the Southern section of the busway is expected to be completed in May 2026, with the whole project following in the Spring of 2027. However, the Council is also trying to accelerate the completion by additional labour resources.

7.9 Journey Time Variability

- 7.9.1 In section 4.2 above, we considered the importance of reliability (the bus turning up on time) and predictability (the bus completing the journey in the advertised time). Both of these are affected by traffic congestion and other delays. As we saw, these factors can have a significant impact on public perceptions and hence on demand for services.
- 7.9.2 New research permitted by the availability of Bus Open Data enables us to illustrate the variability that occurs in dense urban areas. A firm called Open Innovations has developed a proof of concept, to assess bus reliability. At present, this is available for Yorkshire and Humber and the North West analysing a ten day period in September 2024.³³ Two samples are provided in the graphs at Figure 7-3 and Figure 7-4 below.

³³ Full details can be found at <https://open-innovations.org/>.

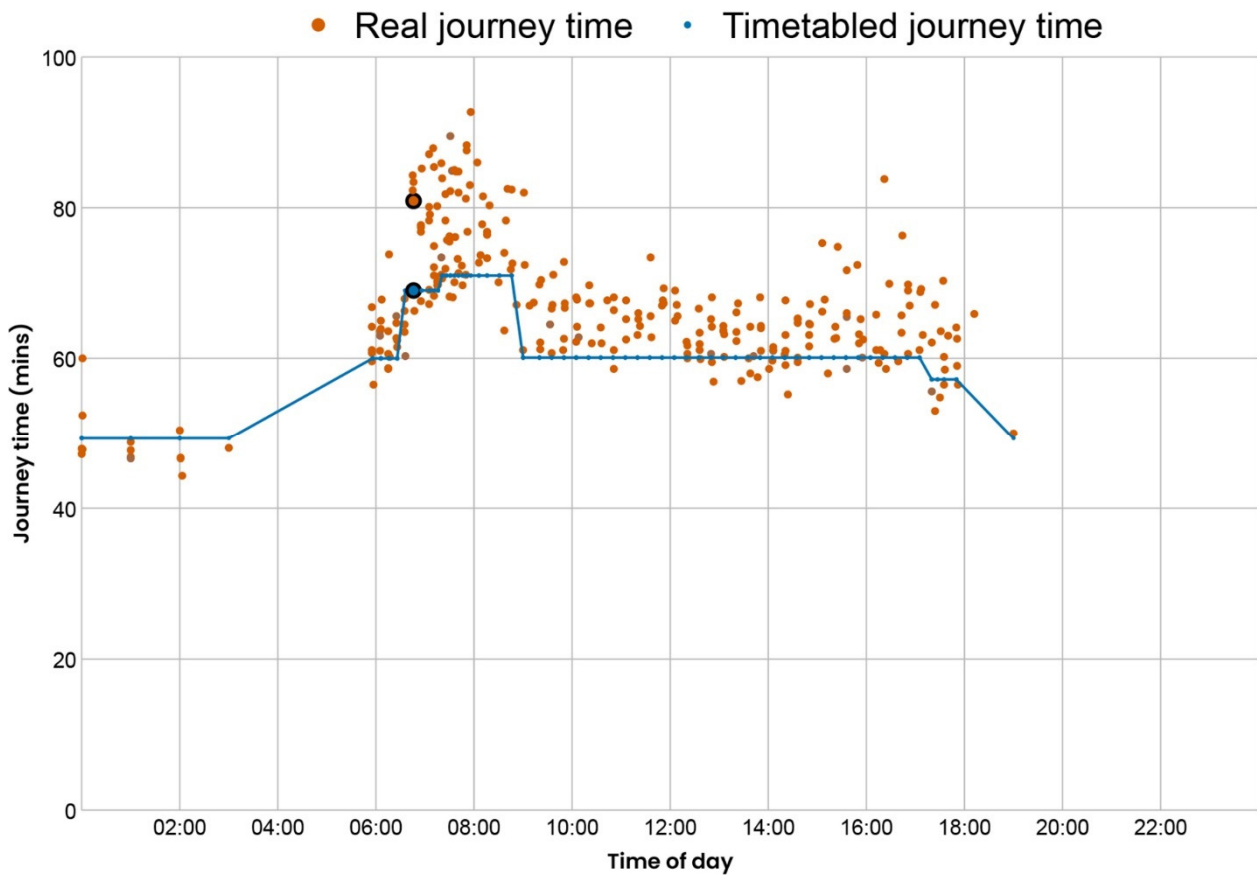
7.9.3 The first considers route V1, which runs between Leigh and Royal Manchester Infirmary via Manchester city centre. It is part of Transport for Greater Manchester’s Bee Network.

7.9.4 The timetable scheduled 50 minutes for the end-to-end journey, whilst the actual time taken is analysed by the software, and reproduced in Table 14 below. As can be seen, the longest time is almost double the shortest, and the median is 15 minutes greater than the scheduled time. The need for additional running time has since been recognised, and a new October 2025 timetable allocates between 65 and 70 minutes for the journey.

Table 14: Analysis of Actual Journey Time on Route V1

Measure	Time Taken (minutes)
Maximum	92.7
3rd quartile	71.1
Median	65.4
1st quartile	61.1
Minimum	44.3

Figure 7-3: Real and timetabled journey time September 2024, Route V1
Weekdays from Leigh, September 2024



7.9.5 The second example is the flagship inter-urban service on route 36 between Leeds and Harrogate, run by Transdev’s Harrogate Bus Company. The scheduled running time on the route for most of the day was 51 minutes, falling to as low as 37 minutes in the early

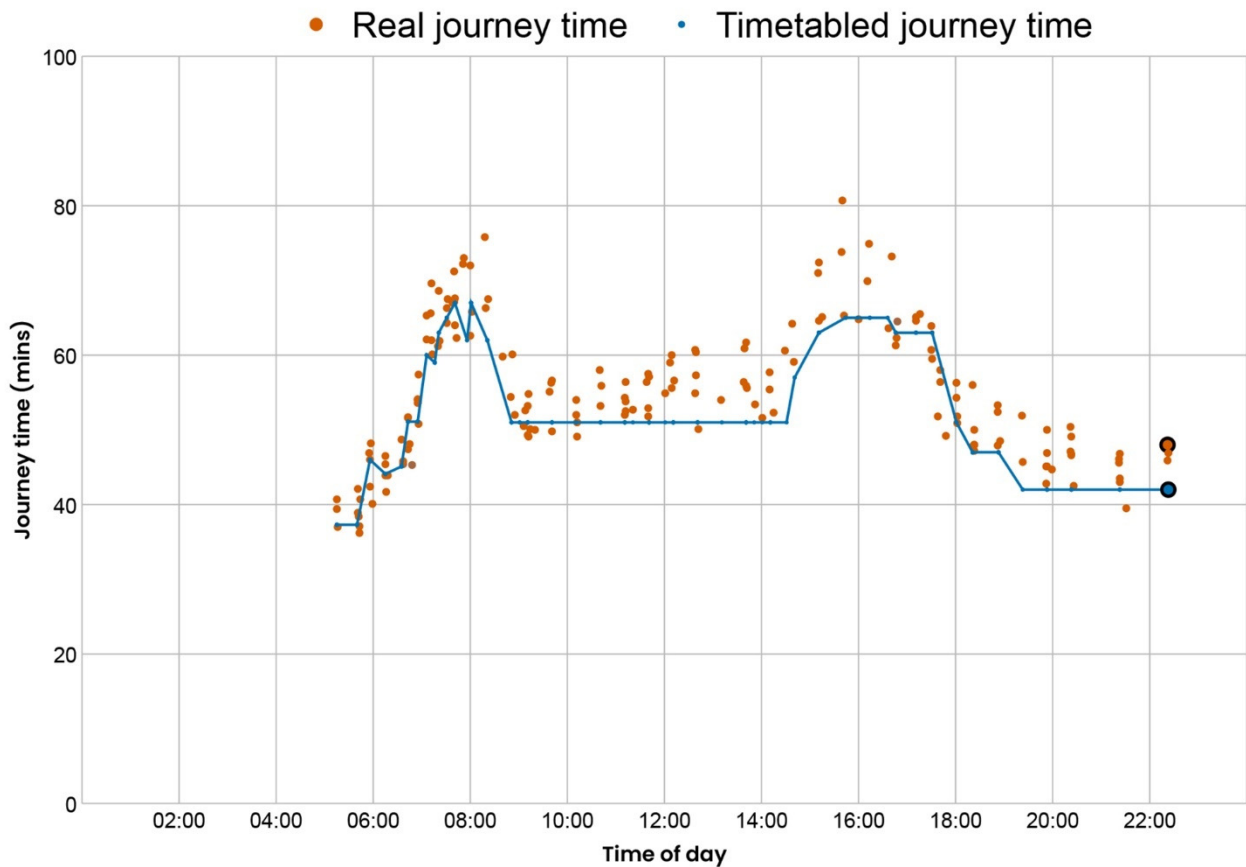
morning and as high as 65 minutes during the evening peak hours. The daytime scheduled journey time has since been increased to 56 minutes (October 2025).

7.9.6 The actual times achieved are summarised in Table 15 below, whilst the graph of the journeys is shown in Figure 7-4 below.

Table 15: Analysis of Actual Journey Time on Route 36

Measure	Time Taken (minutes)
Maximum	80.7
3rd quartile	61.3
Median	54.0
1st quartile	48.0
Minimum	36.2

Figure 7-4: Real and timetabled journey time September 2024, Route 36
Weekdays from Harrogate, September 2024



8. Conclusions

8.1 Overall

- 8.1.1 This report has demonstrated the wide range of benefits that can be gained from enabling bus services to run at faster speeds.
- 8.1.2 For bus passengers, higher speeds offer time savings on their daily commute and greater consistency and predictability for their journeys.
- 8.1.3 For the wider economy, more efficient and less stressful journeys to work help to improve productivity, whilst better and more efficient bus services, by making travel more attractive, aid the revival of town and city centres.
- 8.1.4 For society at large, faster buses reduce emissions, and improve local air quality. Making bus services more attractive assist modal shift, helping to achieve Net Zero targets. Making buses more efficient helps to keep fares lower and enable higher service levels, thus improving the accessibility of the bus network.
- 8.1.5 Reduced traffic congestion and optimisation of road space allocation improves economic efficiency and promotes transport-oriented development, encouraging higher-density, mixed-use communities that are less car-dependent and more sustainable.

8.2 Benefits

Cost Savings

- 8.2.1 In Chapter 3, we showed the overriding importance of scheduled speeds in determining the cost of providing our bus networks, whilst our worked example in Chapter 5 illustrated the cost savings that can accrue from improving speeds and reducing end-to-end journey times. Where a change in speed allows a service to be operated by fewer buses, cost savings can be achieved of up to 5.5% per minute saved. Thus, a 10% improvement could result in savings of over £511m a year which can be reinvested in bus services to further improve the passenger experience.

Demand growth

- 8.2.2 There is compelling evidence that faster and more reliable bus journeys will increase passenger demand. Evidence suggests that:
- Every 1% saved on journey time is likely to generate 0.6% more patronage
 - Every 1% saved on door-to-door journey times (including stop access time and waiting time at bus stops) is likely to generate 1.1% more patronage.
- 8.2.3 A 10% improvement in bus speeds across England could result in an extra 147m passenger journeys a year – an extra 2½ journeys per person per year.

Economic Benefits

- 8.2.4 Using the methodology pioneered by KPMG for CPT in 2024, we have assessed the current value of the bus network to the economy in England at £67.9 billion a year. We estimate that an increase of bus speeds by 10% could increase this value by 7.4% (£5 billion) to £72.9 billion annually.

8.3 Case Studies

- 8.3.1 The case studies used in this report show both the benefits of bus priority measures and the disadvantages of slower journey times. In Crawley, South Hampshire and Birmingham, measures taken have resulted in reduced journey times which have in turn resulted in cost savings and patronage growth. However, there are also examples where a lack of positive infrastructure improvements has had a detrimental impact on operations such as reduced frequency, increased operating costs, and declining patronage, notably in Cambridge.

Appendix A: Improved Viability in English Market Segments

A.1 Introduction

A.1.1 In Chapter 6, the impact of the proposed speed increases in England were described in terms of both revenue gains and cost savings, thus improving the overall viability of the network and releasing funds for reinvestment.

A.1.2 This appendix contains the breakdown of these calculations into the three main market sectors: Greater London, the English Metropolitan Areas (Greater Manchester, Merseyside, South Yorkshire, Tyne & Wear, West Midlands and West Yorkshire) and the rest of England, sub-divided into the Other Urban, Urban with significant rural, and wholly or mainly rural segments discussed in Section 6.3 above, together generally described as the English Shires.

A.2 Patronage and Revenue Gains

A.2.1 The table below shows the patronage and revenue gains that would accrue from a 10% increase in bus speeds in all except the rural areas.

Table 16: Changes in Passenger Numbers and Revenue

Item	London	English Mets	English Shires				All England
			Other Urban Areas	Urban with Significant Rural	Largely or Mainly Rural	Total	
Bus Patronage (millions)	1,821	776	539	289	235	1,063	3,661
Passenger revenue + Concessions (£m)	1,549	976	885	475	385	1,745	4,270
Patronage assumed to benefit (millions)	1,457	621	431	116	0.0	547	2,625
Assumed time saving (%)	(9.1%)	(9.1%)	(9.1%)	(9.1%)	-		-
Elasticity	(0.6)	(0.6)	(0.6)	(0.6)	-	-	-
Patronage gains (%)	5.6%	5.6%	5.6%	5.6%	-	2.9%	4.0%
Extra Passenger Journeys (millions)	81.7	34.8	24.2	6.5	0.0	30.7	147.2
New Total Passenger Journeys (millions)	1,903.2	811.2	563.3	295.7	234.6	1,093.5	3,808
Overall gain (%)	4.5%	4.5%	4.5%	2.2%	0.0%	2.9%	4.0%
Revenue Increase (£m)	69.5	43.8	39.7	10.6	0.0	50.3	163.6
New Total Revenue (£m)	1,619	1,019	925	485	385	1,795	4,433
Revenue increase (%)	4.5%	4.5%	4.5%	2.2%	0.0%	2.9%	3.8%

A.3 Greater London

A.3.1 As can be seen, the overall reduction in operating costs would be £214.4m a year, or 8.6%. Such savings would be available to re-invest in the network. Taken together with the revenue gains of £69.5m, this would provide £283.9m a year for reinvestment in the network or savings in support payments.

Table 17: Cost Savings in Greater London

Item	Current Speeds	New Speeds	% change
Labour	1,687	1,534	(9.1%)
Fuel	124	124	0.0%
Oil & Tyres	13	13	0.0%
Maintenance	175	159	(9.1%)
Variable Costs	1,998	1,829	(8.5%)
Overheads	198	180	(9.1%)
Property Maintenance	3	2	(9.1%)
PSV & Traffic	67	61	(9.1%)
Marketing	2	2	(9.1%)
Claims	71	64	(9.1%)
PSV Leasing	13	12	(9.1%)
Other Leases (less property)	3	3	(9.1%)
Property Rental	0	0	(9.1%)
Total Operating Costs	2,355	2,153	(8.6%)
Depreciation (PSV)	126	115	(9.1%)
Depreciation (Other)	13	12	(9.1%)
Property Amortisation	0	0	(9.1%)
Total Costs	2,495	2,280	(8.6%)

A.4 English Metropolitan Areas

A.4.1 In these areas, the savings in operating costs are assessed at £125m a year, or 8.4%. Taken together with the revenue gain of £43.8m a year from Table 16, this would give £168.8m a year for network improvements.

Table 18: Cost Savings in Metropolitan Areas

Item	Current Speeds	New Speeds	% change
Labour	931	846	(9.1%)
Fuel	97	97	0.0%
Oil & Tyres	11	11	0.0%
Maintenance	76	69	(9.1%)
Variable Costs	1,114	1,023	(8.2%)
Overheads	150	136	(9.1%)
Property Maintenance	2	2	(9.1%)
PSV & Traffic	34	31	(9.1%)
Marketing	4	4	(9.1%)
Claims	32	29	(9.1%)
PSV Leasing	26	23	(9.1%)
Other Leases (less property)	1	1	(9.1%)
Property Rental	0	0	(9.1%)
Total Operating Costs	1,364	1,249	(8.4%)
Depreciation (PSV)	95	86	(9.1%)
Depreciation (Other)	26	23	(9.1%)
Property Amortisation	0	0	(9.1%)
Total Costs	1,484	1,359	(8.4%)

A.5 Other Urban Areas

A.5.1 These include some of England's major cities outside the Metropolitan areas, such as Bristol, Leicester and Nottingham. They account for around 30% of the population. Here, the savings would be £104m a year, an 8.4% reduction.

Table 19: Cost Savings in Other Urban Areas

Item	Current Speeds	New Speeds	% change
Labour	717	651	(9.1%)
Fuel	80	80	0.0%
Oil & Tyres	9	9	0.0%
Maintenance	77	70	(9.1%)
Variable Costs	883	810	(8.2%)
Overheads	137	124	(9.1%)
Property Maintenance	2	2	(9.1%)
PSV & Traffic	28	25	(9.1%)
Marketing	2	2	(9.1%)
Claims	29	26	(9.1%)
PSV Leasing	46	42	(9.1%)
Other Leases (less property)	1	1	(9.1%)
Property Rental	0	0	(9.1%)
Total Operating Costs	1,127	1,033	(8.4%)
Depreciation (PSV)	59	54	(9.1%)
Depreciation (Other)	46	42	(9.1%)
Property Amortisation	0	0	(9.1%)
Total Costs	1,233	1,129	(8.4%)

A.6 Urban with Significant Rural

A.6.1 This category encompasses the larger market towns with their hinterlands, accounting for a smaller 16% of the population. Included is most of County Durham, parts of North Lancashire, most of Cheshire and Staffordshire, parts of Kent, Surrey and Sussex and south Hampshire. These areas could see a saving of £67m a year, or 8.2%.

Table 20: Cost Savings in Urban with Significant Rural Areas

Item	Current Speeds	New Speeds	% change
Labour	455	413	(9.1%)
Fuel	71	71	0.0%
Oil & Tyres	7	7	0.0%
Maintenance	47	42	(9.1%)
Variable Costs	580	534	(7.9%)
Overheads	92	83	(9.1%)
Property Maintenance	1	1	(9.1%)
PSV & Traffic	19	17	(9.1%)
Marketing	2	1	(9.1%)
Claims	20	18	(9.1%)
PSV Leasing	31	28	(9.1%)
Other Leases (less property)	1	0	(9.1%)
Property Rental	0	0	(9.1%)
Total Operating Costs	744	684	(8.1%)
Depreciation (PSV)	40	36	(9.1%)
Depreciation (Other)	31	28	(9.1%)
Property Amortisation	0	0	(9.1%)
Total Costs	815	748	(8.2%)

A.7 English Shire Areas

A.7.1 The assumption that speeds would not be improved in rural area means that the existing level of costs would be maintained. There is therefore no separate table for these areas.

A.7.2 Thus, totalling the figures for the Shire areas as a whole, means that the saving would be proportionately lower at 6% overall. Nevertheless, savings of £171m a year, together with £50m worth pf revenue gains from Table 16 would give a total of £221m available for re-investment in network improvements.

Table 21: Cost Savings in Shire Areas

Item	Current Speeds	New Speeds	% change
Labour	1,596	1,490	(6.7%)
Fuel	219	219	0.0%
Oil & Tyres	23	23	0.0%
Maintenance	165	154	(6.8%)
Variable Costs	2,003	1,886	(5.9%)
Overheads	312	292	(6.6%)
Property Maintenance	4	4	(6.6%)
PSV & Traffic	64	59	(6.6%)
Marketing	6	5	(6.6%)
Claims	66	62	(6.6%)
PSV Leasing	106	99	(6.6%)
Other Leases (less property)	2	2	(6.6%)
Property Rental	0	0	(6.6%)
Total Operating Costs	2,564	2,409	(6.0%)
Depreciation (PSV)	135	126	(6.6%)
Depreciation (Other)	106	99	(6.6%)
Property Amortisation	0	0	(6.6%)
Total Costs	2,804	2,633	(6.1%)

Appendix B: Economic Benefits by Market Segment

B.1 Introduction

B.1.1 In Chapter 6, we also evaluated the uplift to economic benefits that could be achieved by the planned increases in speeds across the network.

B.1.2 This appendix contains the breakdown of these calculations into the three main market sectors: Greater London, the English Metropolitan Areas (Greater Manchester, Merseyside, South Yorkshire, Tyne & Wear, West Midlands and West Yorkshire) and the rest of England, generally described as the English Shires. Unfortunately, we do not have available data to provide cost estimates for the urban/rural split discussed in Chapter 6.

B.2 London

B.2.1 The figures are contained in the table below. It will be seen that the speed increase could increase the economic benefits by £3.1 billion a year.

Table 22: Improved Value of Buses from Speed Changes, London

£m - current prices

Item	At current speeds	At new speeds	Remarks
<i>Activities of Service Providers</i>			
Taxes, wages and industry profit	1,618	1,544	Improved financial performance, but lower operating costs
Supply chain impact of fleet renewal and labour impact	587	2,760	Revenue growth permits investment levels recover to levels required to maintain fleet age
Spending by employees in operations and supply chain	1,118	1,074	Reduced as a result of workforce savings
Total	3,322	5,378	
<i>The Economic and Social Activities of Bus Passengers</i>			
Increased connectivity and more affordable travel	3,453	3,453	No change in service levels assumed initially
Impacts on other road users	227	237	Additional passengers improving benefits
Option of having buses as a mode	430	430	No change in service levels assumed initially
Wider societal impacts	1,513	1,581	Additional passengers improving benefits
Total	5,622	5,700	
<i>Contribution of Bus Passengers to Local Economies</i>			
Leisure spend	7,216	7,539	Additional passengers improving level of spend
Commuter spend	4,643	4,852	
Shopping spend	10,332	10,795	
Total	22,191	23,186	
GRAND TOTAL	31,135	34,265	

B.3 English Metropolitan Areas

B.3.1 In the major conurbations outside the capital, the 10% improvement in speeds is estimated to deliver an extra £675m worth of economic benefits.

Table 23: Improved Value of Buses from Speed Changes, English Metropolitan Areas
£m - current prices

Item	At current speeds	At new speeds	Remarks
<i>Activities of Service Providers</i>			
Taxes, wages and industry profit	1,130	896	Improved financial performance, but lower operating costs
Supply chain impact of fleet renewal and labour impact	266	864	Revenue growth permits investment levels recover to levels required to maintain fleet age
Spending by employees in operations and supply chain	586	451	Reduced as a result of workforce savings
Total	1,982	2,212	
<i>The Economic and Social Activities of Bus Passengers</i>			
Increased connectivity and more affordable travel	1,679	1,679	No change in service levels assumed initially
Impacts on other road users	153	160	Additional passengers improving benefits
Option of having buses as a mode	995	995	No change in service levels assumed initially
Wider societal impacts	647	676	Additional passengers improving benefits
Total	3,473	3,509	
<i>Contribution of Bus Passengers to Local Economies</i>			
Leisure spend	2,688	2,808	Additional passengers improving level of spend
Commuter spend	1,987	2,076	
Shopping spend	4,449	4,648	
Total	9,123	9,532	
GRAND TOTAL	14,578	15,253	

B.4 English Shire Areas

B.4.1 An additional £1.2 billion of economic benefits could flow from the 10% improvement in bus speeds in the urban portions of the shire areas.

Table 24: Improved Value of Buses from Speed Changes, English Shire Areas
£m - current prices

Item	At current speeds	At new speeds	Remarks
<i>Activities of Service Providers</i>			
Taxes, wages and industry profit	1,767	1,562	Improved financial performance, but lower operating costs
Supply chain impact of fleet renewal and labour impact	419	1,605	Revenue growth permits investment levels recover to levels required to maintain fleet age
Spending by employees in operations and supply chain	1,000	876	Reduced as a result of workforce savings
Total	3,186	4,044	
<i>The Economic and Social Activities of Bus Passengers</i>			
Increased connectivity and more affordable travel	3,417	3,417	No change in service levels assumed initially
Impacts on other road users	210	216	Additional passengers improving benefits
Option of having buses as a mode	2,025	2,025	No change in service levels assumed initially
Wider societal impacts	885	911	Additional passengers improving benefits
Total	6,537	6,569	
<i>Contribution of Bus Passengers to Local Economies</i>			
Leisure spend	3,679	3,785	Additional passengers improving level of spend
Commuter spend	2,720	2,798	
Shopping spend	6,090	6,266	
Total	12,489	12,849	
GRAND TOTAL	22,213	23,462	