



Transport in Guildford Borough

Manifesto for Change

April 2022

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Key Recommendations

The Transport Group in the Guildford Society has looked at the issues that impact Transport in Guildford. We have drawn together our thoughts for consideration.

The Covid pandemic has affected travel patterns and what the new normal will be is currently difficult to forecast. What is certain is that the transport system in Guildford will have to adapt to manage demand caused by housing growth, a move to active travel (Cycling, Walking) and the need to 'green' the transport system and make it safer and less polluting. The transport system also needs to support the local economy more effectively reducing costs imposed on local businesses.

The political climate and UK finances probably means investment funds for transport are limited, and funding will be directed to areas with greater political influence.

The Society considers that Guildford needs a comprehensive transport strategy, aspects of which we discuss in this paper. Guildford needs a bold long-term strategy to improve transport for all both within the town, borough, and links to surrounding areas.

Our key recommendations are:

1. Management Focus:
There needs to be a clearly identified role that understands Guildford Transport needs and drives change across the various bodies involved in transport matters
2. Transport Ticketing and Pricing.
Guildford needs a Transport Card covering all modes of travel including Buses, Train, Bike Hire, Parking, and Taxis that can be used to support modal shift and ease of use of the transport network as it evolves.
3. Standards for Development and Redevelopment.
Development Policies and Standards must be revised to ensure sustainable transport is catered for and links properly provided – no point having a nice cycle path just within a development. The 15 minute town should be enabled See [The 15 Minute Neighbourhood \(guildfordsociety.org.uk\)](http://The 15 Minute Neighbourhood (guildfordsociety.org.uk)). The ability to adapt for possible changes in traffic technology and modes is critical e.g. the ability to repurpose parking spaces etc.
4. Environment Radical Change required
Transport is a major contributor to the Guildford pollution. The Transport system needs to change radically to embrace low emissions transport modes and support active travel
5. The Town Centre
We support the desire to reduce traffic in the Town Centre this needs to be enabled by more Park and Ride Facilities supported by Ticketing as in G3), and enhanced Public Transport.
6. Buses
There are substantive plans for a revised Bus Station on the current site as part of the North Street scheme. The society believes this must be planned in the context of revision to bus services, Demand Responsive Services, and the potential provision of mobility hubs. This thinking is not apparent at present.

7. The A3

Although a tunnel is attractive The Society believes there are schemes and interventions that are a far better and more sustainable use of funds. We do accept that some measures will be needed to improve the A3, particularly pollution and noise.

8. Guildford Rail Station

As we detail below having a proper strategic plan for Guildford Station is important to deal with potential increased use of the Rail System and to improve interconnections to other modes of transport.

9. Mass Transit

As we outline at H) we believe there is a need to explore a Mass Transit System for the borough to help support development sustainably and support the economic vibrancy of Guildford.

Report

The report provides a background to some of the transport challenges facing Guildford Borough (Section A). Work in the form of various reports at National (Section B) and by Local and Regional Bodies Section C has been evaluated. We have distilled from this information what we believe are a series of strategic assumptions for Guildford Section E. We discuss that solutions need to be flexible as one size does not fit all (Section F) Finally, we document a series of proposals on various aspects of transport in the borough Section (G).

Links to background material either to the Society Website or external sources are provided throughout the text.

A. Current Guildford Transport Issues

Guildford has evolved to be:

- A car-based town, with the notable exceptions of major commuter flows to London via the rail network. It is worth highlighting Surrey has one of the highest car ownership levels in the country at 1.5 vehicles per household compared to a national average of 1.12 per household.
- On several measures Guildford suffers from high levels of congestion, pollution and accidents. An Air Quality Management Area (AQMA) has been declared in the Town Centre [Guildford Town Centre AQMA \(guildfordsociety.org.uk\)](http://guildfordsociety.org.uk) and the A3 has been identified as a major polluter [Dangerous Levels of Pollution in Guildford \(guildfordsociety.org.uk\)](http://guildfordsociety.org.uk). Surrey County Council have published a plan to tackle the environment issues [Surrey Delivery Plan to Improve the Climate \(guildfordsociety.org.uk\)](http://guildfordsociety.org.uk)
- The Strategic Road Network in the form of the A3 bisects the Borough and particularly the Town with over 50% of Guildford Urban area being located north of the A3 away from the town Centre.
- Bus network is hub and spoke and buses are slowed by limited bus lanes and congestion.
- Rail Services are in the main good but centred on Guildford Station with limited local stations – also not all stations have a 15 min service.
- Parking seen as an income source by local council and is not integrated into a transport strategy.
- Public Transport charging is inconsistent and doesn't support modal shift – it can be cheaper to drive and park in the Town Centre rather than use Public Transport.
- Geographical Constraints make new transport corridors costly.
- Local country roads used for 'rat running' and local villages have inadequate public transport

- New Strategic Sites are in many cases car based with all the problems this causes see [Building-Car-Dependency-2022-Spreads.pdf \(transportfornewhomes.org.uk\)](https://transportfornewhomes.org.uk/Building-Car-Dependency-2022-Spreads.pdf)

It is worth noting that Guildford has a major growth in new settlements in the borough and surrounding areas including:

Development	Homes	New School	Station
Ash and Tongham	1200		Ash
Blackwell Farm	1800	Primary	Guildford West
Guildford Town	3000		Guildford
Gosden	2000	Primary/ Secondary	Guildford East (Also identified as a Park and Ride Site)
<i>Cranleigh</i>	<i>2000</i>		<i>Plus up to 4000 at Dunsfold</i>
Wisley	2200	Primary/ Secondary	Effingham – Needs transit to site?

The developments will increase demand on the transport network. The Local plan assumes there is a Park and Ride on the A3 at Burpham and new rail stations at Guildford East (Marrow/Burpham), and Guildford West(RSCH).

B. National and Regional Transport Strategies and Policies

There is no lack of strategies and policies initiatives on the subject of transport at National, Regional and Local Level. Nationally the Government has published many significant proposals recently including:

B.1. Decarbonising Transport

Promoting a commitment to decarbonise transport, including a banning of new petrol and diesel vehicles from sale from 2030.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1009448/decarbonising-transport-a-better-greener-britain.pdf

B.2. Changes to the Bus System (Bus,Back,Better)

The government has proposed major changes to the bus system to an extent reverting to a system that is less market driven and more in the control of local authorities.

[Bus Strategy England 2021 \(guildfordsociety.org.uk\)](https://www.guildfordsociety.org.uk/Bus-Strategy-England-2021)

This has led to the development of a Surrey County Council (SCC) Bus Service Improvement Plan

[Guildford Bus Changes - Bus Service Improvement Plan \(guildfordsociety.org.uk\)](https://www.guildfordsociety.org.uk/Guildford-Bus-Changes-Bus-Service-Improvement-Plan)

B.3. Provision of Cycleways and guidance on Design

Support for Cycling including revised standards for Cycle Lanes and amendments to the Highway Code

<https://www.guildfordsociety.org.uk/gear-change-a-bold-vision-for-cycling-and-walking.pdf>

B.4. Levelling Up White Paper

The just published Levelling Up White Paper [Long Awaited Levelling Up White Paper \(guildfordsociety.org.uk\)](https://www.guildfordsociety.org.uk) also has three missions, in the 12 documented, that impact Transport

B.4.1. Transport Infrastructure

By 2030, local public transport connectivity across the country will be significantly closer to the standards of London, with improved services, simpler fares and integrated ticketing.

- This indicates potential support for sorting out a better Public Transport offer in Guildford

B.4.2. Pride in Place

By 2030, pride in place, such as people's satisfaction with their town centre and engagement in local culture and community, will have risen in every area of the UK, with the gap between top performing and other areas closing.

- This indicates potential support for Public Transport to areas in the borough that are suffering from deprivation.

B.4.3. Local Leadership

By 2030, every part of England that wants one will have a devolution deal with powers at or approaching the highest level of devolution and a simplified, long-term funding settlement.

- This indicates potential support for having a local government structure that can make local decisions about transport.

The proposals all cost serious money. It is apparent that the funding may be an issue as for example the Northern Rail Proposals were cut back, and there is concern that funding for Bus services is not as generous as first announced. The current difficulties in funding Transport for London show the Political and Budgetary issues that impact transport issues.

B.5. Road Pricing

Taxing Road Traffic will become a major issue as Electric Vehicles take over from Petrol/Diesel. Motorists pay circa £35bn in tax on fuel and road tax on fossil fuelled cars currently. This lost revenue is equivalent to 5P on income tax. MP's have asked the government to act urgently to bring in a national road pricing scheme.

The House of Commons Transport Committee has issued a report (2/2022) cross-party. <https://committees.parliament.uk/committee/153/transport-committee/news/160791/road-pricing-act-now-to-avoid-35-billion-fiscal-black-hole-urge-mps/> recommending a Road

Pricing System is introduced to replace vehicle tax. The Committee is also clear the taxation system should also incentivise the use public transport, walk or cycle.

The Motoring thinktank the RAC Foundation has also commented that - “Drivers choosing to go electric deserve to know what is coming next – particularly if the promise of cheap per-mile running costs is set to be undermined by a future tax change. If the Treasury is thinking it can leave this issue for another day but still recoup their losses from electric vehicles they risk a furious backlash.”

The Policy Exchange thinktank, issuing its own report [A New Deal for Drivers - Policy Exchange](#) , said road pricing could be “good for drivers” by easing congestion, and should be implemented through location-tracking technology in cars, backed up by automatic numberplate recognition.

C. Regional and Local Strategies

Regionally and locally, there are several significant proposals.

C.1. Surrey County Council 2050 Strategy

The Surrey County council (SCC) - Surrey 2050 Place Ambition V2 has recently been consulted upon.

The report summarises the infrastructure challenges as.

C.1.1. Surrey’s Infrastructure

- Although Surrey’s transport connections are a key strength, they also have limitations and constraints. Before Covid-19, high traffic levels on Surrey’s main roads led to unreliable journey times and congestion, that was estimated to cost businesses £550 million per year. Traffic levels are now returning to pre Covid-19 volumes.
- Rail services experienced overloading before Covid-19. About 131,000 of Surrey residents (19% of the working population) commuted into London, leading to significant crowding on peak services. It is not yet clear whether these levels of demand will return post Covid-19, but it is likely that some employees will commute less frequently.
- Car ownership in Surrey is 86% compared to the national average of 73% and continues to rise. Electronic vehicle uptake has increased in the UK and Surrey. There is a relatively high concentration of charge points in Surrey with over 200 charge points in 60 locations. This is set to increase going forward.
- Surrey has over 98.0 % coverage of superfast broadband (>24 Mbps) which is slightly higher than the coverage for England which is 96.3% (June 2019). Only 25% of residential and business premises were able to access Gigabit speeds (October 2021), relative to a UK average of 50%. Nearly 40% of Surrey’s employed residents worked from home in April 2020.
- Estimated infrastructure costs in 2017 to support planned growth were £5.5 billion with a funding gap of £2.5bn.

C.1.2. Two Key Priorities are particularly worth reproducing.

For further information background material in the report concerning **Surrey’s People (A)** and **Surrey’s Environment (B)** are reproduced for information.

Strategic Priority 1: Improve connectivity both within Surrey and between strategically important hubs

Within Surrey there are 25 towns of strategic significance. Nine of these are primary centres that serve the wider regional economy and are a focus for development in Local Plans and emerging plans and often the subject of master planning activities. A number are also a focus for LEP activity, given their strategic role. These centres are:

- Guildford
- Woking
- Epsom
- Reigate
- Redhill
- Staines-upon-Thames
- Farnham
- Egham
- Camberley (including Frimley)

Strategic Priority 3: Maximise the potential of our Strategic Opportunity Areas

The greatest long-term potential for delivering “good growth” across Surrey will be by investing in places that offer opportunities to boost productivity by maximising the value of strategic assets such as universities, mobility hubs and strategic employment sites/centres to support our economic strengths and priority industrial sectors

Our third priority will therefore be to focus strategic interventions in eight Strategic Opportunity Areas (SOAs) that have been identified as areas to support long term prosperity. This includes investment in new strategic infrastructure and to address existing infrastructure deficiencies and improving connectivity both within Surrey and between other strategically important economic areas.

Our eight Strategic Opportunity Areas are:

- SOA 1: Longcross-Staines-Heathrow Corridor
- SOA 2: Woking Hub
- SOA 3: Guildford Hub
- SOA 4: Blackwater Valley Corridor
- SOA 5: Cranleigh-Dunsfold Corridor
- SOA 6: Epsom-Leatherhead Corridor
- SOA 7: M23-Gatwick Corridor
- SOA 8: M25 J6/A22 South Godstone

SOA 3: Guildford Hub – Further Detail

The Study in detail proposes for the SOA 3: Guildford Hub the following:

Guildford is Surrey's largest town and is set to grow even further over the next 20 years. It is a highly successful university town, hosting both the University of Surrey and University of Law, which contribute to the local economy through technology innovation, academic capital and developing a highly attractive talent pool for the local economy. Activity at the University of Surrey is a significant contributor to the overall Guildford economy and the Surrey Research Park is one of the borough's largest centres of employment making an important contribution to the regional economy. The challenge for the area is to balance the desire to maintain its unique character and natural environment with the need to deliver infrastructure to tackle congestion and improve connectivity, more and appropriate housing and to support the needs of the local economy. Underpinning all this is the need to ensure that development is sustainable and resilient to the changing climate. The planned Guildford Town Centre redevelopment on North Street is for a mixed use, residential led scheme and the major redevelopment site at Weyside Urban Village is anticipated to deliver 1,500 new homes. Not all the borough's development needs can be met within Guildford's existing urban areas and the adopted Local Plan focuses some development on large strategic greenfield sites and at least 3,200 housing units will be provided on two urban extensions to Guildford at Blackwell Farm and Gosden Hill Farm.

Key Challenges

- a. A decrease in the economic activity rate which is caused by a decline in a number of key sectors
- b. Housing affordability
- c. Traffic congestion and the need for increased infrastructure investment
- d. Need to improve air quality in Guildford town centre (an Air Quality Management Area was declared in October 2021)
- e. Poor air quality along the A3 through Guildford
- f. Need for flood alleviation of the River Wey catchment through Guildford town centre to maximise regeneration opportunities and provide resilience
- g. Tackling deprivation in those wards which are amongst the most deprived in Surrey
- h. Availability of suitable employment land
- i. Lack of digital infrastructure and slow broadband speeds
- j. Post Covid, revitalising the high street, investing in projects to use empty units and vacant office floorspace and reskilling.

What Needs to Happen

Significant investment in the borough's infrastructure is required to deliver the new homes. Accessibility improvements will help to attract high quality jobs and increase the prosperity of the area. As well as improvements to the A3 and road network in and around Guildford, there needs to be a focus on sustainable travel.

For rail, improvements to Guildford Railway Station are planned together with two new stations at Park Barn (Guildford West) and Meroo (Guildford East). The Guildford West Railway Station is likely to have a significant impact on access to the Royal Surrey County Hospital, University of Surrey, and Surrey Research Park. Improvements to the North Downs

Railway Line will facilitate better connectivity between Guildford and East Surrey/ Gatwick and between Surrey and the major hubs of Reading and Oxford.

The Guildford Economic Regeneration Programme (GERP) includes the Town Centre Masterplan and will provide transport improvements alongside residential development in the town centre. Joint working with the Environment Agency and Surrey County Council to identify, fund and implement suitable flood alleviation measures for the town centre is critical to the delivery of housing as part of the GERP.

Priority Outcomes

- a. Improved movement along the A3 to reduce congestion and improve air quality
- b. Delivery of Local Plan allocated urban extensions and Weyside Urban Village
- c. Delivery of the Town Centre Master Plan and Guildford's role as Surrey's primary retail centre and as an entertainment (creative) centre retained and enhanced
- d. Improved digital connectivity for businesses and residents

Other SOA's will impact Guildford e.g. SOA Cranleigh Dunsfold where growth will lead to more traffic accessing the A3 via Guildford

See more Detail at **Appendix 1**

C.2. Surrey County Council Local Transport Plan 2022–2032

This plan is proposing to support three key principles:

Avoid by reducing the number and length of trips needed by improving land use planning, travel planning and levels of digital connectivity.

Shift travel to more sustainable modes: public transport, walking, and cycling, away from car use.

Improve emissions intensity and energy efficiency of vehicles and operational efficiency of roads, through technology improvements.

See more detail at:

<https://www.guildfordsociety.org.uk/SCCTransport.html>

C.3. Transport for the Southeast (TfSE) Strategy

This body covers, the Southeast of England excluding Greater London.

TfSE has developed a Strategy see

<https://transportforthesoutheast.org.uk/app/uploads/2020/09/TfSE-transport-strategy.pdf>

This has resulted in work being undertaken on several projects two of which impact Guildford.

C.3.1. Inner Orbital Area Study

<https://transportforthesoutheast.org.uk/our-work/area-studies/inner-orbital-area-study/>

This identifies key challenges as

- Economic imbalance – the east has higher deprivation but greater housing supply, the west is prosperous but faces supply challenges

- Orbital rail connectivity/journey times is poor from Reading to Gatwick to Ashford, constraining the development and growth potential of the Gatwick Diamond and other major economic hubs
- Severe congestion on the M25 Orbital Motorway and limited scope for additional highway capacity on this corridor
- Sustainable surface access to Heathrow from the Southeast is limited

and identifies Opportunities as:

- Rail connectivity enhancements east-west through Gatwick Airport
- Possible missing links between the M3 and M4 motorway, to help alleviate congestion on the M25 and support local development
- Opportunities for demand management (Note TfSE are interested in using this on the A3)
- Potential for Western Rail Access to Heathrow, Southern Rail Access to Heathrow, and mass rapid transit solutions
- The need (and associated challenges) to integrate with the proposed Lower Thames Crossing to support strategic connectivity

C.3.2. Southwest Area Radial Study

<https://transportforthesoutheast.org.uk/our-work/area-studies/south-west-radial-area-study/>

This identifies key challenges as

- Access to ports, particularly ABP Southampton (constraining its expansion) and challenges of accessing Portsmouth International Port
- Sustainable surface access to Heathrow Airport from the South East area is poor
- Congestion along the M4, M3 and A3, and South Western Main Line capacity constraints impacting on journey times, reliability, and ability to support new development
- Journey times by rail to London from Portsmouth are notably longer than from Southampton

and identifies Opportunities as:

- Potential for additional rail access to Heathrow from the south and west, plus mass rapid transit (MRT) solutions
- The benefits that MRT (Mass Rapid Transport) could bring to some of the large conurbations (e.g. Thames Valley, south Hampshire) and how this might sit alongside other interventions that are planned or under construction
- Improved rail capacity and reliability on the South Western Main Line through application of digital signalling alongside targeted infrastructure upgrades (e.g. Woking flyover)
- Opportunities for demand management and other local sustainable transport and behaviour change interventions

See more detail on TFSE at **Appendix 2**

D. Missing Information

Looking at transport issues is complicated due to three factors where information is limited or missing.

D.1. Impact of Covid

The country is still recovering from the impact of Covid and its large impact on commuting and the rise of working from home. There are signs that commuting to London is slowly recovering but work patterns are likely to change with less 5 days a week commuting – a change that was developing before Covid. The latest quarterly Statistics (Q4 2021) for South Western Railways show passenger numbers are about 60% of pre Covid levels (Pre Covid it could be argued the services were overfull and peak times of the day)

Some reports are predicting that use of flexible and co-working space may increase by 30% over the next few years. This may include the use of local co-working space to support staff who don't have facilities to comfortably work from home.

D.2. Spatial Policy and Design

An aspect of transport that needs to be considered is the intensification of urban areas. Guildford Town is a relatively undeveloped area with Dwellings per Hectare (DpHA) ranging from circa 10DpHA in Onslow Village to 70 DpHA in the streets just to the west of the station. New developments can be far higher in density with 200-300 DpHA for some of the apartment schemes. Many of the new developments only allow for very limited parking.

There needs to be understanding as to where residents in these new developments are expected to work. Post covid there is also the issue as to whether Guildford needs more commercial, as opposed to retail, space in the centre.

As we discussed below the design of dwellings and particular parking can have a major impact on land use.

In broad terms the more intensification occurs the more essential, and viable, good public transport becomes. Guildford has a challenge in developing a proper spatial strategy for the borough, including the town.

D.3. Understand Traffic in Guildford.

Traffic surveys are only now being updated for the town centre and urban area. These surveys have been done using modern digital surveys. It is to be hoped that data is available from sources such as Mobile Phone Data, Average Speed Camera's, Ticketing Systems, and Parking Bay monitoring to develop reasonable up to date traffic monitoring capability for Guildford, which can be supplemented by more classic travel surveys.

A monitoring regime needs to be in place to understand how traffic across modes evolves post-Covid, and most importantly how volumes evolve related to changes due to new developments, environmental changes, modal shift.

There have been references to Guildford Turning itself into a Smart City/Town this was discussed in the GBC Innovation strategy [Guildford Borough Council Innovation Strategy 2019/20](#). Understanding and managing traffic is an integral part of being a Smart City/Town. As an example, **Smart City Bristol** is a collaborative programme between the public sector, business and community.

<https://www.bristol.gov.uk/policies-plans-strategies/bristol-is-open>

The main aim is to use smart technologies to help meet the ambitious Bristol target to reduce CO2 emissions by 40% by 2020 from a 2005 baseline.

Road Traffic is a particularly dynamic issue. The Society believes traffic needs to be broken into various categories and how this traffic is managed may have quite different strategies. As an example, a matrix of Traffic types needs development for the Town Centre with relevant management strategies. See our example below:

	Traffic Type	Example	Management Strategy
1	Long distance Passing Through	Horsham to Reading Horsham/ Godalming to join A3	Short Term difficult to manage as diverting via other routes brings its own problems e.g. Compton
2	Local Passing Through	Godalming to Research Pak	Can there be a good offer to intercept at Artington Park and Ride and use a cross Guildford Transit
3	Coming to the Centre for Work		Intercept at a Park and Ride – Reduce Parking Provision at offices?
4	Coming to Centre for Retail		Intercept at a Park and Ride – some option to come into centre as Pick up of goods may be required
5	Cross Guildford	Burpham to Onslow Village	Need to encourage Active Travel Modes plus buses.
6	Commuting	Guildford to London for Work	Encourage use of Public Transport, EV's likely to still need parking but maybe see 3,4, above we can reduce town centre parking and use facilities such as Leapale Rd Car park to clear our cars from streets – lure people in with EV charging points.
7	Commercial Deliveries to Shops and Commercial		Probably limited change short term.
8	Shopping on-line deliveries	Provide more collection points	Should Park and Ride sites have lockers to collect good from All Delivery Vans to be EV by an agreed date.

E. Strategic Assumptions?

The society has documented below some of our ideas for Guildford Transport. The Strategic Assumptions that support our ideas are drawn from the background material, and other sources. As noted in Section 3 a critical element that is missing is up to data on traffic volumes across all modes of transport.

Assumptions include:

- a. It is very unlikely that budget for large Transport Schemes will be forthcoming
- b. The proposals for upgrading the Rail Network including two new stations, North Down electrification, Southern Link to Heathrow, upgrade of the Portsmouth Line, Woking Flyover all supported by SCC and TfSE are supported.
- c. Ease of use of the Transport Network is to be encouraged by unified ticketing Systems and better publicity
- d. The Transport System needs to have a pricing model that supports environmentally benign transport options and encourages good behaviours.
- e. Modal Shift is supported but it must be enabled by proper provision of Buses, Cycle ways etc. This is a particular challenge in the town centre where space is at a premium.
- f. Sustainability of developments must include proper transport provision and designs that accommodate cars in a way that uses less land.
- g. A management framework within the local authority with clear accountability is required to explain and drive change.

F. Be Flexible

Lund University in Sweden have reviewed the various policies adopted in cities in Europe. This has shown that results vary between towns and cities and positive outcomes in one area are not necessarily replicated elsewhere.

Monitoring and Flexibility to adapt transport measures is required.

<https://theconversation.com/12-best-ways-to-get-cars-out-of-cities-ranked-by-new-research-180642>

G. Proposals

G.1. Traffic Management Structure (Short Term)

There needs to be a management structure that provides a clear accountability for Traffic in Guildford across all modes. This may exist but it is not visible to the public. This management structure short term should address issues such as logical pricing for public transport.

G.2. Traffic Data (Short Term)

As mentioned in D.3) we need to have a regularly updated Traffic Data across all modes in Guildford

G.3. Smart Ticketing (Medium Term)

A Guildford area Smart Card (similar in concept to Oyster) would be a useful way to encourage use of public transport and manage demand. Ideally the system would cover Rail, Buses, Car Parking, Bike Hire, and Taxis.

Surrey has made a start with the SCC Acorn bus ticketing system in parts of the county. This needs to be built on and extended.

Properly managed the system could provide pricing options to encourage behaviours e.g. Guildford Urban residents might be given one free parking day in the Town centre a month. Park and Ride vs. central parks could be dynamically priced to encourage leaving cars on the periphery. Hotels could give out temporary travel cards for visitors to use on local buses and rail to reach parts of the borough. All these techniques are in use in Europe, in particular our Twin Town Freiburg has achieved this.

G.4. Car Parking (Short to Medium Term)

G.4.1. Revenue for Change?

Car Parking is a necessary revenue stream for the council and is also a method to drive behaviours related to traffic in the town centre. There needs to be more integration of charging for parking, bus fares in particular to stop major inconsistencies e.g. it is cheaper to travel by car from the urban area into the centre of town and pay for parking than to use a bus, particularly for families.

Consideration also needs to be given to the workplace parking. Some towns have implemented these charges to help fund public transport initiatives.

G.4.2. Park and Ride

The Society believes the P&R network needs more sites and have already proposed a site at Shalford, there is potential to have one in the Worplesdon/Slyfield area as well. The Society also proposes Park and Ride Buses provide a cross town service e.g. you should be able to park at Artington and get to the research Park by the P&R bus. P&R charges also need to be set to encourage use relative to town centre parking.

Making P&R sites connected to the Town Centre by an Active Travel Corridor should be considered. Facilities such as Bike Hire, Click and Collect lockers should also be considered. (See Mobility Hubs discussed at G.9.)

As changes take place to transport patterns and transport modes being used there needs to be flexibility to reallocating car parking space to other uses or take the opportunity to remove on street parking to improve the public realm.

G.5. Road charging (Medium to Long Term)

Road charging has had a rocky history in the UK. Currently there are schemes operational in London, by far the largest, Durham, and Bath. The later scheme is principally aimed at managing pollution from heavy vehicles. Schemes have been designed and proposed for Edinburgh, West Midlands, East Midlands, Cambridge, and Manchester have all been considered but rejected in local referendum. Unlike London local mayors have limited powers to implement a Road Charging system so have had little backing from Westminster. As evidenced by long freeze on fuel duty, followed by a recent reduction, Westminster politicians despite an emerging 'green agenda' are reluctant to charge motorists at real cost.

Electric Vehicles are also likely to prompt the change to some form of road pricing as a replacement for fuel taxes. The Department for Transport in 2004 published a report entitled *Feasibility Study of Road Pricing in the UK*, which said road pricing was feasible and identified several potential benefits, including:

- Support the transition to cleaner vehicles by charging diesel and petrol vehicles proportionately more
- Promote the use of public transport, as well as car sharing
- Promote driving at less busy times of day and cut overall vehicle miles, thereby reducing congestion, air pollution and carbon emissions
- Based on the 'polluter pays' principle, it would be fairer to the consumer and to society, reflecting more closely the negative impacts of individual journeys
- Less car dominance would reduce road danger and improve public health.

Guildford is probably a good candidate for Road Charging to create a revenue stream to fund better alternative transport, reduce congestion and pollution. The key issue is managing change. A potential solution is to adopt a Smart Ticketing solution for Transport in the borough – see G3 above. This could be used to manage elements of road pricing e.g., Parking, accesses to defined areas etc to manage behaviours and support change. Ultimately it could evolve to a full road charging system.

G.6. Active Travel (Medium to Long Term)

A phrase that promotes the use of Cycling, Walking etc for short journeys. This has been accompanied by the promotion of these travel modes health benefits. The key enabler for Active Travel is proper provision of walkways, cycle paths etc. integrated into public transport and car parking.

Central Government is working on various funding schemes for active travel which is being managed by a new agency Active Travel England (ATE). As well as approving and inspecting schemes, ATE will help local authorities, training staff and spreading good practice in design, implementation and public engagement.

ATE will become a statutory consultee on major planning applications to ensure that the largest new developments properly cater for pedestrians and cyclists.

<https://www.gov.uk/government/speeches/new-executive-agency-active-travel-england-launches>

Sustainable Movement Corridors are also critical, we need proper plans to reach into and across the Town Centre. Too often Pedestrians and cyclists are treated as second class citizens e.g., some very uninviting pedestrian underpasses in the town centre, cycle lanes that consist of narrow painted lanes on pavements and roads (the cycling provision outside the Park and Ride at Artington is an exemplar on how not to spend money).

The Society also believes the Wey River Path must not be considered as the basis for a Active Travel Corridor. To encourage cycling proper provision as laid out by recent government standards should be adopted.

<https://www.guildfordsociety.org.uk/eBikesub.html>



There needs to be a recognition that real money is needed to enable this active travel infrastructure.

The A24 past Box Hill shows one of the few local examples of Pedestrian, Cycling and Road separation. Note this arrangement has been in place for decades and may not meet current standards. Replicating this type of separation in an urban environment will need innovative thinking.

Although Guildford is a hilly town e-Bikes do enable the comfortable use of bikes in most areas. Bikes are not the sole answer but the proportion of local traffic that could be converted to Bikes and Walking is large.

The Guildford Bike User Group (GBUG) have proposed that

- a. A Safe cycle network in the whole town centre which needs to start with east/west and north/south routes through the town centre gyratory all with good access to the station.
- b. Majority of the Town Centre to be traffic free with cycling allowed in pedestrian areas on a 'Share with Care, Cycle Slowly' basis.
- c. Neighbourhood Zones to be adopted with 20mph speed limits, rat runs closed, and general 'villagisation'.
- d. Safe cycle routes to schools and 20mph zones around all schools.

The Society believe the above principles should be explored seriously.

The Guildford Bike User Group has also proposed options for one or more Active Travel Bridges in the Town centre to link Pedestrian and Cycling Routes. A rough sketch is shown below of a scheme to cross Onslow St. It is recognised there are many other options related to potential changes in Bedford Wharf to a rebuild of the Town Bridge. A revamp of Bedford Wharf might include an elevated cycle way from the Walnut Tree Bridge and across into the town centre. The important aspect is to separate vehicles for pedestrians and bikes.

Onslow St Flyover 4
Route option 2



G.7. Longer Term – Roads (Longer Term)

G.7.1. The Future of Cars

Passenger cars according to recent research by Kimberly Nicholas Lund University published by The Conversation

<https://theconversation.com/12-best-ways-to-get-cars-out-of-cities-ranked-by-new-research-180642> are:

- The second-largest (and growing) source of climate pollution in Europe.
- The leading killer of children in both the US and Europe.
- A principal cause of stress-inducing noise pollution and life-shortening air pollution in European cities.
- A leading driver of the widening gap between rich and poor urban residents.

Despite the (slow) migration to electric-powered cars, consumer trends are making driving even more wasteful and unequal. As an example, the emissions saved from electric cars have been more than cancelled out by the increase in gas-guzzling Sport Utility Vehicles (SUVs). SUVs alone emit more carbon pollution than Canada or Germany.

Accepting we can clean up cars by electrification/hydrogen/hybrids using sustainable sources, they still present challenges due to congestion, accidents, and pollution from brakes and tyres.

Cars have a large impact on other modes of travel by filling streets with parking, impacting cycling etc.

Cars also have an enormous impact on the built environment, especially as the average car spends circa 95% of its life parked. A recent example of a new medium density estate illustrates the issue.



The area given over to parking is considerable – CPRE have surveyed recent developments and have determined that 40-50% of land area is often devoted to roads and parking.

However, cars are a good or the only solution for many journeys. It is likely that developments such as autonomous vehicles and car sharing will see a decline in vehicle ownership. It is notable how many younger people have adapted to an 'Uber enabled' lifestyle, and an ageing population may adopt a similar approach.

Are we moving to a future where cars will still exist, but in lesser numbers?

G.7.2. The A3

The Highways agency have identified (M25-Solent Route Strategy 2017) that the A3 in Guildford is deficient due to Capacity, Safety Issues, Excessive Noise, and Limited facilities for non-motorised vehicles.

As noted above - There is substantial evidence to suggest that providing additional road capacity and addressing bottlenecks in the highway network has the effect of generating additional demand for the road network, thus eroding or even eliminating any expected reductions in traffic congestion.

Improvements to the A3 could have the effect of pulling more Traffic through Guildford Town Centre and surrounding villages.

The Society understands that National Highways is carrying out a study of the A3 in Guildford, though this is believed to at an early stage. There is a stakeholder group which has GBC representation on it.

Is a Tunnel Cost Effective?

There has been talk of building a tunnel from Burpham to Compton to remove through A3 traffic. It is assumed the existing road layout would remain to take local traffic, and connections to the A31, A25 etc.

Using the costs for the proposed Stonehenge Tunnel for a dual bore two lane tunnel provide the following cost for a tunnel under the A3. For comparison the cost of a North South Tunnel Ladymead to Shalford is also provided

	Stonehenge Costs	Guildford A3 Tunnel	Guildford North South Tunnel
Length in tunnel	3.3KM	9KM	2KM
Cost per KM Tunnel	£360M	£360M	£360m
Cost of Tunnel	£1.2Bn	£3.25BN	£720M
Access Roads, Junctions etc	£500M	£100M	£100M
Total	£1.7Bn	£3.35Bn	£820M

Note: This is a very rough estimate as all tunnels vary due to geology ease of site access and need for ventilation shafts etc. This is for the simplest Tunnel route as per the Hindhead construction with simple junctions at Compton and Burpham to the existing A3, with existing A3 route retained. Added to these costs would need to be Flood Prevention Measures, Ventilation Shafts, etc. Depending on the Road layout adopted there could be areas currently occupied by the A3 for other uses, which might offset some of the cost.

As New Civil Engineer magazine has pointed out although National Highways have a figure of £1.7BN for the Stonehenge Tunnel the Department for Transport are documenting a cost of £2.1BN.

Spending £3.25Bn on the A3 does have benefits for Guildford and the wider strategic road network, but are there better uses for funds on this scale? Obviously, the issue of car numbers as discusses in 7.1.1. impacts on this debate

Other Solutions?

The issues with the A3 are focused on two points the section by Stag Hill where the road acts as a local road between the University Junction and the A25/A322 Junction, and the A31 Hogs Back Junction.

University Junction and the A25/A322 Junction, which is difficult to solve as it would involve acquiring currently occupied dwellings, but this would be still a lot cheaper than the tunnel solution.

G.7.3. Guildford Town Centre - Road Layout

The Town Centre Master Plan is an opportunity to reshape the current gyratory system in the Town Centre.



The Society believes we will have to accept that Traffic Management Schemes and promotion of Modal Shift is necessary to manage traffic volumes down to acceptable levels.

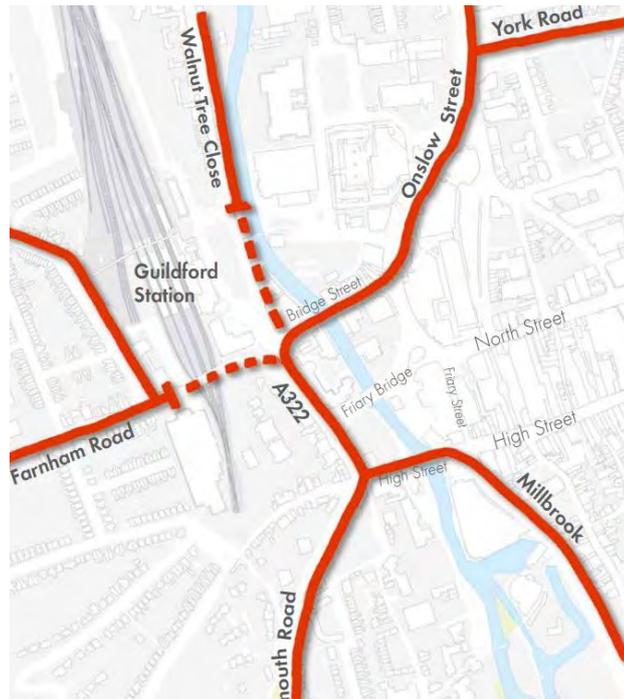
Several proposals have been proposed for the gyratory system including Tunnels, New Bridges etc. These have all had considerable costs and in some case are difficult to build without bring the centre of the town to a halt.

Ideally Guildford would have a southern bypass e.g. Dunsfold to Milford on the A3, or possible Peasmarsh to Compton avoiding Compton village. However, it should be remembered that the bulk of Guildford Traffic is LOCAL across the immediate Urban area thus being a candidate for modal shift.

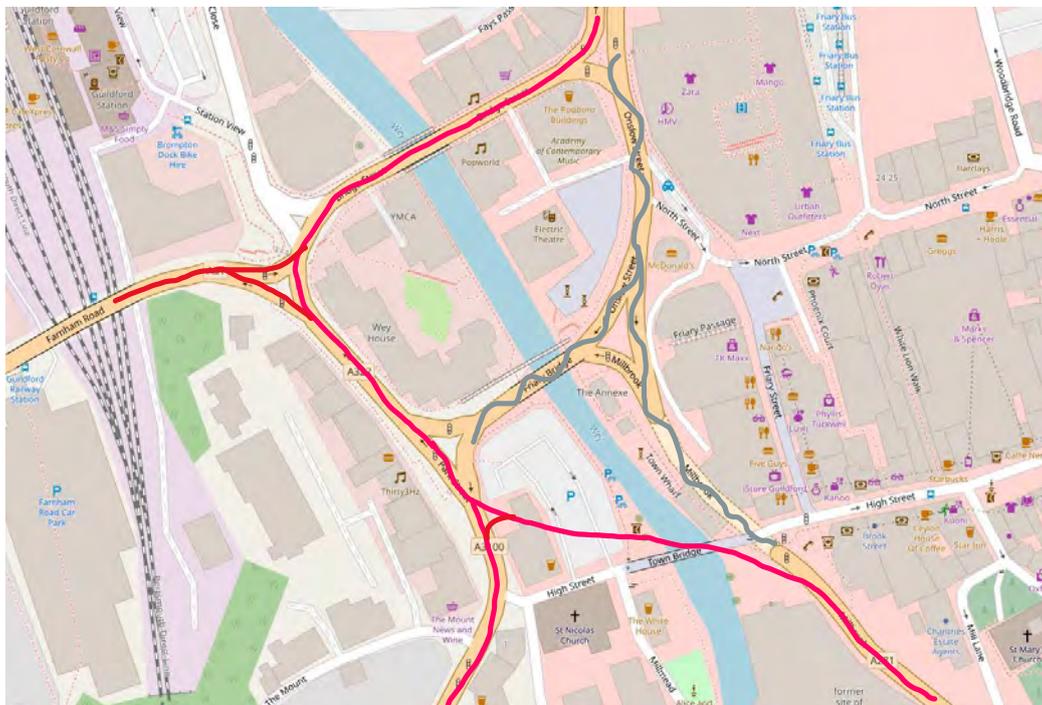
Provided proper traffic management is put in place the Society believes the current gyratory could be redesigned as was first suggested by Allies and Morrison Study in its Draft Town Centre Masterplan 2015.

G.7.3.1. C Option

Allies and Morrison examined a series of options and proposed a revision of the gyratory system to revert to a two-way layout. Allies and Morrison preferred option was to route all traffic in a '**C**' shape via Bridge Street and a rebuilt High Street Bridge. Note the scheme blocked off traffic from the Farnham Rd.



This has now been evolved, we believe, by the current Town Centre Master Plan team to include a modification that swings the Town Centre Bridge at an angle to the river. There is debate at what happens to Friary Bridge it might be demolished or retained as a pedestrian route.



Red = Two Way Traffic Green = Roads Removed from Use

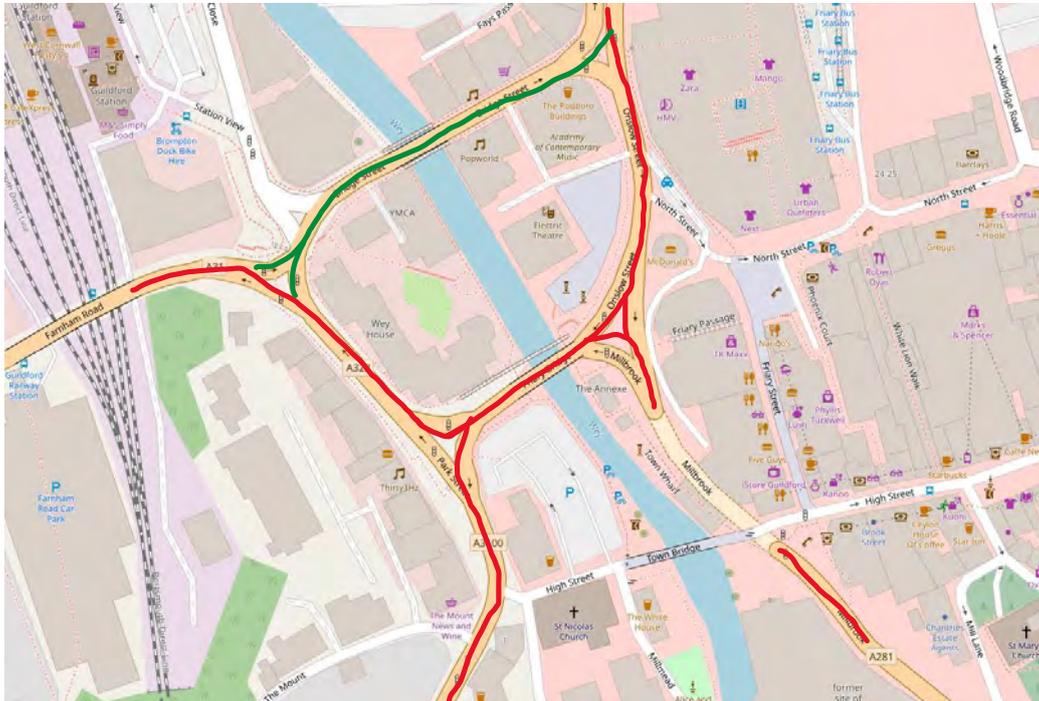
Town Bridge would have a Pedestrian walkway on North side to link High Street to Portsmouth Road car park. The picture below is from the video produced by the Guildford Vision Group showing a rebuilt Town Bridge --- looking to the east – this is believed to have similarities to plans being considered by the current study.



'C' Route via Bridge Street	
PRO's	CON's
<ol style="list-style-type: none"> 1. Allows expansion to rear of existing Friary Street units to create a more attractive environment down to the Town Wharf 2. Creates largely traffic free space at western end of North Street – access may be required to service shops out of hours. 3. Potential to use Portsmouth Road car park for other uses. 4. Allows the Town Bridge to continue to be used by pedestrians to cross the river without using road crossing. 5. By revamping the Town Bridge removes a flood risk by increasing the clearance over the river. 	<ol style="list-style-type: none"> 1. Careful consideration required in relation to the impact on the High Street – the views down the high street would be changed with the relationship between the High Street and the Mount changed. 2. Further investigation required in relation to potential impact on existing junction / roads and adjacent buildings (including some with townscape merit) at the junction of High Street, Portsmouth Road and Park Street. 3. Would the ageing Bridge Street bridge need to be upgraded? 4. Significant traffic reductions (circa 57% at the worst performing junction) are likely to be necessary to support this scenario from a highway capacity perspective which could be achieved as an example by closing Farnham Road and Walnut Tree Close to through traffic during peak periods. 5. Impact on the St Mary's plans as the road would be higher for Flood protection reasons 6. Impact on St Nicholas Church Grade II*

G.7.3.2. H Option

The alternative proposed is a 'H' shaped layout based on using Friary Bridge for two-way traffic.



Red = Two Way Traffic Green = Road changed to Bus Access/Pedestrian Use

'H' Route Via Friary Bridge.	
<p>PRO's</p> <ol style="list-style-type: none"> 1. Allows enhancement of central riverside area including Bridge Street. Which could be turned into a Bus Route with shared space for pedestrians 2. Creates largely traffic free space adjacent to the proposed Bedford Wharf area north of Bridge Street. 3. Potential to use Portsmouth Road car park for other uses. 4. No impact on buildings at junction of High Street, Portsmouth Road and Park Street. 5. No impact on St Nicholas Grade II* Church 6. Lower reductions in traffic flow required than H scheme. 7. As existing infrastructure used cheaper scheme (May need to replace Town Bridge with a lighter higher pedestrian only link for flood reasons) 	<p>CON's</p> <ol style="list-style-type: none"> 1. Opportunity to link west side of Friary Street to Town Wharf limited. 2. Significant interventions required to Onslow Street Junctions for Bus Traffic. 3. Linking North Street down to the Wey not possible. 4. Requires a significant reduction in Traffic volumes

The Society on current information has the view that the 'H' option could be a contender solution for the town centre.

The 'C' option is predicated on a very significant reduction in traffic. The Society is concerned the massive reduction under this option would place pressure on surrounding roads e.g. traffic through Compton. Bridge Street could provide a very viable connection for transport to the station. Finally, we are concerned at the impact using the Town Bridge could have on views down the High Street and St Nicholas Church (Listed at Grade II*).

We also believe the 'H' option can be improved by using Bridge Street as the access to the Station, with Walnut Tree Close being used as restricted access North of the Station.

We await more details on options and thinking from the TCMP team with interest.

G.8. Public Transport (Medium to Long Term)

Public Transport needs improvement where there are several modes and operators badly integrated. The aspiration should be to produce a seamless and easy to use network. Many cities in Europe, including London, have made great progress in this area and much could be learned.

G.8.1. Buses

Guildford has several opportunities to improve public transport

The new government policy for buses (Bus Back Better) provides an opportunity to manage buses more effectively in the future as regards routes, frequency, and integration of services. It should also make it easier to implement a proper smart ticketing system (see below para 6).

The Society believes a review of the bus network is needed to open-up cross-town services and provide new services to the strategic sites.

The society assumes Electric, or Hydrogen Buses will become the norm. It is noted that old Trolley Buses are very efficient as they don't carry heavy batteries and are very simple mechanically. Many continental Towns and Cities are using Trolley Buses with Batteries to provide flexibility to operate beyond the wires.

Hydrogen needs a new fuel distribution network and very cheap electricity to produce (producing Hydrogen is an inefficient process).

Any Bus Stands in the town centre and at turn around sites should be designed to allow for opportunity charging, see a recharging station in operation at Schiphol airport below, can also be combined at a bus stop.



Hybrid Buses should be equipped with Geo-Fencing to enforce electric operation, this is already in operation in Brighton.

Bus lanes are a major issue in Guildford the Society believes two new routes might be worth considering

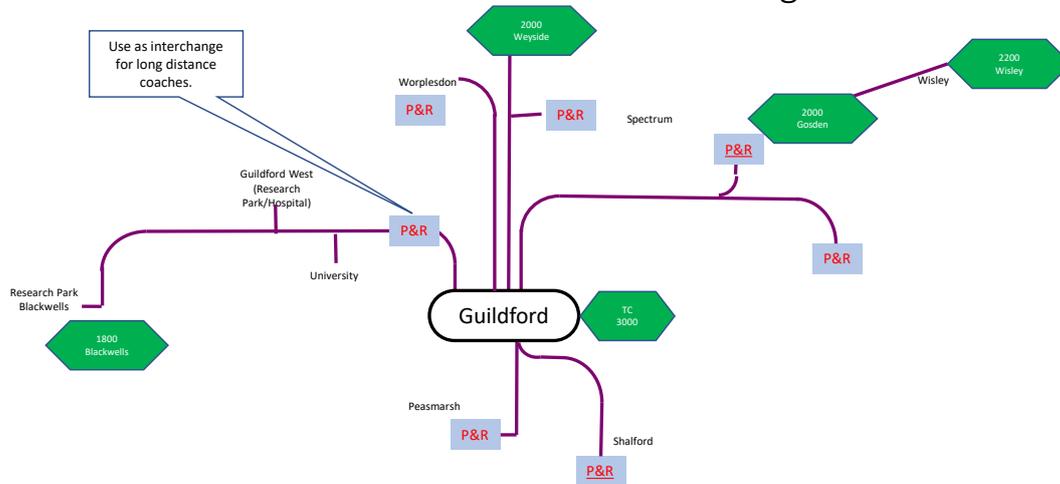
- From the South consider a Bus Lane along border of Shalford Park?
- From North investigate as part of Weyside Scheme a bus lane across the Wey and Stoke Park?

In addition, some areas have signalled bus lanes with 2-way buses on one lane. This could open opportunities in Guildford.

Zurich provides some interesting examples of modern bus operation

<https://www.guildfordsociety.org.uk/TrolleybusZurich.html>

Guildford Rail – Bus links to P&R and Strategic Sites



P&R Services

- Extend to cross the town from one P&R to another?
- Extend P&R services to Weyside and Blackwells Park, and up A3 to Wisley?
- New P&R in Shalford, Worplesdon, Gosden?
- Use Onslow P&R as interchange to long distance coach services on A3?
- Are there other local bus services that could interchange at P&R?

G.8.1.1. The Bus Station

Guildford Borough Council Executive have approved the high-level design and specification for the retention of the bus station on its current site.



The bus station will be extensively modified so it will become a 'U' shaped layout with all traffic entering from the north via Woodbridge Rd. Bus Stands will mainly be located on the West Side as at present, but the facilities will be rebuilt.

North Street will be shut to traffic up to Leapale Rd (Which will become Two Way) with some access allowed for deliveries similar to arrangements in the High Street.

The proposals are indicative at present and will be subject to a full planning application.

The location for the Bus Station has been subject to much debate, with arguments for it to move to Bedford Rd to be near the station, and even located at the Station to form an integrated transport hub.

The Society accepts that there is no ideal bus station location as Guildford's geographic layout and separation from the main station makes an acceptable location difficult to find.

As detailed plans come forward, we will be interested to see how the following issues are addressed:

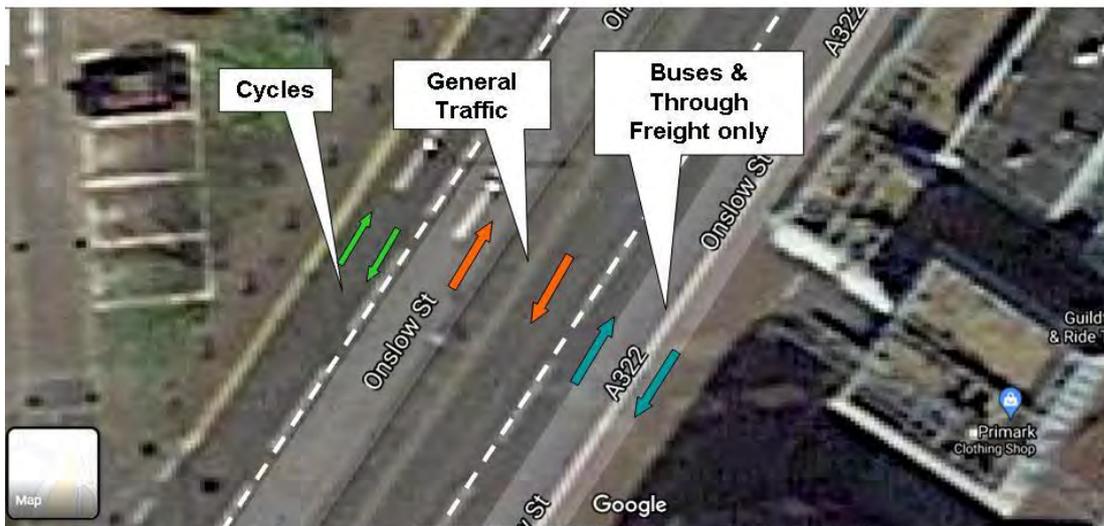
1. The proposals appear to reduce the number of bus stands from circa 20 plus to circa 15 with parking for buses also removed. This will require bus operators to sharpen up operations with less lay over time. Will they have to rely on less congestion or more bus lanes to make this feasible?
2. Buses will move to alternative fuels (Oxford has just applied for funding for 150 electric buses). It is surprising that no allowance is made on the proposed canopy structures for overhead charging capabilities as top up charging can be very effective in reducing vehicle weight.
3. A number of bus routes in Guildford have recently changed to be cross town, it will be interesting to see how these operate in practice. The proposed bus station has very few rapid bus stops (The bulk being drive in and back out) this may impact cross town services. The Society has proposed that Park and Ride services should cross the town to improve the efficacy of the 'intercept principle' for Park and Ride.
4. North Street up to Leapale Rd will primarily be a pedestrian area, although it looks as if Taxis will still use the road to exit from the Taxi Rank. A proposal to route Taxi's back onto the one-way system via a left-hand turn looks as if it isn't included in the final proposals.
5. How smaller minibuses likely to be used for Demand Responsive services (See section G10 Below) are to be accommodated is not clear.

Bus Station Access and Onslow Street.

The plans as presented makes limited reference as to how buses will access Onslow street and what types of traffic will be allowed in Leapale Rd. A concern is that if the current junction layout on Onslow Street is maintained that there could be major congestion at York Road roundabout which would be handling bus traffic coming from the South and West 'U' turning to access the bus station. York Rd roundabout is a source of congestion at present, and extra buses will make this worse.

The Society also believes consideration needs to be given to the likely configuration of Onslow Street in the future. One option we have considered is that there may be merit in revising Onslow Street to provide Bus Lanes, Cycle Lanes and General Traffic in a separated form

Onslow Street Lane disposition



Obviously, this would need a reconfiguration of the One-Way system and a reduction in General Traffic - all matters that are being considered by Shaping Guildford’s Future at present. York Street Roundabout would also need to be revised plus the routes to Leapale Rd and Laundry Rd.

G.9. Mobility Hubs

An evolving trend is to implement Mobility hubs in towns and cities. mobility hubs are an operational reality in several European cities, with working examples being seen in Belgium, Austria, Germany, and Norway. The emphasis and offer of these hubs vary, ranging from integrating existing bus and tram services with active travel, through to introducing focused spaces for car clubs.

It is planned the Bus Station will be revamped as part of the proposed Friary development. We have new and existing rail stations in the borough that could become mobility hubs. The Park and Ride sites could be improved with facilities for e-commerce collection boxes, bike hire etc.

An important use of the concept could be to provide an interface between classic bus routes and Demand Responsive services, how this is to be achieved at the revised Guildford Bus Station is unclear. Should another Bus Station be established at the Station with connectivity to the Town Centre Facility?.

Arup have produced an interesting report on mobility hubs proposing the evidence is that the hubs can benefit neighbourhoods by promoting inclusive mobility, healthy streets and vibrancy.

See further information at <https://www.guildfordsociety.org.uk/Arupbus.html>

G.10. Demand Responsive Services

G.10.1. Taxis

Taxis are the classic form of Demand Responsive services and should have facilities provided to allow easy interchange between modes of transport. With the availability of booking apps on mobile phones (the most famous of which is Uber) using taxis has become far easier and more accessible.

Taxis can also supplement other services and Surrey County Council recognise this in their recent Bus Service Improvement Plan (BSIP) by explore opportunities to improve access to locations by using a brokerage model of shared taxis. This is part of a 'Total Transport' approach, integrating bus services with other public sector transport provision (including hospital transport and school transport) supplemented by taxis as required.

G.10.2. Demand responsive services (DRT)

Surrey County Council is keen to support the use of Demand Responsive Transport (DRT) services. These can operate on an identified route and timetable but can also operate flexibly. They will only run if passengers pre-book journey and they will only serve those parts of the routes required by bookings. If well designed and well publicised, they can provide an efficient and flexible service. The system has evolved to use mobile technology to provide booking services.

Surrey is conducting a two-year trial of a Digital Demand Responsive Transport in rural areas in the Mole Valley District using EV minibuses. The aim is to work to complement or replace infrequent bus services such as those connecting hamlets and villages to nearest towns.

The minibuses are fully accessible and will be available on demand by booking via an app, by telephone or online. Residents will also be able to access real time information on the availability and location of the DRT minibuses.

Through the BSIP an expansion of existing demand responsive transport in certain areas, including Tandridge, Waverley, rural Surrey Heath and rural Guildford is being developed.

G.11. Rail

There are already plans for Guildford East and West Stations. Plans for a Heathrow Southern Link may come forward latter, they were due in 2021, as a private sector initiative. Note as the Heathrow Southern Link has wider benefits across the region in terms of connectivity, compared with the Heathrow western link which has now been paused, it should be a project that progresses.

Technological evolution is also producing rolling stock capable of running on multiple power sources (we will see this on the Gatwick Route with new units capable of Diesel, Third Rail and 25Kv operation)

The Rail network has been badly affected by Covid, with demand falling considerably and new traffic patterns emerging. Despite this it is likely that increased demand will resume due to environmental factors influencing modal shift, local stations coming into use and new services (e.g. to Heathrow) being provided. It is important that this growth is allowed for even if it is a decade away.

G.11.1. Demand

Overall Demand was forecast, pre Covid, by Network Rail to rise by 40% by 2043 in the Service Group (Wessex) that encompasses the lines through Guildford. This figure is derived from the London and South East Market study conducted by Network Rail. This demand has been used as a key input to the Wessex Route Study published by Network Rail in 2015.

The Proposed Submission of Guildford Borough Local Plan 2016 proposes two new stations in the Guildford Area

- a) Merrow to serve the east of the town, an estate proposed for Gosden farm and a Park & Ride facility access from the A3
- b) University/Hospital/Research Park to serve the Hospital, Research Park, Sports Park, and the proposed development of a new estate at Blackwell Farm.

The Guildford Borough Plan proposes developments in an east West axis across Guildford several of which are served by existing stations.

Pre Covid new services or service frequency was expected to develop through Guildford Station as detailed at **Appendix 3**.

The potential overall change to the services through the Guildford if plans come to fruition over the next 20 to 30 years is dramatic. There could be approximately a doubling of train movements at the station. Covid makes these forecasts highly speculative but traffic on the rail lines is coming back slowly and there could also be a rise in local commuting/travel from new stations and revised services. It is possible that growth has been delayed by 5 years and that plans are still required to support growth.

G.11.2. Guildford Station

Guildford Station needs to be prepared to accommodate growth. Plans from Network Rail are very vague. The Society argued with others that the Solum Development at the Station unnecessarily constrained adding more platforms at the East site. It is essential that the Station is planned for the future to allow for the following:

1. Growth in Rail Traffic
2. Improve Bus integration e.g. better bus facilities on the west side.
3. Improve passenger access on the west side of the station.
4. Enable the replacement of the ageing Farnham Rd Bridge in a manner that doesn't impact traffic in Guildford for months.

More details on our ideas are at **Appendix 4**.

G.11. Mass Transit (Long Term)

The Levelling Up White Paper Para B4 above refers to looking at Mass Transit.

One likely result of the developing Town Centre Masterplan and the current Local Plan is that intensification will occur in the centre of Guildford combined with the Strategic Sites being built maybe in modified form. It should also be noted that the first drafts of the Local plan had proposals for a new development at Wanborough.

Guildford is not like a city, but it is in a constrained geographic area surrounded by a series of other population centres.

There are two options explored at Appendix 5, upgrading the bus system and/or utilising the rail system more effectively. The rail option uses current corridors more efficiently with only limited needs to take more land. The Society believes looking at an option using Tram/Trains may be worthwhile.

Tram Trains have been in operation for many years, particularly be pioneered by Karlsruhe, and have now been introduced in Sheffield, with Wales (Cardiff) planned; and are being considered for Manchester to extend the already successful tram network. Tram Trains can operate as either a tram or train using multiple power sources.



Tram Train Unit in operation in Sheffield

Rail lines in the Guildford area have substantial spare capacity with signalling upgrades making capacity increases possible. Modern electronic signalling can automatically provide train operation can at for example e.g. 24TPH one way on Thameslink, 33TPH Piccadilly Line.

Although Tram Trains have a lower top speed than a conventional train of circa 100km/h they have better acceleration and can climb gradients of 10%

In terms of Guildford the big opportunity the use of this technology could provide is to use the existing rail network more extensively to provide:

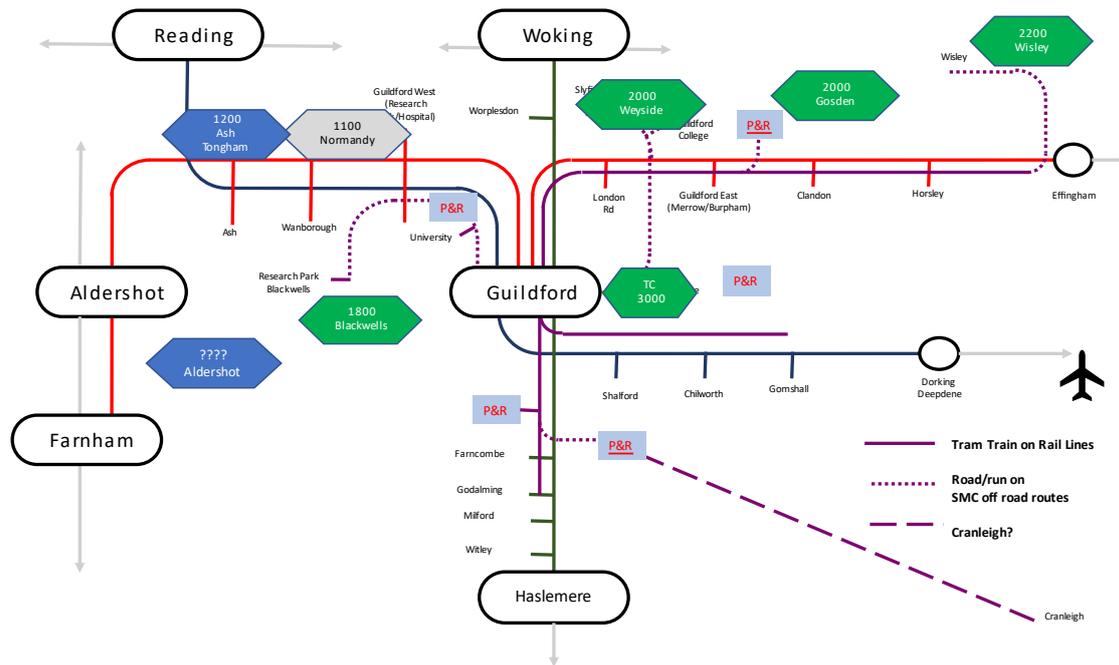
- Sustainable Links to Strategic Sites
- Sustainable Links to Park and Ride

- Increased Service Frequency to Country Stations.
- Supplement existing train Services
- Potentially link to new destinations
- Allow existing Road Corridors to provide space for Cyclists and Pedestrians

Trams are also known to be attractive to users and promote modal shift.

The Society has developed a vision of what a Tram Train Network might look like (See Below).

Guildford Rail –Tram Train could serve Strategic Sites



See **Appendix 5** below for more details on our proposals

Guildford Society

14-4-2022

Appendices

1. Appendix - Surrey County Council

The Surrey County Council (SCC) - Surrey 2050 Place Ambition V2 [Surrey County Council 2050 Place Ambition \(guildfordsociety.org.uk\)](#) has useful information.

a. Surrey's People

- Surrey is one of the most densely populated shire counties in England with a population of 1.2 million. This is set to grow by 38,000 people by 2043 (3% increase). In the year to June 2020 about a third of the moves into the county were by people leaving London.
- One in five of Surrey's population is aged 65+ and this group is expected to grow by 90,000 by 2043, which will present significant challenges for future care provision across the county.
- Although Surrey has one of the highest life expectancies in the country there are considerable challenges around maintaining and improving health and well-being. In 2019, 10.7% of all households in Surrey were at or below the relative poverty line, with some areas of the county reaching as high as 26% of residents.

Surrey's Economy

- Surrey's GVA in 2019 was £46 billion, contributing 16% to the South East's GVA. However, the rate of growth is low and is expected to continue to be low or negative. New businesses in Surrey have been created at a lower rate than the national average. GVA per person has also grown more slowly than in the rest of the country over the last 20 years. The pandemic has highlighted the risk of taking our economic success for granted. For some sectors, particularly aviation, the changes have been severe and the ongoing decline of retail on the high street was also accelerated by the changes during 2020 and 2021.
- The average annual household income across Surrey in 2017/18 was £38,678 which was £3,301 higher than the average across the Southeast. The figure after housing costs falls to £34,263 but is still £2,906 higher than the Southeast average.
- More than 1 in 3 of the population are educated to NVQ4+ (equivalent to degree level or above). In 2018, 54.6% of the population aged 25-64 were educated to NVQ4+ which compares to 46.7% for the Southeast and 43.2% for England.
- Over half of the residents in Surrey are in high-skilled professional occupations, a figure which is higher than for the South East as a whole. 52.0% of people in employment in Surrey work in managerial, professional, or associate professional occupations. The figure for the South East is 44.8% and for England is 41.1%.

b. Surrey's Environment

- Surrey has many different landscape habitats. The Surrey Hills Area of Outstanding Natural Beauty (AONB) stretches across a quarter of the county to include the chalk slopes of the North Downs and extending south to the Greensand Hills which rise in Haslemere. A small section of the High Weald AONB occupies the south-east corner of Surrey. The county also has habitat that is nationally and internationally rare such as the Thames Basin Heaths Special Protection Area, which covers significant parts of north and west Surrey.
- The county is the most wooded in Great Britain with 22% of the area being woodland, compared to a national average of 12%. 25.3% of people in Surrey live within 500 metres

of an accessible woodland area, compared to 16.8% in England.

- On average, Surrey's air quality is better than the national average, with an index of accessibility to air quality score in 2018 of 26.1 compared to 26.8 nationally. However, there are over 30 Air Quality Management Areas (AQMAs) identified across Surrey and particulate emissions were estimated to account for 5.7% of mortality in Surrey in 2018.
- Surrey's carbon emissions are falling, but not quick enough to meet net zero emissions targets by 2050. Currently, 46% of Surrey's emissions come from the transport sector, with housing responsible for 28% of emissions, public/commercial buildings 15%, and industry 11%.
- Surrey is a county at high risk of flooding with in excess of 30,000 properties at risk from fluvial and surface water sources. It has experienced several major flooding incidents in the last ten years, with much of this occurring in the floodplain of the lower River Thames and its tributaries. There are also many localised areas prone to surface and ground water flooding or the emergence of groundwater.

Surrey as a Place

- The county is characterised by a polycentric settlement pattern of large and small towns but with no one dominant city or conurbation. Guildford is the most significant urban settlement and county town. Other major towns are Camberley, Epsom, Redhill, Staines upon-Thames and Woking. Some 87% of the population live in urban areas.
- Government calculates that over 6,300 new homes a year are needed in Surrey. An 80% increase on the number of new homes required in current local plan housing targets and an increase on current levels of housing completions (3,100 per year).
- Adding to these challenges, will be pressures on Surrey's infrastructure arising from its proximity to London, which is expected to deliver 65,000 new homes each year, many of which are expected to be built in neighbouring outer London boroughs, such as Kingston upon Thames and Croydon.
- Significant growth is also being planned and delivered in neighbouring areas in Hampshire and Sussex, including a new community of 4,000 homes at Whitehill/ Bordon and 2,750 homes in North Horsham.
- Surrey has some of the most expensive places to live in the country with housing affordability (ratio of median house price to median gross annual residence-based earnings) in 2020 of 11.48 compared to 9.57 for the South East of England.

c. Surrey's Infrastructure

- Although Surrey's transport connections are a key strength, they also have limitations and constraints. Before Covid-19, high traffic levels on Surrey's main roads led to unreliable journey times and congestion, that was estimated to cost businesses £550 million per year. Traffic levels are now returning to pre Covid-19 volumes.
- Rail services experienced overloading before Covid-19. About 131,000 of Surrey residents (19% of the working population) commuted into London, leading to significant crowding on peak services. It is not yet clear whether these levels of demand will return post Covid-19, but it is likely that some employees will commute less frequently.
- Car ownership in Surrey is 86% compared to the national average of 73% and continues to rise. Electronic vehicle uptake has increased in the UK and Surrey. There is a relatively

high concentration of charge points in Surrey with over 200 charge points in 60 locations. This is set to increase going forward.

- Surrey has over 98.0 % coverage of superfast broadband (>24 Mbps) which is slightly higher than the coverage for England which is 96.3% (June 2019). Only 25% of residential and business premises were able to access Gigabit speeds (October 2021), relative to a UK average of 50%. Nearly 40% of Surrey's employed residents worked from home in April 2020.
- Estimated infrastructure costs in 2017 to support planned growth were £5.5 billion with a funding gap of £2.5bn.

d. Two Key Priorities.

Strategic Priority 1: Improve connectivity both within Surrey and between strategically important hubs

With investment focused on levelling up, it is vital that we have a clear and agreed set of shared strategic infrastructure priorities which offer the best opportunity to improve connectivity within and between our existing urban centres, and between Surrey and other key national and international destinations. Covid-19 restrictions affected the nature of the relationship between London and Surrey, with many people who worked in London working from home. Going forward, the full impact on travel patterns is unknown but with an anticipated increase in 'hybrid working' there is likely to be less frequent commuting and a renewed emphasis on creating compact places in which most of people's daily needs can be met within a short walk or cycle and a need for greater investment in active travel and new transport technologies. This will help deliver the actions needed to support a low carbon economy. We are working together with our partners to develop a coherent long term infrastructure investment strategy through the Surrey Infrastructure Plan.

We will continue to review infrastructure priorities to:

- a. Ensure that investment in strategic infrastructure is focused in areas where it can unlock development opportunities or support better connectivity between Surrey's main economic centres and key hubs, and between Surrey and other key destinations within the wider Southeast and nationally.
- b. Ensure a more reciprocal relationship with London on common interests, recognising that Surrey's proximity to the capital will remain one of its greatest economic assets and continue to work with the Mayor of London, Transport for the Southeast and partners across the Wider South East to address regional challenges and deliver strategic infrastructure priorities.
- c. Build on existing measures and develop new measures that align with the "avoid, shift, improve" approach of LTP4.
- d. Improve rail connectivity between Surrey's main towns and other key economic centres by securing investment in the North Downs Line, capacity improvements at Woking and Guildford Stations and Southern Rail access from Heathrow Airport to Surrey and beyond.
- e. Focus on improving stations within Surrey so they benefit local communities and support sustainable local economic growth. Develop stations by improving access to them by public transport and active modes and enhance overall quality of services, for example through use of digitalised signalling and better timetabling.

- f. Enhance the quality of bus services through investing in infrastructure to allow faster journeys by bus, improving the coverage of the network, providing more coordinated bus services which integrate with other transport modes and improving service frequencies, reliability, fares and customer experience.
- g. Support the provision of a high-quality network to increase walking/cycling uptake. The network would serve and link urban and rural built-up areas to public transport connections. Where possible this would involve the development of active travel and green corridors and making improvements to rights of way.
- h. Promote the operational efficiency (and in some cases safety) of our transport network through securing improvements along our strategic movement corridors and junctions, including the Strategic Route Network, the Major Road Network, and key mobility hubs. Develop new and innovative infrastructure funding solutions and ensure that we are in the strongest position to compete for new infrastructure funding and investment opportunities. Maximise the opportunities provided by technological advances in mobility.
- i. Develop county-wide digital infrastructure through working with commercial and public sector partners to enable access to fibre and gigabit capable services.
- j. Build on the potential for digital technology to enhance connectivity, helping to reduce congestion on our roads and improve the vitality of our urban areas including those rural communities that face the greatest connectivity challenges. This will increase our ability to address the impacts of climate change and improve the overall health and well-being of our residents.

Within Surrey there are 25 towns of strategic significance. Nine of these are primary centres that serve the wider regional economy and are a focus for development in Local Plans and emerging plans and often the subject of masterplanning activities. A number are also a focus for LEP activity, given their strategic role. These centres are:

- Guildford
- Woking
- Epsom
- Reigate
- Redhill
- Staines-upon-Thames
- Farnham
- Egham
- Camberley (including Frimley)

Strategic Priority 3: Maximise the potential of our Strategic Opportunity Areas

The greatest long-term potential for delivering “good growth” across Surrey will be by investing in places that offer opportunities to boost productivity by maximising the value of strategic assets such as universities, mobility hubs and strategic employment sites/centres to support our economic strengths and priority industrial sectors

Our third priority will therefore be to focus strategic interventions in eight Strategic Opportunity Areas (SOAs) that have been identified as areas to support long term prosperity. This includes investment in new strategic infrastructure and to address existing infrastructure deficiencies and improving connectivity both within Surrey and between other strategically important economic areas.

Our eight Strategic Opportunity Areas are:

- SOA 1: Longcross-Staines-Heathrow Corridor
- SOA 2: Woking Hub
- SOA 3: Guildford Hub
- SOA 4: Blackwater Valley Corridor
- SOA 5: Cranleigh-Dunsfold Corridor
- SOA 6: Epsom-Leatherhead Corridor
- SOA 7: M23-Gatwick Corridor
- SOA 8: M25 J6/A22 South Godstone

The 2050 Study for Guildford implementation details the following.

Strategic Opportunity Area (SOA) 3: Guildford Hub

Guildford is Surrey's largest town and is set to grow even further over the next 20 years. It is a highly successful university town, hosting both the University of Surrey and University of Law, which contribute to the local economy through technology innovation, academic capital and developing a highly attractive talent pool for the local economy. Activity at the University of Surrey is a significant contributor to the overall Guildford economy and the Surrey Research Park is one of the borough's largest centres of employment making an important contribution to the regional economy. The challenge for the area is to balance the desire to maintain its unique character and natural environment with the need to deliver infrastructure to tackle congestion and improve connectivity, more and appropriate housing and to support the needs of the local economy. Underpinning all this is the need to ensure that development is sustainable and resilient to the changing climate. The planned Guildford Town Centre redevelopment on North Street is for a mixed use, residential led scheme and the major redevelopment site at Weyside Urban Village is anticipated to deliver 1,500 new homes. Not all the borough's development needs can be met within Guildford's existing urban areas and the adopted Local Plan focuses some development on large strategic greenfield sites and at least 3,200 housing units will be provided on two urban extensions to Guildford at Blackwell Farm and Gosden Hill Farm.

Key Challenges

- k. A decrease in the economic activity rate which is caused by a decline in a number of key sectors
- l. Housing affordability
- m. Traffic congestion and the need for increased infrastructure investment

- n. Need to improve air quality in Guildford town centre (an Air Quality Management Area was declared in October 2021)
- o. Poor air quality along the A3 through Guildford
- p. Need for flood alleviation of the River Wey catchment through Guildford town centre to maximise regeneration opportunities and provide resilience
- q. Tackling deprivation in those wards which are amongst the most deprived in Surrey
- r. Availability of suitable employment land
- s. Lack of digital infrastructure and slow broadband speeds
- t. Post Covid, revitalising the high street, investing in projects to use empty units and vacant office floorspace and reskilling.

What Needs to Happen

Significant investment in the borough's infrastructure is required to deliver the new homes. Accessibility improvements will help to attract high quality jobs and increase the prosperity of the area. As well as improvements to the A3 and road network in and around Guildford, there needs to be a focus on sustainable travel.

For rail, improvements to Guildford Railway Station are planned together with two new stations at Park Barn (Guildford West) and Merrow (Guildford East). The Guildford West Railway Station is likely to have a significant impact on access to the Royal Surrey County Hospital, University of Surrey and Surrey Research Park. Improvements to the North Downs Railway Line will facilitate better connectivity between Guildford and East Surrey/ Gatwick and between Surrey and the major hubs of Reading and Oxford.

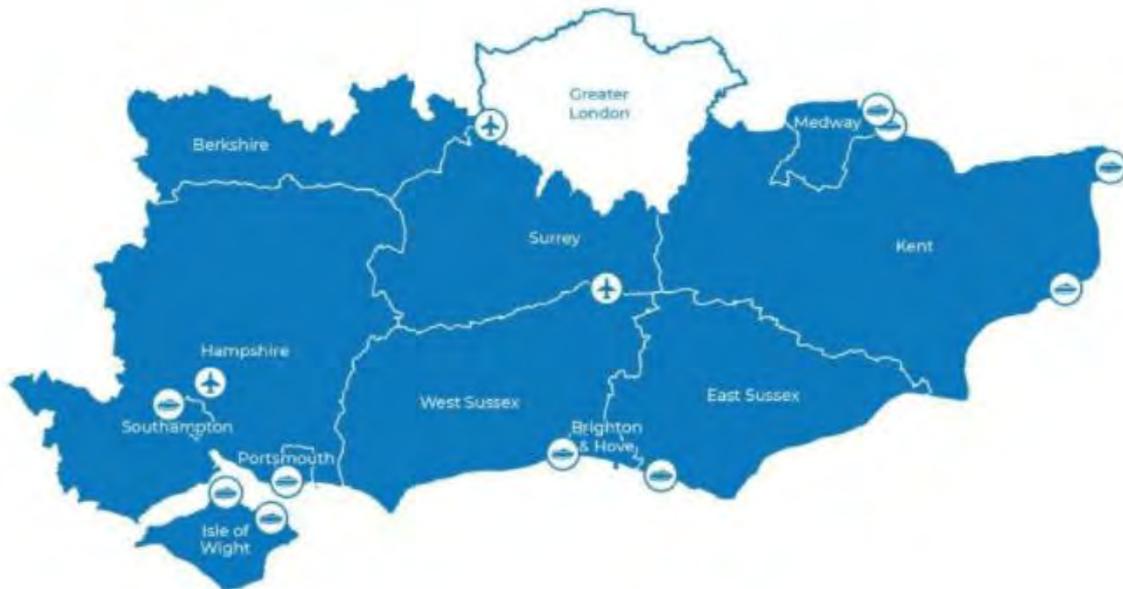
The Guildford Economic Regeneration Programme (GERP) includes the Town Centre Masterplan and will provide transport improvements alongside residential development in the town centre. Joint working with the Environment Agency and Surrey County Council to identify, fund and implement suitable flood alleviation measures for the town centre is critical to the delivery of housing as part of the GERP.

Priority Outcomes

- a. Improved movement along the A3 to reduce congestion and improve air quality
- b. Delivery of Local Plan allocated urban extensions and Weyside Urban Village
- c. Delivery of the Town Centre Master Plan and Guildford's role as Surrey's primary retail centre and as an entertainment (creative) centre retained and enhanced
- d. Improved digital connectivity for businesses and residents

2. Appendix - Transport for the Southeast (TfSE)

This body covering, the Southeast of England (Note although close links are maintained with greater London it only covers the area in Blue).



TfSE has developed a Strategy see

<https://transportforthesoutheast.org.uk/app/uploads/2020/09/TfSE-transport-strategy.pdf>

This has resulted in work being undertaken on several projects two of which impact Guildford.

a. Inner Orbital Area Study

<https://transportforthesoutheast.org.uk/our-work/area-studies/inner-orbital-area-study/>

This identifies key challenges as

- Economic imbalance – the east has higher deprivation but greater housing supply, the west is prosperous but faces supply challenges
- Orbital rail connectivity/journey times is poor from Reading to Gatwick to Ashford, constraining the development and growth potential of the Gatwick Diamond and other major economic hubs
- Severe congestion on the M25 Orbital Motorway and limited scope for additional highway capacity on this corridor
- Sustainable surface access to Heathrow from the South East is limited

and Opportunities

- Rail connectivity enhancements east-west through Gatwick Airport
- Possible missing links between the M3 and M4 motorway, to help alleviate congestion on the M25 and support local development
- Opportunities for demand management (Note TfSE are interested in using this on the A3)
- Potential for Western Rail Access to Heathrow, Southern Rail Access to Heathrow, and mass rapid transit solutions
- The need (and associated challenges) to integrate with the proposed Lower Thames Crossing to support strategic connectivity

b. Southwest Area Radial Study

<https://transportforthesoutheast.org.uk/our-work/area-studies/south-west-radial-area-study/>

This identifies key challenges as

- Access to ports, particularly ABP Southampton (constraining its expansion) and challenges of accessing Portsmouth International Port
- Sustainable surface access to Heathrow Airport from the South East area is poor
- Congestion along the M4, M3 and A3, and South Western Main Line capacity constraints impacting on journey times, reliability, and ability to support new development
- Journey times by rail to London from Portsmouth are notably longer than from Southampton

and Opportunities

- Potential for additional rail access to Heathrow from the south and west, plus mass rapid transit (MRT) solutions
- The benefits that MRT (Mass Rapid Transport) could bring to some of the large conurbations (e.g. Thames Valley, south Hampshire) and how this might sit alongside other interventions that are planned or under construction
- Improved rail capacity and reliability on the South Western Main Line through application of digital signalling alongside targeted infrastructure upgrades (e.g. Woking flyover)
- Opportunities for demand management and other local sustainable transport and behaviour change interventions

The TfSE Strategy Study also stated that:

*Para 1.18 - In recent years, however, there has been a significant shift in thinking away from the **'predict and provide'** approach. There is substantial evidence to suggest that providing additional road capacity and addressing bottlenecks in the highway network has the effect of generating additional demand for the road network, thus eroding or even eliminating any expected reductions in traffic congestion. Furthermore, this approach, if followed in an unconstrained fashion, risks promoting urban sprawl, high dependency on car use, and significant degradation of the natural environment. In the long run, 'predict and provide' risks creating a transport network*

that is less efficient and damaging for the local communities and environment it passes through.

*Para 1.19 - This transport strategy involves a shift towards a **'decide and provide'** approach to transport provision. This means actively choosing a preferred future, with preferred transport outcomes as opposed to responding to existing trends and forecasts.*

The Society also as TfSE mentions above that a **decide and provide** model is preferable approach, this doesn't preclude A3 improvements.

3. Appendix - Possible Growth in Rail Services

Proposed	Comment
<p>Waterloo - Portsmouth</p> <p>The proposal is to up the service from 4TPH to 6TPH.</p> <p>Southwestern Railways in their timetable consultation are planning for 6 TPH over the peak periods.</p> <p>It is understood to achieve this increase reliably over and above limited peak hours service a critical infrastructure improvement is required in the form of a Woking Flyover,</p>	<p>There has been some discussion on the viability of providing Portsmouth with fast trains to London running fast Fratton to Guildford non-stop, to enable this a dynamic passing loop in the Petersfield area would be desirable. The assumption is also that some fast trains will pass stopping services at Guildford.</p> <p>If these fast services are implemented the service frequency may rise to 8TPH and Guildford station will need to allow for this.</p>
<p>North Downs Line, including service extension to Oxford</p> <p>An extra fast service to Gatwick is planned but has been delayed for several years despite the new platform at Redhill is bought into use.</p> <p>The aspiration is to add in an extra stopping service at a later date.</p>	<p>The North Downs line pre-covid was one of the fastest growing in terms of passenger usage. It is an underutilised asset in that the current very sparse stopping service doesn't adequately serve the villages between Guildford and Dorking. Two services an hour to 'the villages' would be highly desirable.</p> <p>Extending some services to Oxford is highly desirable as it would allow links to East West Rail initiative.</p> <p>The capacity issues at Reigate with the Level Crossing are an issue to upgrading the North Downs service frequency, one option might be to turn one or more of stoppers at Dorking Deepdene or at Betchworth (where a crossing exists) to avoid level crossings, or to join and split fast and slow portions of the service at Dorking Deepdene/Betchworth.</p>
<p>New Line to Waterloo</p> <p>A rise in the slow stopping service to Waterloo via Effingham from 4TPH to 6TPH. Dependent on the building of an extra platform at Guildford Station.</p>	<p>This this aids linkage to east of the town particularly if a new station at Merrow (Guildford East). A 6TPH service is at a frequency where travellers cease to worry about timetables which encourages use of rail.</p>
<p>Ascot Service via Aldershot</p> <p>South West Rail have revised services to Farnham with 2 Trains per hour going to Farnham without changing.</p>	<p>The proposed Guildford West station it is possible that extra services will be required combined with the North Downs Services to</p>

	<p>provide connectivity along the Guildford to Farnham Corridor.</p> <p>This may depend on the rolling stock used, using electric (faster accelerating trains) on stopping services towards Ash may provide operational benefits compared with the current diesel North downs stock.</p>
<p>Possible termination of 2 TPH slow trains that currently terminate at Woking Platform 3 at Guildford. (part of Woking Flyover proposals)</p> <p>The Wessex Route Study shows plans to revise Woking station and build a flyover at the western end. The plan will provide an extra through platform at Woking, a flyover for the Up line from Portsmouth and will remove the current Woking Platform 3 and replace it by a turn back siding on the Portsmouth line <u>or</u> extend the two stopping services an hour to turn back at Guildford.</p>	<p>This change is reverting to an earlier pattern of slow trains. It has much to commend it in that it makes travel easier to SW mainline stations from Woking to London (no change at Woking), and allows Worplesdon station to get a more frequent service.</p> <p>Operationally if the Turnback for stoppers extended from Woking, is provided at Guildford, it should be situated BETWEEN the main lines to Waterloo/Portsmouth for operational ease.</p>

In addition, we are aware of two schemes that are under consideration

Proposed	Comment
<p>2 TPH Heathrow Southern Rail Access (Terminate Guildford).</p> <p>Southern Rail access to Heathrow is economically viable without a 3rd runway. The plan shows 2 trains per hour turning back at Guildford.</p> <p>There is a scheme to provide a link to Heathrow Airport Heathrow Southern Rail that is being considered by the government.</p>	<p>We would support this service as it provides a good alternative to the M25, supports the local economy with links to Heathrow, and can provide a Heathrow – Gatwick link.</p> <p>This development is likely to promote changing between the Reading – Gatwick and Guildford Heathrow Services as it will be a viable service between the two airports, and will enable worker access to both airports.</p> <p>Operationally the Turnback for Heathrow should be situated BETWEEN the main lines to Waterloo/Portsmouth for operational ease. Guildford is likely to be a point where trains rest between services to allow regulation.</p>
<p>2TPH Ashford to Oxford Service (SE Franchise Brief)????</p> <p>The South Eastern Rail Franchise Public Consultation March 2017 proposes a service</p>	<p>This is very new idea proposed in the South East Franchise document, and apparently supported by the current Secretary of State for Transport.</p>

<p>“ 6.14 For instance the Ashford to Tonbridge line, which connects on to Redhill and Reading under other operators, could form part of a fast and frequent London orbital service, taking pressure away from the M20 and M25. As it is journeys are faster via London and this potential link is underused.”</p>	<p>The service is likely to operate as an extension to the current North Downs service Ashford-Redhill-Gatwick-Redhill-Guildford-Reading</p> <p>The Society think this would be a useful service particularly if it integrates with the East West Line (Oxford – Cambridge)</p> <p>As mentioned above for the North Downs services, the society is concerned that capacity issues at Reigate with the Level Crossing needs to be addressed. The Redhill south end junction may also be a constraint.</p> <p>If Oxford is electrified operation via Guildford would be possible but would depend on electrification or the use of Tri-Modes (The class 319 conversion could be a solution).</p>
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4.

<p>Other Services</p> <p>It is noted that in the past there have been other services at Guildford e.g. CrossCountry services through to Gatwick and Southern Services. There needs to be allowance in the station capacity for new services.</p>	
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There are two schemes that have been promoted in the past that could impact the station, both are believed to not now affect Guildford.

Proposed	Comment
<p>Crossrail 2 The current plan is that the nearest stations it will operate too related to Guildford are Surbiton & Epsom.</p>	<p>It will aid capacity to Waterloo to Guildford's benefit, Crossrail 2 will lead to a major recast of services and interchange into CrossRail 2 at stations like Wimbledon may be an issue.</p> <p>The Crossrail scheme has now been put into abeyance unlikely to happen until 2040's</p>
<p>Guildford - Cranleigh re-opening. Understood to be discounted, particularly as the as council are committed to walking & cycle schemes that use the track bed.</p>	<p>We believe this scheme unlikely to be economically viable unless an option using a TramTrain is considered. It also requires the re-instatement of the junction in the Peasmarsh area. It is also noted that the line when operational was never economically robust as heavy rail. <u>See also our proposals on Mass Transit below</u></p>

4. Appendix - Guildford Station

Current Operations

Operationally Guildford is complex with 5 lines interacting with three lines diverging at the north, two on curves rising to east and west. At the south at Peasmarsh junction (circa 2kms south through St Catherine's tunnel, the north downs line leaves the main line to the east. North Downs services cross the station layout either at the north end or at the south just before entering St Catherine's tunnels at the south.

The St Catherine's tunnels are simple plain double line, the entry and exit to trains to the West of the station layout is constrained by sharp curves, resulting in low speed of entry, that are almost at the recommended NR limits for mainline operational curvature.

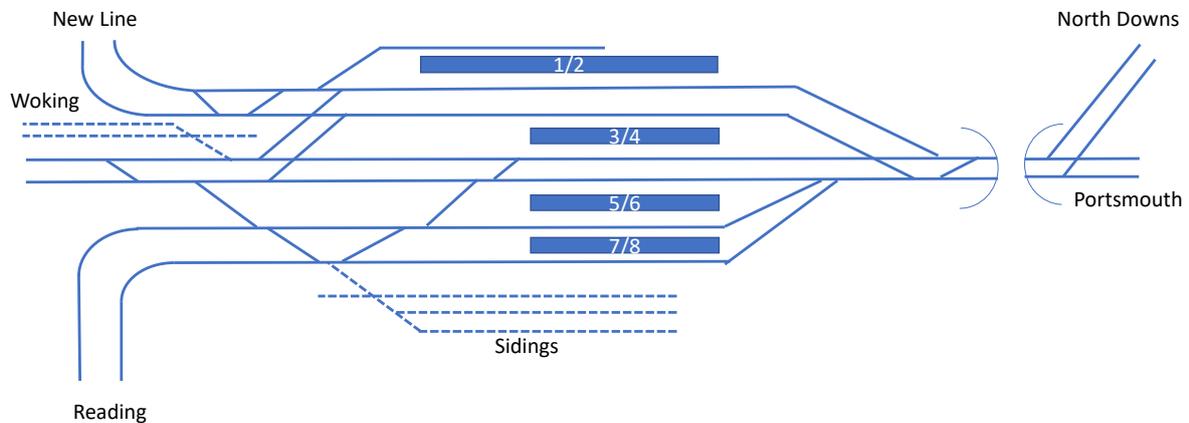
All junctions in the current layout are flat at present.

If all services come into operation it is likely Guildford, over circa 20 years, would see a total movements potential increase of over 100% compared with the 24 today.

Currently the Station operates as follows.

Platform		
1	New Line Terminating Services	Only accessible from New Line
2	Normally New Line Terminating Services although it is also a through Line	Access from Woking and New Line from North and all lines south North Downs and Portsmouth)
3	Through Services to the South	Access from Woking and New Line from North and all lines south North Downs and Portsmouth)
4	Through Services to the South	Access from Reading, Woking from North and all lines south (North Downs and Portsmouth)
5	Through Services to North	Access from Reading, Woking and all lines south (North Downs and Portsmouth)
6	Through Services to North or South (North Downs Line) or Terminating Trains on the service to Ascot/Farnham	Access from Reading, Woking all lines south (North Downs and Portsmouth)
7	The old platform, for postal services, opposite a single line served by Platform 6 is no longer used.	Access from Reading, Woking all lines south (North Downs and Portsmouth)
8	Through Services to North or South (North Downs Line) or Terminating Trains on the service to Ascot/Farnham.	Access from Reading, Woking all lines south (North Downs and Portsmouth)

Schematic of Curent Station



a. Plans to improve Station Operations

There were plans to build a Platform 0 to the east side of the station to create an extra terminating platform for New Line Terminating Services. This would have allowed New Line services to become a self-contained service into the station with minimal impact on other station operations. Currently new line trains also use Platform 2 as a turnback platform.

Platform 0 is likely to have been blocked by the Solum development. Network Rail who owned the station site took a short term approach to the Station rather than a strategic approach?

b. Likely Platform Capacity Required

In principle, without constraints, the station could operate with its existing platforms, as through trains may stop for a little as 90 Seconds and turning around a train can take about 3-5 minutes on the current timetable. However, the network does need stations where trains can wait to form regular service patterns and to form realistic connections. It should be assumed that services to Heathrow and London will use Guildford as a station to pause stock as required rather than occupy platforms at Waterloo, Old Oak Common, and Heathrow unnecessarily.

Heathrow and Woking Stopper Services plus more services on the Portsmouth Direct will impact North downs services in that using platform 4 for North Downs services will become less viable due to the need to cross the north throat of the station. The assumption is that all North Downs Services South will cross the south throat.

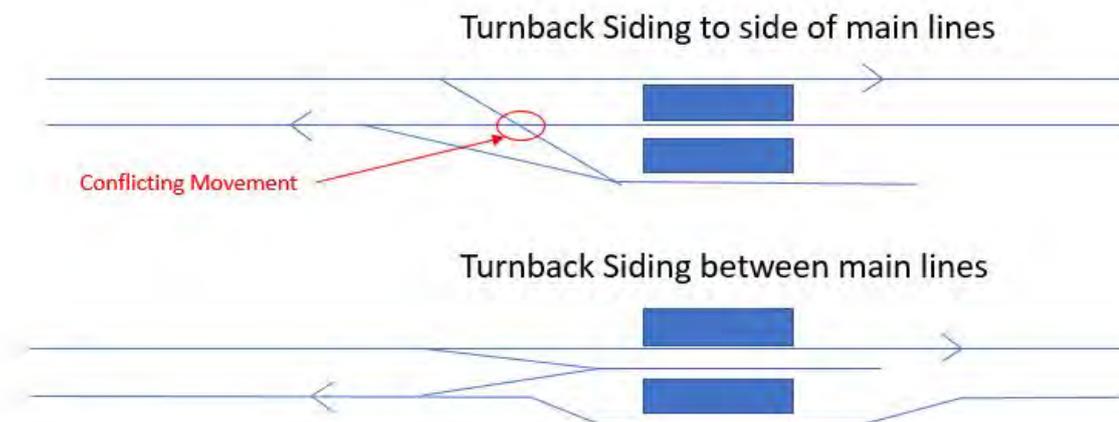
The Surrey County Council north Downs Line Study also identifies Guildford as a station where slow North Downs Lines services may be overtaken by fast services. The Surrey

County Council overall rail study also predicates fast Portsmouth services overtaking slow services at Guildford.

The 2015 Network Rail Wessex RUS states *It should also be noted that the layout at Guildford would allow for improved regulation of services and provide overtaking opportunities to manage the mix of fast and stopping services that operate on all routes through Guildford.* The RUS also states that *Some preliminary investigation has been carried out through this Route Study to look at what track and platform layout would meet the most conditional outputs and therefore provide the most benefit. These include the addition of **platforms** on the west side of the station and an additional platform on the east side, providing a new Platform 0.*

It is recognised that the use of Digital signalling should make a more intensive and reliable service possible. However, the digital signal system with still need to allow for a headway (circa 110Seconds), normal station dwell times of circa 30-45 seconds and safe times of passing over and clearing flat junctions (this is probably at least 110 seconds headway plus 120 seconds for crossing the junction)

The layout of stations also affects performance. Crossing moves should be minimised i.e. a train crossing a track used by services in the opposite direction. It is for this reason Turnback platforms are often sited in between the main running lines.



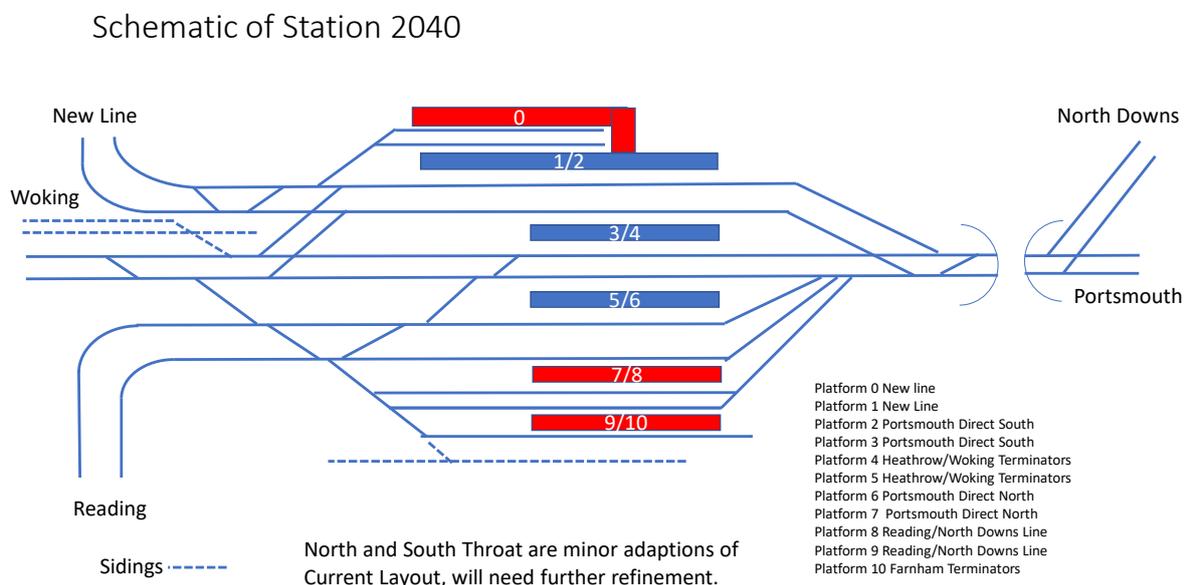
Turnback sidings in the centre of the station are considered advisable for the services to Heathrow and Woking stoppers if extended.

Ideally the platforms at Guildford for the proposed services would be :

Platform	Service	Notes
0	New Line Terminators	Terminator Platform – if it can be squeezed in beside Solum?
1	New Line Terminators	Existing platform 1
2	Portsmouth Direct South	
3	Portsmouth Direct South	
4	Heathrow Service Terminators	Existing platform 4 kept as a through line for flexibility but normally used for terminators
5	Waterloo via Woking Terminators	Existing platform 5 kept as a through line for flexibility but normally used for terminators
6	Portsmouth Direct North	
7	Portsmouth Direct North	Relocated platform 7 bought back into use
8	Reading - Gatwick Through Services	Relocated platform 8
9	Reading – Gatwick Through Services and Farnham Terminators	New Platform 9/10 for terminator use only.
10	Farnham Terminators	

The schematics show a 10-track station.

Schematically this would look like



The above scheme is based on most Reading – Gatwick services crossing formation at south end of station. Crossing the north side of Guildford station when Woking line may have 12 trains an hour in each direction may be operationally tricky.

The above layout also allows for some layover of Slow services being passed by fast services, this may be especially important for the North Downs Line.

All platforms used for termination preserve southern access for flexibility.

c. Clearing Guildford Throats

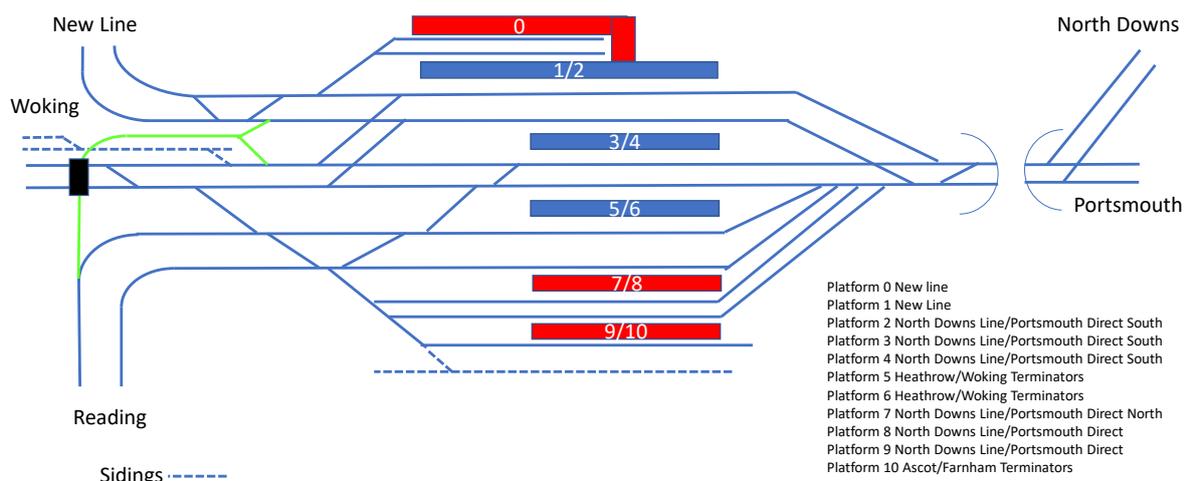
In practice Guildford has issues at both North and South Throats.

The North Throat is inflexible in that Reading Line services for the North Downs Line are limited in that they can only access platform 4 upwards. This means that in practice most southbound Reading to Redhill services use the platform 6 upwards then cross the southern throat just before the St Catherine's Tunnel. A total revamp of the northern throat can probably allow trains to cross to platform 2 and above with a ladder starting near Chalkies Bridge. However, as the line to Woking may have up to 22 movements per hour in time a flat crossing may be of limited use.

An option to remove these limitations and remove crossing movements to the north of the station would be a single line flyover from the Reading Line across the Woking – Portsmouth line. The line from Reading comes in at approximately 6m above the main line to Woking and drops to Guildford Station, reaching almost level with the Woking line at Yorkie's Bridge, a flyover would need major ramps on the southern end only. This approach also has the advantage in that it could facilitate the extension of Ascot/Farnham Services to the New Line to give a proper East West Guildford Link – these services could reverse at Effingham.

As Yorkies bridge will be extensively revamped for the proposed Sustainable Transport Corridor clearances could be increased to make this achievable with minimal land take in the industrial park to the north of the station.

Schematic of Station 2040 – North Flyover



This layout does provide a very easy to manage layout with New Lines Self Contained, 3 platforms for North South Traffic in each direction, 3 platforms dedicated for terminators.

The South Throat of the station is a complex set of point work much of it on sharp curve to get access to the west platforms. It does impose speed limitations on the Station approach 25mph from South and 15MPH for traffic from the west platforms going south. The use of a North Flyover will mitigate this issue for southbound trains. There is a potential issue if the mooted Portsmouth non-stop trains ever come about that may not stop at Guildford, the south throat should not impose a 35mph limit.

St Catherine's Tunnel is signalled for bi-directional movements (up line only).

Peasmarsh Junction does impose a slow speed on North Downs Line Trains of 40mph.

d. Guildford Station Footprint

Terminating in the centre of the formation, on the assumption that the station cannot extend to the east would require services from the south to use platforms to the west which will require a sharp curve from the St Catherine's tunnel unless amelioration is undertaken.

If the station is rebuilt on the existing footprint the space occupied is



This looks to be a plan with issues which need resolution:

- a) Platform 0 Accommodation
The proposed Solum development is claimed to allow platform 0 to be built, how this accommodated is not clear on the plans at present. The track running along platform 2 is regarded for sizing purposes to have not moved in any discussion on station sizing.

b) Curvature

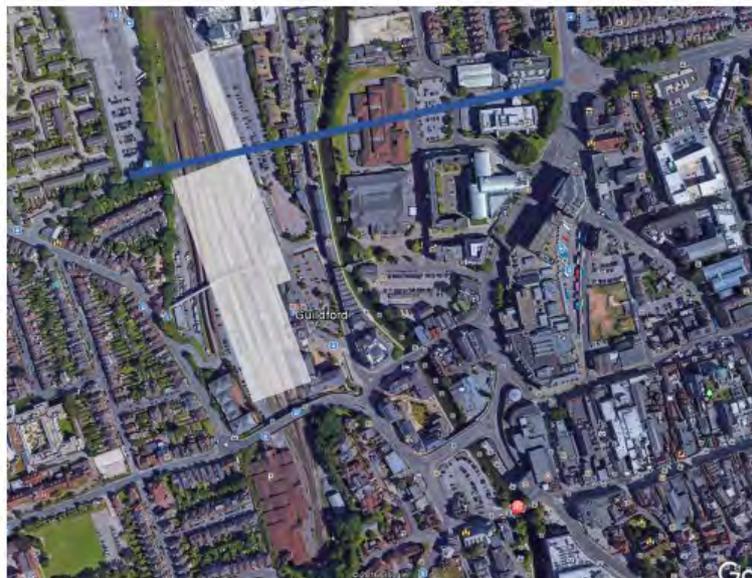
Curvature is at the Network Rail limit for platform access from the south for the current platform 8 in the current layout. This will be slightly ameliorated as the track alongside platform 8 will be moved eastwards when a new 7/8 platform is completed. The track alongside Platform 8 will have a tight curve as it is accessed from South. Platform 8 & 9 and its associated track will be an issue. Curvature limits will be exceeded for these new west platforms. (As an example, Guildford in the past has had cross country services, these might return if access to Gatwick becomes more attractive)

c) Westward Expansion

Provided Platform 0 causes no need to re-align platform 2 and that platforms are built that are at least the width of the current platforms, the expansion to the west will encroach on the access to the Farnham Road Car park, and associated roads by circa 15-20 metres. The Farnham Road Car park is only circa 4m away from the operational railway- it is through this gap that the access road is run. This will need to be heavily revised, maybe in the form of a direct link to a revised/rebuilt Farnham Rd Bridge.

Ideally the station needs to be moved slightly (25-50 metres) East and North, note this does assume a heavy modification to Solum plans. (The proposed second crossing, from GVG vision is shown in blue.)

This eases the curvature issues and speeds up access to the western platforms. There is still an issue with providing Farnham Rd Car park access.



e. Farnham Road Bridge

Although recently repaired, the Farnham Bridge is an old structure and its long-term future must be doubtful. A proper plan for the station should include replacing the bridge by a far

wider deck structure stretching into the area by the tunnel mouth which would provide a new access route to the Farnham Road car park and a drop off area for the station.

f. Station Access.

Passenger Access from both East and West sides requires improvement, current station plans focus on the East main town side but creating good access from East is important, particularly to the University.

A common vision for the town includes separation of pedestrian and cycle traffic from the road network with an attractive network centred on the station.

Bus access station would be by stands on the East and West sides, both in roads only used for drop-off traffic and on the east side access to the car park.

Passenger Interchange – a number of the developments is likely to put pressure on interchange at Guildford Station. These include:

- New Line to Ash Line, passengers from new estates east of town going to Research Park etc.
- Use of local stations to access mainline services at Guildford
- Linkage from Gatwick to Heathrow

g. Parking

GS believe due to geography and costs of an ideal infrastructure e.g. Tunnel under town, traffic should be limited to current levels and reduced by modal shift. Parking at the station should be limited to current levels.

5. Appendix - Mass Transit

There are two options for providing a Mass Transit type system in the Borough Buses and the Rail System.

a. Buses

With the provision of better Bus lanes and the use of modern electric buses an attractive network could be provided. A major issue is providing access through into the Town Centre where the existing Road Network is overloaded and few alternate routes are available. See 6.4.1 Above

b. Rail

The rail network already provides routes into the Guildford Urban area. Proven technology is available to make utilising this Network to provide greater connectivity in the borough across the borough.

The technology consists of

a) Tram Trains

Although Tram trains have a lower top speed than a conventional train of circa 100km/h they have better acceleration, braking, can handle tight curves and can climb gradients of 10% (about 4 times the gradient of a conventional train). They also provide on street operation.

Normally electrically powered they can use multiple voltages of supply and also use Battery power.



A tram train costs circa £1.3M per carriage and there would be costs involved in adding new junctions see the schemes proposed below.

An example of Tram Trains in widespread operation is at [Tram Trains Are AMAZING | The Karlsruhe Model - YouTube](#)

b) Modern Digital signalling.

Rail lines in the Guildford area have substantial spare capacity with signalling upgrades making capacity increases possible. Modern electronic signalling can provide automatic train operation at for example e.g. 24TPH one way on Thameslink, 33TPH Piccadilly Line. This compares with current Guildford line usage of maybe 6TPH on the line Guildford to Woking.

Tram Trains could provide the following:

- Sustainable Links to Strategic Site
- Sustainable Links to Park and Ride
- Increased Service Frequency to Country Stations.
- Supplement existing train Services
- Potentially link to new destinations
- Allow existing Road Corridors to provide space for Cyclists and Pedestrians

Trams are also known to be attractive to users and promote modal shift.

The Society has developed a vision of what a Tram Train Network might look like.

Benefits

- Strengthen Local Train Services, more frequent services and provide more journey opportunities.
- Provide sustainable transport to Strategic Sites
- Link to Park and Ride Services
- Replace some bus services into the centre of Guildford.
- Use existing Rail Corridors more effectively

Possible Opportunities.

Wisley Airfield and Wisley RHS.

This would consist of a light rail link from the RHS gardens across to the Wisley Development running as a tram and then across to either Effingham or Wisley stations. The line would be double track except for the section across country where a single line would be used with maybe a passing place.

Service

The Tram Train would run from RHS Wisley via Wisley Development to Effingham/Horsley and then join the New Line and provide a service to Guildford Main Line Station. Changing at Effingham/Horsley would allow access to London and Leatherhead.

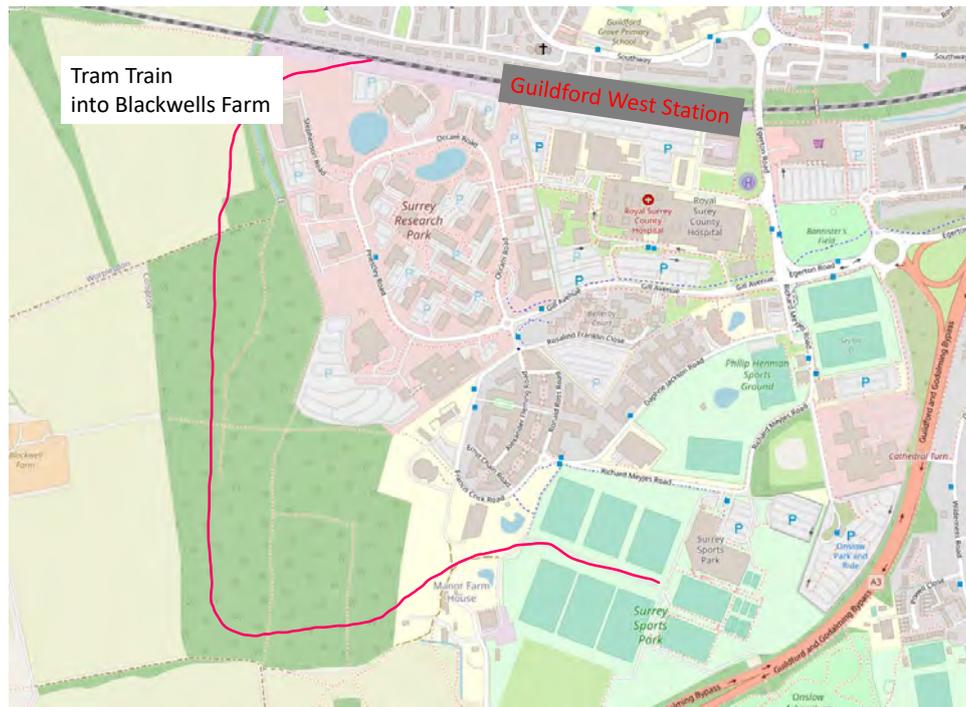


Benefits include:

- RHS Access to the New Line
- Local Transport within the Wisley Development
- Good Links to Effingham/Horsley
- Commuting opportunities to Guildford Area, London etc.

Blackwell Farm

Provide an extension into the Research Park and Blackwell Farm running on street to improve links to Guildford Town Centre and links within the Blackwell Farm area.

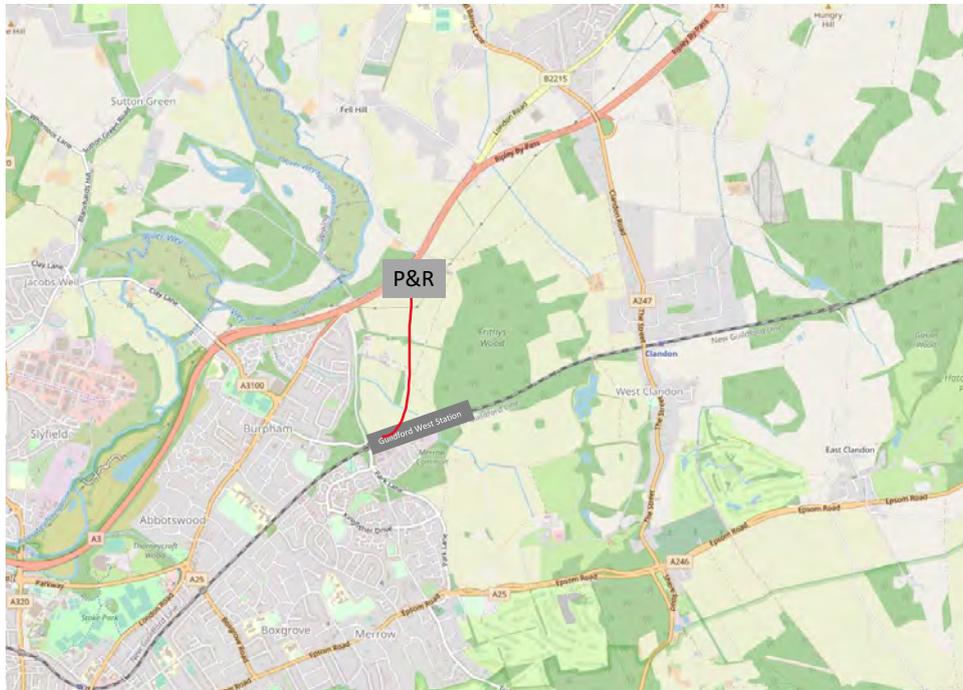


Benefits include:

- Frequent Services to RSCH
- Local Transport in the R&D Park, RSCH, Blackwells Development Area, Sports Park
- Commuting opportunities to Guildford Area, London etc.

Gosden Hill

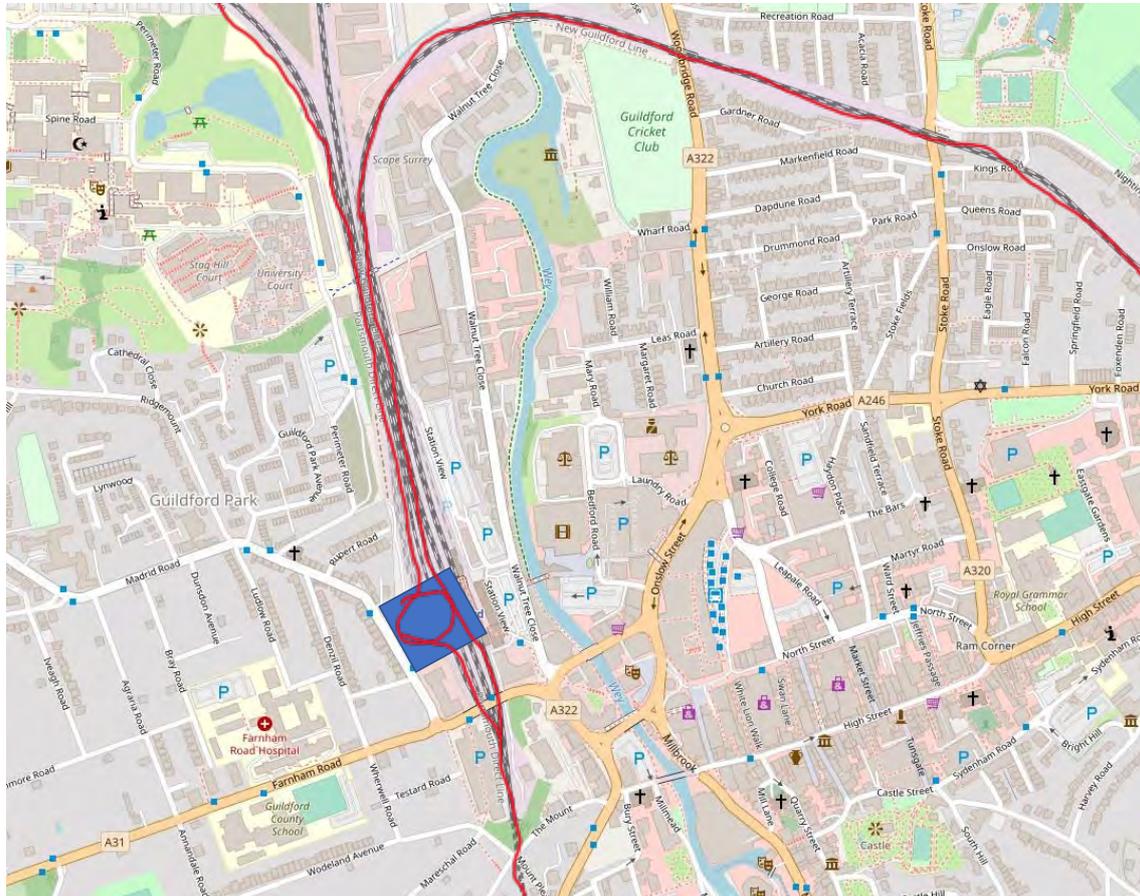
In conjunction with the new station run a street running tram train through the new Gosden Hill development to the proposed Park and Ride site on the A3.



Benefits include:

- Frequent Services to Town Centre
- Provides a opportunity to access Rail Network
- Provides local services through the Gosden Hill Development.

Town Centre



Tram Trains would serve the existing Guildford Station with broadly a cross Guildford Service

- a) Shalford Station to alternately Blackwell Park/RHS Wisley
- b) Shalford Park and Ride to alternately Blackwell Park/RHS Wisley

If the West side of the Station is redeveloped a potential development would be a deck over the rail station that can be accessed by the tram/trains which would allow services to serve an east west axis and potentially run over a rebuilt Farnham Road Bridge into the centre of the town

Guildford Rail – Tram Train could serve Strategic Sites

