

# Sutton Network Study

TfL Surface Transport –  
Public Transport Service Planning

August 20 19

MAYOR OF LONDON



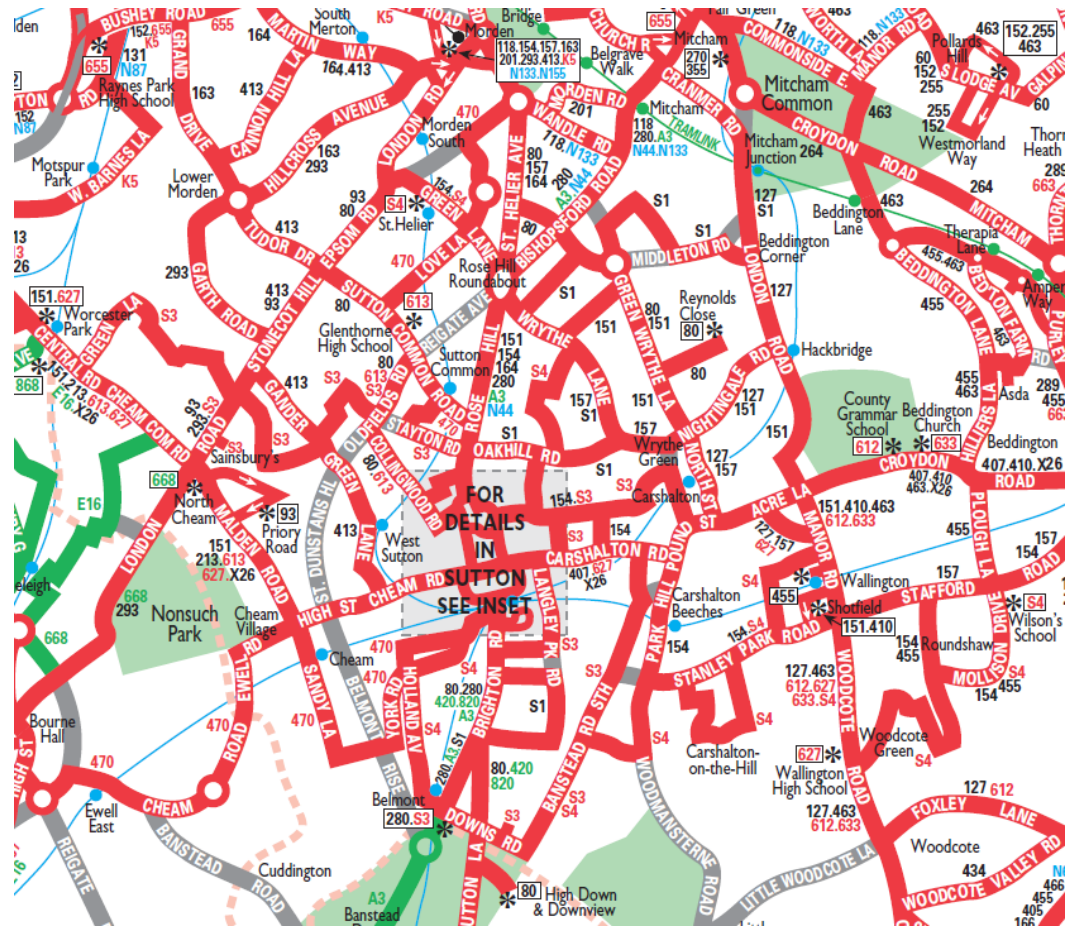
## Introduction

- This review examines the bus network in the borough of Sutton and how it may change over the next few years
- The interventions considered are ideas and not proposals. They are therefore subject to change, and will evolve as development proposals are firmed up
- Any proposal will require a detailed cost benefit appraisal and be subject to funding being available
- Consultation is always undertaken on service changes which significantly alter a bus route



# Content

- Background
- Area context
- Issues identified
- Potential solutions
- Possible schemes
- Next steps



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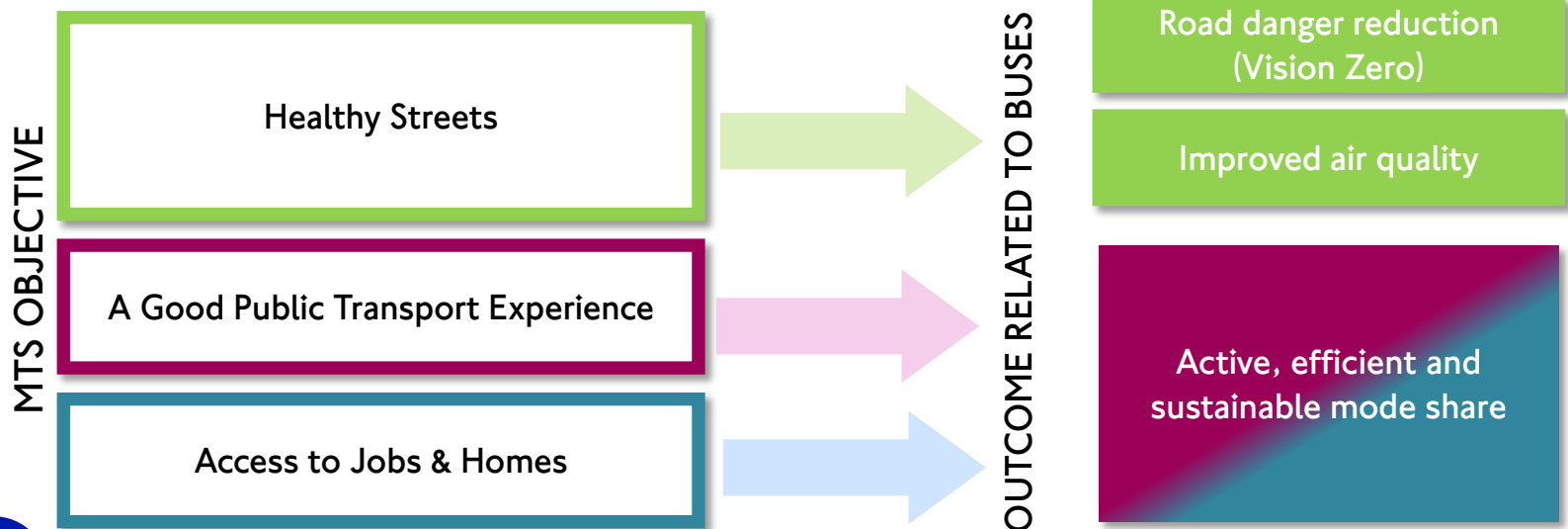
## Objectives

- To develop detailed plans for service changes for the next 2 years
- To agree a framework for developing Sutton's bus network over the next 10 years
- To take account of land use development proposed / expected in Sutton
- To consider the effects of the potential Sutton Link transit scheme on bus demand



## Mayor's Transport Strategy (MTS)

- This notes importance of the bus network in meeting a range of the Mayors' transport objectives, including mode shift, air quality, safety and supporting housing and growth
- It also notes the financial constraints under which we operate, as laid out in the 2018/19 TfL Business Plan
- A clear link exists between a number of objectives in the MTS and the bus network:



# Obstacles to providing a world class bus network for London – Agreed in 2016

- A. Worsening journey times and excessive variability in passenger journey times, caused by increasing congestion and road works**
  - Bus speeds had been in decline for 10 years and excess wait time increased for 2 years.
  - This led to a decline in passenger journeys of 6% year on year
- B. A changing London to which we needed to adapt**
  - More bus resources needed in the suburbs to support housing growth
  - Government has eliminated its direct operating support for TfL, while the gross cost of buses is expected to rise 10% over 5 years
- C. The need to drive improvements in environmental performance of our fleet**
  - 8000 buses (87%) were worse than Euro VI, with only 30 zero emission buses in the fleet
- D. Safety concerns leading to reputational issues and media challenges**
  - Poor data made it difficult to identify and effectively drive the right improvements
  - The Bus Safety Programme was only in initial stages
- E. Limited plans to address changing customer expectations**

We also agreed to focus on improving driver welfare, including wages and provision of welfare facilities.



# The Bus Strategy - 2019

The six priorities for the bus network are:

- 1 LEADING VISION ZERO**  
Including the Bus Safety Programme
- 2 IMPROVING AIR QUALITY**  
Including Zero Emission Buses
- 3 FOCUSING ON CUSTOMER SERVICE**  
To meet changing customer expectations
- 4 IMPROVING BUS DRIVER WELFARE**  
Reviewing pay and facilities
- 5 RESHAPING THE BUS NETWORK**  
With a new strategy for outer London
- 6 GROWING DEMAND**  
Including road space optimisation



## Bus Strategy in Outer London

The principles of the bus strategy in Outer London to deliver the MTS priorities are:

- Grow coverage, providing new links where people want to travel
- Maintain & enhance existing network coverage so that more households are within 5 minutes of a bus stop
- Provide faster connections by delivering more direct routes and bus priority measures to make bus usage more attractive
- Undertake periodic reviews of the network to identify opportunities to balance capacity with demand and work with boroughs to provide for future growth
- Deliver a good customer experience by improving interchange facilities and reviewing bus stop provision.





## Service Planning Guidelines

**Frequent:** with adequate capacity for the peaks

**Reliable:** providing even service intervals when frequencies are high and running to time when they are low

**Simple:** easy for passengers to understand and remember, and well-integrated with other public transport

**Comprehensive:** providing service to all areas and recognising the needs of local people from all sections of the community

**Cost-effective:** with options tested to ensure that they offer the best value for money within the available budget



## Current Network - I

- There are 20 day routes serving Sutton – 11 of these are high frequency (operating every 12 minutes or more often during the day Monday to Saturday)
- There are also 3 school day only services
- There are 2 all night services and 1 weekend only night service (N44, N213 and N154)
- Over 62 million trips were made on these routes in 2017/18
- It costs over £60 million a year to operate these services



## Current Network - 2

<b>Route</b>	<b>Terminal 1</b>	<b>Terminal 2</b>	<b>Toilets</b>	<b>Vehicle Type</b>
<b>80</b>	Belmont Prisons	Hackbridge	Belmont only	Single Deck
<b>93</b>	North Cheam	Putney Bridge	Putney only	Double Deck
<b>127</b>	Purley	Tooting Broadway	Both termini	Double Deck
<b>151</b>	Worcester Park	Wallington	Both termini	Double Deck
<b>154</b>	West Croydon	Morden	Both termini	Double Deck
<b>157</b>	Crystal Palace	Morden	Both termini	Double Deck
<b>164</b>	Sutton Station	Wimbledon	Sutton only	Single Deck
<b>213</b>	Sutton town centre	Kingston	Both termini	Double Deck
<b>280</b>	Belmont Station	St Georges Hospital	Both termini	Double Deck
<b>293</b>	Epsom Hospital	Morden	Both termini	Single Deck
<b>407</b>	Caterham	Sutton town centre	Both termini	Single Deck
<b>410</b>	Crystal Palace	Wallington	Both termini	Single Deck
<b>413</b>	Sutton town centre	Morden	Both termini	Single Deck
<b>455</b>	Wallington Station	Old Lodge Lane	Wallington only	Single Deck
<b>463</b>	Coulsdon South	Pollards Hill	Pollards Hill only	Single Deck
<b>470</b>	Epsom Clock Tower	Colliers Wood	Both termini	Single Deck
<b>S1</b>	Banstead	Lavender Fields	Banstead only	Single Deck
<b>S3</b>	Belmont Station	Malden Manor Station	Sutton Hospital only	Single Deck
<b>S4</b>	Beddington	St Helier Station	St Helier Station only	Single Deck
<b>X26</b>	West Croydon	Heathrow Central Bus Station	Both termini	Double Deck



## Current Network - 3

Route	AM Peak Run Time	Recent 12 Months QSI	QSI Minimum Standard	Midday Frequency	Sunday Service	Evening Service
80	130 minutes	0.7 minutes EWT	0.8 minutes EWT	7.5 bph	Yes	Yes
93	148 minutes	0.9 minutes EWT	1.2 minutes EWT	9 bph	Yes	Yes
127	164 minutes	0.8 minutes EWT	1.1 minutes EWT	5 bph	Yes	Yes
151	143 minutes	0.9 minutes EWT	1.0 minutes EWT	6 bph	Yes	Yes
154	158 minutes	1.0 minutes EWT	1.2 minutes EWT	5 bph	Yes	Yes
157	199 minutes	0.9 minutes EWT	1.2 minutes EWT	5 bph	Yes	Yes
164	123 minutes	0.9 minutes EWT	1.0 minutes EWT	6 bph	Yes	Yes
213	155 minutes	0.8 minutes EWT	1.1 minutes EWT	7.5 bph	Yes	Yes
280	133 minutes	0.7 minutes EWT	1.0 minutes EWT	6 bph	Yes	Yes
293	133 minutes	81% on time	86% on time	3 bph	Yes	Yes
407	190 minutes	1.0 minutes EWT	1.1 minutes EWT	5 bph	Yes	Yes
410	161 minutes	0.7 minutes EWT	1.1 minutes EWT	6 bph	Yes	Yes
413	120 minutes	87% on time	86% on time	4 bph	Yes	Yes
455	186 minutes	83% on time	78% on time	3 bph	Yes	Yes
463	165 minutes	77% on time	78% on time	3 bph	Yes	Yes
470	185 minutes	85% on time	82% on time	2 bph	No	No
S1	175 minutes	85% on time	86% on time	4 bph	Yes	Yes
S3	166 minutes	86% on time	82% on time	3 bph	No	No
S4	171 minutes	82% on time	86% on time	2 bph	No	Yes
X26	300 minutes	75% on time	74% on time	2 bph	Yes	Yes



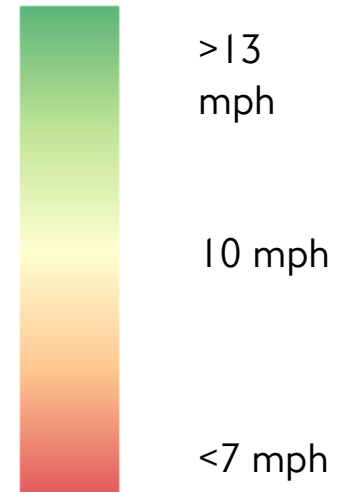
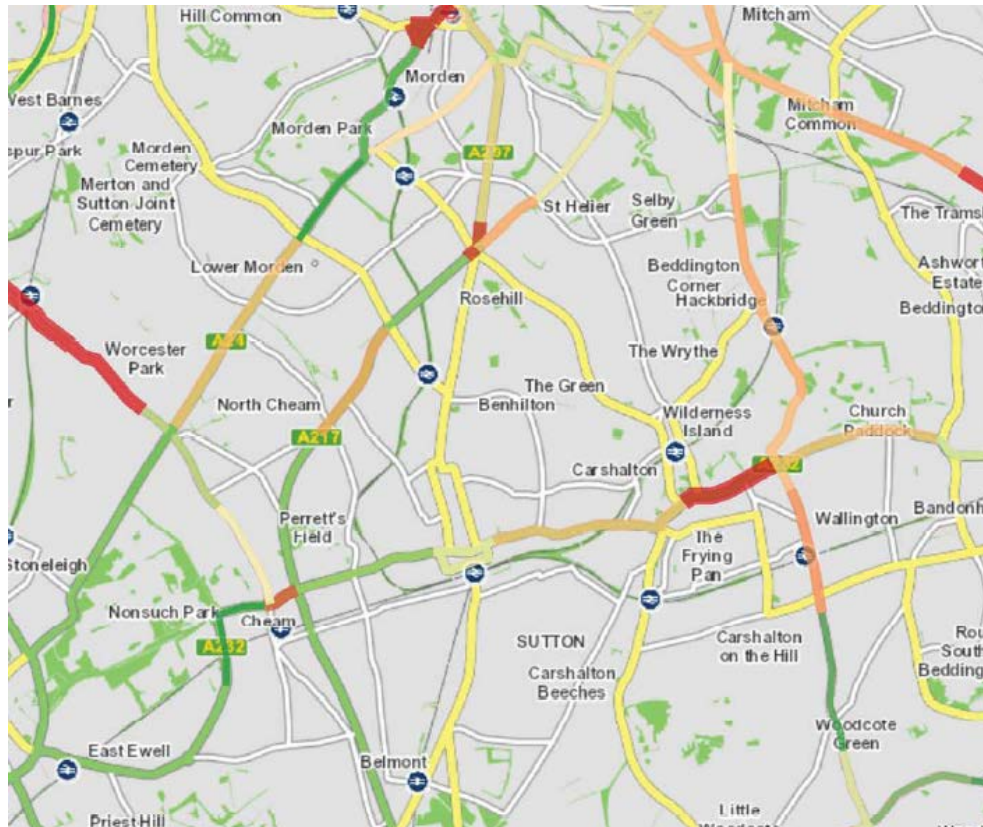
## Current Network - 4

Route	M-F	Sat	Sun	M-F	Sat	Sun
80	510	516	358	4.0%	5.9%	6.9%
93	85	297	-2	0.3%	1.4%	0.0%
127	1,017	737	335	9.6%	10.8%	7.9%
151	164	251	4	1.5%	10.8%	7.9%
154	187	457	224	1.5%	3.4%	3.5%
157	972	1,230	1,243	5.9%	10.6%	15.9%
164	-33	97	126	-0.3%	1.2%	2.4%
213	-1,079	-460	20	-6.6%	-3.7%	0.2%
280	-325	-162	-250	-2.3%	-1.4%	0.2%
293	47	13	58	1.3%	0.5%	4.0%
407	614	613	229	6.1%	7.7%	4.8%
410	106	15	-55	0.9%	0.2%	-1.1%
413	62	17	82	2.0%	0.7%	7.6%
455	456	273	61	11.8%	9.9%	3.7%
463	-429	-235	-118	-10.6%	-8.9%	-8.1%
470	-71	21		-2.5%	1.1%	
S1	-134	-25	84	-2.2%	-0.5%	3.1%
S3	-241	117		-8.8%	8.0%	
S4	-1	-79		0.0%	-5.0%	
X26	753	656	371	16.0%	16.0%	10.3%

A growth of around 20,500 passengers a week



# Current Network – 5 Bus Speeds – AM peak

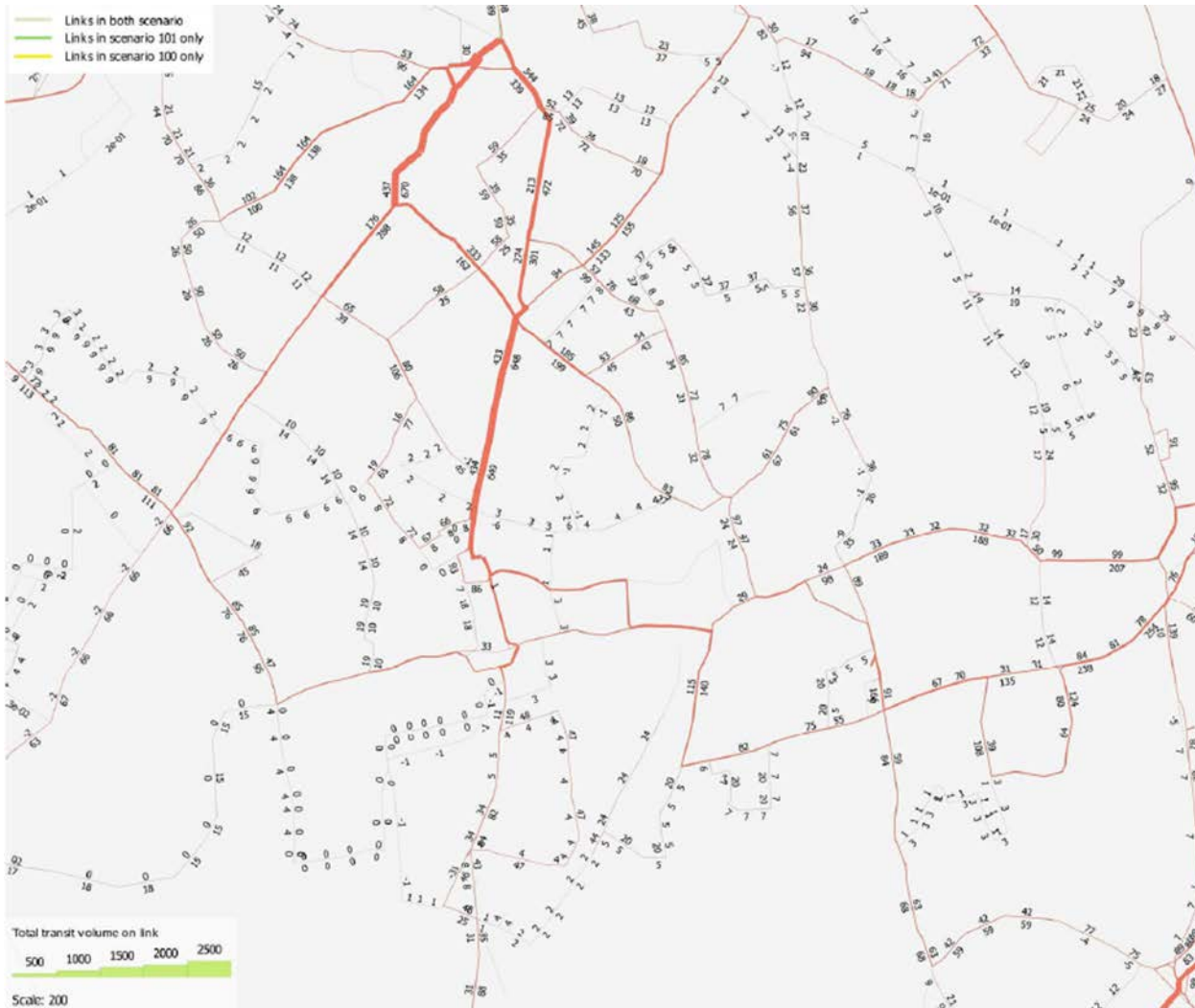


## Short Term Issues

- Capacity
  - Problems identified on routes 93, 127, 154, 407 and 463/633
  - Further investigation required on routes 157 and X26
  - Other problems will be investigated as they are identified
- Reliability
  - No significant problems identified but concerns about buses being turned short of their final destination have been raised particularly on routes 151 and 463
- Lack of Sunday service to Royal Marsden
- Lack of direct bus links to Epsom Hospital



# Forecast change in demand 2011–2021 AM Peak





## Longer Term Issues

- Land Use Changes
  - Cancer Hub
  - Town Centre Intensification
  - Housing increases
- School expansion
- Access to jobs and healthcare
- Bus infrastructure
- Sutton Link – Tram or Bus Rapid Transit route



# Forecast change in demand 2021-2031 AM Peak



## Shorter Term - 1

- Route 93
  - Problem identified northbound in morning peak. Currently seeking costs for an additional journey
- Route 127
  - Plan to increase frequencies from a bus every 12 minutes to a bus every 10 minutes Monday to Saturday daytimes from September
- Route 154
  - Currently seeking costs for an increase in frequency from a bus every 12 minutes to a bus every 10 minutes Monday to Saturday daytimes
- Route 157
  - Investigate whether there is a problem



## Shorter Term - 2

- Route 407
  - Will be converted to double deck operation from August 2019
- Route 463/633
  - Currently seeking costs for an additional journey in each school peak
- Route X26
  - Investigate whether there is a problem
- Harris Academy – September 2019
  - Check there is sufficient capacity once school has opened



## Shorter Term - 3

- Royal Marsden Sunday service
  - Introducing a Sunday service on the S3 and S4 has been evaluated. They have benefit to net cost ratios of between 1.2 to 1 and 1.3 to 1. This does not meet TfL investment criteria
  - Rerouteing the 80 to the Hospital and extending route 280 to Highdown and Downview Prisons was examined. This would cost around £230,000 per annum. If 400 new passenger trips a day were made this would be viable, but it would still require a subsidy of around £150,000 per annum. Also requires bus standing space at the hospital
- Direct links between Sutton and Epsom Hospital
  - Progressing scheme to extend route 470 from Epsom town centre to the Hospital
  - Consultation started in July



## Longer Term - 1

- Cancer Hub
  - Possibly divert routes 80, 280 and / or S1 through site once new road is available. A service must be retained on Brighton Road but does Cotswold Road need one?
  - Increase frequencies or bus sizes as required due to demand growth
  - Retain / improve direct links to other parts of Sutton borough – and beyond
- Town centre intensification
  - Residential development in town centres tends to use contra peak spare bus capacity so may not require extra bus services
  - Increases in retail provision and / or employment may need additional capacity



## Longer Term - 2

- Increase in housing supply
  - If in areas already served by the bus network likely to require extra capacity (higher frequencies or bigger buses)
  - If in areas remote from current bus network likely to need extended, restructured or new services
- School expansion
  - Continue to work with Sutton planners to understand locations for new and expanding schools
  - TfL to bring forward proposals for extra capacity as and when required



## Longer Term - 3

- Access to jobs and healthcare
  - Continue to work with the NHS to understand the transport implications of any changes in location of health provision
  - Early morning provision – there is evidence of relatively heavy usage early in the morning that may justify extra service



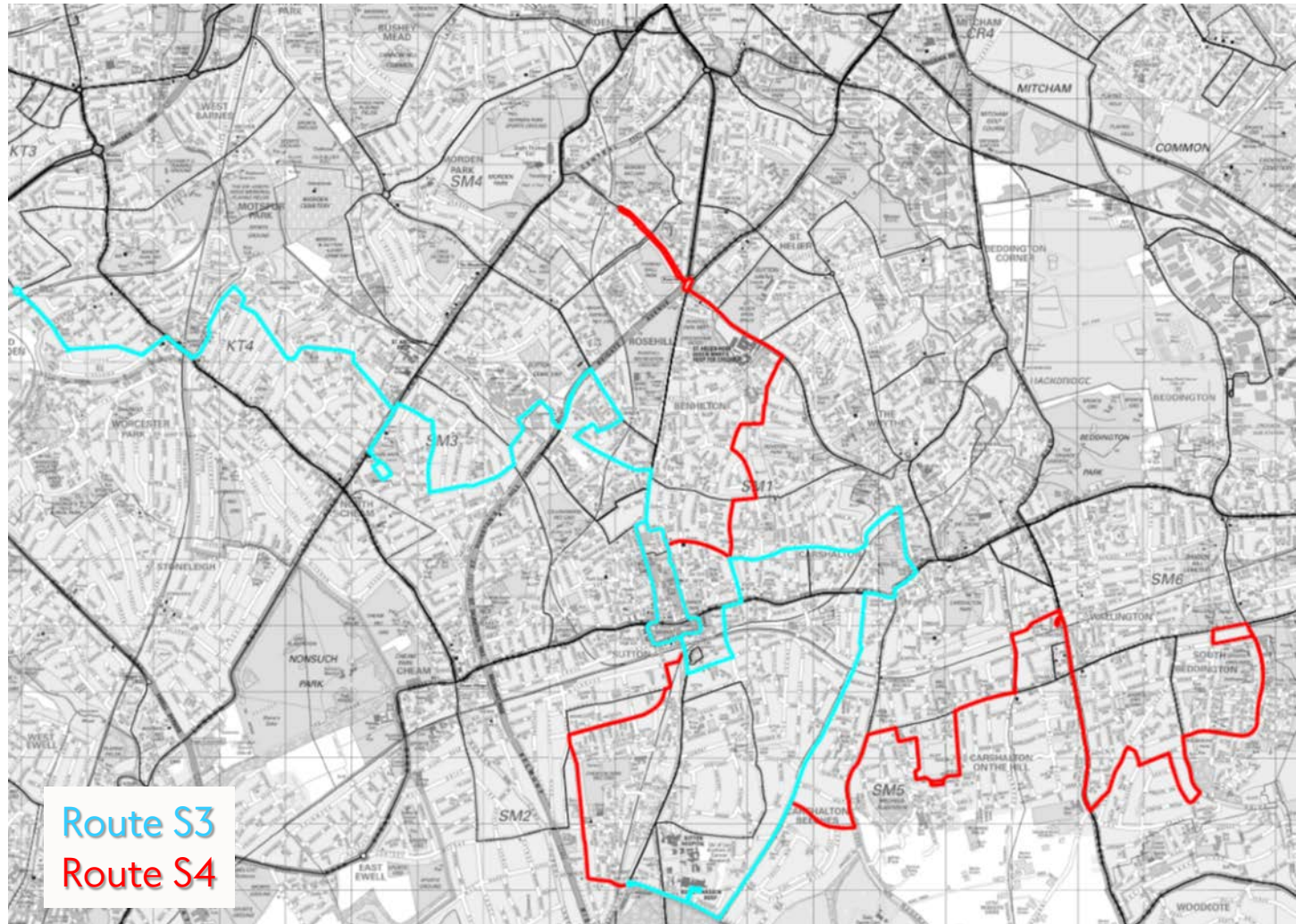


## Longer Term - 4

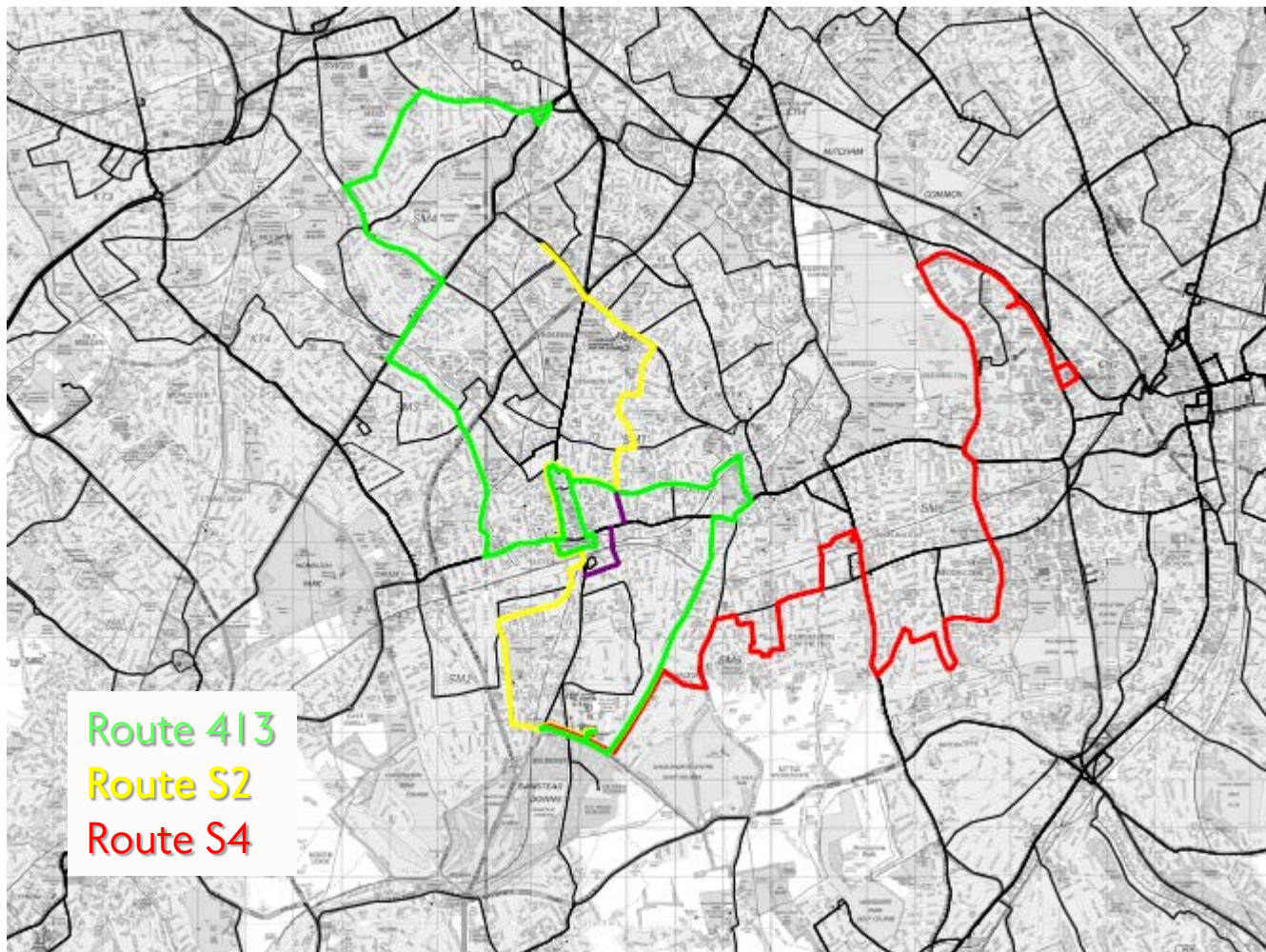
- Bus infrastructure requirements
  - Bus priority - to at least maintain current bus journey times but preferably to improve them
  - Bus stands & toilets – provide bus stands in suitable locations to serve new development, such as the Cancer Hub, or to allow service levels to be increased. Provide driver toilets at termini, as required
  - Bus stops – make all bus stops accessible and ensure adequate capacity for number of passengers and vehicles using them. Consider whether Hail ad Ride operation is still appropriate on the sections of road where this operates.
- Sutton Link
  - Continue to work with TfL City Planning to understand changes in bus demand as Sutton Link transit scheme progresses



# Royal Marsden – Current Provision



## Royal Marsden – Potential Provision



Route S3 runs  
Malden Manor –  
Sutton Station  
only  
Route 455  
withdrawn west of  
Croydon

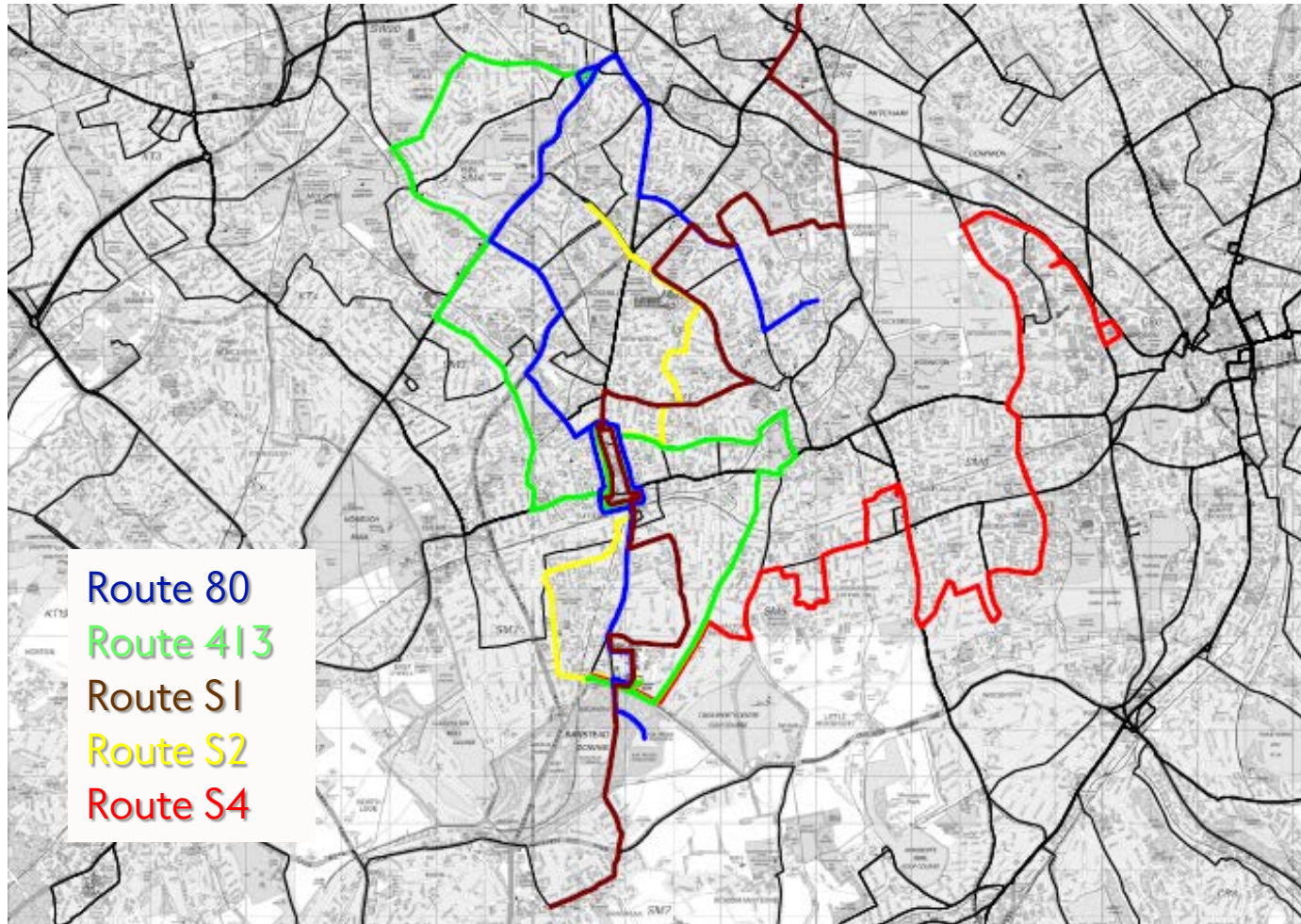


## Royal Marsden – Potential Provision

- Routes 413, 455, S3 and S4 scheme
- Benefits for Hospital
  - Higher frequency to Belmont, Benhill, Carshalton, Roundshaw, Wallington and West Sutton
  - New links to Morden Park, Morden and Beddington
  - Sunday and evening service on all routes
- Disbenefits for hospital
  - Loss of direct service to North Cheam, St Helier and Worcester Park
- Financial effects
  - Increase in cost circa £590,000 per annum
  - Increase in revenue circa £250,000 per annum
  - Benefit to net cost ratio of 2.7 to 1



# Royal Marsden – Potential Provision with new through road across the campus



# London Road Capacity - 1

## Problem

- Already capacity issues south of Morden and demand is forecast to grow on this section
- Current peak demand requires 9 buses per hour north of Morden but around 12 south of there
- This is catered for by running a 10 buses per hour service with additional journeys at peak times

## Possible solutions

- Increase frequency on route 93 to 12 bph and run extra peak journeys
- Run 93 at 10 buses per hour and introduce an additional route between Morden and North Cheam



## London Road Capacity - 2

Increase frequency on route 93

- Gross cost of £1.2 million
- Revenue increase of £550,000
- Benefit to net cost ratio of 2.2 to 1

Run 93 as now and introduce an additional route between Morden and North Cheam

- For example splitting route 80 into 2 services with 1 between Highdown / Downview Prisons and Morden and 1 between North Cheam and Hackbridge means 325 people a day would have to change buses. This is 2% of usage of route 80
- Gross cost of £1.3 million
- Revenue increase of £100,000
- Benefit to net cost ratio of 0.1 to 1



## Next steps - 1

By September 2019

- Introduce agreed improvements to routes 127, 154 and 407
- Get costs for improvements to routes 93 and 463
- Start consultation on extension of route 470 to Epsom hospital

By December 2019

- Investigate whether there is crowding on routes 157 and X26
- Confirm there is sufficient capacity on routes south of Sutton following the opening of Harris Academy





## Next steps - 2

By mid 2020

- Develop the scheme for Royal Marsden hospital services in line with the suggestion here
- Be ready to consult

Ongoing

- Maintain dialogue with Sutton and other stakeholders
- Respond to changes in demand and to planning applications

