

Segregated Cycling Infrastructure

Understanding cycling levels, traffic impacts, and public and business attitudes

City Planning
Transport for London



Contents

- Summary of this slide deck
- Cycling potential and future growth
- Why segregated cycle infrastructure?
- Active travel and health
- Current cycling flows
- Superhighway journey times for general traffic
- Road space efficiency
- Business support for Superhighways
- Public support for investment in cycling



Summary of this Slide Deck

This deck presents background information on the cycling infrastructure programme in London, its impacts and potential benefits.

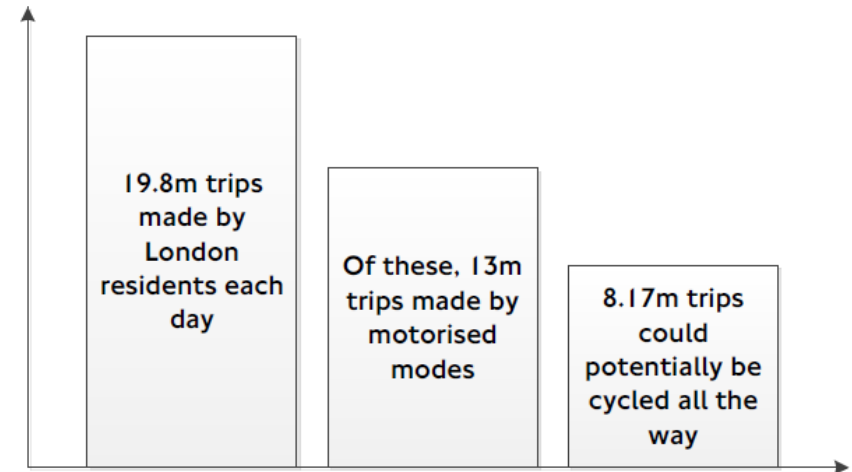
- By 2041, we need an average of 3 million fewer car journeys in London each day to achieve the MTS target for 80% of trips to be made by public transport, walking and cycling (compared to 64% now)
- 8.17 million daily trips made by motorised modes could be cycled (car, motorcycle, taxi or public transport) but we must invest in improving road conditions for cycling in order to encourage mode shift and raise safety
- Cycling is already a major mode of transport, with 730,000 cycle journeys per day in 2016 - equivalent to 10% of all bus journeys, or one fifth of all tube journeys
- Cycling has grown 7.2% in central London since 2014, with massive growth in cycling on the East-West and North-South Superhighways and Quietway 1
- Journey times for general traffic increased during Superhighway construction periods, before returning back to similar to pre-construction levels which are in line with modelled journey times
- Traffic must be considered in the context of all people using the road, not just motorised vehicles - sustainable modes make much more efficient use of our limited road space
- This has been demonstrated by the E-W and N-S Superhighways, with the cycle tracks shown to move 5 times as many people as a main carriageway lane and the corridors moving 5% more people per hour than before the cycle lanes
- Delivery of these segregated cycle lanes is strongly supported by many large businesses, who feel that they are good for employees, businesses, and London



Cycling Potential and Future Growth

TfL 'Analysis of Cycling Potential' (2016)

- Study of comprehensive travel data, based on the London Travel Demand Survey (LTDS) from 2012 to 2015
- Found that Londoners make 8.17 million daily trips by motorised modes (car, motorcycle, taxi or public transport) that could be cycled
- Almost 60% are made by car, with the rest largely by bus
- Of the 8.17 million trips, 6.47 million would take less than 20 minutes for most people to cycle

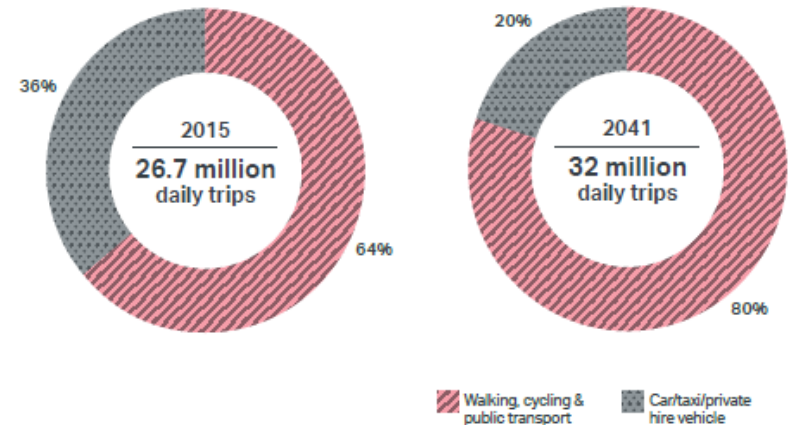


Source: LTDS 2012/13 – 2014/15

Future Growth

- The Mayor's Transport Strategy sets out a target for 80% of trips to be made by public transport, walking and cycling by 2041, compared to 64% now
- This will mean an average of 3 million fewer car journeys in London each day and significantly more cycling trips
- The Mayor's Transport Strategy also sets out a target for all Londoners to do at least the 20 minutes of active travel they need to stay healthy each day.

FIGURE 2: MODE SHARE 2015, AND 2041 (EXPECTED)



Why Segregated Cycle Infrastructure?

Why do we need segregated infrastructure to unlock London's cycling potential?

- Safety and the perception of safety, is the main reason given by Londoners for why they do not cycle, or do not cycle more
- These barriers relate to the perception of road conditions being unsafe for cycling and that there is a lack of specific infrastructure to protect cyclists
- Segregated cycle infrastructure breaks down these barriers – providing separation from other road users in time and space on both links and at junctions



There is a clear transport planning rationale underpinning this approach:

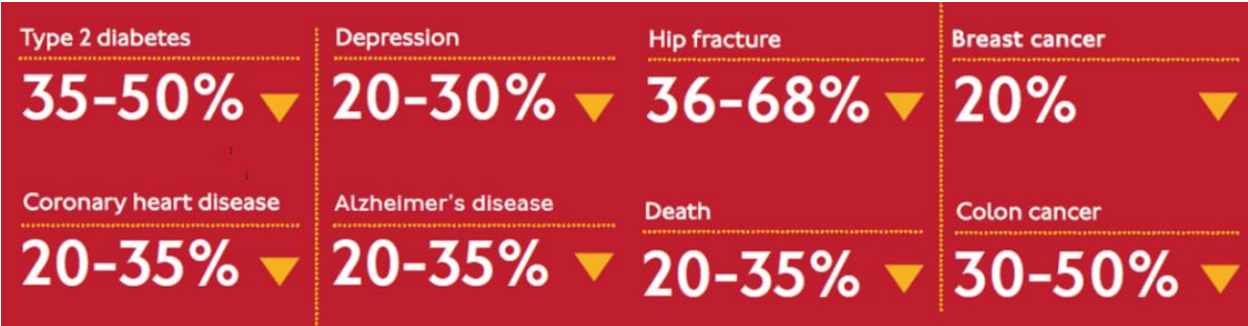
- Evidence from leading cycling cities supports segregation to address cyclist safety e.g. Copenhagen has introduced mostly segregated cycle tracks over the last 25 years and over the same period the risk of serious collision has reduced by 72% per cycled kilometre
- Segregation is being introduced on Superhighway routes that have undergone extensive consultation with the public and key stakeholders, and where the nature of the road and volume of traffic have highlighted segregation to be necessary
- Segregated facilities have been designed in accordance with the high quality standards set out in 'London Cycle Design Standards' (which itself is based on international best practice)



Active Travel and Health

- Superhighways are vital to increasing the level of active travel in London
- The Mayor’s Transport Strategy has a target for all Londoners do at least the 20 minutes of active travel they need to stay healthy each day by 2041
- 74% of men and 64% of women in the UK will be overweight or obese by 2030 (WHO)
- The NHS is estimated to spend about £6 billion a year on the medical costs of conditions related to being overweight or obese and a further £10 billion on diabetes
- The overall cost to the UK economy has been estimated at £47 billion, or 3% of GDP, making it the second largest health liability of the UK economy after smoking

A person who is active every day reduces their risk of:



If every Londoner walked or cycled for 20 minutes a day

we would prevent 1 in 6 early deaths

↓ Health Inequalities	↑ Social cohesion
↓ Dementia	↑ Child development
↓ Depression	↑ Climate change resilience
↓ Cardiovascular disease	
↓ Type 2 Diabetes	
↓ Social isolation	
↓ Cancers	
↓ Road traffic injuries	

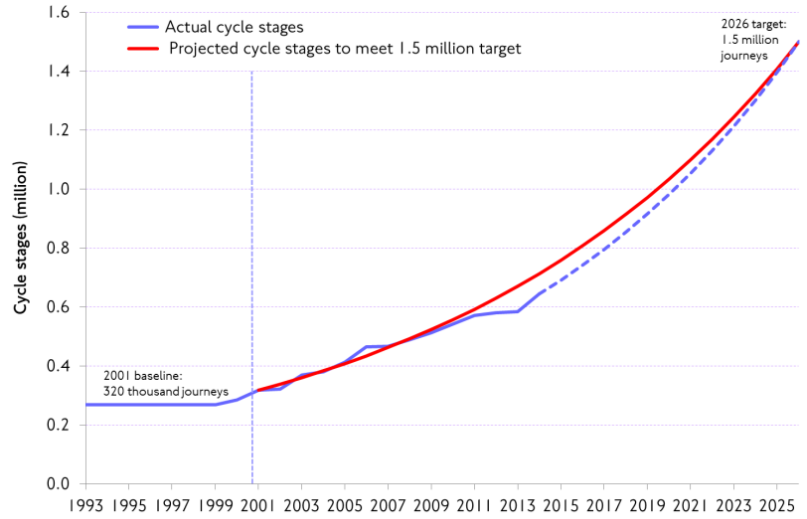
and save the NHS **£1.7bn** in treatment costs over the next 25 years.



Current Cycling Flows

Cycling in London is growing

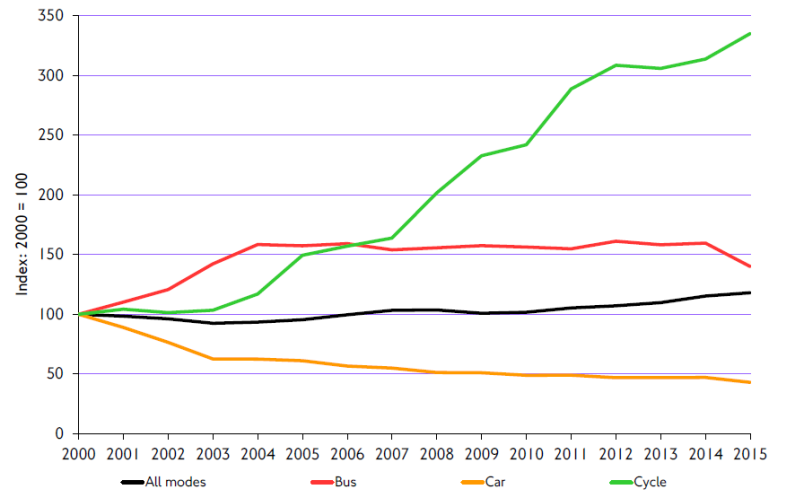
- 730,000 cycle journeys per day in 2016
- Equivalent to 10% of all bus journeys, or one fifth of all tube journeys
- 8.8% increase since 2015
- 131% increase since 2000
- Target for 1.5m cycle trips per day by 2026



Cycling growth is even higher in central London

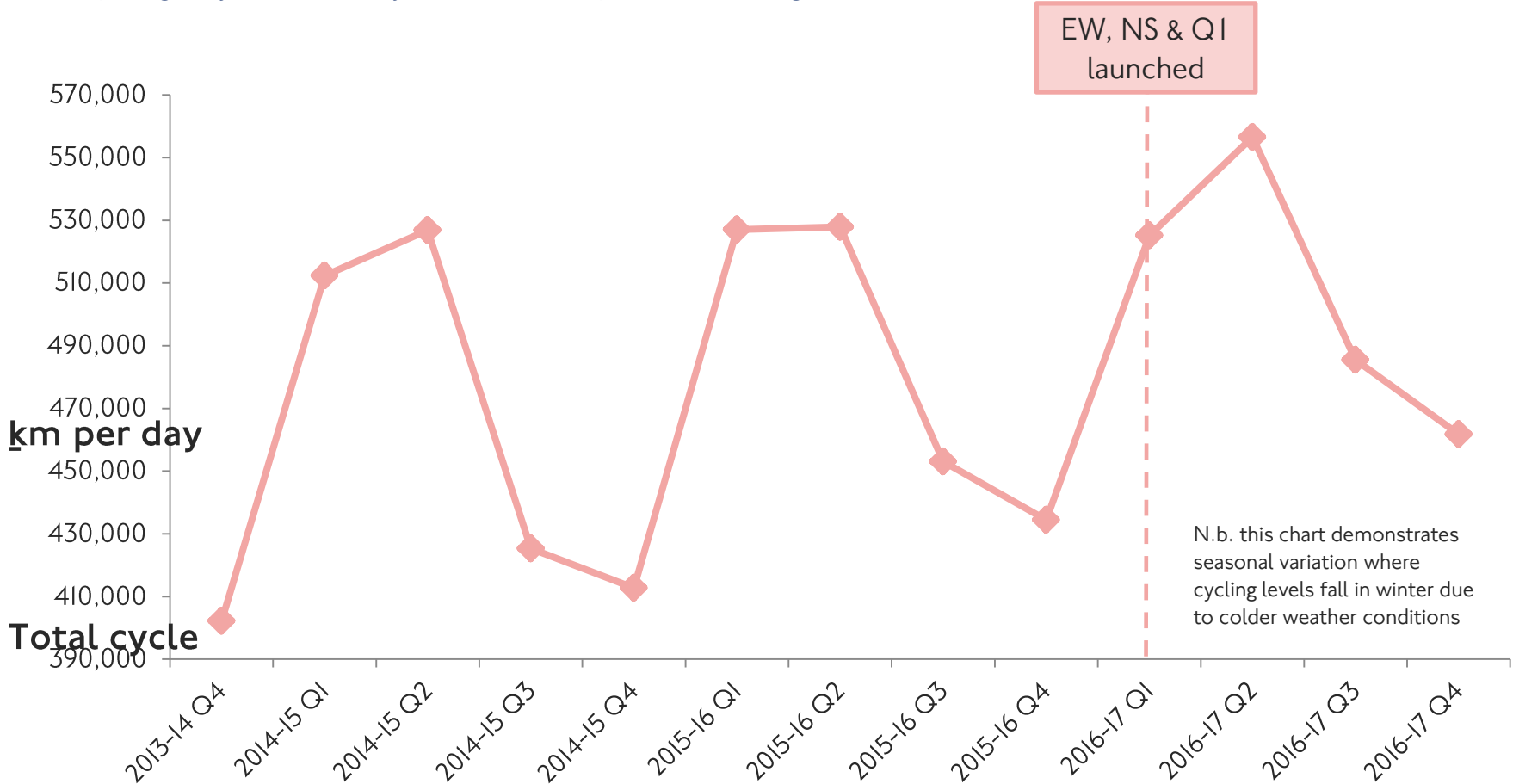
- There has been a 223% increase in cyclists entering central London during the weekday morning peak since 2000
- This has been accompanied by a 57% reduction in the number of people using the car

Figure 7.9 Trends by road based mode of transport for people entering central London during the weekday morning peak. Index year 2000=100.



Central London 'Cycling Metric'

- The central London cycling metric is a quarterly count of cyclists at 200 sites in central London
- A daily average of over 500,000kms were cycled in the congestion charging zone in 2016
- This is up 7.2% since 2014, when 467,000kms were cycled on average
- TfL's Superhighway and Quietway routes have helped to fuel this growth

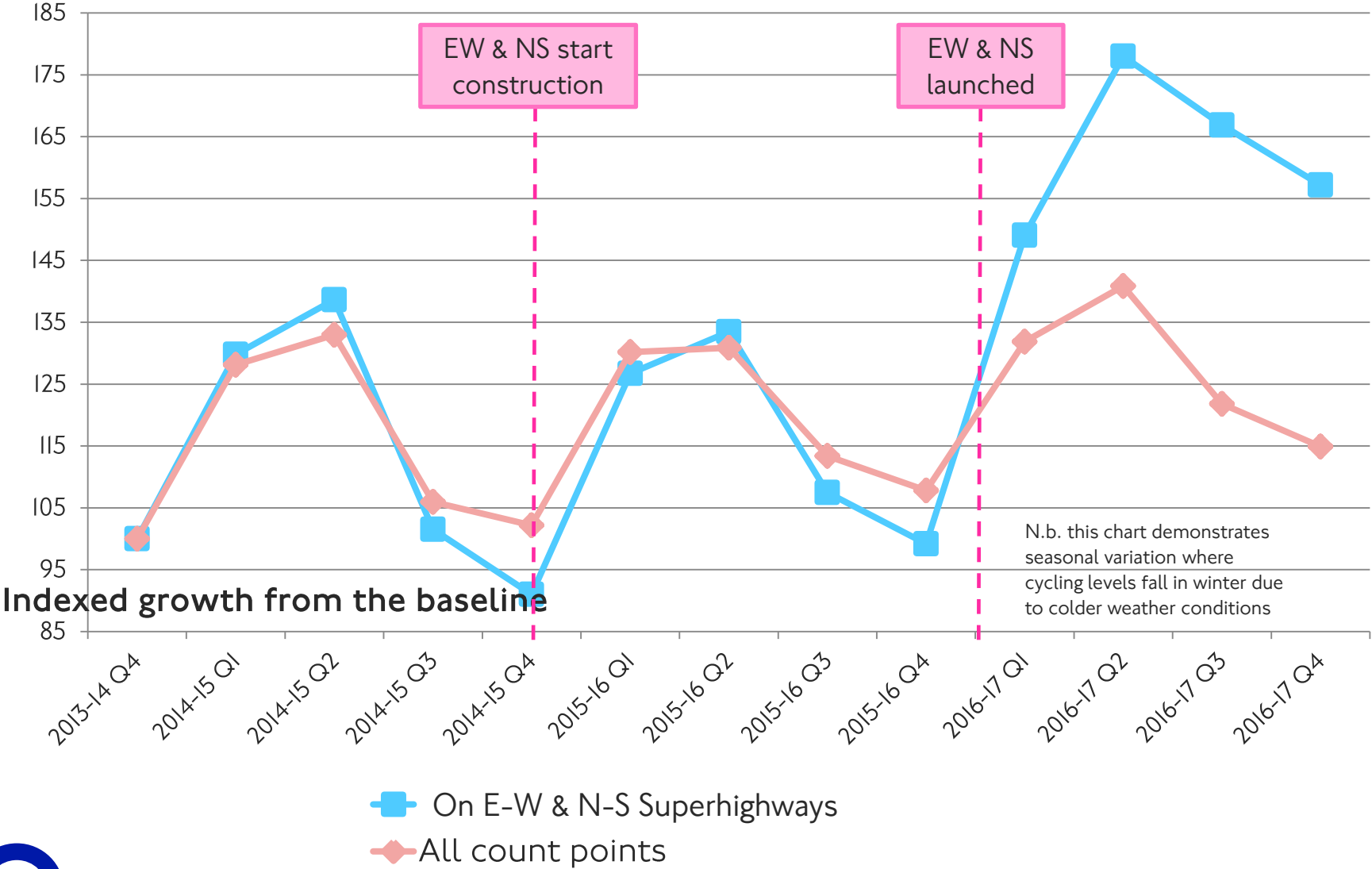


Latest Cycle Superhighway Monitoring Data

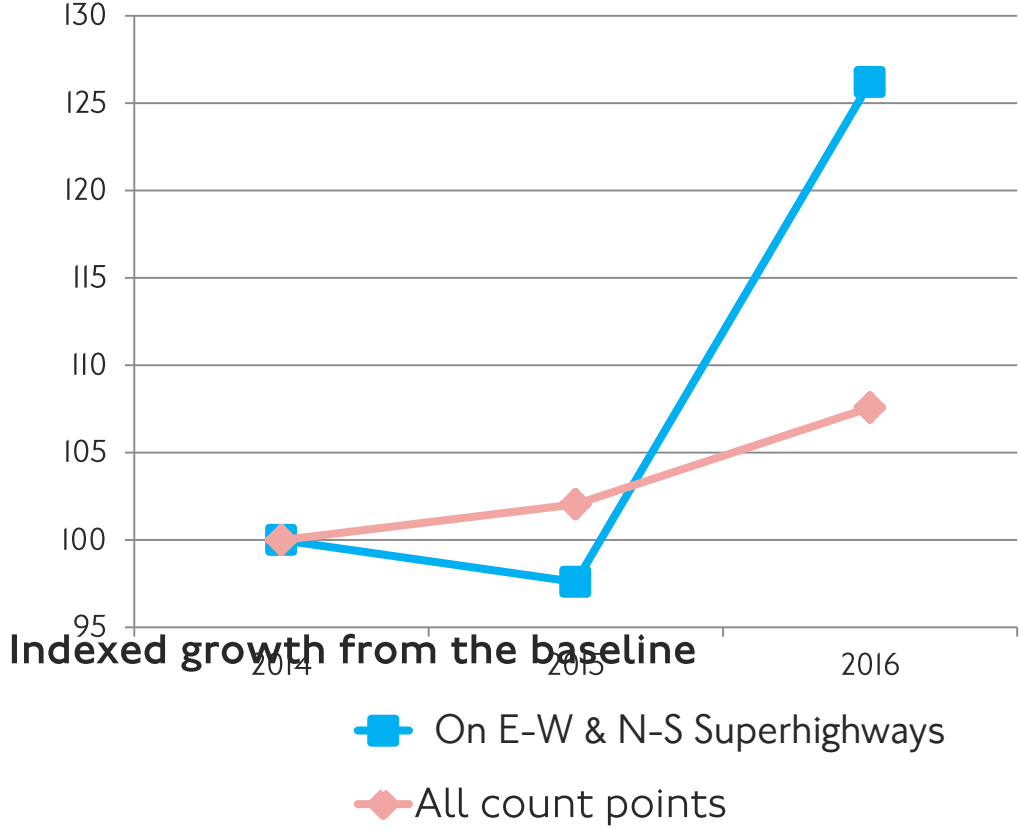
- We have seen significant growth in cycling on the Superhighways
- Latest count data from Autumn 2016 shows daily flows of:
 - 35,000kms on the East-West route from Parliament Square to Tower Hill
 - 17,000kms on North-South route from Elephant & Castle to Stonecutter St
 - This represents a 54% increase in cycle flows since 2014 on this section of E-W and 32% on this section of N-S
- Over 10,000 bikes per day (6am – 10pm) were recorded at 3 separate Superhighway sites (Temple, Kennington Park and Blackfriars Bridge)
- Over 5,000 cycles per day were counted at a further 16 Superhighway locations



Daily demand on East-West & North South Superhighways (within the congestion charging zone)

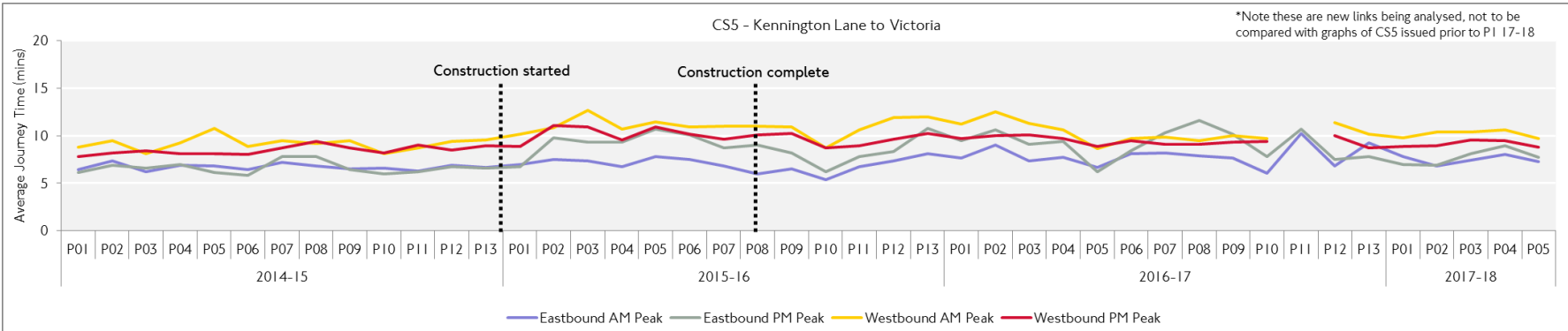
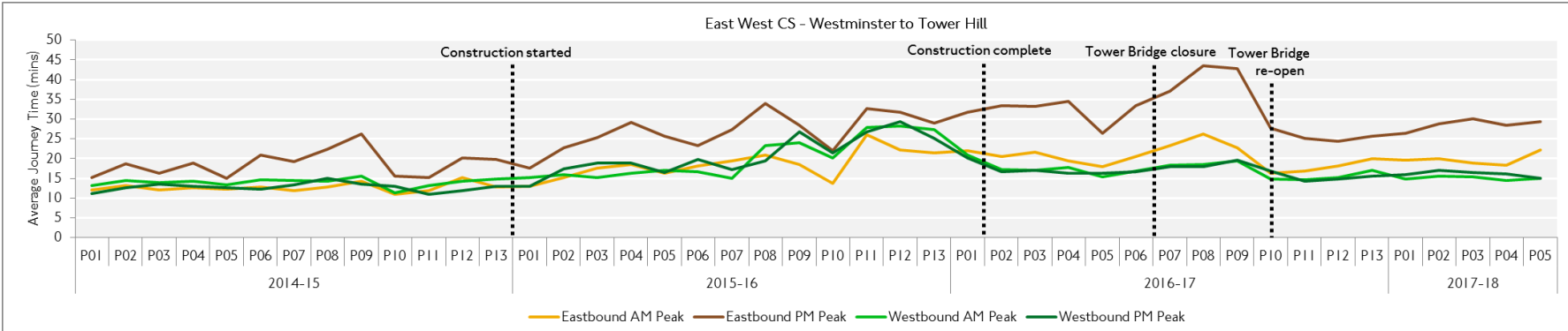


Daily demand within the congestion charging zone on E-W & N-S Superhighways has grown much higher than average



Journey times for general traffic

The London Congestion Analysis Project (LCAP) uses a network of ANPR cameras to capture journey time data on specific links. This can help us to track the changes in journey times for general traffic on Superhighway corridors:



LCAP conclusions:

- Superhighway construction phases caused temporary notable increases in journey times to general traffic
- Post-construction journey times have mainly returned to similar to pre-construction levels, with the exception of eastbound on the East-West Superhighway, which remain elevated particularly in the PM peak
- Insufficient data is available for the North-South Superhighway due to camera failures



Journey times for general traffic

Current on-street journey times can be compared back against modelled journey time predictions:

East-West Superhighway:

Direction	Modelled Journey Time	On Street Journey Time	Comments
Westbound AM	21 min	15-16 min	Further improved due to enhanced strategy and timing modifications
Westbound PM	15 min	15-16 min	On target
Eastbound AM	12 min	15-20 min	Expected due to junction changes included after traffic modelling
Eastbound PM	13 min	25-30 min	Expected due to junction changes included after traffic modelling

Eastbound journey times are expected to improve:

- Sections of East-West Cycle Superhighway are still under construction or bedding in
- Further schemes included in the modelling are yet to be built (e.g. Westminster Bridge Roundabout and Lambeth Bridge)

CS5:

Direction	Modelled Journey Time	On Street Journey Time	Comments
Westbound AM	10-13 min	10-13 min	On target
Westbound PM	10-13 min	7-10 min	On target
Eastbound AM	10-13 min	7-10 min	On target
Eastbound PM	7-10 min	7-10 min	On target

On street journey times for CS5 broadly correspond with modelled journey times



Journey times for general traffic

A number of strategies are being employed to help mitigate against journey time delays:

- Ongoing discussions with local authorities and key stakeholders to identify opportunities for improvements along the routes
- Signal strategies have been configured to improve journey times
- 'Traffic SCOOT' has been implemented on the Superhighway routes – our adaptive system for optimising signal timings according to live traffic demand
- 'Cycle SCOOT' is to be installed at key locations to optimise signal timings for cyclists when required, but return time to buses/traffic when possible
- 'Call Cancel' is available to reduce unnecessary delay to traffic (e.g. a pedestrian stage can be cancelled if waiting pedestrians complete their crossing during the traffic stage)



Road Space Efficiency

Transport authorities must ensure road networks are managed effectively to minimise congestion and disruption to vehicles and pedestrians....

BUT we must remember:

1. People who walk and cycle count as traffic
2. Sustainable modes are the most efficient
3. Roads must be managed in the context of Borough and Mayoral public health duties



We can keep traffic moving by reducing car use and shifting to sustainable modes

The road space required to transport 67 people:



Bus



Cycle



Car

Road Space Efficiency

Roads with Superhighways move more people than before

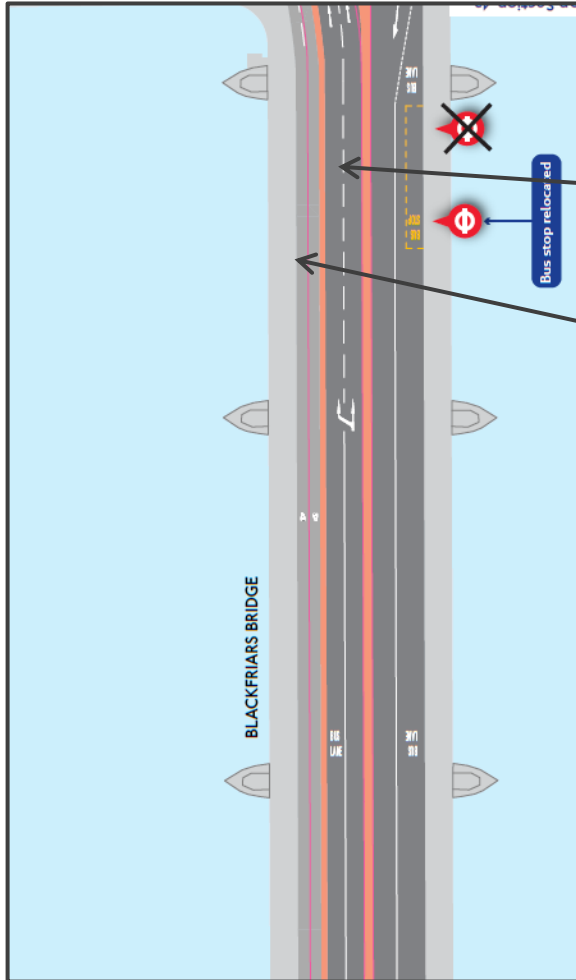
- Sections of the North-South Cycle Superhighway are already among the busiest cycle lanes in the country, with well over 2,000 cyclists in the northbound direction during the peak hour
- New East-West and North-South cycle infrastructure are able to carry nearly 50% of the route's people throughput at key congested locations despite occupying only 30% of the road space (as per TfL transport models)
- Since opening, the East-West and North-South corridors are already moving **5% more people** per hour than they did without cycle lanes (as per initial monitoring)

More efficient use of road space

- TfL monitoring programme data shows that the North-South Cycle Superhighway at Blackfriars Bridge is able to move 5 times as many people as the adjacent main carriageway lane, even in a dense, congested urban environment (assuming the current ratio of private vehicles to buses)



Road Space Efficiency



Case Study – Blackfriars Bridge: Morning peak-hour (08:00-09:00)

- Main carriageway in the northbound direction moved on average 1,542 *people per hour*
- Cycle lane in the northbound direction moved on average 1,938 *people per hour*, exceeding the capacity of a general traffic lane

Efficient use of road space

- The cycle lane moved as many people as would be moved in 2.5 *general traffic lanes*, equivalent to an extra 1,400 private vehicles or 22 London Buses
- Given that the cycle lane takes up about as much space as half a standard traffic lane, this means that overall they are 5 times more efficient at moving people (assuming the current ratio of private vehicles to buses, etc.)



Business Support for Superhighways

- ‘Cycling Works’ is a network of over 160 employers who came together to support plans for segregated Superhighways in central London
- Chief executives from the finance, technology, law, media, and healthcare stated their support and that cycling and segregated lanes are good for employees, businesses, and London

“Like many businesses, a growing number of our 1500 employees in London cycle to work. An even larger proportion of our team would cycle to the office if they felt comfortable and safe on the roads. We value their safety and we want to promote active lifestyles for all our employees. We support their freedom to choose how they get to work. We also note strong evidence that more cycling increases spending in local retail businesses and lowers air pollution levels. The proposed north-south and east-west routes will help us attract and retain the employees our business needs to continue to thrive. They will also make London a more attractive city in which to build and run our business.”

John Ridding, CEO, Financial Times



“As it stands, too many of those who commute by bike today have had close calls where cycles and motor traffic mix. We want the commutes of all our staff to be comfortable and safe and the Cycle Superhighways will be a big step toward that goal. Our network of offices in the capital will be knitted together by the Cycle Superhighways, and our employees will benefit considerably once they are completed. We look forward to using the protected routes to help us attract and retain the people we need to continue to thrive. Other cities that have invested in segregated cycling infrastructure have seen dramatic increases in cycling and reductions in injuries as a consequence. We want to see the same benefits here in London.”

CEO of Microsoft UK, Michel Van Der Bel



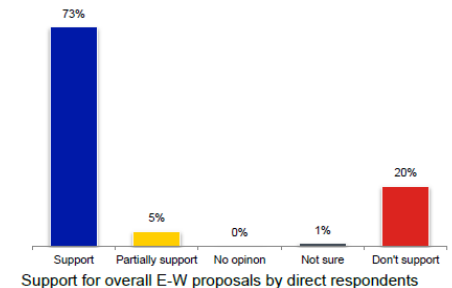
CyclingWorks



EVERY JOURNEY MATTERS

Public Support for Investment in Cycling

- A March 2016 YouGov poll commissioned by British Cycling, found that 71% of people support building cycle tracks on main roads, with 11% unsure and just 18% opposed
- Support was consistent across social grades, gender, age groups and political preferences and remains above 70% even when asked to consider a potential delay to their existing commute
- An October 2015 survey of 11,000 people carried out by Sustrans and seven major UK cities, found that 75% want national government to increase cycling investment
- Respondents expected an average of £26 per person to be spent on cycling annually across the UK (compared to £10-15 spent in London in recent years)
- 71% of those who never cycle still backed an increase, rising to 87% among frequent cyclists
- The September 2014 public consultation of the East-West Cycle Superhighway received a total of 8,847 direct responses. The majority of these supported the overall proposals, with 73% fully supporting and 5% partially supporting the scheme
- The North-South Superhighway consultation ran at the same time and received 6,309 direct responses, with 86% fully supporting and 3% partially supporting the proposals
- More than 5,650 emails were also submitted in support of both schemes using a template on the London Cycling Campaign website. With these, the overall full support rate for NS was 93% (11,998 responses) and for EW was 84% (14,497 responses)



Conclusions

- Cycling in London is a major form of travel in the capital. Growing cycling, as a space-efficient mode, will be important to enabling London's transport network to accommodate a growing population in future.
- The impact of the new high quality segregated cycling infrastructure that has been provided in London in recent years is largely positive, with significant increases in the number of people now cycling on these routes.
- It is noted that there were significant impacts on delay to general traffic and London buses during the construction period of new cycle schemes. In most cases, the delay experienced has declined following completion of construction.
- In addition, lessons have been learnt about the scale and pace of delivering such significant schemes in relatively constrained geographic areas at the same time, with more staggered delivery now taking place.
- Overall the delivery of the new cycling infrastructure has been broadly welcomed by London business and the public, and current cycling schemes out for consultation continue to experience very strong public support (e.g. >70% positive).

