

Re-thinking

Construction Logistics

**All-inclusive approaches
safer, considerate, efficient and
a better environment for everyone!**



Contents

- Importance of good planning
- Considering and valuing people
- underground freight
- over-ground freight



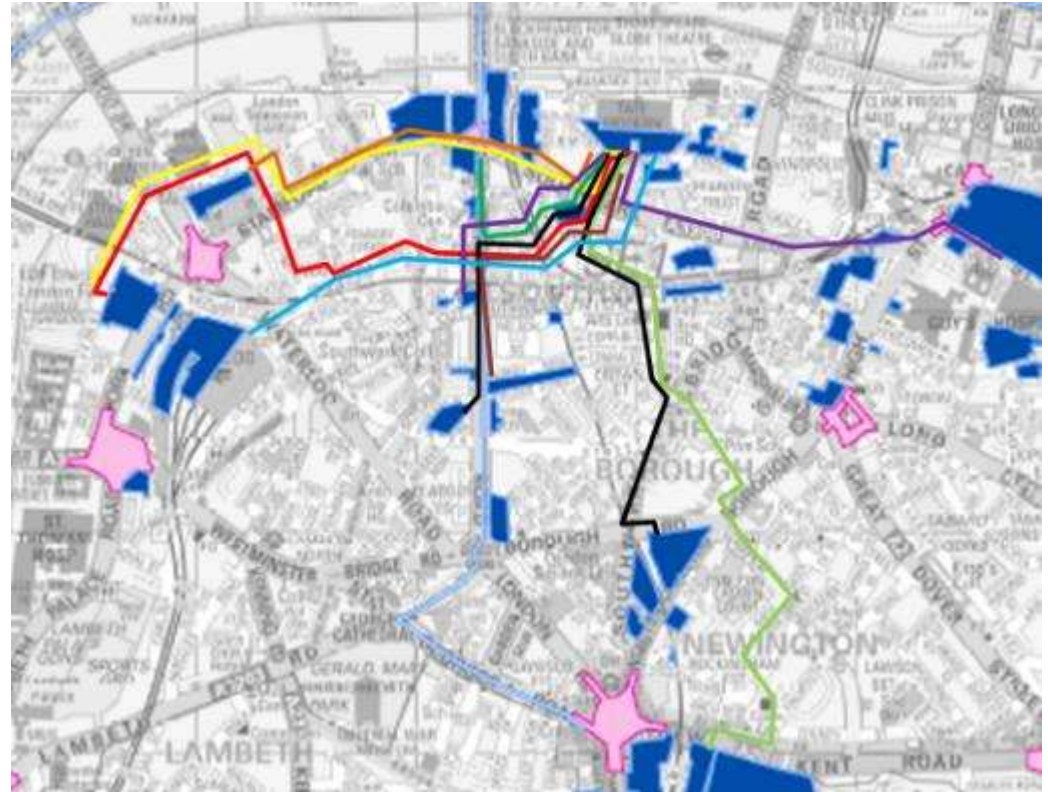
Underground freight

Importance of highway resilience

- Roadworks can cause congestion and delay



**Local development
Power requirements
Then add water, gas,
comms and adjacent
works in the mix.**



Designing for the 20% should come first

Considering Monica, Pete and Dave



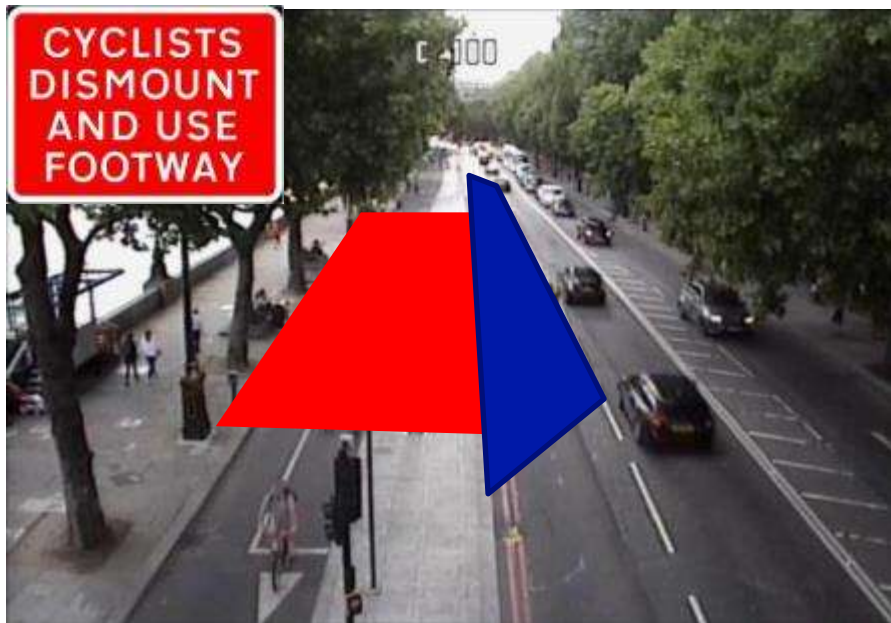
20%



Equality Act 2010 (sec 20-22)

'Not to put a disabled person at a substantial disadvantage compared to a non-disabled person'





Considering Isabelle and Kevin

There are often opportunities to allocate space for everyone



Tunnelling



- Pipe Jack
- 16 Week Saving during works
- No incursion
- Supply future developments

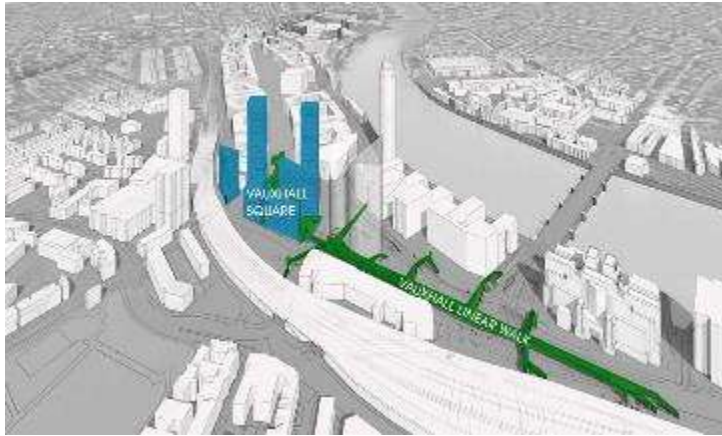


Baylis Rd

- 400m single trench costs approx. £250,000 per visit.
- Saves eight visits

Linear Park

- Avoiding carriageway works



Future proofing

London's abandoned pipe network

- Working with utilities on how to utilise opportunity

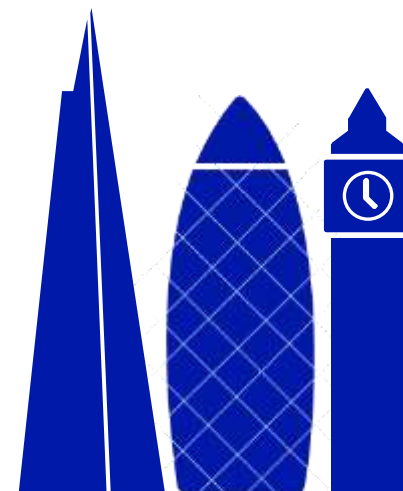


Considering Marshals and Drivers

- Fatalities involving HGVs - 25% pedestrian & 60% cyclist
- 20% of collisions are associated with stress*
- Mental health and wellbeing
- 10% savings from efficient driving (McKinnon)

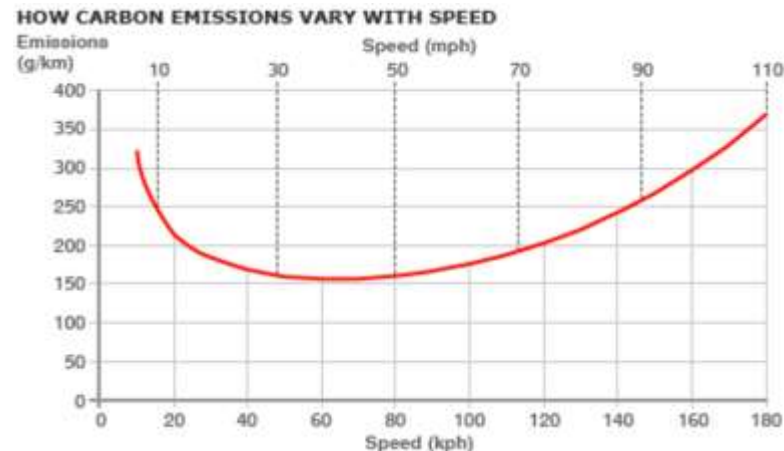
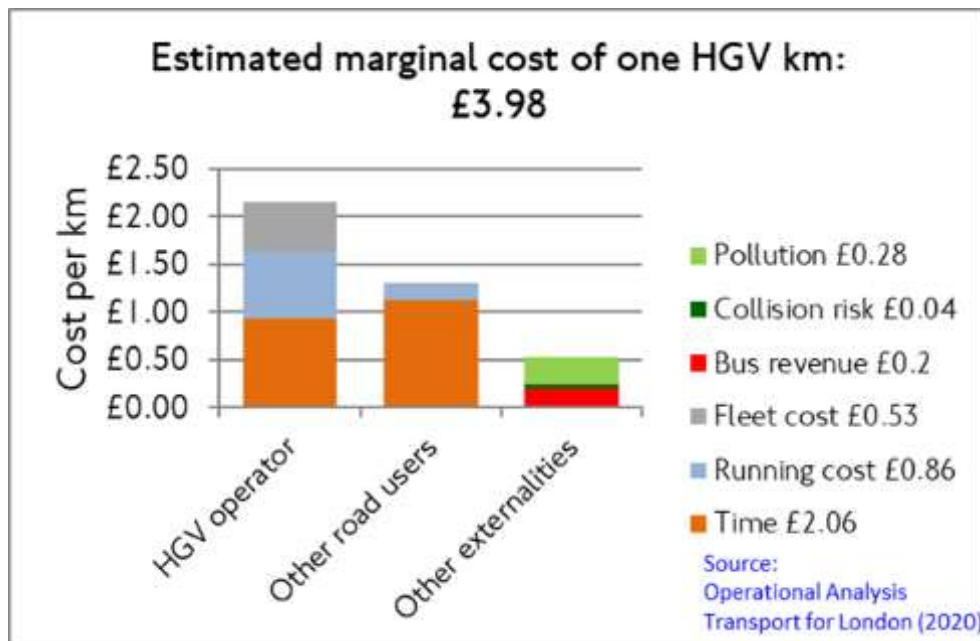
*European Transport Safety Council

John and Sarah (fictitious for presentation)



Showing the benefits

Network cost savings



**8 wheeler (12L) Euro6 (32t gross)
30kph average**

CO₂ 770 g/km
NO_x 0.5 g/km
PM10 0.006 g/km

Idling/standing approx. 4 l/hr

Data based on EFT (Copert 5) speed based emissions factors for NO_x and PM10
Dft Co2 emissions factor. Idling costs (£) E3Fleet calculator



Recycling materials

18 Blackfriars site



Piling Mat (6f2) – 7000m3

Approx. 20km to Days Aggregates



On road savings

Trips	= 3749
Distance	= 74,978km
CO2	= 58 tonnes
NOx	= 38kg
PM10	= 450g
Network savings	= £298,412



Construction inefficiencies



- Safety concerns
- Congestion & Pollution
- Costs



Idling – 3 x vehicles up to 30mins reported
Poor traffic marshalling





- Designing for:
- Isabelle
 - HGV Drivers
 - Everyone else

**Avoiding 5 HGVs - 2km loop (15mins) = 5000km
(5 day wk, 50wk yr, 2yr programme)**

CO₂	= 3.9tonnes
NOx	= 2.5kg
PM10	= 30g
Time	= 625 hours
Network saving	= £19,750

Idling (3 x HGVs – 90mins p/day)

Costs (PA) = £873.00



13 Resting drivers and regulating vehicles



- On-road holding
- Sharing opportunities
- Early doors
- Off-road holding



18 Blackfriars Rd – resurfaced piling mat



Its all about Errol



The Welfare van

We forgot about winter
Errol was concerned
HVO to reduce emissions

Claimed 90% reduction



HVO - Hydro-
treated Vegetable
Oil

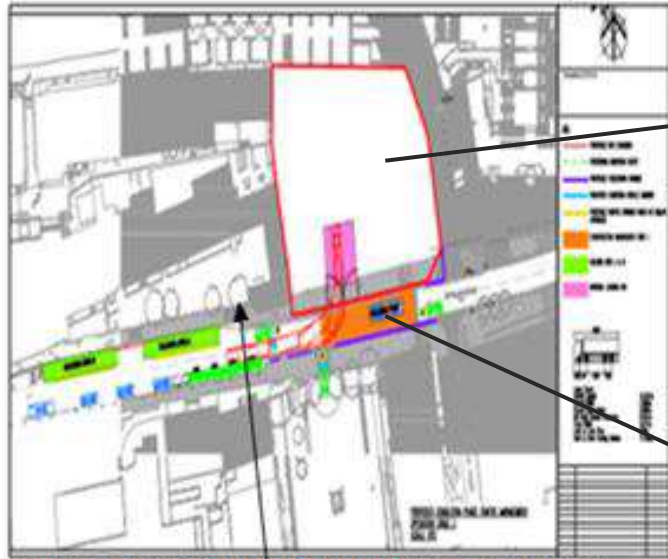


Empowering marshals

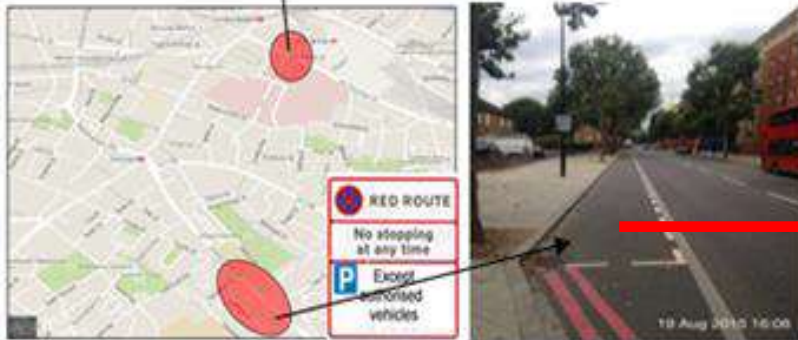
- Training
- Champion roles
- Valuing people



Shard Place – case study
zero loops, efficiency, to
programme, safe and secure



St Thomas Street Holding and Manoeuvring zones

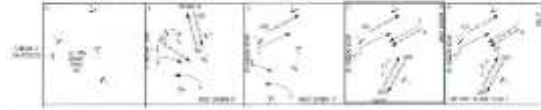


Great Dover Street inset holding area

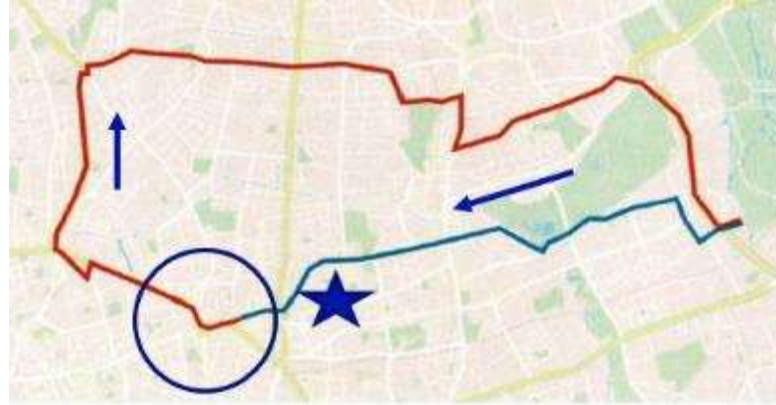
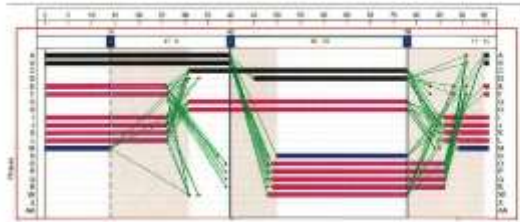


Investigating opportunities – signal timings

Method of Control at 04/036 - Great Eastern Street – Old Street – Pitfold Street – Tabernacle Street



Signal timings at 04/036 - Great Eastern Street – Old Street – Pitfold Street – Tabernacle Street



Art Otel Route assessment

left in left out
using signal data



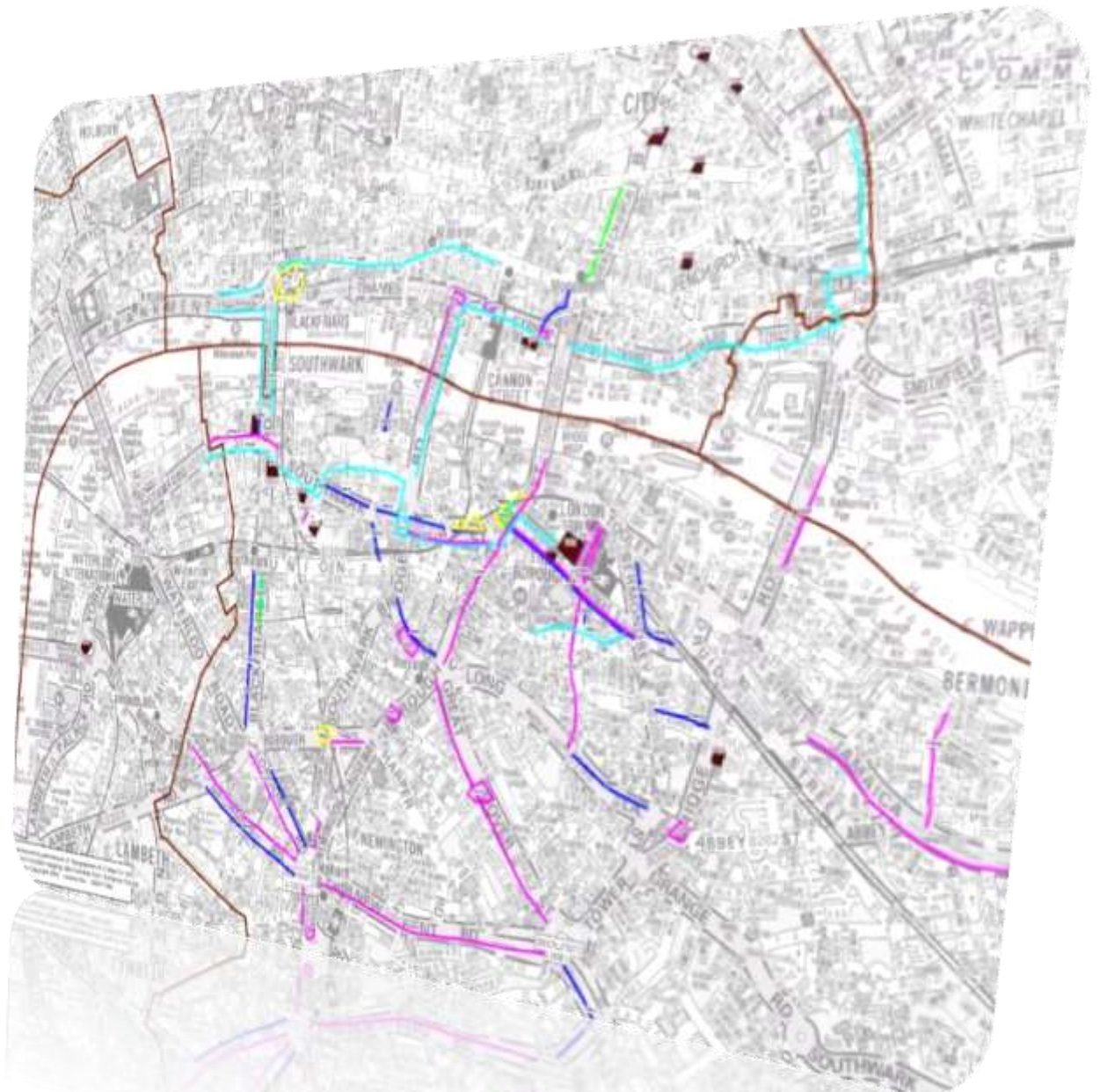
Each week - average saving:

Driver time	= 31 hrs time
Distance	= 458km
CO2	= 320kg
NOx	= 229g
PM 10	= 2.8g
Network Savings	= £1821.



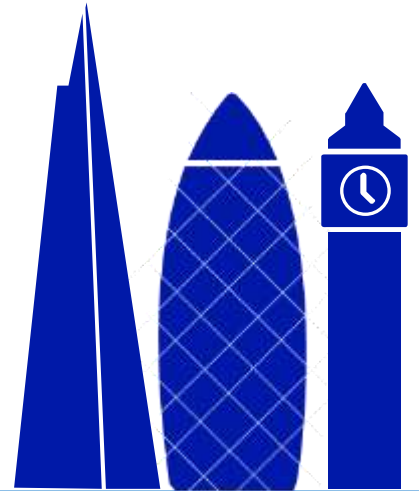
WORKING GROUP

- Collaboration
- Awareness of works
- Coordination
- Strategies
- Sharing opportunities
- Monitoring
- Local community
- Local business
- Emergency services



Incorporating sustainable transport

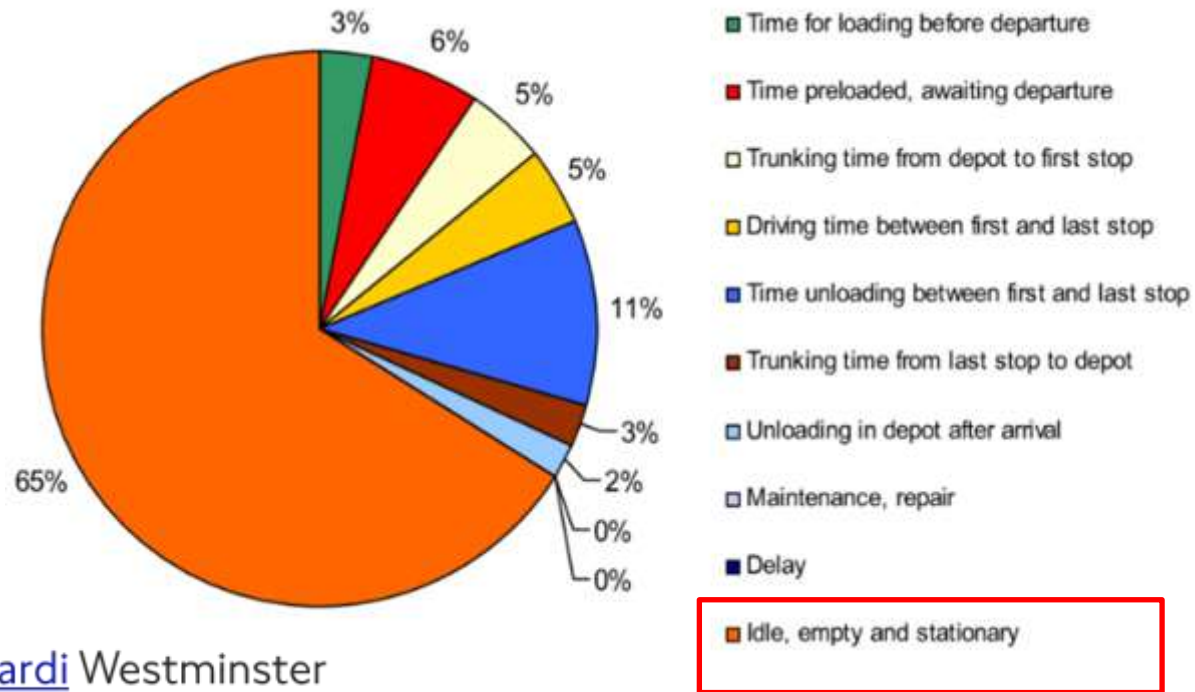
- Mayor of London wants to reduce Vans and HGVs by 10%
- 221,000 registered vans in London
- More cycle infrastructure being constructed





221000 registered vans in London

Many under utilised



Jacques Leonardi Westminster





Cargo bikes

Max output - 250w pedal assist
Carry up to and over 140kg
Can use cycle infrastructure



Introducing Cargo bikes
trying it for themselves

Over 20 companies to date



Delivering hydrogen cylinders to the TfL Highbury Project

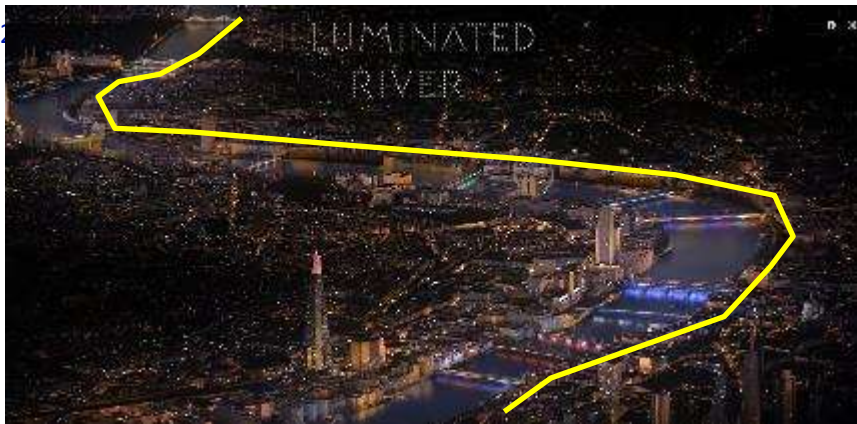


Mace, Sir Robert McAlpine and Structure Tone sharing a loan bike



Lambeth Council signs and PPE delivery





FM Conway introduction Illuminated River Project

“you cant use a bike for construction!”



Are routes suitable



Lots to compete with....



25 Route & risk assessment



FM Conway – 1st constructor



Purchased 2 x bikes

**Over 5600km to date
CO2 = 1 ton***

Delivered:

- Lighting equipment
- Brackets
- PPE
- Traffic cones
- Signs
- Food parcels

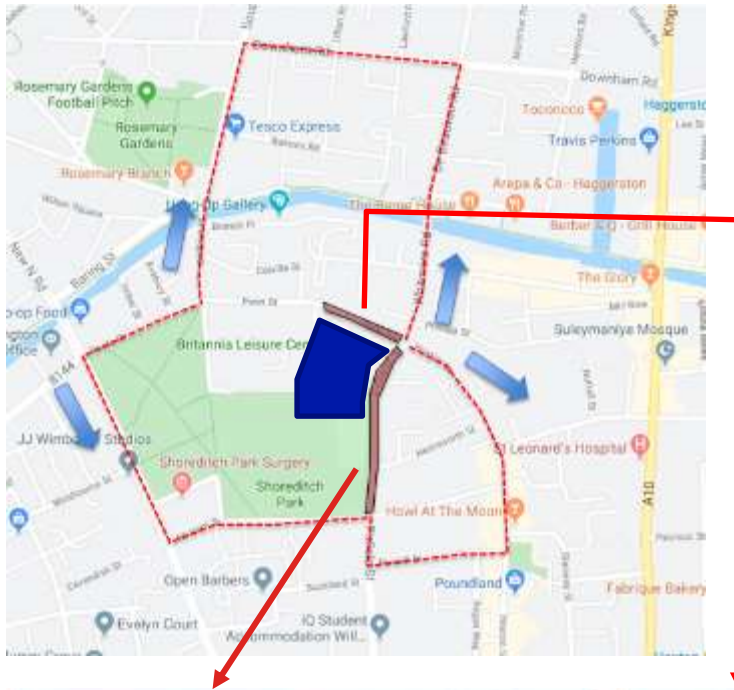
*(Van 200g/km)



TfL & Hackney Council Logistics collaboration

Road closures to facilitate:

- Segregated HGV loading areas
- Segregated cycle route



- Regular deliveries
- Dedicated loading area
- Bespoke cargo bike loading sign
- Marshals trained to manage bikes



Ensuring Standards

Collaborating with councils, the industry & Met Police

Looking at training consistency

Working Group

Drafting guidance



Master Planning

Setting up all of the above strategies in advance





If we all go above and beyond, above and beyond becomes business as usual!

Michael Barratt MBE

