LONDON STUDY VISIT

Classroom Session by EPN Consulting Ltd.

London, 18th September 2017
EPN Consulting, the S.T.R.E.E.T. Project and the London Study Visit

London – the UK capital and the largest EU capital

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London – the M25 and other motorways

London – the Airports

London – the Integrated Public Transport System
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  • Overground
  • DLR
  • Trams
  • Trains
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  • Thames Clipper River Buses
  • Coaches
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London – Additional Mobility Services: Car Sharing schemes

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• Walking

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London – Transport/Travel Maps

London – Measures to reduce polluting emissions of private vehicles (cars, motorbikes, lorries, HGVs, coaches, etc.)
• Parking facilities
• Congestion Charge
• LEZ (Low Emission Zone)
• T-Charge (Toxicity Charge)
• ULEZ (Ultra Low Emission Zone)
London is the capital of the United Kingdom (UK).

The UK includes Great Britain (GB) and Northern Ireland.

Great Britain includes: England, Wales and Scotland that have some autonomy, thus they are called “countries”.

London is situated in the South East of England, lying astride the River Thames some 50 miles (80 km) upstream from its estuary on the North Sea.

Historically, London grew from three distinct centres: 1) the walled settlement founded by the Romans (Londinium) on the banks of the Thames around 43 AD, today known as the City of London, “the Square Mile,” or simply “the City”; 2) facing it across the bridge on the lower gravels of the south bank, the suburb of Southwark and 3) a mile upstream, on a great southward bend of the river, the City of Westminster.
London – the UK capital and largest EU capital

VIDEO
https://www.youtube.com/watch?v=6mjXCj2-c6k
London – the UK capital and largest EU capital
London – the UK capital and largest EU capital

London is organised in 33 local governments districts: 32 Boroughs and the City of London

The County of Greater London was created on 1st April 1965 and was consequently re-established as a region in 1994.

The Greater London Authority responsible for strategic local government across the region was formed in 2000 and consists of the Mayor of London and London Assembly.

Size of the Greater London area: 1,572 square km (607 square miles)

Population of Greater London in mid 2011: 8,204,000

Population of Greater London in mid 2015: 8,674,000

Estimated Population of Greater London in 2025: 9,800,000
London – the Boroughs
London – the M25 and other motorways

VIDEO
Do you live in London?
https://youtu.be/grZ6371HcJE

VIDEO
What’s your London postcode?
https://youtu.be/gOaOr1KWa9w
London – the Airports

- Luton: 24 mins
- Stansted: 47 mins
- Heathrow: 15 mins
- City Airport: 22 mins
- Gatwick: 30 mins
- Southend: 53 mins

LONDON
London – the Integrated Public Transport System

London has an extensive and developed Transport Network which includes both private and public services and covers all boroughs.

Journeys made by Public Transport systems account for 25% of London's journeys.

London’s Public Transport network serves as the central hub for the United Kingdom in rail, air and road transport.

Public Transport services are dominated by the executive agency for transport in London: Transport for London (TfL). TfL controls the majority of public transport, including the Underground (the Tube), Buses, Tramlink, the Docklands Light Railway (DLR), London River Services and the London Overground.

Other rail services are either franchised to train operating companies by the national Department for Transport (DfT). TfL also controls most major roads in London, but not minor roads.
The London’s Integrated Public Transport System includes:

1. Underground (the Tube)
2. Buses
3. Overground
4. DLR (Docklands Light Railway)
5. Tram
6. Trains
7. Emirates Air Line cable car
8. Bike sharing scheme
9. River buses
10. Coaches
11. Dial-a-Ride buses
12. Car Sharing schemes

Plus:
- Taxis
- Uber
The London Underground (aka “the Tube”) runs 11 services whose 5 (Victoria, Jubilee and most of Central, Northern and Piccadilly) run 24h/24h on Friday and Saturday.)
London – the Underground (the Tube)
London – the Underground (the Tube)
The London Bus fleet accounts for 9,300 vehicles (single and double decker) assigned to 675 routes and serving 19,000+ stops.

Real-time situation through several apps and on Twitter: @TfLBusAlerts
London’s bus network is one of the largest and most comprehensive urban transport systems in the world with 6.5+ million journeys being made on London’s buses every week day. 

A need to improve information to London bus passengers was identified and in 2005 a state-of-the-art Automatic Vehicle Location (AVL) technology system and comprehensive telecommunications was installed across the London bus network. This is called iBus.

iBus uses a combination of technologies including satellite tracking, iBus can pinpoint the location of buses, relaying information between the driver, garage and central control point.

Thanks to this passengers can have the next bus information:

• online (not only for buses) https://tfl.gov.uk/travel-information/stations-stops-and-piers/
• by text msg: sending a text to 87287 (for UK mobile numbers) with your bus stop code you will receive a reply with real-time bus arrival information for that stop. From overseas networks, use +44 7797 800 287
• at bus stops
London Overground was launched in 2007.

There are six London Overground routes that, together, form an **outer London orbital network**:
- Richmond/Clapham Junction to Stratford
- Watford Junction to Euston
- Gospel Oak to Barking
- Highbury & Islington to West Croydon/Clapham Junction
- Liverpool Street to Enfield Town, Cheshunt (via Seven Sisters) and Chingford
- Romford to Upminster

The London Overground serves 112 stations
- It travels through 23 London boroughs, as well as southern Hertfordshire
- More than 189 million people used the Overground in 2016/17, compared to 33 million in 2008/09
London – Overground

Twitter: @LDNOverground
The Docklands Light Railway (DLR) is an automated light metro system opened on 31 Aug 1987 to serve the redeveloped Docklands area of London. It reaches north to Stratford, south to Lewisham, west to Tower Gateway and Bank in the City of London financial district, and east to Beckton, London City Airport and Woolwich Arsenal.

There are 7 lines and 45 stations. In 2016/17 122+ million passengers used this service.

London DLR30 is a touristic initiative to celebrate 30 years of DLR service. There is a map describing areas of London to be discovered while travelling on DLR services; [https://londonblogtfl.files.wordpress.com/2017/07/dlr30-leaflet-and-map4.pdf](https://londonblogtfl.files.wordpress.com/2017/07/dlr30-leaflet-and-map4.pdf)

The area surrounding the DLR has a rich heritage and is filled with state-of-the-art venues, all of which can be seen when travelling on the DLR. Now it is possible to make the most of journeys with a guided tour of these areas with audio guides specifically created for each of the five services: [https://tfl.gov.uk/modes/dlr/dlr-audio-guides](https://tfl.gov.uk/modes/dlr/dlr-audio-guides)
London – DLR (Docklands Light Railway)

Twitter: @LondonDLR
Currently there is one London tram service and this is the Croydon Tramlink. The current tram system has been in operation since May 2000.

It has 38 stops along 27 kms (17 miles) of track.
London – Trams

Croydon
London – Trains

London has a very dense network of rails and a lot of train stations.

Main train stations in London are:
• Victoria
• Paddington
• Liverpool Street
• King’s Cross
• St Pancras Int’l
• Euston
• Waterloo
• Charing Cross
• Fenchurch Street
• London Bridge
• Vauxhall
• Tottenham Hale
• Stratford
• Wembley
• Woolwich Arsenal

Some of them are part of the **Suburban trains network** and some others offer connections with the London airports (in bold express services).

**St Pancras International** is the station where depart/arrive the **EUROSTAR services** to/from
• Paris (Gare du Nord)
• Brussels (Midi/Zuid)
• Amsterdam *(NEW, by Christmas 2017)*
Specific Train services offering fast connections to London airports are:

- **Gatwick Express** – departing from Victoria to Gatwick Terminal South
  https://www.gatwickexpress.com/

- **Stansted Express** – departing from Liverpool Street
  https://www.stanstedexpress.com/

- **Heathrow Express** – departing from Paddington to Heathrow Terminals T2, T3, T5 and T4 (free transfer from T2,T3)
  https://www.heathrowexpress.com/
London has been working on a brand-new rail infrastructure and service known as **Elisabeth Line** (aka **Crossrail**: [http://www.crossrail.co.uk/](http://www.crossrail.co.uk/)).

The Elizabeth line is a new railway that will stretch more than 60 miles (96 kms) from **Reading** and **Heathrow** in the West, through tunnels under Central London across to **Shenfield** and **Abbey Wood** in the East.

The central tunnels will open in December 2018. The new service will stop at 40 accessible stations - 10 newly built and 30 newly upgraded.

When fully open in 2019, the Elizabeth line is expected to carry more than half a million passengers a day, around 200 million every year.

**VIDEO:** [https://www.youtube.com/watch?v=S36fHqXWKdw](https://www.youtube.com/watch?v=S36fHqXWKdw)
London – Trains

Elizabeth line - December 2019

[Map of the Elizabeth line in London, showing train stations and routes.]

STREET

Erasmus+
London – Emirates Air Line Cable Car

Emirates Air Line crosses the River Thames between Greenwich Peninsula and the Royal Docks, just five minutes from the O2 by North Greenwich Tube station.

Cabins arrive every 30 seconds and flights are approximately 10 minutes each way.
MBNA Thames Clippers are the fastest & most frequent fleet on the river with departures from major London piers every 20 minutes.

There are 5 River Bus services stretch from 21 piers between Putney and Royal Arsenal Woolwich catering for all: from early morning commuters to families wanting a day out on the river.

Having grown from a one-boat operation in 1999 to a fleet of 15 catamarans, they now carry over 3.8 million passengers a year.

Twitter: @thamesclippers
London – Thames Clipper River Buses

Route map key:
- RB1 – Stopping service
- RB1X – Express service
- RB1/RB5 – Limited service
- RB2 – Tante to Tante service

Emirates Air Line
Canary Wharf
Pier in both Central and East Zones

RB4 – Doubletree Docklands Ferry

Underground
Docklands Light Railway
National Rail
Santander Cycle Hire

All our boats are wheelchair accessible
All our piers are wheelchair accessible except for London Bridge, Wandsworth Riverside Quarter and Cadogan Piers
Mobility scooter users must join our Mobility Scooter Recognition Scheme in advance of travel.

Bikes are permitted

Please see timetable for details.
Large fleets of coaches connect London to its airports, a large number of UK cities and a good number of European cities (through Eurolines).

Coach belong to different private companies whose main are National Express and Megabus and as far as UK-based companies are concerned.

Coaches depart from the Victoria Coach Station in London Victoria, very close to the Victoria Railway Station.
London – Coaches
To use a dial-a-ride service a person must have a permanent or long-term disability which means one is unable to use public transport some or all of the time. A person is automatically eligible for membership if s/he is:

- A Taxi-card member
- Getting the Higher Rate Mobility Component of Disability Living Allowance
- Getting the Standard or Enhanced Mobility Rate of the Personal Independence Payment (PIP)
- Registered blind or partially sighted
- Aged 85 or over
- Getting a Higher Rate Attendance Allowance
- Getting a War Pension Mobility Supplement
In the coming years, London faces challenges of population growth, congestion and the environment. Car clubs provide a cost-effective and flexible alternative to owning a car, and can help tackle these challenges.

Joining a car club provides the convenience of owning a car without the hassle or costs of repairs, servicing or parking. Members can book cars locally for just an hour, up to a whole weekend, or longer.
Bike sharing scheme (currently sponsored by the Santander bank) – https://tfl.gov.uk/modes/cycling/santander-cycles

VIDEO: https://youtu.be/TQQIyskZAys

Twitter: @SantanderCycles
London – Bikes/Cycling

**Cycle Superhighways (8 routes open)** – Cycle Superhighways are cycle routes running from outer London into and across central London.

They give you safer, faster and more direct journeys into the city and could be your best and quickest way to get to work.

London – Bikes/Cycling

Cycle Street Journey Planner (National level) – [https://www.cyclestreets.net/](https://www.cyclestreets.net/)
London – Bikes/Cycling

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There were invested £9.12m (€9.85m) into the Mayor’s Walk London Network, creating seven high-quality pan-London walking routes for all Londoners.

Over 7m people walk on the network each year, a 93% increase in walkers using the routes in just five years.

These seven routes form the Walk London Network, one of the largest walking networks of any city in the world. These routes are specifically designed to be easily accessible by public transport and one can walk as little or as far as one wants by walking them in sections.

They are as follows:
1. Capital Ring Walk
2. Green Chain Walk
3. Jubilee Greenway
4. Jubilee Walkway
5. Lea Valley Walk
6. London LOOP
7. Thames Path
London – Fares and Payments
Ticket fares in London depend on how fare one travels: the farther the more expensive.

There are 9 fare zones. If you use contactless means of payments you will be charged adult-rate pay as you go fares. These are cheaper than buying paper single tickets.

The best fare are calculated for each day or week, depending on where and when you have travelled, by:
- Adding up the cost of all the journeys you make each day and applying a daily cap if appropriate
- Adding up the cost of all the journeys you make in a week and applying a weekly cap if appropriate.

What is capping? Capping is a feature of pay as you go which allows you to make a number of journeys in a single day but limits the amount you pay for your travel. Each time you make a journey, you are charged a fare. Once the total cost of all your fares reaches a certain amount you won't have to pay for any more journeys for the rest of the day.

Daily caps are calculated over a 24-hour period, covering all the journeys started between 04:30 and 04:29 the next day.
London – Fares and Payments

Pay As You Go (PAYG) fare is £1.50 with contactless or Oyster on **all London Buses** that display the red roundel shown on the right. Touch your contactless card/device or Oyster card on the yellow card reader when you board the bus. Don't touch out when you get off.

Pay as you go for £1.50 with contactless or Oyster on **all Trams in London**. Paper single tickets are available from all ticket machines at tram stops for £2.60.

**Hopper fare** (launched in 2016) - Two bus or tram journeys for the price of one.

Make a journey using pay as you go (contactless or Oyster) on a bus or tram, and you can now make a second bus or tram journey for free within one hour of touching in on the first bus or tram. You must touch in **using the same card** on the second bus or tram. The free fare will then be applied automatically.
## London – Fares and Payments

### Adult rate prices: All Tube, DLR, London Overground and TfL Rail services and National Rail services in Z1-9

<table>
<thead>
<tr>
<th>Zone</th>
<th>Pay as you go</th>
<th>Travelcards</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Daily Anytime</td>
<td>Day Anytime</td>
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<tr>
<td></td>
<td>Daily Off-peak</td>
<td>Day Off-peak</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Zone 1 only</td>
<td>£6.60</td>
<td>£12.30</td>
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<tr>
<td>Zones 1-2</td>
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<td>£12.30</td>
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<tr>
<td>Zones 1-3</td>
<td>£7.70</td>
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<tr>
<td>Zones 1-4</td>
<td>£9.95</td>
<td>£12.30</td>
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<tr>
<td>Zones 1-5</td>
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<td>£12.30</td>
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<tr>
<td>Zones 1-9</td>
<td>£17.20</td>
<td>£12.30</td>
</tr>
<tr>
<td>Zones 1-9 + Watford Junction</td>
<td>£23.00</td>
<td>£17.70</td>
</tr>
<tr>
<td>Zones 1-9 + Shenfield</td>
<td>£28.60</td>
<td>£19.30</td>
</tr>
<tr>
<td>Zone 2 only</td>
<td>£6.60</td>
<td>£12.30</td>
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<tr>
<td>Zones 2-3</td>
<td>£7.70</td>
<td>£12.30</td>
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<td>Zones 2-4</td>
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<td>£12.30</td>
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<td>Zones 2-9</td>
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<td>Zones 2-9 + Watford Junction</td>
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<td>£17.70</td>
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<td>Zones 2-9 + Shenfield</td>
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<tr>
<td>Zones 3-5</td>
<td>£11.20</td>
<td>£12.30</td>
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</table>
London – Fares and Payments

SINGLE FARE FINDER

Find out the cost of a journey between any two stations on Tube, DLR, London Overground, TfL Rail and National Rail services where pay as you go (contactless or Oyster) is accepted.

From

To

Adult

Show single fares

Fares between two stations may vary depending on the direction of travel, time of day and day of the week.

Single fare finder only shows the cost of a single rail journey. Our fares tables show the price of caps, Travelcards and fares on buses and trams.
London – Fares and Payments

VIDEO: https://www.youtube.com/watch?v=bYj_FgZ_4JQ
London – Plan a journey

https://tfl.gov.uk/plan-a-journey/
London – Transport/Travel Maps

London Transport Maps: https://tfl.gov.uk/maps

London Routes and Maps by Bike: https://tfl.gov.uk/modes/cycling/routes-and-maps


Getting to London: https://tfl.gov.uk/travel-information/visiting-london/getting-to-london

Experience London: https://tfl.gov.uk/travel-information/visiting-london/experience-london


Accessibility Guides: https://tfl.gov.uk/forms/12387.aspx
Parking in London can be difficult, particularly in Central London. If you plan to drive in London, plan ahead by researching car parks near your destination and, if necessary, pre-paying the London Congestion Charge.

Street parking in Central London can be difficult with parking restrictions typically in place between 8.30am and 6.30pm Monday to Saturday.

Q-Park (http://www.q-park.co.uk/) and NCP (https://www.ncp.co.uk/parking-solutions/cities/London) operate car parks across London, which can be booked in advance.

Parking fines tend to cost between £80 (€90) and £130 (€145).

The “Blue Badge” scheme provides parking benefits for disabled people, but there are restrictions in central London boroughs.
London – Private Cars – Parking in London
To limit the number of vehicles entering Central London in 2003 it was introduced the CONGESTION CHARGE or Congestion Charging Zone (CCZ).

The Congestion Charge is an £11.50 (€12.55) daily charge for driving a vehicle within the charging zone between 07:00 and 18:00, Monday to Friday.

It possible to pay before accessing the CCZ or by midnight of the access day. The easiest way to pay the charge is by registering for Congestion Charge Auto Pay.

There are a range of exemptions and discounts available to certain vehicles and individuals.

https://tfl.gov.uk/modes/driving/congestion-charge
London – Private Cars – Congestion Charge
The Low Emission Zone (LEZ) covers most of Greater London and operates 24 hours a day, every day of the year (24/7/365).

It was introduced in 2008 to encourage the most polluting heavy diesel vehicles driving in the Capital to become cleaner.

LEZ does NOT apply to cars or motorcycle.

Charging days run from midnight to midnight. So if you were to drive within the LEZ between 23:30 and 01:00 the next day, you'd need to pay for two days.

Remember, the LEZ isn't the same as the Central London Congestion Charging zone: if you drive within the charging zone during these times you will have to pay the Congestion Charge, even if you meet the LEZ emissions standards and have paid the Daily LEZ Charge.
From **23 October 2017**, cars, vans, minibuses, buses, coaches and heavy goods vehicles (HGVs) in Central London will need to meet minimum exhaust emission standards, or pay **a daily **£10** Emissions Surcharge (aka Toxicty Charge, or T-Charge)**.

This will be **in addition to** the Congestion Charge, which means a car entering Central London will have to pay \([£10 \text{ (T-Charge)} + £11.50 \text{ (Congestion Charge)}]\) = **£21.50 (€23.50)** per day

The T-Charge will apply to the same area as the Congestion Charge within the same days and hours of operation.

The minimum emissions standards are Euro 4/IV for both petrol and diesel vehicles and Euro 3 for motorised tricycles and quadricycles.
The Ultra Low Emission Zone (ULEZ) is an area within which **ALL** cars, motorcycles, vans, minibuses, buses, coaches and heavy goods vehicles (HGVs) will need to meet exhaust emission standards (ULEZ standards) or pay a daily charge to travel.

The **ULEZ standard** is:
- Euro 3 for motorcycles
- Euro 4 for petrol cars, vans and minibuses
- Euro 6 for diesel cars, vans and minibuses
- Euro VI for lorries, buses and coaches

The ULEZ will operate 24 hours a day, 7 days a week within the same area as the current Congestion Charging Zone (CCZ), and comes into force in September 2020.

The ULEZ standards are **in addition to** the Congestion Charge and the Low Emission Zone requirements.
End of Classroom Session – 18th Sept 2017

LONDON STUDY VISIT

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