B. TCoL profile

FEBRUARY 2017

Transport Classification of Londoners (TCoL)

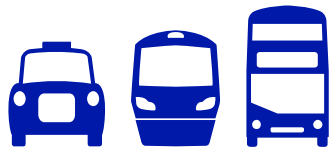
Presenting the Segments

EVERY JOURNEY MATTERS

Transport Classification of Londoners – Presenting the Segments

The Transport Classification of Londoners (TCoL) is a multi-modal customer segmentation tool developed by TfL that has been designed to categorise Londoners on the basis of the travel choices they make, and the motivations for making those decisions. The desire to understand these behaviours and motivations is borne out of a need to plan effectively for London both now and in the future.

This report is the third of three reports documenting the development of the segmentation. Here, we present and profile each of the nine TCoL segments, and provide guidance for their use.



Transport Classification of Londoners – Summary of Methodology

The Transport Classification of Londoners was developed using the following steps:

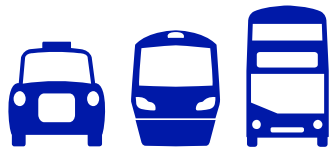
1. Collation of data, including the London Travel Demand Survey 2012-2015, Segmentation survey 2015, and the London Output Area Classification (LOAC).

2. Exploration of data to identify the most suitable defining (key) variables (i.e. those which exhibited the greatest differentiation between types of people).

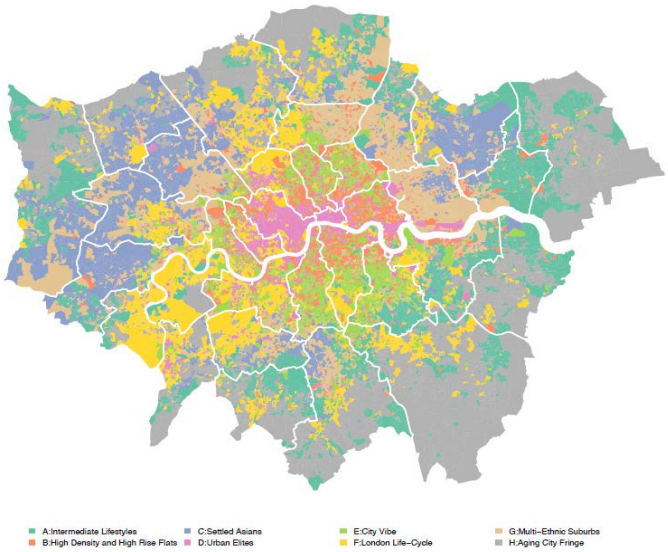
3. LOAC Sub Groups were then grouped on the basis of these key variables to form the initial TCoL segments.

4. The initially created groupings were then tested by examining how well they discriminated on the key variables and the secondary variables, and also in terms of population size. This stage involved trying out some different ways of grouping those LOAC Sub Groups which fitted less clearly into a segment, or were too small to justify their own segment.

5. Having defined and refined the segments, the final stage was to analyse the various datasets (including the Segmentation survey and LTDS) by segment. Profiling enabled us to understand each segment in more detail and devise suitable names.



The structure of LOAC forms the basis of TCoL, enhanced by LTDS and bespoke survey data



LOAC - the London Output Area Classification – was developed by the GLA using data from the 2011 Census to classify all census-level output areas in London.

TCoL uses this classification as its starting point, supplemented by additional data, including:

- London Travel Demand Survey data from 2012-15 – this is an annual household travel survey carried out with over 8,000 London households each year.
- Segmentation survey data from 2015 – this was a bespoke survey with more than 5,000 individuals across London collecting information on travel behaviours, preferences and attitudes.

Analysis of the available data identified the key variables to help develop the segmentation

There were approximately seven key variables used to help determine the initial TCoL segmentation. These included composite variables, developed using a combination of segmentation survey variables. The seven variables were as follows:

- Propensity to change travel (a composite variable based on recent changes to travel behaviour)
- Mode usage and Dominant mode (a composite variable based on use of different modes
- Lifestage (a composite variable of age, household structure and employment status)
- Income
- Ethnicity
- Changes in behaviour motivated by health / fitness
- Use of mobile phones for email

LOAC Sub Groups were then grouped on the basis of these key variables to form the TCoL segments

There were 48 LOAC Sub Groups which were then grouped into two levels:

- Low level tier of 32 segments (essentially the LOAC Sub-Groups with some aggregation of smaller groups)
- High level tier of 9 segments

These groupings were then tested by examining how well they discriminated on the seven key variables shown on the previous page, and also in terms of population size. There were further iterations to this process, involving trying out different ways of grouping those LOAC Sub Groups which fitted less clearly into a segment, or were too small to justify their own segment.

Once the segments were finalised, the final stage was to analyse the various datasets (including the Segmentation survey and LTDS) by segment. Profiling enabled us to understand each segment in more detail and devise suitable names. The outcome of this analysis is now shown on the following pages.

Transport Classification of Londoners – Segment Summary

Affordable Transitions
New jobs & families
Low car, high bus, walk, cycle
Highest level of change

City Living
High incomes
High PT esp Tube/active travel
Average level of change

Detached Retirement
'Empty nest'/retired
Very high car
Very low levels of change

Educational Advantage
Well educated, high income
High PT/active, low car
Higher level of change

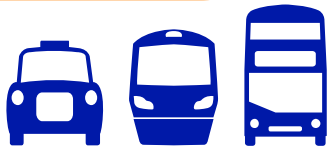
Family Challenge
Low income families
High bus, average others
Higher level of change

Settled Suburbia
Lower income families
High car
Below average level of change

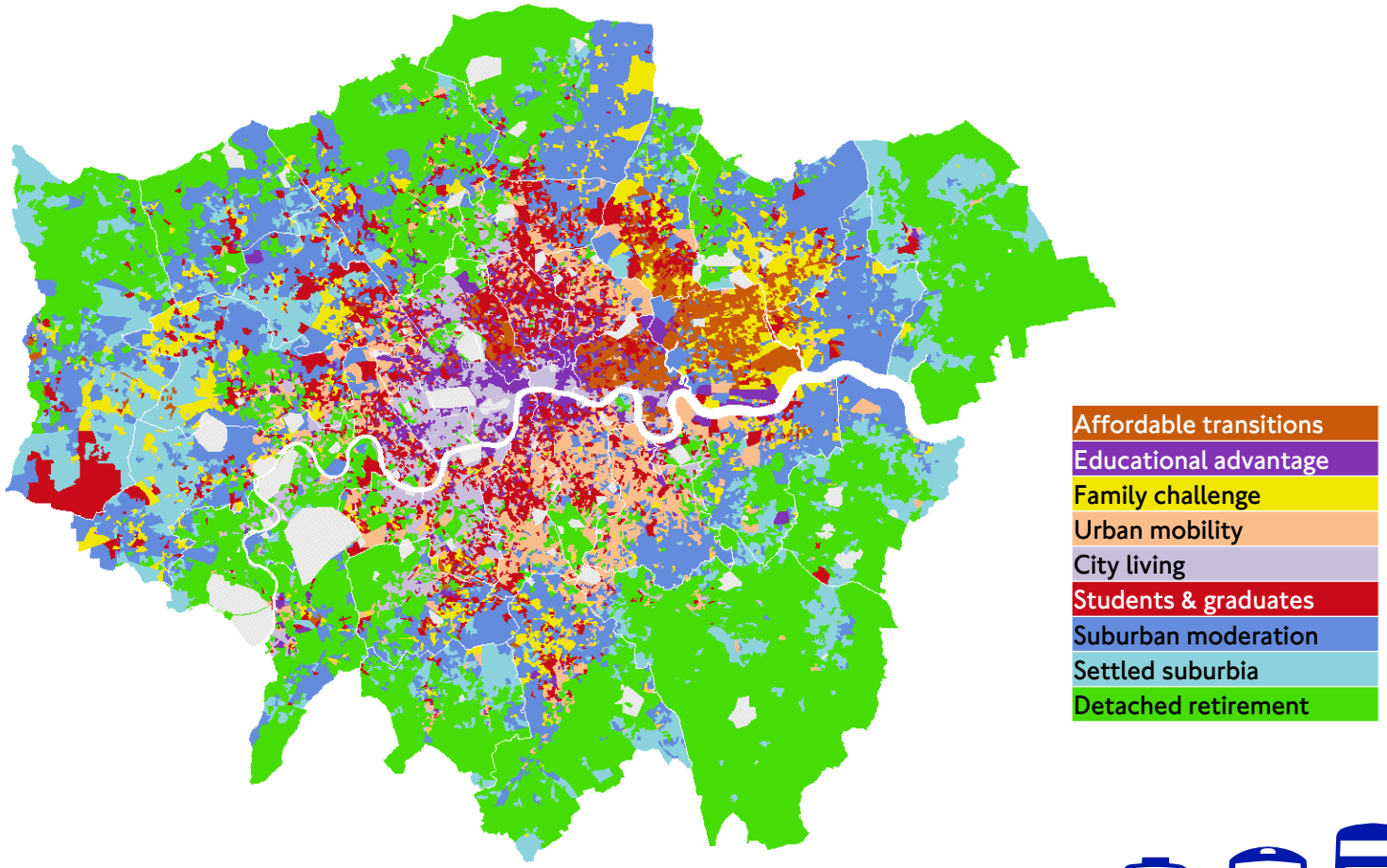
Students & Graduates
Students & young grads
Low car, high bus/walk
Average level of change

Suburban Moderation
Families with children
High car, some bus
Average level of change

Urban Mobility
Young workers, good incomes
Low car, high cycle/PT
Above average change

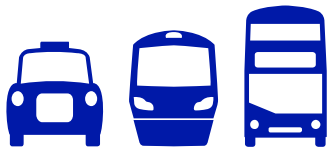


Transport Classification of Londoners Map



Transport Classification of Londoners – Guidance on Use (I)

- The Transport Classification of Londoners should be treated as a model designed to reflect the population of London and as such should be treated with some caution.
- In particular, by dividing the population into a set of nine segments does miss some of the more subtle differences between groups. Thus, within each segment there are different sub-segments.
- These sub-segments typically share many similar characteristics while still differing on some of the less influential attributes (such as attitudes or use of other modes). In some cases it may be worth examining these sub-segments, for example if the area being examined is dominated by a single TCoL segment.
- This can be done most easily by referring to the individual sub-segments or by using another variable for which there is good data: gender has been used as a way of subdividing the segments and the same principle can be adopted for other variables.

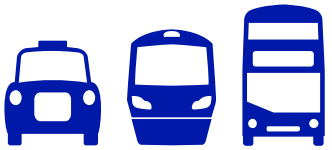


Transport Classification of Londoners – Guidance on Use (2)

- TCoL treats everyone within an Output Area as being from the same segment (on average representing 300 people) and this, while generally being the case, is a limitation.
- This is most likely to be the case in an area going through a rapid change, such as gentrification: if a change is in progress then there may be a mix of people within an Output Area.
- In general though, this is only an issue when using the segmentation at a very disaggregate level, such as individual streets. In practice, it can be considered as a source of noise in the data, with experience indicating that it is very rarely a substantive issue.
- Also, the data that has been combined with LOAC (primarily the 2015 Segmentation survey and LTDS) to produce TCoL also have limitations of their own in that they are sample surveys (albeit comparatively robust ones).

Transport Classification of Londoners – Guidance on Use (3)

- Bearing in mind these limitations it is recommended that the segmentation is used in the following ways:
  - At an early stage to help formulate strategy and as a stimulus for thought
  - As an objective means of comparing and prioritising options
  - To help brief marketing communications agencies (who often use this type of tool)
  - As an input into forecasts or an evaluation
  - To understand a particular locality or area in order to tailor a policy or programme
  - Generally, as part of a package of information rather than on its own.
- It is also worth bearing in mind that there is a wealth of additional data underlying the segmentation which can be utilised when there is a desire to go into greater depth or detail, perhaps when looking at a particular policy intervention.



Segment Profiles

TCoL Segment Profiles

The following pages summarise key facts and statistics about the nine TCoL segments. The information provided includes the following:

- Location
- Demographic information
- Current travel behaviour
- Attitudes to different modes
- Propensity to change travel behaviour
- Motivations for behaviour change

Affordable Transitions

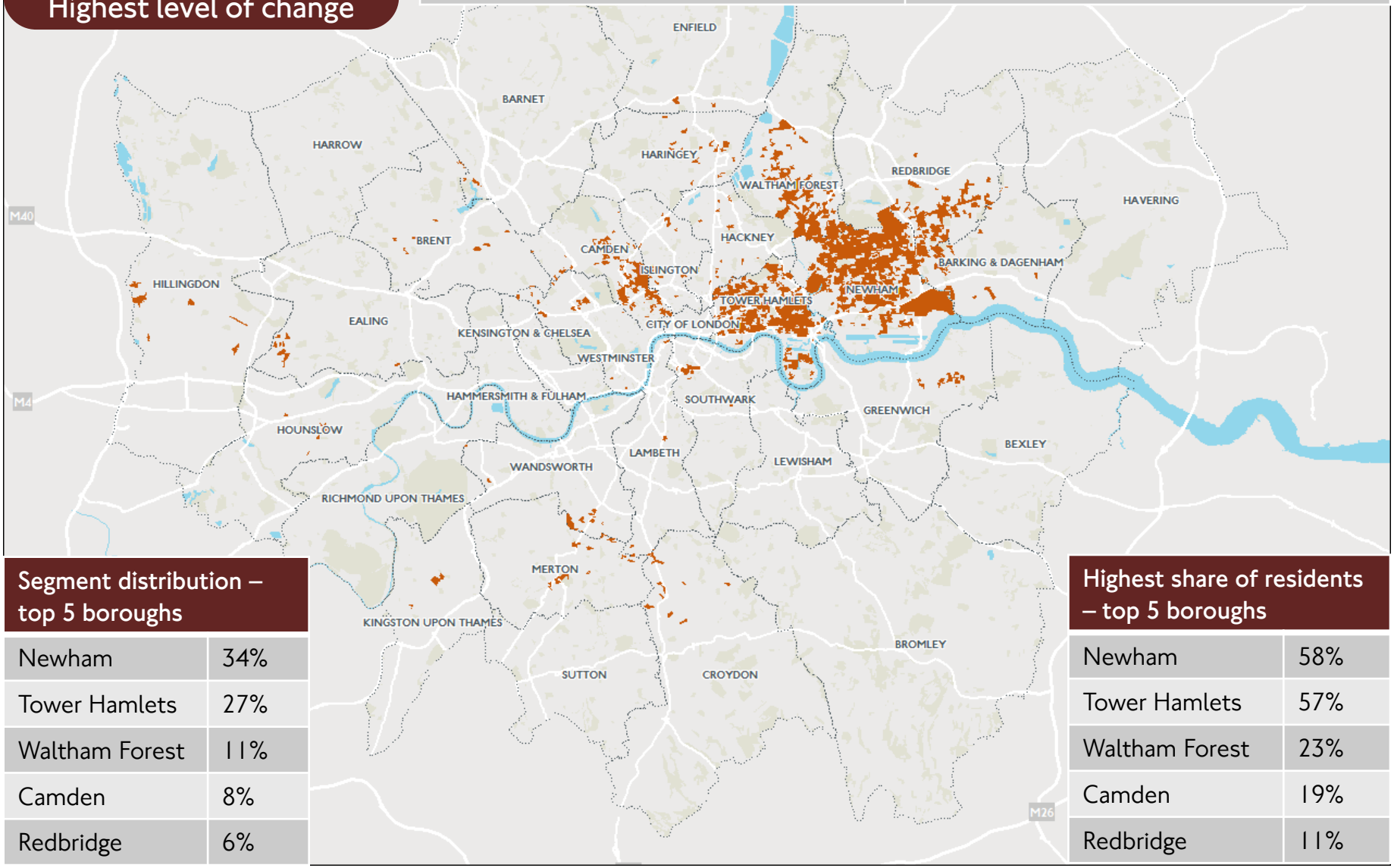
New jobs & families
Low car, high bus, walk, cycle
Highest level of change

Summary Profile

People in this segment are likely to be experiencing life transitions such as starting a first job or a new family. As a consequence they exhibit the most change of any segment.

Summary of travel

Their car use is generally quite low and use of public transport correspondingly high. Walking is average but cycling above average.



Segment distribution – top 5 boroughs

Newham	34%
Tower Hamlets	27%
Waltham Forest	11%
Camden	8%
Redbridge	6%

Highest share of residents – top 5 boroughs

Newham	58%
Tower Hamlets	57%
Waltham Forest	23%
Camden	19%
Redbridge	11%

Affordable Transitions

New jobs & families
Low car, high bus, walk, cycle
Highest level of change

Share of London population: 11%

Ethnicity: 32% White, 46% Asian, 16% Black

47% of over 16s hold a driving licence (average = 63%)

Car ownership: 57% no car, 38% 1 car, 5% 2 or more cars

Annual HH Income: £39,500

Current mode use

Car driver	Well below average
Bus	Above average
Rail	Well above average
Tube	Above average
Walk	Average
Cycle	Well above average

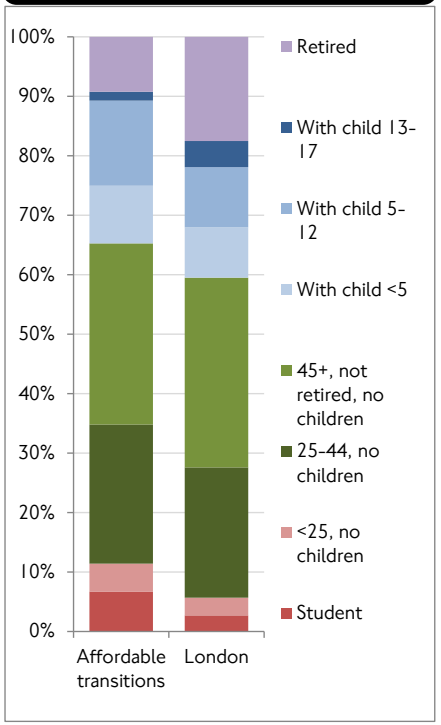
Attitudes

Car travel is stress-free	Above average
Cycling is safe	Well above average
Cycling is stress-free	Well above average

Propensity to change behaviour

Any change	Well above average
Reduce car	Well above average
Increase walking	Above average
Increase cycling	Well above average

Lifestage



Motivations for behaviour change:

1. Money
2. Health & Fitness
3. Lifestyle changes
4. Changes to PT
5. Changes to roads & driving

City Living

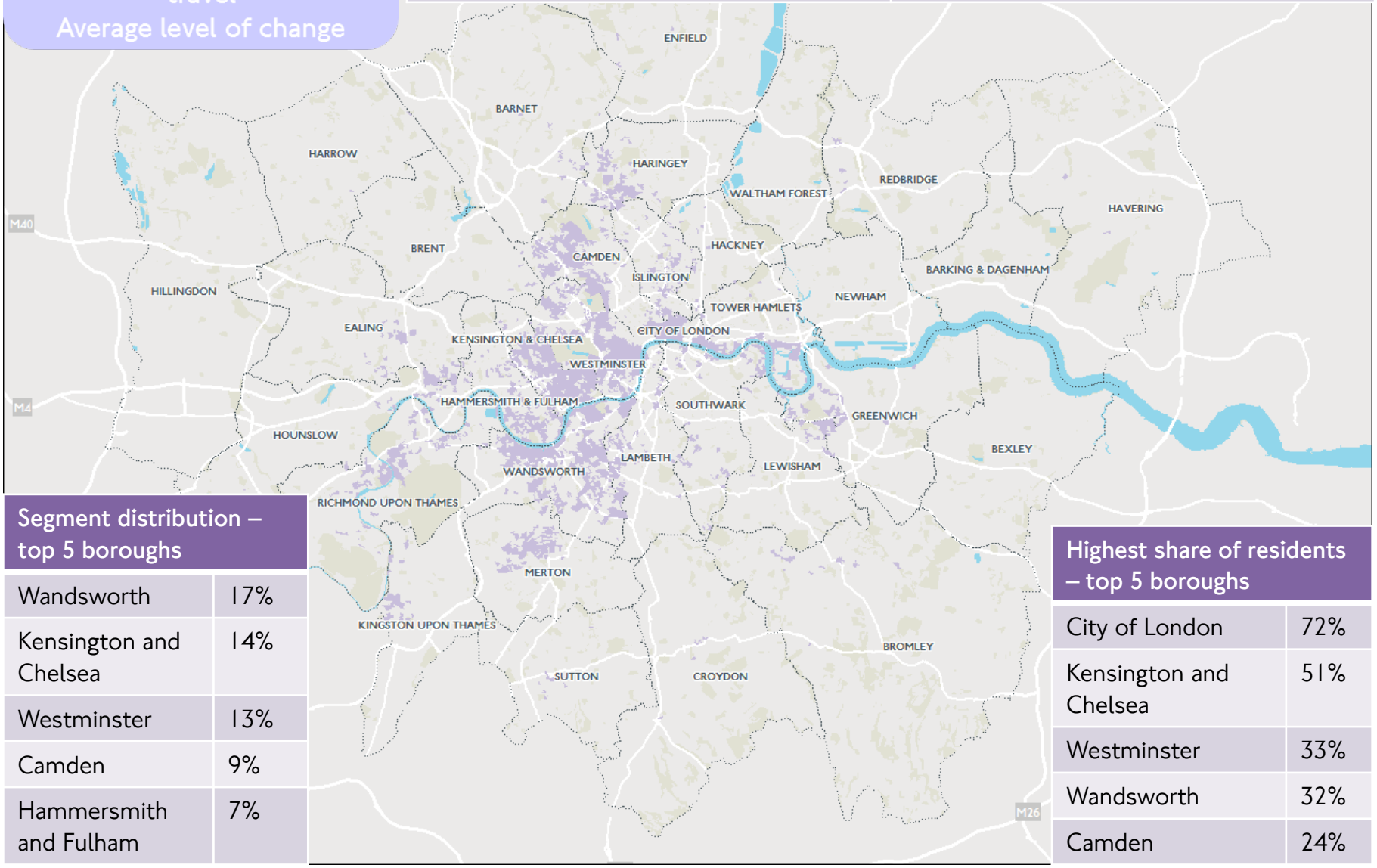
High incomes
High PT esp Tube/active travel
Average level of change

Summary Profile

The City Living segment is characterised by very high incomes and locations in trendy parts of London (Westminster / Kensington / Chelsea).

Summary of travel

Those in the City Living segment have very high levels of Undergound use while also above average use of bus, rail, walking and cycle hire.



Segment distribution – top 5 boroughs

Wandsworth	17%
Kensington and Chelsea	14%
Westminster	13%
Camden	9%
Hammersmith and Fulham	7%

Highest share of residents – top 5 boroughs

City of London	72%
Kensington and Chelsea	51%
Westminster	33%
Wandsworth	32%
Camden	24%

City Living

High incomes
High PT esp Tube/active travel
Average level of change

Share of London population: 7%

Ethnicity: 82% White, 9% Asian, 3% Black

74% of over 16s hold a driving licence (average = 63%)

Car ownership: 47% no car, 45% 1 car, 8% 2 or more cars

Annual HH Income: £62,000

Current mode use

Car driver	Below average
Bus	Above average
Rail	Above average
Tube	Well above average
Walk	Well above average
Cycle	Above average

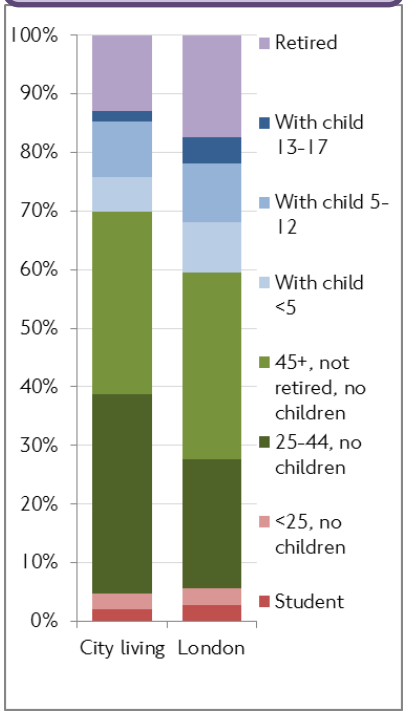
Attitudes

Car travel is stress-free	Below average
Cycling is safe	Below average
Cycling is stress-free	Below average

Propensity to change behaviour

Any change	Average
Reduce car	Below average
Increase walking	Below average
Increase cycling	Average

Lifestage



Motivations for behaviour change:

1. Lifestyle changes
2. Health & fitness
3. Changes to roads and driving
4. Changes to PT
5. Money

Detached Retirement

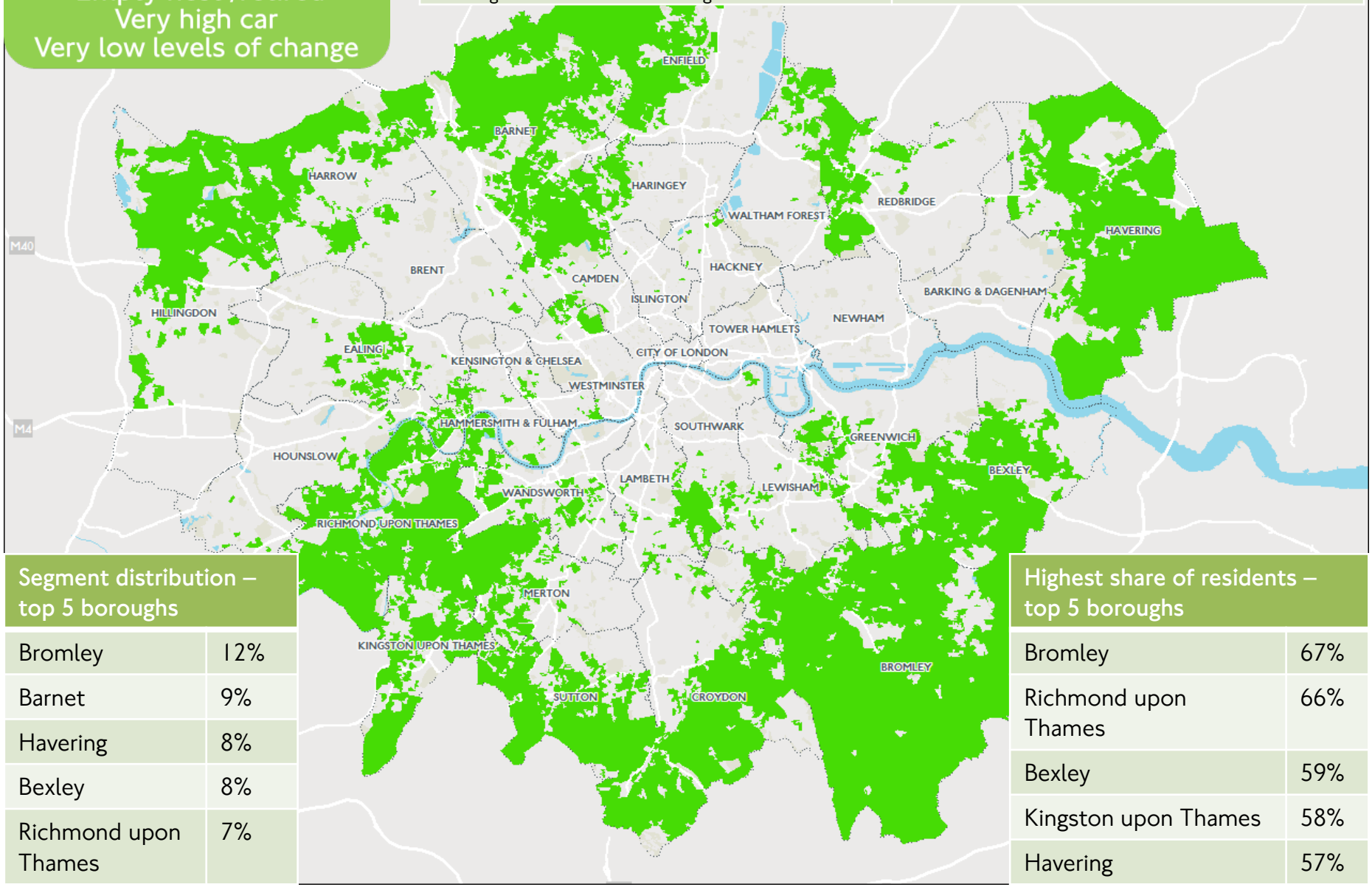
'Empty nest'/retired
Very high car
Very low levels of change

Summary Profile

Typically in the "emptry nest" or retired lifestage groups, the Detached Retirement segment is looking to live in greener suburbs on the fringes of London.

Summary of travel

Travel is dominated by the car with some use of rail, but very little bus or active modes.



Segment distribution – top 5 boroughs

Bromley	12%
Barnet	9%
Havering	8%
Bexley	8%
Richmond upon Thames	7%

Highest share of residents – top 5 boroughs

Bromley	67%
Richmond upon Thames	66%
Bexley	59%
Kingston upon Thames	58%
Havering	57%

Detached Retirement

'Empty nest'/retired
Very high car
Very low levels of change

Share of London population: 21%

Ethnicity: 83% White, 10% Asian, 3% Black

80% of over 16s hold a driving licence (average = 63%)

Car ownership: 19% no car, 53% 1 car, 29% 2 or more cars

Annual HH Income: £55,700

Current mode use

Car driver	Well above average
Bus	Well below average
Rail	Average
Tube	Well below average
Walk	Below average
Cycle	Below average

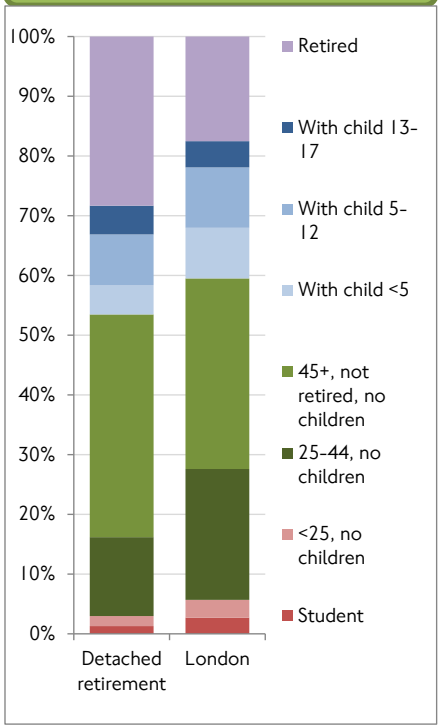
Attitudes

Car travel is stress-free	Below average
Cycling is safe	Well below average
Cycling is stress-free	Well below average

Propensity to change behaviour

Any change	Well below average
Reduce car	Well below average
Increase walking	Well below average
Increase cycling	Well below average

Lifestage



Motivations for behaviour change:

1. Changes to roads and driving
2. Health & fitness
3. Changes to PT
4. Lifestyle changes
5. Money

Educational Advantage

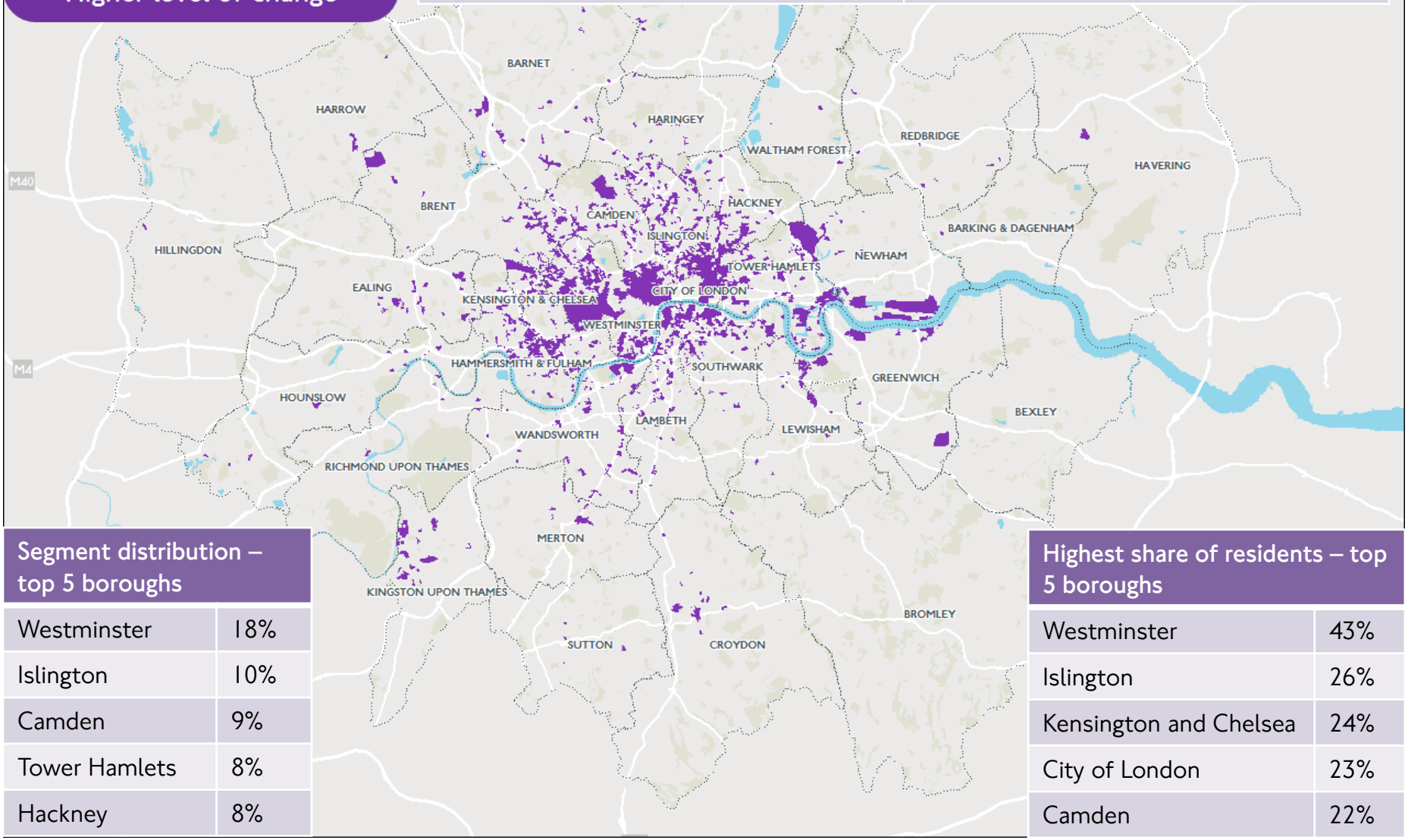
Well educated, high income
High PT/active, low car
Higher level of change

Summary Profile

Mainly living in central London, people in this segment tend to be highly educated and have above average incomes. They have a low incidence of having children living in the household.

Summary of travel

This segment relies on public transport and walking, with very low car use. They have a high propensity for change.



Segment distribution – top 5 boroughs

Westminster	18%
Islington	10%
Camden	9%
Tower Hamlets	8%
Hackney	8%

Highest share of residents – top 5 boroughs

Westminster	43%
Islington	26%
Kensington and Chelsea	24%
City of London	23%
Camden	22%

Educational Advantage

Well educated, high income
High PT/active, low car
Higher level of change

Share of London population:
6%

Ethnicity:
58% White, 19% Asian, 13% Black

53% of over 16s hold a driving licence (average = 63%)

Car ownership:
74% no car, 24% 1 car, 3% 2 or more cars

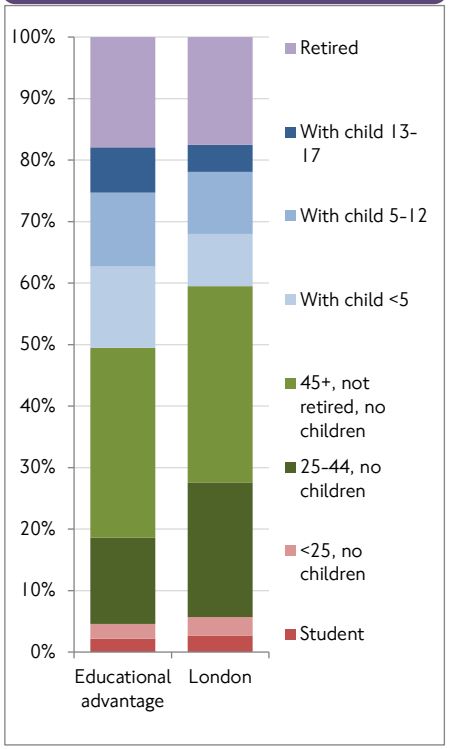
Annual HH Income:
£45,400

Current mode use	
Car driver	Well below average
Bus	Well above average
Rail	Average
Tube	Well above average
Walk	Well above average
Cycle	Above average

Attitudes	
Car travel is stress-free	Below average
Cycling is safe	Below average
Cycling is stress-free	Below average

Propensity to change behaviour	
Any change	Above average
Reduce car	Well below average
Increase walking	Well above average
Increase cycling	Above average

Lifestage



Motivations for behaviour change:

1. Health & fitness
2. Lifestyle changes
3. Money
4. Changes to PT
5. Changes to roads and driving

Family Challenge

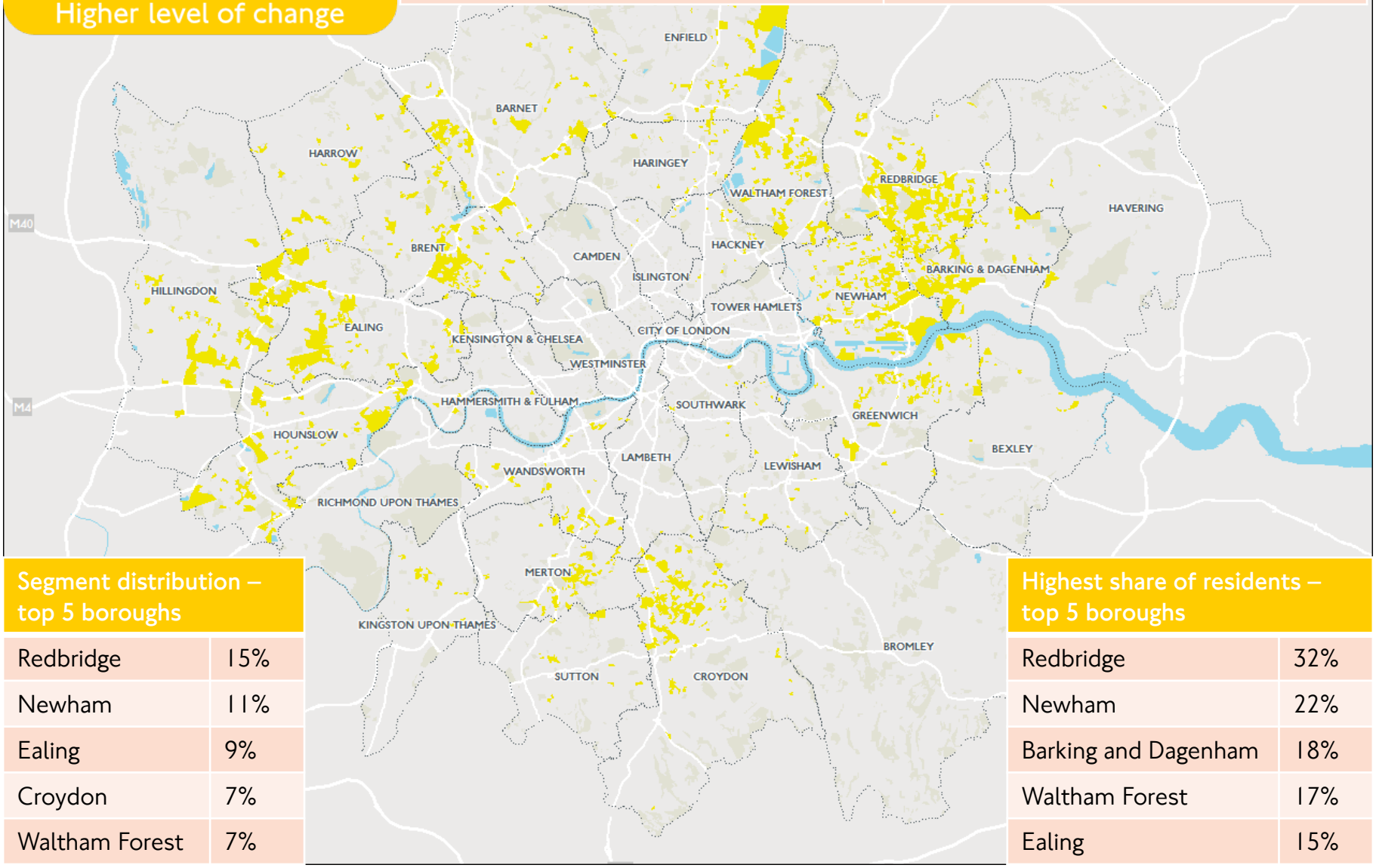
Low income families
High bus, average others
Higher level of change

Summary Profile

The Family Challenge segment includes a high proportion of young families. With average to low incomes, finances are tough for this segment.

Summary of travel

Car ownership and use is around the average for this segment, as is their use of active modes, while bus use is well above average.



Segment distribution – top 5 boroughs

Redbridge	15%
Newham	11%
Ealing	9%
Croydon	7%
Waltham Forest	7%

Highest share of residents – top 5 boroughs

Redbridge	32%
Newham	22%
Barking and Dagenham	18%
Waltham Forest	17%
Ealing	15%

Family Challenge

Low income families
High bus, average others
Higher level of change

Share of London population: 7%

Ethnicity: 38% White, 28% Asian, 26% Black

47% of over 16s hold a driving licence (average = 63%)

Car ownership: 50% no car, 41% 1 car, 9% 2 or more cars

Annual HH Income: £31,500

Current mode use

Car driver	Below average
Bus	Above average
Rail	Below average
Tube	Average
Walk	Average
Cycle	Average

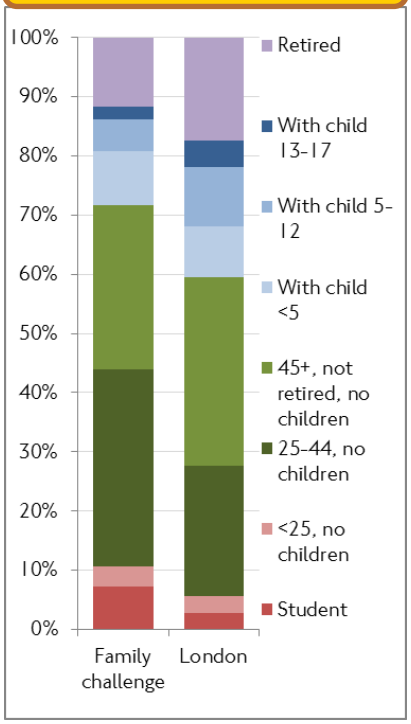
Attitudes

Car travel is stress-free	Above average
Cycling is safe	Well above average
Cycling is stress-free	Above average

Propensity to change behaviour

Any change	Above average
Reduce car	Above average
Increase walking	Well above average
Increase cycling	Well below average

Lifestage



Motivations for behaviour change:

1. Changes to PT
2. Lifestyle changes
3. Money
4. Health & fitness
5. Changes to roads and driving

Settled Suburbia

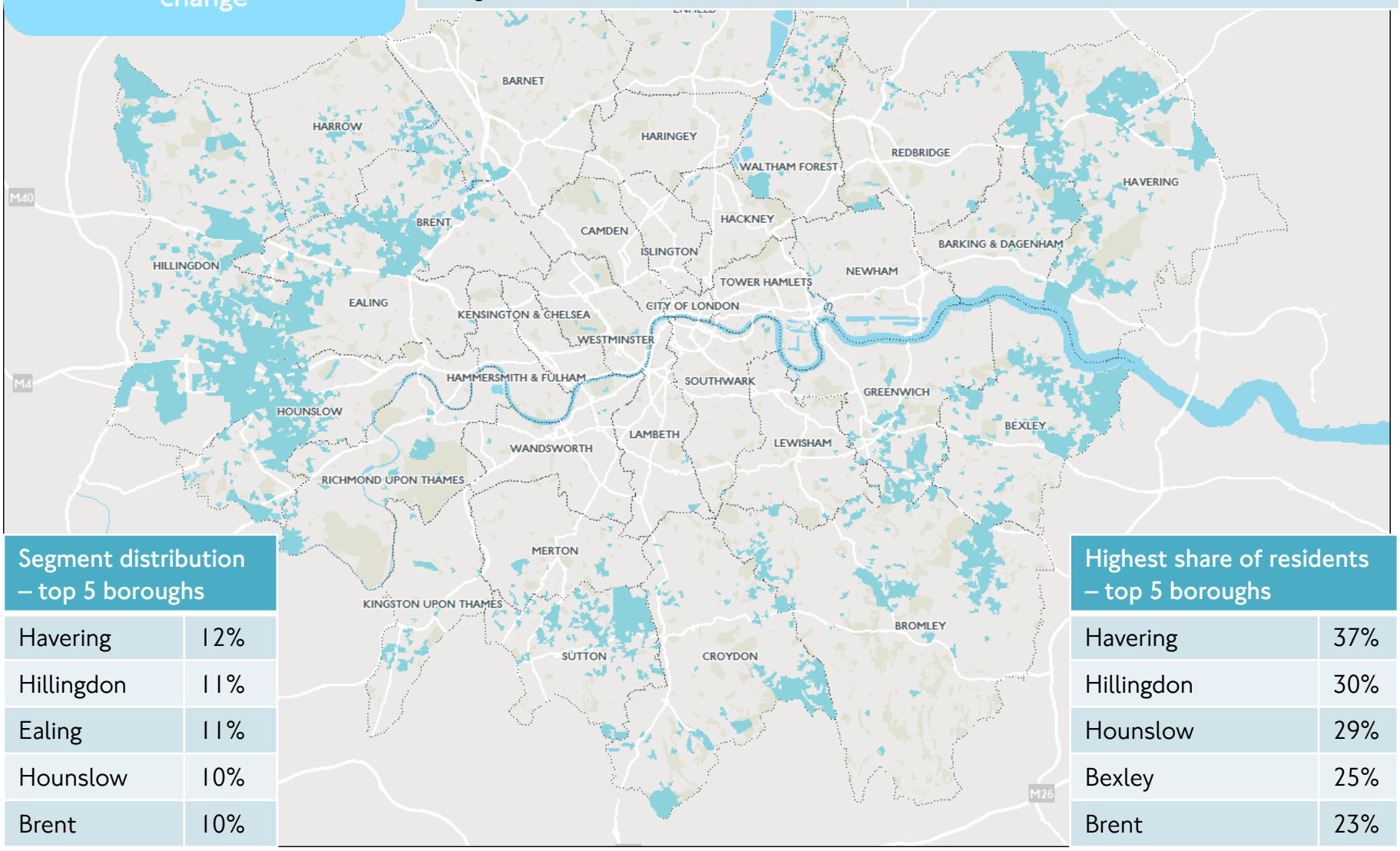
Lower income families
High car
Below average level of change

Summary Profile

This segment is most commonly found across outer London, and is likely to have at least one child at home, lower incomes and lower levels of change.

Summary of travel

Car use is high and use of active modes particularly low. Use of bus, rail and Underground also well below average.



Segment distribution – top 5 boroughs

Havering	12%
Hillingdon	11%
Ealing	11%
Hounslow	10%
Brent	10%

Highest share of residents – top 5 boroughs

Havering	37%
Hillingdon	30%
Hounslow	29%
Bexley	25%
Brent	23%

Settled Suburbia

Lower income families
High car
Below average level of change

Share of London population: 9%

Ethnicity: 59% White, 26% Asian, 8% Black

62% of over 16s hold a driving licence (average = 63%)

Car ownership: 35% no car, 47% 1 car, 18% 2 or more cars

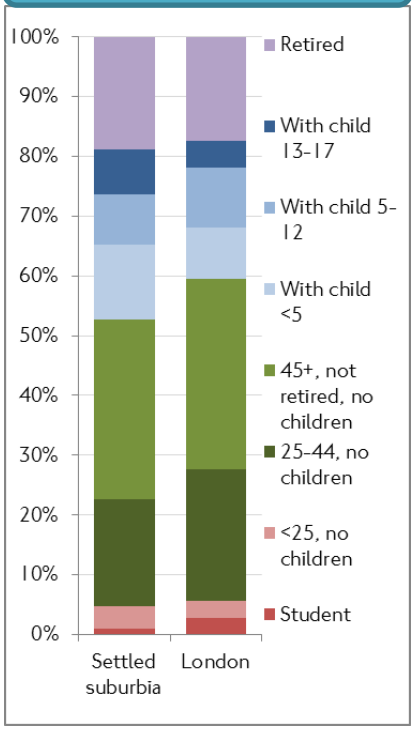
Annual HH Income: £36,400

Current mode use	
Car driver	Above average
Bus	Well below average
Rail	Below average
Tube	Below average
Walk	Below average
Cycle	Below average

Attitudes	
Car travel is stress-free	Well above average
Cycling is safe	Well above average
Cycling is stress-free	Above average

Propensity to change behaviour	
Any change	Below average
Reduce car	Below average
Increase walking	Well below average
Increase cycling	Well below average

Lifestage



Motivations for behaviour change:

1. Changes to roads and driving
2. Changes to PT
3. Money
4. Lifestyle changes
5. Health & fitness

Students & Graduates

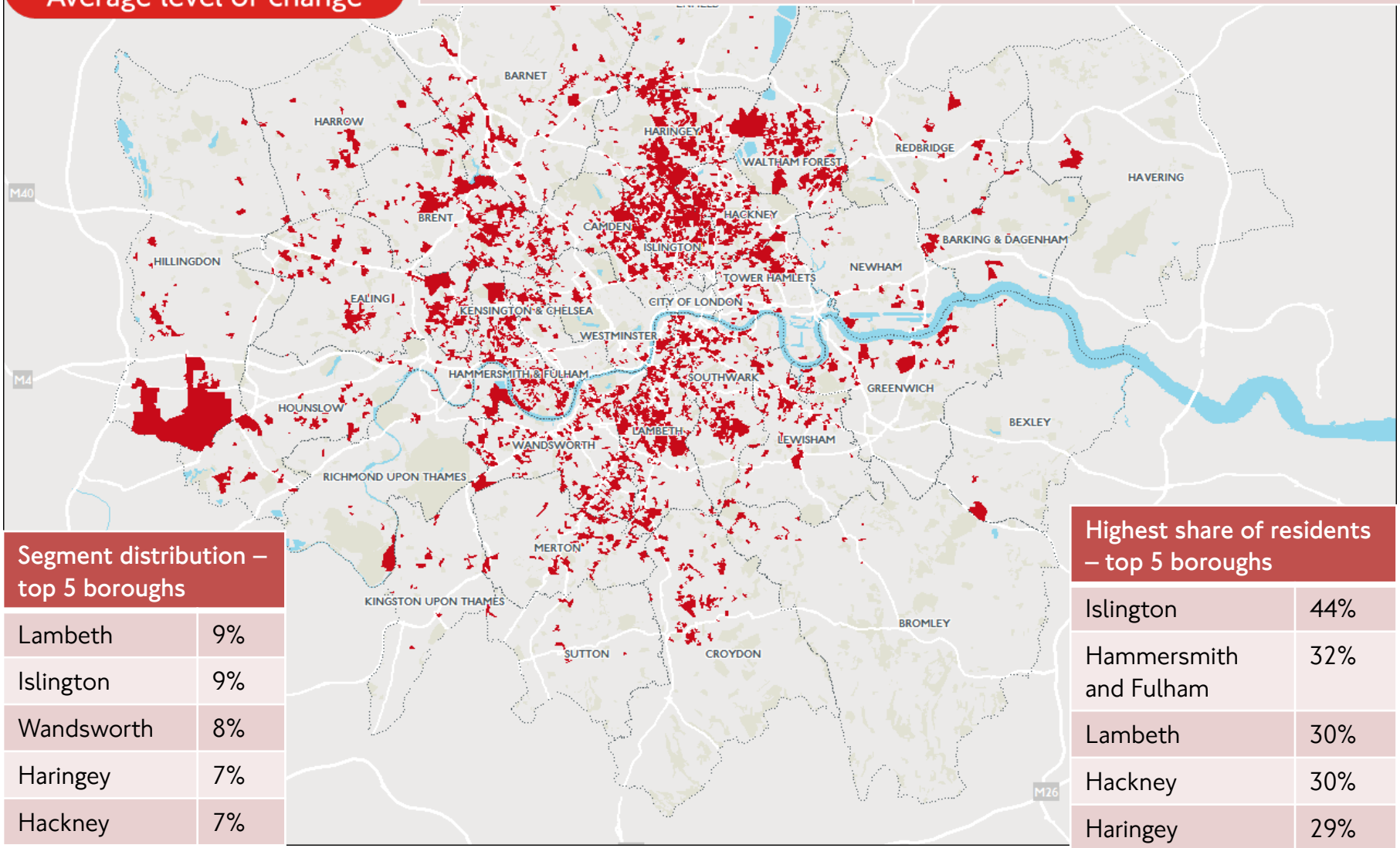
Students & young grads
Low car, high bus/walk
Average level of change

Summary Profile

Based mainly in inner London, this segment includes a relatively high proportion of students and recent graduates. Incomes are average, as are their levels of change.

Summary of travel

Car use low so rely on public transport and active modes for travel, particularly bus and walk.



Segment distribution – top 5 boroughs

Lambeth	9%
Islington	9%
Wandsworth	8%
Haringey	7%
Hackney	7%

Highest share of residents – top 5 boroughs

Islington	44%
Hammersmith and Fulham	32%
Lambeth	30%
Hackney	30%
Haringey	29%

Students & Graduates

Students & young grads
Low car, high bus/walk
Average level of change

Share of London population: 13%

Ethnicity: 61% White, 14% Asian, 18% Black

47% of over 16s hold a driving licence (average = 59%)

Car ownership: 58% no car, 36% 1 car, 6% 2 or more cars

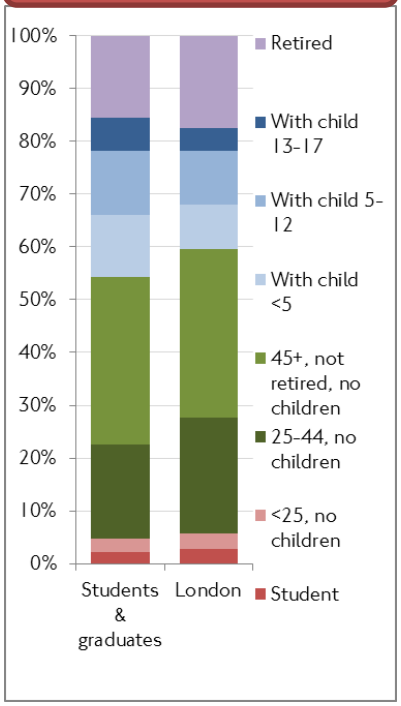
Annual HH Income: £43,200

Current mode use	
Car driver	Below average
Bus	Above average
Rail	Average
Tube	Above average
Walk	Above average
Cycle	Above average

Attitudes	
Car travel is stress-free	Average
Cycling is safe	Above average
Cycling is stress-free	Above average

Propensity to change behaviour	
Any change	Average
Reduce car	Average
Increase walking	Below average
Increase cycling	Above average

Lifestage



Motivations for behaviour change:

1. Changes to PT
2. Money
3. Lifestyle changes
4. Health & fitness
5. Changes to roads and driving

Suburban Moderation

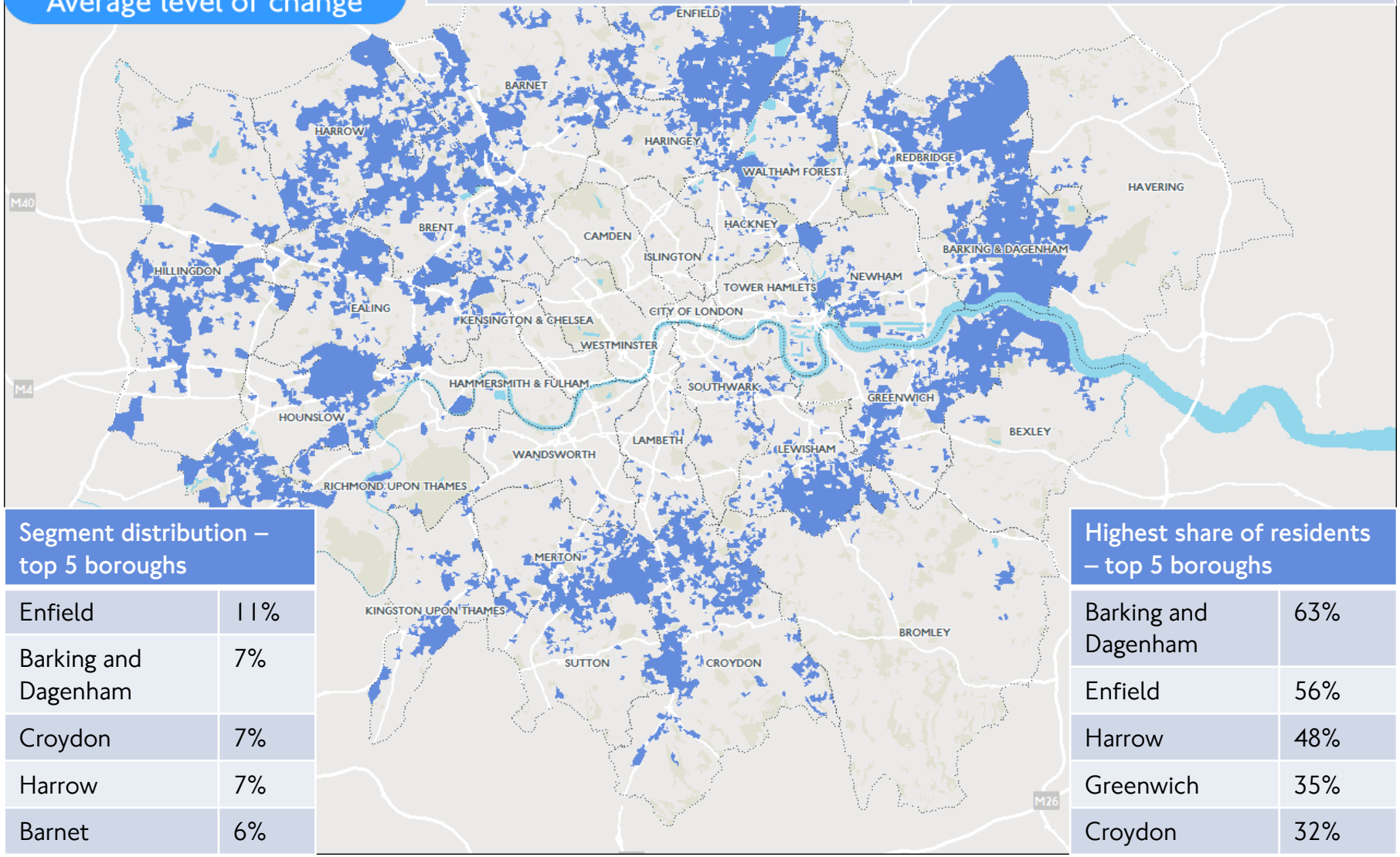
Families with children
High car, some bus
Average level of change

Summary Profile

Predominantly located in outer London the Suburban moderation segment is likely to have at least one child at home and has around the average level of change.

Summary of travel

Car use is high, with use of public transport and active modes below average.



Segment distribution – top 5 boroughs

Enfield	11%
Barking and Dagenham	7%
Croydon	7%
Harrow	7%
Barnet	6%

Highest share of residents – top 5 boroughs

Barking and Dagenham	63%
Enfield	56%
Harrow	48%
Greenwich	35%
Croydon	32%

Suburban Moderation

Families with children
High car, some bus
Average level of change

Share of London population: 19%

Ethnicity: 52% White, 21% Asian, 19% Black

62% of over 16s hold a driving licence (average = 63%)

Car ownership: 36% no car, 47% 1 car, 17% 2 or more cars

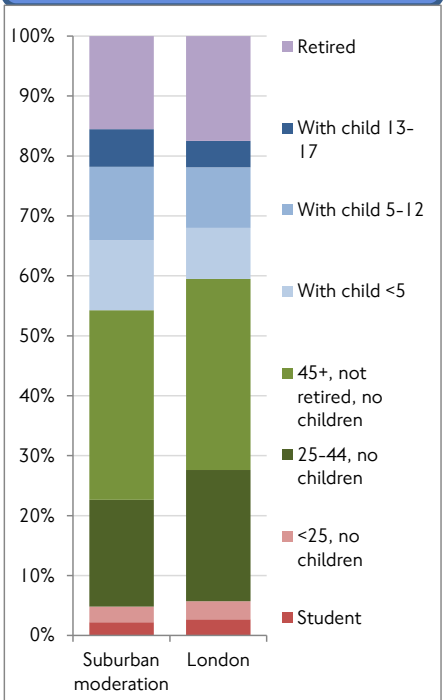
Annual HH Income: £40,700

Current mode use	
Car driver	Above average
Bus	Below average
Rail	Below average
Tube	Below average
Walk	Below average
Cycle	Below average

Attitudes	
Car travel is stress-free	Above average
Cycling is safe	Average
Cycling is stress-free	Above average

Propensity to change behaviour	
Any change	Below average
Reduce car	Average
Increase walking	Below average
Increase cycling	Well above average

Lifestage



Motivations for behaviour change:

1. Changes to roads and driving
2. Money
3. Changes to PT
4. Health & fitness
5. Lifestyle changes

Urban Mobility

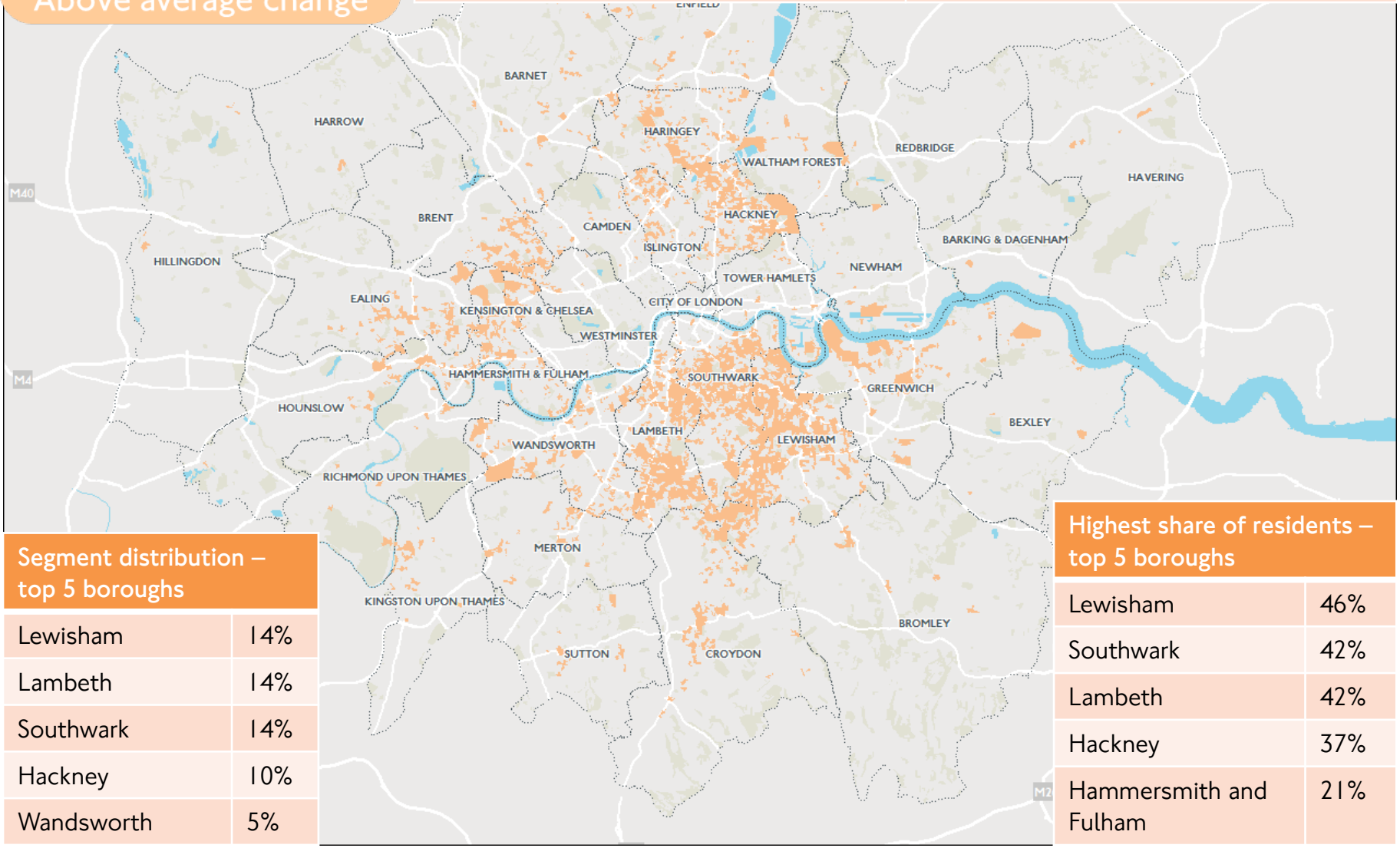
Young workers, good incomes
Low car, high cycle/PT
Above average change

Summary Profile

Typically young working adults with no children and reasonable incomes living in inner (though not central) London.

Summary of travel

The Urban mobility segment has low car use and relatively high levels of cycle use. Bus use is also high, while walking and Underground use is average.



Segment distribution – top 5 boroughs

Lewisham	14%
Lambeth	14%
Southwark	14%
Hackney	10%
Wandsworth	5%

Highest share of residents – top 5 boroughs

Lewisham	46%
Southwark	42%
Lambeth	42%
Hackney	37%
Hammersmith and Fulham	21%

Urban Mobility

Young workers, good incomes
Low car, high cycle/PT
Above average change

Share of London population: 11%

Ethnicity: 55% White, 10% Asian, 26% Black

47% of over 16s hold a driving licence (average = 55%)

Car ownership: 57% no car, 38% 1 car, 5% 2 or more cars

Annual HH Income: £39,500

Current mode use

Car driver	Below average
Bus	Well above average
Rail	Well above average
Tube	Above average
Walk	Above average
Cycle	Above average

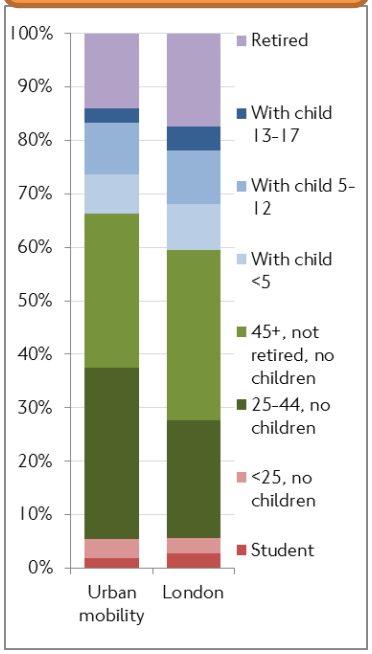
Attitudes

Car travel is stress-free	Average
Cycling is safe	Above average
Cycling is stress-free	Above average

Propensity to change behaviour

Any change	Above average
Reduce car	Well above average
Increase walking	Well above average
Increase cycling	Well above average

Lifestage



Motivations for behaviour change:

1. Lifestyle changes
2. Health & fitness
3. Changes to PT
4. Money
5. Changes to roads and driving

Appendix – TCoL borough profiles

Borough TCoL Profiles

Borough	Affordable transitions	City living	Detached retirement	Educational advantage	Family challenge	Settled suburbia	Students & graduates	Suburban moderation	Urban mobility	Total
Barking and Dagenham	6%	0%	1%	0%	18%	7%	3%	63%	0%	100%
Barnet	0%	1%	45%	3%	9%	3%	10%	25%	4%	100%
Bexley	0%	0%	59%	0%	2%	25%	0%	12%	1%	100%
Brent	1%	1%	2%	3%	13%	23%	20%	27%	11%	100%
Bromley	0%	1%	67%	0%	0%	18%	2%	6%	6%	100%
Camden	19%	24%	6%	22%	0%	0%	23%	0%	4%	100%
City of London	5%	72%	0%	23%	0%	0%	0%	0%	0%	100%
Croydon	1%	0%	29%	1%	12%	9%	6%	32%	8%	100%
Ealing	1%	3%	16%	2%	15%	23%	13%	19%	8%	100%
Enfield	0%	0%	26%	0%	7%	2%	5%	56%	4%	100%
Greenwich	3%	4%	14%	4%	11%	10%	8%	35%	10%	100%
Hackney	2%	2%	2%	16%	4%	0%	30%	8%	37%	100%
Hammersmith and Fulham	0%	21%	3%	18%	1%	0%	32%	5%	21%	100%
Haringey	3%	9%	10%	2%	4%	0%	29%	28%	16%	100%
Harrow	0%	0%	24%	1%	6%	15%	6%	48%	0%	100%
Havering	0%	0%	57%	0%	0%	37%	1%	3%	1%	100%
Hillingdon	1%	0%	31%	0%	7%	30%	4%	26%	0%	100%
Hounslow	1%	3%	11%	2%	13%	29%	8%	30%	4%	100%
Islington	2%	9%	1%	26%	0%	0%	44%	0%	17%	100%
Kensington and Chelsea	0%	51%	3%	24%	0%	0%	12%	0%	10%	100%
Kingston upon Thames	0%	6%	58%	5%	3%	6%	3%	14%	4%	100%
Lambeth	0%	7%	4%	8%	1%	0%	30%	6%	42%	100%
Lewisham	0%	1%	7%	2%	3%	1%	9%	31%	46%	100%
Merton	2%	13%	28%	2%	9%	2%	11%	30%	4%	100%
Newham	58%	0%	0%	4%	22%	0%	3%	11%	1%	100%
Redbridge	11%	1%	18%	1%	32%	3%	3%	31%	0%	100%
Richmond upon Thames	0%	15%	66%	1%	1%	7%	2%	6%	2%	100%
Southwark	1%	7%	6%	12%	1%	0%	23%	7%	42%	100%
Sutton	0%	1%	56%	1%	2%	20%	1%	15%	3%	100%
Tower Hamlets	57%	8%	0%	16%	0%	0%	11%	4%	3%	100%
Waltham Forest	23%	0%	8%	0%	17%	6%	26%	17%	3%	100%
Wandsworth	1%	32%	13%	5%	6%	1%	26%	3%	14%	100%
Westminster	5%	33%	3%	43%	0%	0%	10%	1%	5%	100%
Total	6%	7%	21%	6%	7%	9%	13%	19%	11%	100%

Contact

Chris Chinnock and Katherine Blair, Policy Analysis

ChrisChinnock@tfl.gov.uk

KatherineBlair@tfl.gov.uk

C. TfL Collision Data Output

Year	Date	Hour	Day Name	_Collision Severity	Collision Location	Junction Detail	Road Type	Speed Limit (Ban	Collision with Pedestrian Casualty	Pedestrian Crossing Facilities	Casualty Age	_Casualty Severity	Casualty Mode of Travel
2021	18/06/2021 00:00	15	Friday	Serious	On Grays Inn Road, Near The Junction With High Holborn.	T/Stag Jun	Single Cwy	<= 20 MPH	Pedestrian Accident	Pedn Phase At ATS	21	Serious	Pedestrian
2021	26/11/2021 00:00	12	Friday	Slight	On High Holborn, Near The Junction With Hand Court.	Unknown (S/R)	Single Cwy	<= 20 MPH	Non-Pedestrian Accident	No Xing Facility In 50m	25	Slight	Powered 2 Wheeler
2022	18/08/2022 00:00	8	Thursday	Slight	On High Holborn, Near The Junction With Grays Inn Road.	T/Stag Jun	Single Cwy	<= 20 MPH	Non-Pedestrian Accident	No Xing Facility In 50m	38	Slight	Pedal Cycle
2021	17/05/2021 00:00	13	Monday	Slight	Charterhouse Street (B500) - 21 Metres From Junction With Ely Place	No Jun In 20m	Single Cwy	<= 20 MPH	Non-Pedestrian Accident	No Xing Facility In 50m	30	Slight	Powered 2 Wheeler
2021	29/09/2021 00:00	6	Wednesday	Slight	On Theobals Road Wc1X, Near The Junction With Grays Inn Road Wc1X.	Croassroads	Single Cwy	<= 20 MPH	Non-Pedestrian Accident	Pelican Or Similar	30	Slight	Pedal Cycle
2020	29/05/2020 00:00	17	Friday	Slight	On Grays Inn Road , Near The Junction With Theobolds Road.	Croassroads	One-Way St	<= 20 MPH	Non-Pedestrian Accident	Pedn Phase At ATS	22	Slight	Pedal Cycle
2022	19/03/2022 00:00	21	Saturday	Slight	On High Holborn, Near The Junction With High Holborn.	T/Stag Jun	Single Cwy	<= 20 MPH	Non-Pedestrian Accident	Pedn Phase At ATS	28	Slight	Car
2022	19/03/2022 00:00	21	Saturday	Slight	On High Holborn, Near The Junction With High Holborn.	T/Stag Jun	Single Cwy	<= 20 MPH	Non-Pedestrian Accident	Pedn Phase At ATS	28	Slight	Car
2022	19/03/2022 00:00	21	Saturday	Slight	On High Holborn, Near The Junction With High Holborn.	T/Stag Jun	Single Cwy	<= 20 MPH	Non-Pedestrian Accident	Pedn Phase At ATS	28	Slight	Car
2022	20/04/2022 00:00	18	Wednesday	Serious	On Grays Inn Road, Near The Junction With Theobalds Road.	Croassroads	Single Cwy	30 MPH	Non-Pedestrian Accident	Pedn Phase At ATS	48	Serious	Pedal Cycle
2022	19/05/2022 00:00	9	Thursday	Slight	On Grays Inn Road, Near The Junction With Clerkenwell Road.	Croassroads	Single Cwy	<= 20 MPH	Non-Pedestrian Accident	Pedn Phase At ATS	37	Slight	Pedal Cycle
2020	14/10/2020 00:00	12	Wednesday	Slight	On High Holborn, 30 Metres West Of The Junction With Chancery Lane.	No Jun In 20m	Single Cwy	<= 20 MPH	Non-Pedestrian Accident	Unknown (S/R)	29	Slight	Car
2022	31/03/2022 00:00	12	Thursday	Slight	On High Holborn, 30 Metres East Of The Junction With Red Lion Street.	No Jun In 20m	Single Cwy	<= 20 MPH	Non-Pedestrian Accident	Unknown (S/R)	32	Slight	Powered 2 Wheeler
2022	27/06/2022 00:00	15	Monday	Slight	On Grays Inn Road, 50 Metres South Of The Junction With Baldwin'S Gardens.	No Jun In 20m	Unknown	30 MPH	Non-Pedestrian Accident	Unknown (S/R)		Slight	Powered 2 Wheeler
2020	03/12/2020 00:00	16	Thursday	Slight	On Holborn, 10 Metres West Of The Junction With Hatton Garden.	Multi Jun	Dual Cwy	30 MPH	Pedestrian Accident	Pedn Phase At ATS	21	Slight	Pedestrian
2022	27/07/2022 00:00	16	Wednesday	Slight	On High Holborn, Near The Junction With Southampton Buildings Wc2.	Other Jun	Single Cwy	<= 20 MPH	Non-Pedestrian Accident	No Xing Facility In 50m	32	Slight	Powered 2 Wheeler
2022	20/09/2022 00:00	11	Tuesday	Slight	On Hatton Garden, Near The Junction With Charterhouse Street.	Multi Jun	One-Way St	<= 20 MPH	Non-Pedestrian Accident	Zebra	30	Slight	Powered 2 Wheeler
2022	30/08/2022 00:00	14	Tuesday	Slight	On High Holborn, Near The Junction With Chancery Lane.	T/Stag Jun	Single Cwy	<= 20 MPH	Non-Pedestrian Accident	Pelican Or Similar	29	Slight	Car
2022	09/08/2022 00:00	18	Tuesday	Slight	On High Holborn, Near The Junction With Chancery Lane.	T/Stag Jun	Single Cwy	<= 20 MPH	Non-Pedestrian Accident	Pedn Phase At ATS	30	Slight	Pedal Cycle
2020	21/10/2020 00:00	9	Wednesday	Serious	Holborn (A40) Near Junction With Holborn Circus (A4)	Multi Jun	Dual Cwy	<= 20 MPH	Non-Pedestrian Accident	Pedn Phase At ATS	53	Serious	Pedal Cycle
2021	23/06/2021 00:00	9	Wednesday	Slight	Location Uncertain Charterhouse Street (B500) Near Junction With Charterhouse Street (B500)	Multi Jun	Dual Cwy	<= 20 MPH	Non-Pedestrian Accident	Pedn Phase At ATS	48	Slight	Pedal Cycle
2022	26/01/2022 00:00	19	Wednesday	Slight	Holborn Circus (A40) At Junction With Charterhouse Street (B500), London, City Of London	Multi Jun	Dual Cwy	<= 20 MPH	Non-Pedestrian Accident	Pedn Phase At ATS	23	Slight	Powered 2 Wheeler
2022	16/11/2022 00:00	17	Wednesday	Slight	Holborn Circus (A40) At Junction With Charterhouse Street (B500), London, City Of London	Multi Jun	Single Cwy	<= 20 MPH	Non-Pedestrian Accident	Pedn Phase At ATS	18	Slight	Pedal Cycle
2021	10/06/2021 00:00	12	Thursday	Slight	On Holborn, Near The Junction With Holborn Viaduct .	Unknown (S/R)	One-Way St	<= 20 MPH	Non-Pedestrian Accident	Unknown (S/R)	25	Slight	Powered 2 Wheeler

D. Pedestrian Comfort Assessment Output

PEDESTRIAN COMFORT ASSESSMENT: FOOTWAY COMFORT

Clear Examples

	Location Name	Location Type	Area Type	Average Flow	Peak Hour Flow	Ave of Max Activity	Total Width	Building Edge?	Kerb Edge?	Any unusable width (<0.6m)	Street Furniture 1			Street Furniture 2			Street Furniture 3			Clear Footway Width	Average Flow Crowding (ppmm)	Peak Hour Flow Crowding (ppmm)	Ave of Max Activity Crowding (ppmm)	Pedestrian Comfort Level (For Average Flows)			Pedestrian Comfort Level (For Peak Hour Flows)			Pedestrian Comfort Level (Average of Max Activity)		
											Type	Width of Furniture	Buffer	Type	Width of Furniture	Buffer	Type	Width of Furniture	Buffer					Average PCL	Total Width Required for PCL B+	Clear Width Required For PCL B+	Peak Hour PCL	Total Width Required for PCL B+	Clear Width Required For PCL B+	Ave of Max PCL	Total Width Required for PCL B+	Clear Width Required For PCL B+
1	Location A	Full Footway Width	High Street	750	1000	2250	3.62	Yes	Yes											3.22	4	5	12	A	1.90	1.50	A	1.90	1.50	B	3.53	3.13
2	Location B	Full Footway Width Changes	High Street	750	1000	2250	3.572	Yes	Yes											3.172	4	5	12	A	1.90	1.50	A	1.90	1.50	B	3.53	3.13
3	Location C	Full Footway Width Changes	High Street	750	1000	2250	3.892	Yes	Yes											3.492	4	5	11	A	1.90	1.50	A	1.90	1.50	B+	3.53	3.13
4	Location D	Full Footway Width Changes	High Street	750	1000	2250	3.698	Yes	Yes											3.298	4	5	11	A	1.90	1.50	A	1.90	1.50	B+	3.53	3.13
5	Location E	Full Footway Width Changes	High Street	750	1000	2250	3.215	Yes	Yes											2.815	4	6	13	A	1.90	1.50	A-	1.90	1.50	B	3.53	3.13
6	Location F	Full Footway Width	High Street	750	1000	2250	5.327	Yes	Yes											4.927	3	3	8	A	1.90	1.50	A	1.90	1.50	A-	3.53	3.13
7	Location G	Full Footway Width	High Street	750	1000	2250	5.262	Yes	Yes											4.862	3	3	8	A	1.90	1.50	A	1.90	1.50	A-	3.53	3.13

PEDESTRIAN COMFORT ASSESSMENT: FOOTWAY COMFORT

Clear Examples

	Location Name	Location Type	Area Type	Average Flow	Peak Hour Flow	Ave of Max Activity	Total Width	Building Edge?	Kerb Edge?	Any unusable width (<0.6m)	Street Furniture 1			Street Furniture 2			Street Furniture 3			Clear Footway Width	Average Flow Crowding (ppmm)	Peak Hour Flow Crowding (ppmm)	Ave of Max Activity Crowding (ppmm)	Pedestrian Comfort Level (For Average Flows)			Pedestrian Comfort Level (For Peak Hour Flows)			Pedestrian Comfort Level (Average of Max Activity)		
											Type	Width of Furniture	Buffer	Type	Width of Furniture	Buffer	Type	Width of Furniture	Buffer					Average PCL	Total Width Required for PCL B+	Clear Width Required For PCL B+	Peak Hour PCL	Total Width Required for PCL B+	Clear Width Required For PCL B+	Ave of Max PCL	Total Width Required for PCL B+	Clear Width Required For PCL B+
1	Location A	Full Footway Width	High Street	750	1000	2250	3.62	Yes	Yes											3.22	4	5	12	A	1.90	1.50	A	1.90	1.50	B	3.53	3.13
2	Location B	Full Footway Width Changes	High Street	750	1000	2250	3.572	Yes	Yes											3.172	4	5	12	A	1.90	1.50	A	1.90	1.50	B	3.53	3.13
3	Location C	Full Footway Width Changes	High Street	750	1000	2250	3.892	Yes	Yes											3.492	4	5	11	A	1.90	1.50	A	1.90	1.50	B+	3.53	3.13
4	Location D	Full Footway Width Changes	High Street	750	1000	2250	3.698	Yes	Yes											3.298	4	5	11	A	1.90	1.50	A	1.90	1.50	B+	3.53	3.13
5	Location E	Full Footway Width Changes	High Street	750	1000	2250	5.339	Yes	Yes											4.939	3	3	8	A	1.90	1.50	A	1.90	1.50	A-	3.53	3.13
6	Location F	Full Footway Width	High Street	750	1000	2250	5.327	Yes	Yes											4.927	3	3	8	A	1.90	1.50	A	1.90	1.50	A-	3.53	3.13
7	Location G	Full Footway Width	High Street	750	1000	2250	5.262	Yes	Yes											4.862	3	3	8	A	1.90	1.50	A	1.90	1.50	A-	3.53	3.13
8																																
9																																
10																																

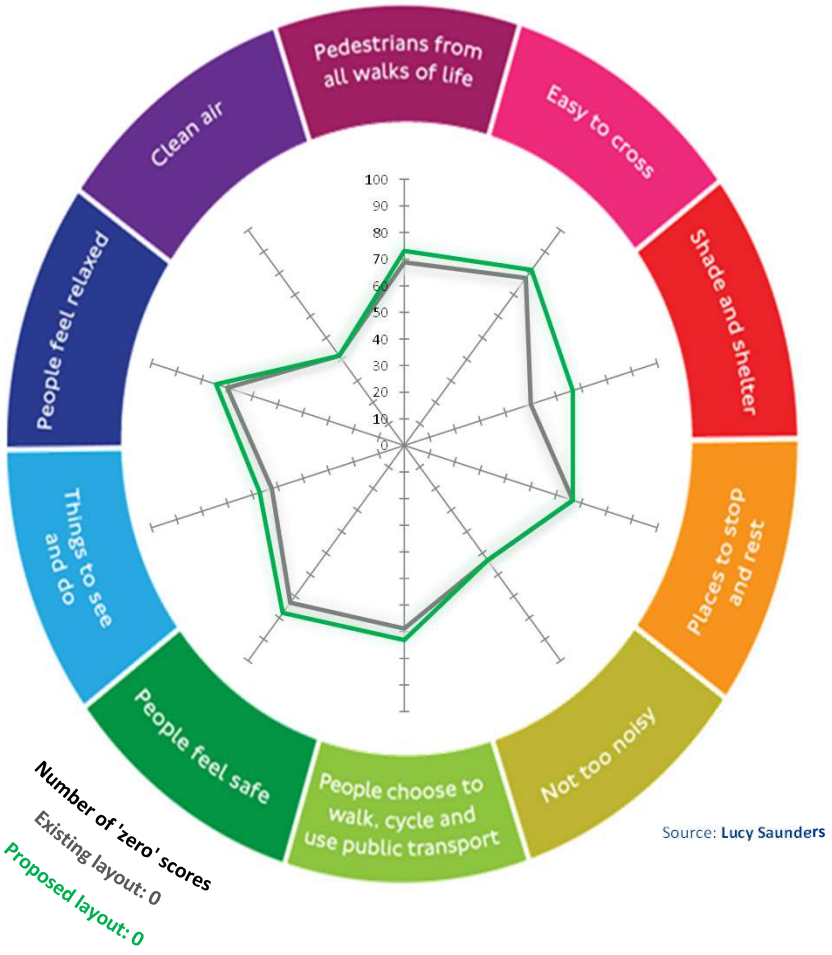
PEDESTRIAN COMFORT ASSESSMENT: FOOTWAY COMFORT

Clear Examples

	Location Name	Location Type	Area Type	Average Flow	Peak Hour Flow	Ave of Max Activity	Total Width	Building Edge?	Kerb Edge?	Any unusable width (<0.6m)	Street Furniture 1			Street Furniture 2			Street Furniture 3			Clear Footway Width	Average Flow Crowding (ppmm)	Peak Hour Flow Crowding (ppmm)	Ave of Max Activity Crowding (ppmm)	Pedestrian Comfort Level (For Average Flows)			Pedestrian Comfort Level (For Peak Hour Flows)			Pedestrian Comfort Level (Average of Max Activity)		
											Type	Width of Furniture	Buffer	Type	Width of Furniture	Buffer	Type	Width of Furniture	Buffer					Average PCL	Total Width Required for PCL B+	Clear Width Required For PCL B+	Peak Hour PCL	Total Width Required for PCL B+	Clear Width Required For PCL B+	Ave of Max PCL	Total Width Required for PCL B+	Clear Width Required For PCL B+
1	Location A	Full Footway Width	High Street	750	1000	2250	3.62	Yes	Yes											3.22	4	5	12	A	1.90	1.50	A	1.90	1.50	B	3.53	3.13
2	Location B	Full Footway Width Changes	High Street	750	1000	2250	5.527	Yes	Yes											5.127	2	3	7	A+	1.90	1.50	A	1.90	1.50	A-	3.53	3.13
3	Location C	Street Furniture (Single)	High Street	750	1000	2250	5.4	Yes	Yes		Column	0.7	0.4							3.9	3	4	10	A	3.00	1.50	A	3.00	1.50	B+	4.63	3.13
4	Location D	Full Footway Width Changes	High Street	750	1000	2250	4.898	Yes	Yes											4.498	3	4	8	A	1.90	1.50	A	1.90	1.50	A-	3.53	3.13
5	Location E	Street Furniture (Single)	High Street	750	1000	2250	5.529	Yes	Yes		Column	0.7	0.4							4.029	3	4	9	A	3.00	1.50	A	3.00	1.50	B+	4.63	3.13
6	Location F	Full Footway Width	High Street	750	1000	2250	5.518	Yes	Yes											5.118	2	3	7	A+	1.90	1.50	A	1.90	1.50	A-	3.53	3.13
7	Location G	Full Footway Width	High Street	750	1000	2250	5.262	Yes	Yes											4.862	3	3	8	A	1.90	1.50	A	1.90	1.50	A-	3.53	3.13

E. Healthy Streets Check for Designers Output

Name of scheme	Fox Court
Segment number	1



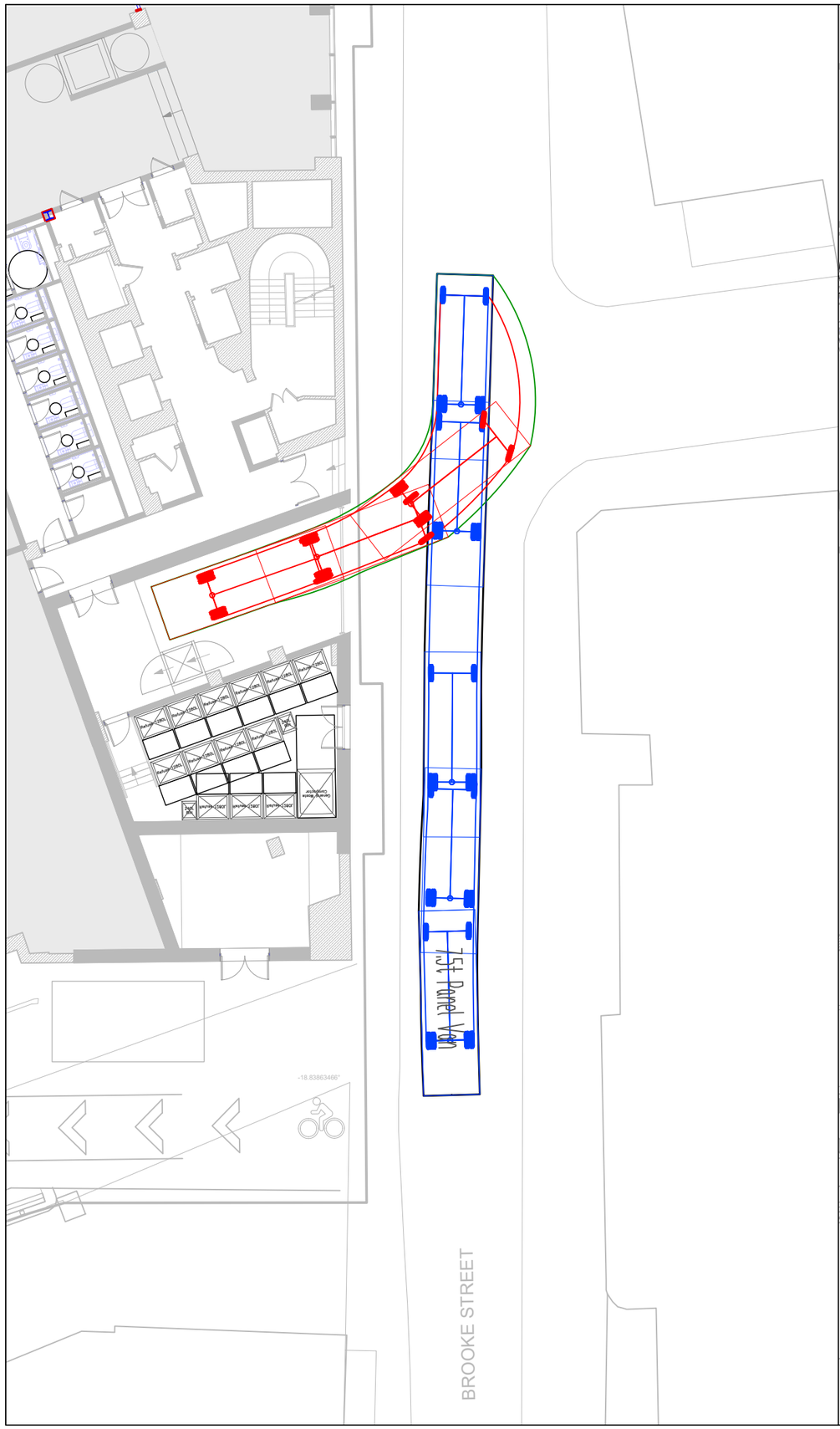
Source: Lucy Saunders

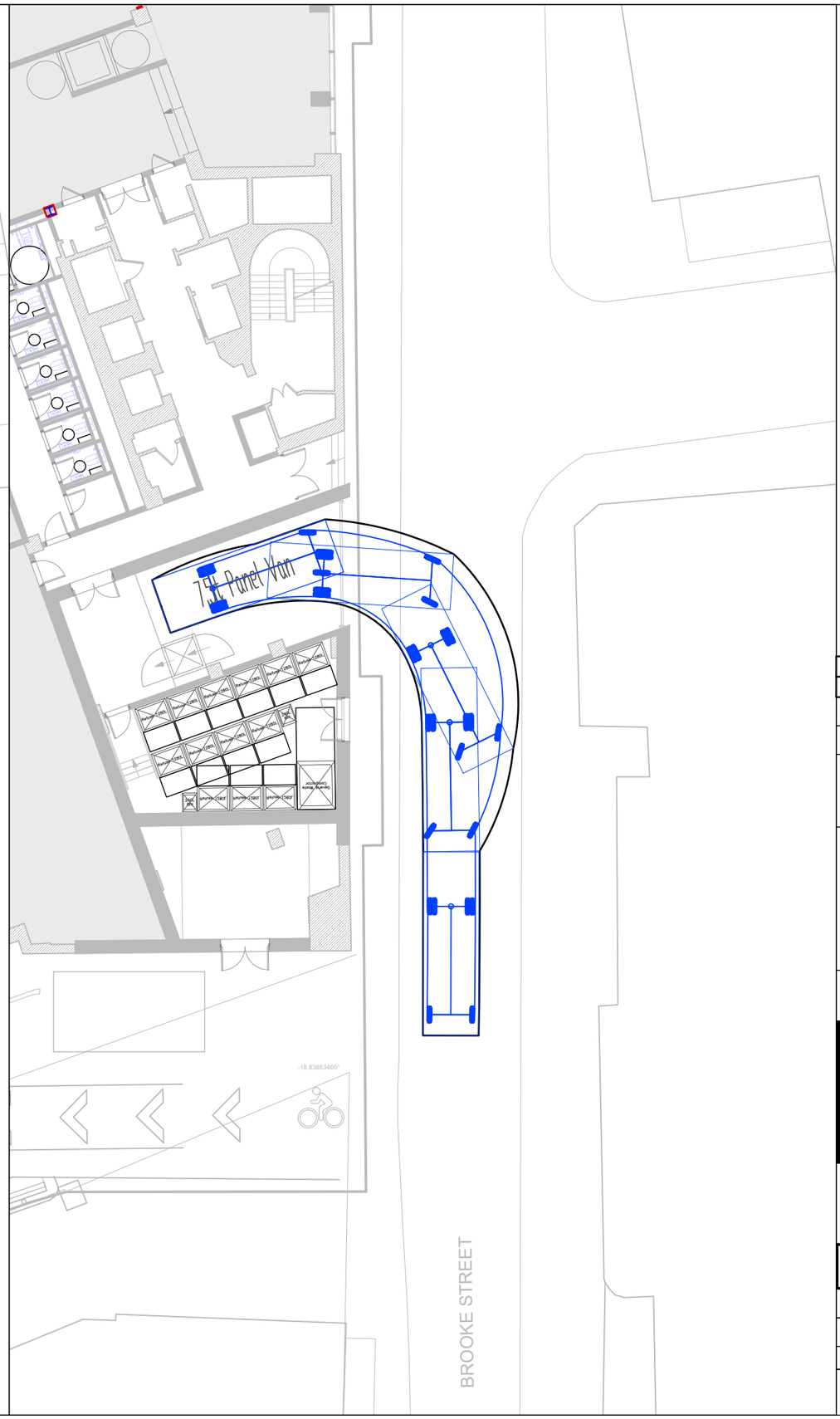
Healthy Streets Indicators' scores (%)

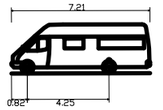
(Results will only display once all metrics have been scored)

	Existing layout	Proposed layout
Pedestrians from all walks of life	69	73
Easy to cross	78	81
Shade and shelter	50	67
Places to stop and rest	67	67
Not too noisy	53	53
People choose to walk, cycle and use public transport	69	73
People feel safe	73	78
Things to see and do	52	57
People feel relaxed	70	74
Clean Air	42	42
Overall Healthy Streets Check score	68	72
Number of 'zero' scores	0	0
(Proposed layout score from applicable metrics)		13.79%

F. Swept Path Analysis







7.5t Panel Van	
Overall Length	7.210m
Overall Width	2.192m
Overall Body Height	2.544m
Min Body Ground Clearance	0.316m
Track Width	1.865m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.400m

Rev	Date	Description	By	Chk
P01	25.07.23	LOADING BAY UDPATED	JH	MP
P01	17.07.23	ISSUED	JH	MP

Amendments

Project

FOX COURT

Title

SWEPT PATH ANALYSIS
7.5t Panel Van

Client

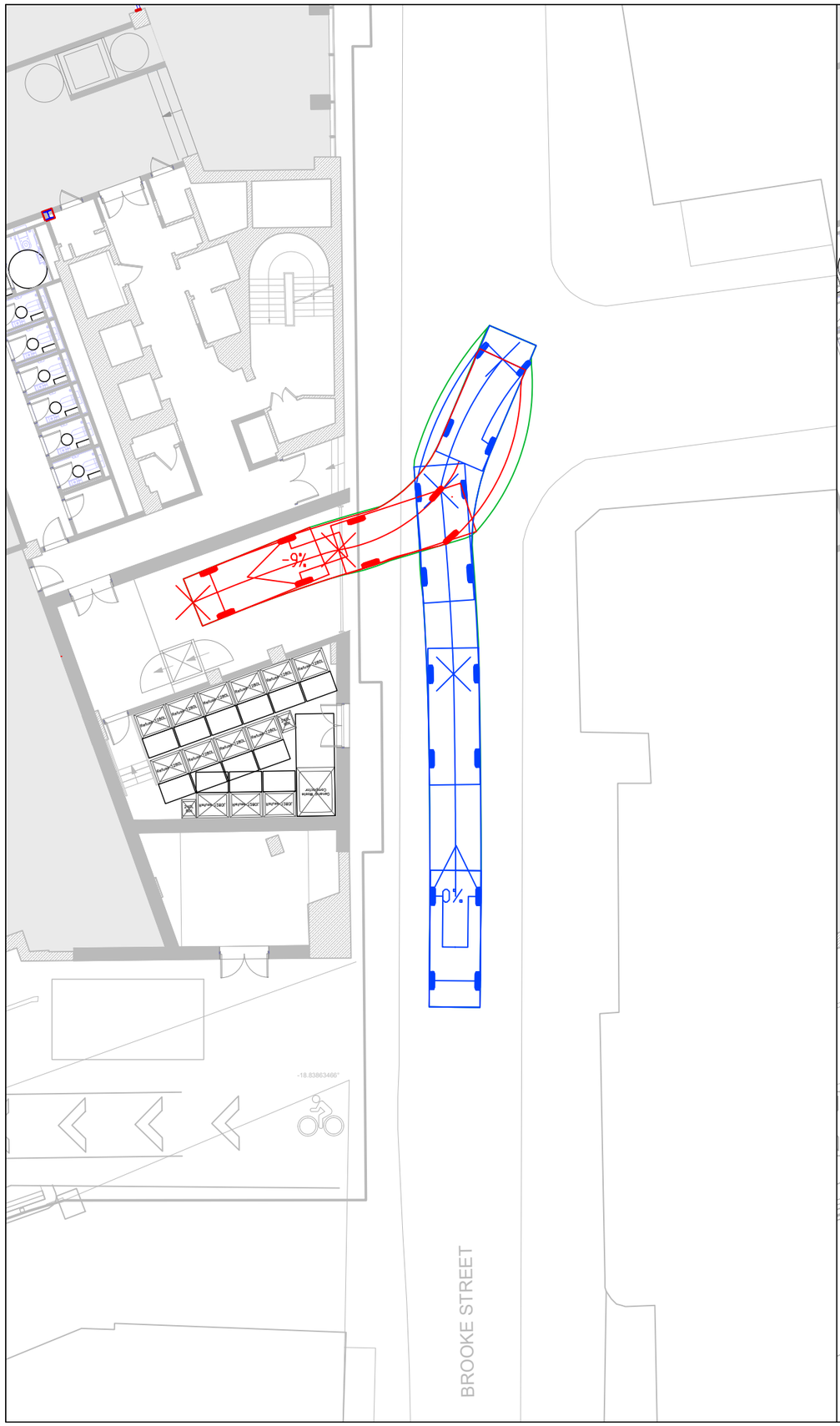
General Projects and Valeo Capital

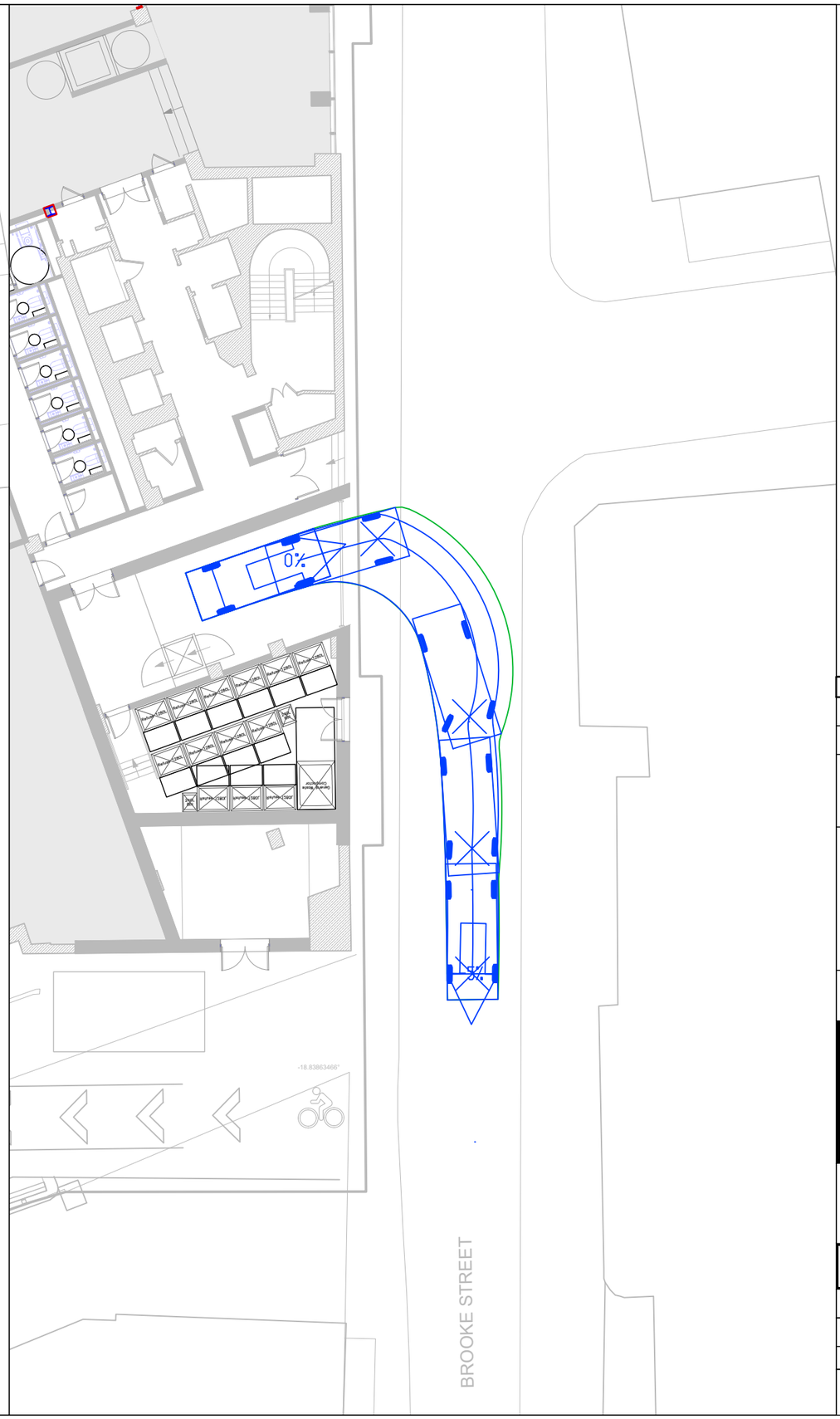
Pickfords Wharf, Clink Street, London SE1 9DG
t 0207 928 7888
mail@watermangroup.com www.watermangroup.com

WIP S0

Designed By	Director	Waterman Ref
JH	AB	WIE19467
Drawn By	**Date**	**Scales @ A3**
GF	07/06/2023	1:200

Project - Originator - Volume - Level - Type - Role - Number	Revision
WIE19467-SA-0002	P02





3.5t Panel Van	
Overall Length	5.339m
Overall Width	1.986m
Overall Body Height	2.565m
Min Body Ground Clearance	0.338m
Track Width	1.986m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	6.400m

Rev	Date	Description	By	Chk
P01	25.07.23	ISSUED	JH	MP

Amendments

Project

FOX COURT

Title

SWEPT PATH ANALYSIS
3.5t Panel Van

Client

General Projects and Valeo Capital

Pickfords Wharf, Clink Street, London SE1 9DG
t 0207 928 7888
mail@watermangroup.com www.watermangroup.com

WIP S0

Designed By	Director	Waterman Ref
JH	AB	WIE19467
Drawn By	**Date**	**Scales @ A3**
GF	07/06/2023	1:200

Project - Originator - Volume - Level - Type - Role - Number	Revision
WIE19467-SA-0005	P01