Mid-century zero carbon in outer London town centres

The outer London major and mid-size town centres have a great future ahead of them, and more so if each borough targets one or two for intensification within a one mile radius, sugests Lars Christian

There are one to two dozen major town centres in outer London, about half known as metropolitan centres in the London Plan. Most of these have a thorough retail, housing, employment, transport, public realm, park, civic, culture, sport and/or educational offering. This articles contains seven recommendations of how the major and mid-size town centres in the twenty-one outer boroughs can become carbon neutral whilst meeting opportunities and challenges during the next decade *(see tables)*. See also PiL 91/p49 for more on town centres in the Thames Estuary/Gateway.

Some mid-size town centres may have the potential to expand into major zero carbon town centres, particularly in the eastern boroughs, some with substantial brownfield land. But only if they can also provide an outstanding retail, public realm, parks, transport, amenities etc offering. A small number of new mid-size town centres may also appear; Silvertown, Barking Riverside, Meridian Waters included. The recommendations are also valid for major and (fast) growing town centres elsewhere in England.

High end quality apartments

For major outer town centres to prosper for decades to come, a broad, diverse and compact housing offer is required within a one mile radius. Made up of four main categories: social housing, mid- market (apartments and/or row houses depending on location), high end apartments, and high end row/terraced housing, ideally maybe 20 per cent of each category. Two additional categories of housing are also needed but in smaller number; student housing and 55+ housing *(see PiL 115/p70)*.

An average housing density of 100 persons or 40 dwellings per hectare may be necessary – similar to the average densities of inner London – on half to three quarters of the land area within a mile radius. The other 1-2 quarters of the one mile radius area being industrial, transport, distribution, institutions and/or parks, forest etc.

If approximately a quarter of the housing offer is high end row/terraced, a quarter high end apartments, a quarter mid-market, and a quarter social housing, each category would consist of 4- 6k dwellings or 8-12k residents[1]. Within the twenty-one outer boroughs, a one mile radius area equals to about one seventh gross and a quarter net of the land area of an average borough [2].

Of the 40 major and mid-size outer town centres in the tables, as many as three quarters (17+13) of the town centres lack a significant proportion of a high end apartment segment. At some, Brent Cross and Wembley included, the high end apartment segment is increasing. However, for the remaining almost half of the town centres (9+9), with current policies the housing offer may not change much in the medium future. Notable exceptions may be places like Sutton, Walthamstow etc, with little brownfield land but a considerable proportion of (post war) high street land. With the potential for transformation from post-war retail/commercial/parking to mixed retail/commercial/residential *(see text box over page)*.

Town centre growth potentials

Some major and mid-size outer town centres have low density/brownfield land within 2/3 miles of the centre/station. Others have low density retail land, car parks included, that may offer opportunities to be regenerated. With high flexible mixed use ground floors, underground or first floor car parking and four or more storeys of (high end) apartments on the upper floors. The equivalent of twice the height of typical 3-4 storey pre/post-war town centre buildings.

Of the seven outer boroughs that built the most from 2016 to 2019, one third of the London total, four have both an expanding major town centre as well as significant developments elsewhere (Bar, Bre, Gw, Nw), in two boroughs developments are spread in several areas (Eag, Hsw), in one borough a significant proportion is mostly in one centre (Cy).

In the seven outer boroughs with medium housing completion (Hgd, Hrw, Hgy, WF, Brl, Rbg, Su; 15 per cent of total), Redbridge is maybe the one with the most ambitious target for its major town centre, Ilford. In the remaining seven outer boroughs with the lowest housing completion (Ef, B&D, Bex, Mn, Hvg, RuT, KuT; 9 per cent of total), two potential new mid-size town centres may emerge, Barking Riverside and Meridian Waters.

If the trend from the 2016-2019 period continues for the next six years, town centres such as Brent Cross, Stratford, Croydon, Woolwich and Wembley may grow significantly. And on a more medium growth scale, in or near town centres such as Acton, Bromley, Harrow, Hounslow, Southall, Sutton, Uxbridge, Walthamstow and/or Wood Green.

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Textbox: Sutton as a diverse residential town centre

To maintain the long term success of Sutton town centre, a few thousand quality apartments may be needed, to house several thousand above average income (smaller) households, the elderly and the young included. Seven (post-war) blocks along the high street have a potential for 100k sq m of ground floor commercial space, up to 5k basement e-car parking spaces, 50k sq m of first floor shared gardens and 500 to 800 apartments per floor from first floor upwards. Sutton, with its one kilometre long high street, parallel streets on average 100 metres on either side, together with the commercial area around the station, extends to almost a third of a square kilometre (75 acres).

Urban Pilot, London and Scandinavia

Zero carbon orbital transport revolution

A dozen major and mid-size town centres would benefit from a possible Heathrow and West London tramlink, extensions to the existing South London tramlink, extension of the DLR along the North Circular Road, as well as several possible extensions to the outer orbital Overground *(SEE map over page)*.

Several dozen major and mid-size town centres would also benefit from a possible green orbital e- cycle grid for commuters and leisure trips. Joining up town centres and (countryside) parks, along or slightly beyond the North and South Circular Roads. Through some of the areas with the highest housing, population and employment densities within the outer boroughs *(see PiL 103/p83)*.

In Paris, a 33 km long deep orbital metro line is under construction in the south, with 16 new connecting stations two kilometres apart. Eventually connecting 36 redevelopment areas, if the orbital line is completed as planned east, west and north. Similar in length to the North and South Circular Roads and the equivalent elevated and enclosed A86 mid-motorway ring around Paris.

Selected outer borough town centres near the above possible orbital transport improvements, would particularly benefit, when they also have (low density) brownfield land within a 2/3 mile radius of the town centre/stations *(see tables)*.

Outer London Major Town Centres 2021

6+9+7 (2)	Housing	Retail	Parks Rivers	Public T'sport	New Orbital	Civic	Jobs k	Brown' Land	Pie 1m
Bexleyheath	I-II	m	m	*=		m	13	–	⅔
Brent Cross	I-II	xx	m	I	TL+DLR	m	14	x	¾
Bromley*	I-II	xx	m	"Y	T	x	28	–	1
Canary Wrf	IIII	x	x	*┼	(T)	m	126	x	IB
Croydon*	IIII	x	m	"┼		x	38	x	1
Ealing*	I-II	x	m	=		x	29	–	1
Enfield	I-II	m	m	"I		x	17	x	¾
Harrow*	I-II	m	m	"Y	T	x	32	x	⅔
*Hounslow**	I-II	m	m	"=	OG	x	20	–	1
Ilford*	I-II	x	m	–	DLR	x	11	x	¾
Kingston*	IIII	xx	xx	–	T+OG	x	35	–	⅔
Orpington	I-II	m	m	Y		–	7	–	¾
Richmond	I-I-	m	xx	┼		m	20	–	½
Romford*	I-II	xx	m	Yº		x	17	x	1
Shep'Bush*	IIII	xx	–	*┼		m	40	x	IB
Stratford*	IIII	xx	xx	*┼		m	?	x	⅔
Sutton*	I-II	xx	–	Yº	OG	x	24	–	1
Twickenham	I-I-	–	x	Yº		x	(9)	–	½
Uxbridge*	I-II	m	xx	ii	OG	x	25	–	½
Walthamstow	I-II	m	–	*┼		m	11	–	1
Wembley	IIII	m	m	*Y	OG	m	23	x	1
Wimbledon	I-I-	m	m	┼	OG	m	20	–	1
WoodGreen*	I-II	m	x	*II		x	16	x	⅔
Woolwich	IIII	m	x	"Yº	(T)	m	20	x	⅔

*Metropolitan centres 13; X=Excellent, M=Medium, Yellow=Ongoing potential; **Housing**: proportion/quarter high end row/terrace, high end apartments, mid-market, social; **Public realm**: major/minor park, river/canal; **Public transport**: ┼ Y – i = 4-3-2-1 directions by rail, "/*=2 or more stations on two or more lines, ºorbital in one direction; **Civic**/borough centre +cultural/ sport/ educational; **Jobs**: 2013 by wards; **Brownfield** = Low density/brownfield land within ⅔ mile radius; **Pie r=1m**: proportion of built up area within 1 mile radius from station/s; IB=inner borough

Outer London Mid-Size Town Centres 2021

4+6+8	Housing	Retail	Parks Rivers	Public T'sport	New Orbital	Jobs k	Brown' Land	Pie 1m
Acton	IIII	–	m	*┼	OG	6	x	⅔
Barking	-III	x	m	Y	DLR	5	x	⅔
Barnet	I-I?	x	x	i	–	8	–	⅔
CrystalP+P	I-II	x	x	"Y/┼	T	2	–	⅔
Dagenhm+DD	--II	x	m	" =	–	2	x	½
EastHam+UP	IIII	m	m	–	–	20	–	¾
Edgware+BO	I-I?	m	m	i	T	14	–	¾
EdmontonG	I-II	x	m	I	(dlr)	4	–	¾
Eltham	I-II	x	m	–	T	5	–	⅔
Feltham	I-II	m	x	–	T+HX	4	x	⅔
FinchleyC+N	I-II	x	m	I	T	4½	–	⅔
GoldersG+TF	I-I?	x	x	I	(dlr)	7	–	¾
GreenwcN+E	IIII	m	xx	"=	DLR/T	6	x	⅓
Hayes	I-II	–	m	–	T+CR	4	x	⅔
Southall	IIII	x	m	–		6	x	⅔
New Malden	I-I-	–	–	Y	OG/T	5	–	⅔
Teddington	I-I-	–	xx	I	OG	10	–	½
Thamesmead	I-II	m	xx	B	OG	1	x	½

Public realm renaissance

Within a mile radius of the major and mid-size town centres, the use of the road space would be reversed, partly with inspiration from the City of London. As a rule of thumb, one half of road space will be reserved for pedestrians, seating and trees – near junction side streets included. One tenth for cyclists. The remaining (maximum) one third for vehicle traffic, first with emphasis on public transport and second on delivery. And with short term bike and car parking in basements, on first floors, in back and side streets.

In a typical outer London high street, with 15 to 30 metres between facades, building heights along half the length of each

Wood Green as a zero carbon cycling champion

Wood Green is superbly located, has great retail offering, but poor public realm, next to no cycling provision and limited high end apartments. The development potential of the 15ha 'brownfield' land between the centre and the railway is maybe similar to Sutton in volume. Berkeley is fitting 1.7k homes and 10k sq m commercial space on one third of the land. The remaining two third could accommodate several times more commercial space on ground floor level alone and maybe twice as many homes. Bringing the total to 5k apartments with 10k residents, all within 1/3 mile of the centre and either stations. By dedicating 1 in 4 side streets within a mile radius to walking, cycling and car access only, about one quarter of residents of the borough will be within short cycling distance of the centre.

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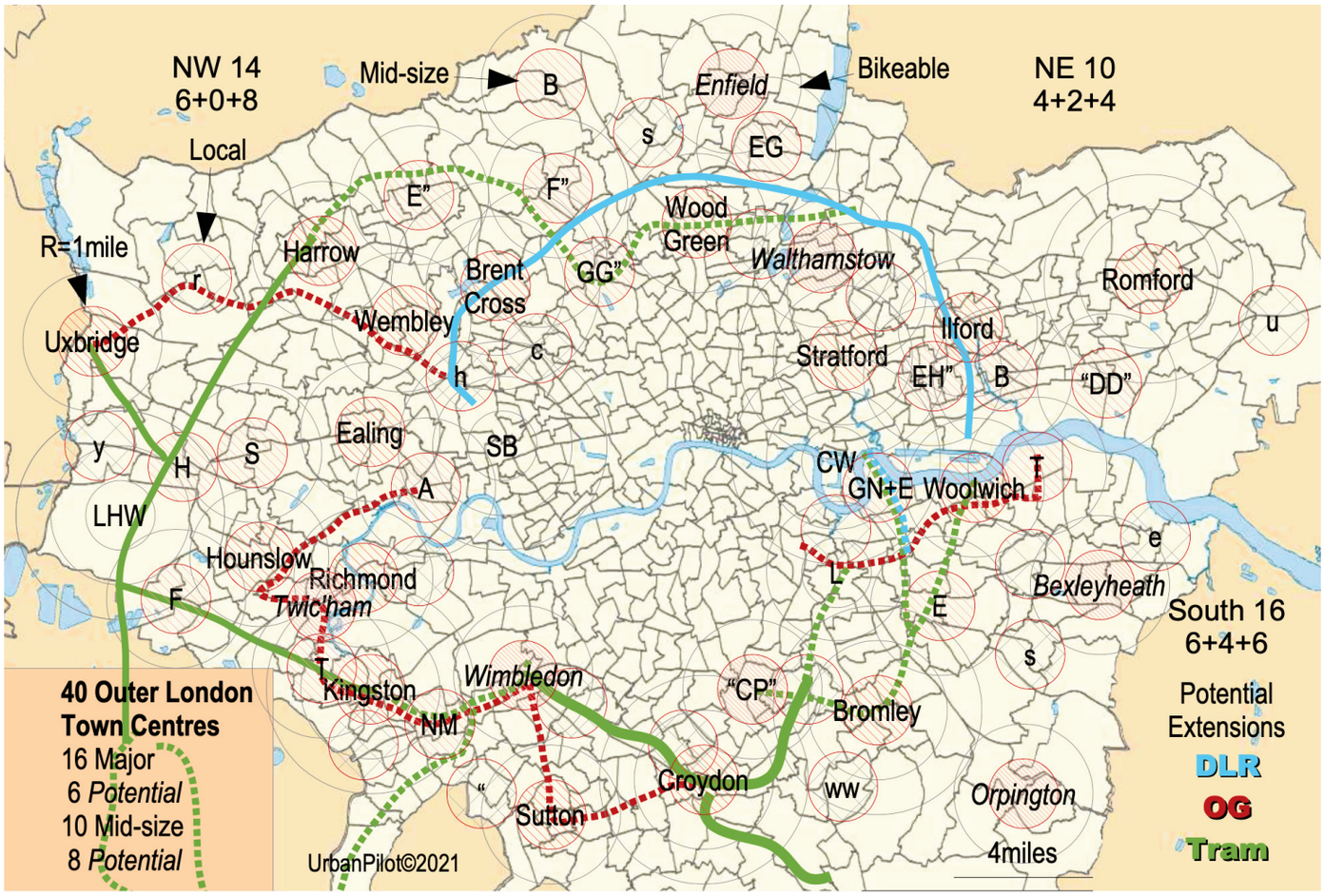

>>> block would not exceed six to eight storeys, the other half only half that height on average allowing sunshine into the hight street, during summer, spring and autumn.

In high streets with ground floor front extensions, double mansard roofs would be proposed in exchange of removing the front extensions and returning the front land to the public realm in the form of wider pavements, outdoor seating, squares, sports, children's use, and/or other accessible public use. Further, all new buildings would contribute towards wider pavements.

In town centres including Croydon, Ilford and Stratford, locating high rise buildings along narrow payments would be discouraged. Only where high rise buildings will lead to a public realm renaissance – and where cyclists can safely reach, pass and park – will high rise buildings be sought and approved.

Zero carbon e-bike revolution

To allow and encourage up to 99 per cent of residents to take up e-/cycling, and ensure that e-/cycling is twice as fast as e-/car driving, a quarter of the side streets within a mile radius of the station/centre of the major and mid-size outer town centres would be reserved for cycling and (car) access only.

This will directly benefit local residents within a one mile radius taking up e-/cycling (1/5 to 1/6 of borough residents*). As well as residents who mostly prefer to walk but use shared e-cargo-bikes for a few weekly shopping trips. An additional 1/5 to 1/6 of residents per borough within a 11/2 mile radius, will also enjoy improved access, on the last half or more of their bike journey to the town centre/station (3).

This would revolutionise commuting for about half of residents of outer London if applied to thirty-odd major and mid-size town centres/stations throughout the twenty-one outer boroughs, altogether 21/3 million inhabitants, turning the town centres into major transport hubs, where a dozen centres would also benefit from improved orbital journeys. In addition to the eleven town centres that already benefit from orbital train, tram or DLR services *(see tables)*. Bringing a comprehensive transport modal shift to outer London, with a major reduction in (short) car journeys, already experienced in inner London during the two last decades.

Ground floor, side street and corner rethink

For ground floor units in rear and side streets, a large flexibility of commercial use is needed beyond the recent creation of use class E. Ground floor shared offices, studios and workshops in rear and side streets will add to the attraction and diversity of the town centres allowing more people to work closer to home, whilst accommodating several floors of apartments on upper floors.

Similarly, social infrastructure, including pre-school nurseries and sports facilities also fit well in ground floor (rear and side street) units. In combination with further commercial or residential use on the upper floors. At street corners, units should ideally be occupied by hospitality businesses with outdoor seating encouraging take up of the corner units by cafés rather than banks, estate agents or similar day-time-only use.

The lessons for the outer town centres of London from the >>>

>>> guidance is maybe that some things change and some things are more permanent. Physical qualities of buildings and the public realm are more permanent. Whilst people, demographics and economics change and fluctuate, so do retail, work, leisure, health, sports, education and travel pursuits and practices. So for town centres to prosper for more than a decade or a generation, they need to be robust enough to cater for and allow this change to take place as an incremental and continuous process, forever.

Socio cultural place study guidance

For maybe two generations, emphasis has been on urban character and urban form, maybe as a reaction against the more 'experimental' architecture and public realm of the 60s and 70s. Knowledge of and/or expertise in how town centres work socio spatial, or the social dimension of urban physical form, ought to be enhanced and promoted. Denmark is best known for its comprehensive focus on this, and I initiated the preparation of guidance on this in Norway in 2007, targeting decision makers, developers, architects and planners. And for them to be confident in engaging consultants to prepare socio cultural place studies of town centres (www.urbanpilot.blogspot.com)

Oddly, some pre-war town centres may be more flexible to incremental change than more recent ones, some of the latter requiring comprehensive demolition and rebuild. Maybe because the former are more dense, with shorter distances, mixed land uses, ground floor flexibility and catering better for walking.

Employment, activities & amenities

For the outer town centres to flourish – employment, retail, services and amenities that attract many people but take up little land use – would be located there as default, rather than in retail or light industrial parks elsewhere. Directly serving one million inhabitants within a one mile radius of thirty-odd major and mid-size town centres in the twenty-one outer boroughs (4). And an additional 11/3 million within 11/2 mile cycling radius *(see proposals 1 and 5 above)*.

This includes most retail and employment opportunities, including light industrial and co-working workshops and studios reducing the need for small businesses and the self employed to seek premises away from the town centres. And eliminating the need for ground floor apartments within a mile radius of the town centres/stations. Further, modern warehouse-style buildings, with increased ceiling heights on all floors, will allow a diverse range of businesses to locate on different floors, with light van parking on the first floor *(see PiL 109/p48)*.

Mid-century zero carbon outer town centres

The outer London major and mid-size town centres have a great future ahead of them, and more so if each borough targets one or two for intensification within a one mile radius area. With particular focus on increasing housing diversity, transport U-turn, ground floor flexibility, upper floor residential intensification, as well as public realm renaissance. With dedicated support and grants from the Mayor of London and TfL for the thirty-odd (potential) major outer town centres.

At the same time, turning the twenty-one outer boroughs carbon neutral by commissioning 150 10MB offshore wind turbines annually for fifteen years to supply half of the total energy needed within the outer boroughs; transport, heating, cooling, construction and production included.

The long term aim is to increase population, employment, activities, amenities and service densities within a one mile radius of the town centres/stations. Where more people work, study, retail, exercise, recreate and travel locally by e-/bike – by adults, the elderly and the young included. Including by frequent zero carbon orbital commutes by e-/bike, rail and/or tram. This will provide a comprehensive choice of work, education, retail, sports and leisure opportunities, within and between the twenty-one outer London boroughs. ■

Dutch style twin row houses & flexibility

Ground level multi-use flexible maisonettes, found in Ijburg in Amsterdam, should be promoted in rear and side streets, free to use as businesses or residential. Similarly, building Dutch-style, 'row houses', one on top of the other – two upper units with individual roof terraces, sharing a ground and first floor stair with one neighbour only – should extensively be promoted between 3/4 to 11/4 mile radius of outer London town centres.

Locating various activities one on top of the outer, is also relevant as a model for major outer town centres – avoiding single, double or triple storey mono-use buildings and neighbourhoods. Similarly, locating multi-use buildings and activities wall-to-wall and right up against wide pavements should be the default, rather than the exception.

Notes
(1) Total 4-6km2 = 400-600ha = 16-24k units = 32-48k people per town centre.
(2) Net/gross total 21 boroughs = 740/1300 km2; or on average 35/62 km2 per borough net/gross greenspace.
(3) On average per town centre, where 1/4 of area within a one mile radius is green space (61/2 km2 net); 1/3 green space within 11/2m radius (13 km2 net).
(4) At 32k inhabitants per town centre.
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