

Better Plan making – an engineered view

*How can we write better planning documents,
to improve the UK ‘planning system’ ?*

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Following on from the recent article on [the planning system](#), here I take a deeper dive, and use my decades of engineering experience in some of the world’s largest construction projects to look at ways that plans can be written more concisely and effectively, so that we - and everyone else - can understand them, and more importantly comply with them, and be shown to do so. London is more than a big enough project to justify this established approach.

The aim is simple - to specify and get what we want, and not waste time arguing over this phrase or that - who could disagree? Lawyers possibly, they might lose some work.

There are established ways to write modular documents so that their content can be tested - *requirements management* – a part of Systems Engineering, and something that large projects indulge in – and something I used to do professionally.



As an illustration, I’ve worked through a real example for London Plan policy D9 at the end of this piece, and along the way, illustrate how Earls Court are, right now, using the loose wording of policy D3 to their advantage.

Might AI help us?

Requirements management is helpful in clarifying what one is trying to achieve, but it's a traditional well-established methodology, now eschewed by the tech industry, with approaches such as *agile development*, summed up in the phrase - and book - *move fast and break things*. It's a bit old-fashioned these days. But planning was never fast and the quality of typical plans is sufficiently below par, that *agile* would properly break them – we might aim to do the basics first.

With recent innovations, a reasonable question is: *Might AI help us?* Set aside the hype and look at the technology of *Large Language Models*, which form the basis of much of the current AI landscape. As we appear to have a fair amount of trouble with large wordy documents, their upkeep and modification, having something independent – a machine – understand what they are saying, improve them by making them more precise and easier to maintain: AI could be a good fit. I’ve certainly been impressed with one or two pieces of real-world AI, for example the sort that can automatically

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make meeting minutes from recordings, and importantly, then make useful summaries of them. Ealing council have found real world uses too, according to [recent reports](#).

If our experience is anything to go by, AI can be a useful assistant – a first pass – and we might look to the government's new *Artificial Intelligence Playbook* for more ideas. But rather than relying on something like the European Artificial Intelligence Act, or the hastily renamed UK AI Security Institute to tame the AI, the skilled human mind is probably needed to control so-called *hallucinations*, with a good understanding of well-crafted requirements also being essential – we might need to further train the AI.

Clarity

Why write proper requirements? Large projects do it to create a clear structure, so that teams of people can work on individual elements, often in separate buildings, perhaps separate companies or even countries, and when the whole is brought together it fits. It works. Individual elements can be tested independently and be shown to work at their boundaries, just as a planning hierarchy should, for example the one shown above. Large projects also do it because failure to set good requirements is often cited as the number one reason for project failure. These days they might not be called *requirements*, they might be called *goals*, *objectives* and any number of other euphemisms, but in the end, they're really *requirements*.

Elon Musk may be the richest man in the world for a reason, and while that includes his company landing a space rocket backwards, whatever you think of him, he's not (yet) known as a lawmaker. However he recently said "*Laws should be long enough to cover the subject, but short enough to be understandable by a normal person who is expected to follow them*". Could that be a useful mantra for planning laws too?

Whether recognised as such or not, these plans contain policies that are actually *requirements*, either for a project to proceed, or for more detailed plans to elaborate on (in one of those old-fashioned V&V diagrams I used to wrestle with), or a *plan for change* as Hammersmith Society's President - not *that* President - would say. Unfortunately many poorly expressed requirements can be found in the current 542 page London Plan, its contents peppered with *shoulds*, *woulds*, and *coulds*.

Over thirty years ago, a short paper written by a NASA contractor shows how to [write good requirements](#), which are **necessary**, **verifiable**, and **attainable**, subsequently often given the catchy acronym **SMART**. There are many more detailed and updated versions, but it covers the essentials.

Conventionally, if there's a hard requirement, it's a *shall*, if it's optional then it's a *should*, but really, few developers are going to take heed of *shoulds*, and they are unenforceable, so perhaps best simply left out. A very much shorter document results, where boundaries can be understood. The rest is guidance – and to the creator's chagrin – can and may well be, ignored. Today, *must* is often used in place of *shall* – sounding less formal – but this also flies in the face of the need for legal formality.

London Plan analysis

The 2021 London Plan contains

- 1540 *shoulds*,
- 83 *coulds*,
- 161 *musts*,
- **0 occurrences of *shall*.**



Unfortunately where *must* is used it's almost always watered-down and weakened by a string of ambiguous explanatory terms following, as illustrated in policy GG5 below. Guidance is a popular secondary approach, being regularly updated and expanded in the hope that it will have a meaningful benefits, and on some subjects it's all that's available. The result is that developers can make their proverbial hay, a current example of which I illustrate below. It's also worth noting that the December 2024 version NPPF contains 442 *shoulds*, 18 *coulds* only 9 *musts* and again no *shalls*.

There have been attempts to separate the guidance from requirements, but both are written in the same style and with similar problems, and putting requirements in a coloured box with an ID to try and lend them some gravitas, doesn't automatically make them pass the QA test! The same applies Local Plans, Hammersmith's included.

GG5 Growing a good economy

To conserve and enhance London's global economic competitiveness and ensure that economic success is shared amongst all Londoners, those involved in planning and development must:

- A promote the strength and potential of the wider city region
- B seek to ensure that London's economy diversifies and that the benefits of economic success are shared more equitably across London
- C plan for sufficient employment and industrial space in the right locations to support economic development and regeneration
- D ensure that sufficient high-quality and affordable housing, as well as physical and social infrastructure is provided to support London's growth
- E ensure that London continues to provide leadership in innovation, research, policy and ideas, supporting its role as an international incubator and centre for learning
- F promote and support London's rich heritage and cultural assets, and its role as a 24-hour city
- G make the fullest use of London's existing and future public transport, walking and cycling network, as well as its network of town centres, to support agglomeration and economic activity
- H recognise and promote the benefits of a transition to a low carbon circular economy to strengthen London's economic success.

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Ambiguous terms, familiar to those of us in the planning world, are listed in *writing good requirements*. Here are the number of occurrences of each term in the 2021 London Plan in brackets:

- Minimise (55)
- Maximise (56)
- Rapid (11)
- Easy (9)
- Sufficient (63)
- Adequate (34)

Requirements using these terms are rarely measurable or enforceable. In the planning world, there are further specific examples of similarly ambiguous, and inoperative phrases, such as *seek to...*, *encourage*, *promote*, *support*, *prioritise*, *rounded approach*, *design-led approach*, and many more warm and fuzzy terms of limited or no practical use, many unfortunately seen above.

D3 and Earls Court – a live example

Policy D3 replaced numeric density figures representing ‘Sustainable residential quality’ (SRQ) of the 2016 London Plan with the vague concept of *optimising site capacity through the design-led approach*. This policy is full of flowery words and crosses many, if not all, the red lines listed above.

Why does this matter? Because in the real world, projects like Earls Court argue that their density isn't extreme – as London Forum has calculated based on the measures in this table, it's the result of a – quote – “*design lead approach*”, “*optimising site capacity*”, and therefore complies with the London Plan. We highlighted the 2016 calculation method to illustrate the lack of a published figure “*Residential density figures should be based on net residential area which includes internal roads and ancillary open spaces...*” ECDC persisted with an unmovable position, even after a half-hour cross examination – density figures are no longer required. Arguably, London has gone backwards.

Table 3.2 Sustainable residential quality (SRQ) density matrix (habitable rooms and dwellings per hectare)

Setting	Public Transport Accessibility Level (PTAL)		
	0 to 1	2 to 3	4 to 6
Suburban	150–200 hr/ha	150–250 hr/ha	200–350 hr/ha
3.8–4.6 hr/unit	35–55 u/ha	35–65 u/ha	45–90 u/ha
3.1–3.7 hr/unit	40–65 u/ha	40–80 u/ha	55–115 u/ha
2.7–3.0 hr/unit	50–75 u/ha	50–95 u/ha	70–130 u/ha
Urban	150–250 hr/ha	200–450 hr/ha	200–700 hr/ha
3.8–4.6 hr/unit	35–65 u/ha	45–120 u/ha	45–185 u/ha
3.1–3.7 hr/unit	40–80 u/ha	55–145 u/ha	55–225 u/ha
2.7–3.0 hr/unit	50–95 u/ha	70–170 u/ha	70–260 u/ha
Central	150–300 hr/ha	300–650 hr/ha	650–1100 hr/ha
3.8–4.6 hr/unit	35–80 u/ha	65–170 u/ha	140–290 u/ha
3.1–3.7 hr/unit	40–100 u/ha	80–210 u/ha	175–355 u/ha
2.7–3.0 hr/unit	50–110 u/hr	100–240 u/ha	215–405 u/ha

Why are planning documents written like this? They appear much less prescriptive, and therefore less controversial, and much easier to write than proper concise requirements. Importantly, almost anything can be said to 'comply'. The result is the widespread disrepute we see today.

On the subject of wording, the red lines of “*but not limited to*”, and *etc* are often crossed (four and eight times in the London Plan), and as the author says “*...put in place because the person writing the requirements suspects that more may be needed than is currently listed. Using these terms will not accomplish what the author wants and can backfire*”.

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Sadly a quick review of the recent Part O of the Building Regulations, much maligned by CreateStreets and others for forcing new buildings have small poky windows, shows many similar defects, but at the same time gives precise methodologies for calculations, creating a jarring juxtaposition. What's the point in having a "should" followed by a precise numerical calculation ? To allow for some old-fashioned fudge ? This begins to look like GCE maths grade F.

The author of *writing good requirements* lists common problems:

- Making bad assumptions
- Writing implementation (HOW) instead of requirements (WHAT)
- Describing operations instead of writing requirements
- Using incorrect terms
- Using incorrect sentence structure or bad grammar
- Missing requirements
- Over-specifying

A worked example: Policy D9 (tall building definition) from the 2021 London Plan

"Based on local context, Development Plans should define what is considered a tall building for specific localities, the height of which will vary between and within different parts of London but should not be less than 6 storeys or 18 metres measured from ground to the floor level of the uppermost storey"

What's the problem ?

- "Based on local context" is not meaningful, given that it's aiming to define a straightforward measure.
- "Specific localities" are not defined. In Hammersmith, we've seen several real examples at boundaries where the wrong planning requirements have been used due to such lack of clarity.
- "Should" - twice - optional - really ?
- "will vary between and within" - confusing. Must it vary? between/within - what ?
- "Different parts of London" - unnecessary - this is the London Plan.
- "6 storeys or..." ambiguous - what is being measured, height or storeys ?
Why would storeys count ? The context is tall buildings. Nobody else uses storey count in a quick survey of *Council on Tall Buildings*. This is an attempt to redefine accepted and well-known term **AGL** (Above Ground Level) and measured height, using the floor of the top storey (of apparently unknown height). This is confusing, long-winded, and with the final phrase, impossible to determine actual building height.
Defined/accepted terms in a glossary will unambiguously define the top of a building.

The above clause can be rewritten, (as part of a bullet list of a requirements for creating a Local Plan), becoming the following, which is unambiguous, much shorter, and can be tested:

Define the height of tall buildings in specified postcodes, which shall be a minimum 18m AGL
(using properly defined terms in a glossary)

This represents a ratio of 16/52, which if sustained, makes the plan about 70% smaller at 166 pages. Furthermore, in a local plan made from this requirement, as a minimum just 3 letters are required - e.g. in OPDC: 48m, which can then be tested.

I hope that the new London Plan, and our own H&F Local Plan (which must respond to it), both now on the horizon, can accommodate at least some of what is described here.