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| Urban Futures Density Survey Report  |
| Dr. Christopher T. Boyko Prof. Rachel Cooper Lancaster University |

 

 

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Urban Futures Density Survey Report

Introduction

The process of decision-making as it relates to density in urban design and development projects is unclear. Little information exists about how density is considered by decision-makers as well as who makes density decisions, when they make those decisions and what they use to make decisions.

In an effort to better understand the decision-making process around density, researchers on the EPSRC SUE2 Urban Futures project created an online survey with the aim of obtaining the views of informed practitioners, policymakers and academics on aspects of density and decision-making in the urban environment.[[1]](#footnote-1)

The following report summarises the findings from the online survey, based on the responses from 129 informed individuals working in a host of relevant professions. Section 1 outlines the survey, itself, and discusses how, and to whom, the survey was distributed. Section 2 reveals the demographics of the respondents. Section 3 covers respondents’ perceptions of density. Finally, Section 4 discloses respondents’ answers to questions about density in practice. A copy of the survey may be found in the Appendix. 1. The survey

Twenty-six questions were developed for inclusion in the online density survey using www.surveymonkey.com. These can be divided into three categories (see *Table 1.1*):

*Table 1.1*. The three survey categories.

|  |  |
| --- | --- |
| Category | Question |
| Demographics | AgeGenderEthnicityEducationProfessionEmployerPlace of professionDecision-making within the organisation |
| Perceptions | Dimensions of densityTop three drivers of densityEstimating low, medium and high density |
| Practice | Who makes density decisionsWhen are density decisions made in the processDecision-making resourcesImportance of density in urban design and planning |

Survey respondents were contacted through a variety of UK organisations that are relevant to density, including:

* Association of Town Centre Management
* Chartered Institute of Highway Engineers
* Environmental Sustainability Knowledge Transfer Network
* Institute of Civil Engineers (North West region)
* Landscape and Interior Design Association (formerly the Landscape Institute)
* Local Government Association
* Royal Institute of British Architects
* Royal Town Planning Institute
* Urban Design Group

In addition, members of a developer workshop at Lancaster University, and project partners and expert panellists participating in the Urban Futures project were contacted to participate in the survey.

Each organisation or person was sent an email about the survey (organisations were asked either to email members directly or to add a message about the survey to a newsletter), which stated the project aim and asked people to go to the www.surveymonkey.com web site to complete the 10-minute survey. Below is a copy of the email:

LANCASTER UNIVERSITY URBAN DENSITY SURVEY

YOUR VIEWS ARE NEEDED ON ASPECTS OF DENSITY AND DECISION-MAKING IN THE URBAN ENVIRONMENT

The aim of this 10-minute survey is to obtain the views of informed practitioners, policymakers and academics on aspects of density and decision-making in the urban environment.

By 'informed', we mean a person who considers and/or makes decisions about density in their job, either operationally or strategically. These individual views will provide a collective understanding of how density is considered by key stakeholders in the urban design and development process as well as of the variety of density issues facing decision-makers today. This feedback also will contribute to our better understanding of how density influences the efficient use, management and maintenance of urban environments for liveability, wellbeing and sustainability. Finally, through research currently being undertaken with government on the Urban Futures research project, we hope to provide support and guidance to stakeholders about density and decision-making. Further information about the Urban Futures project can be found at www.urban-futures.org

The density survey may be found at [www.surveymonkey.com/s/urbanfutures](https://legacy-exchange.lancs.ac.uk/exchweb/bin/redir.asp?URL=http://www.surveymonkey.com/s/urbanfutures). It is available in alternative formats, such as online, large print, or if you prefer, we can assist you to complete it. Please contact Christopher Boyko on c.boyko@lancaster.ac.uk for further information.

If you would like a copy of the survey results, please supply your email address at the end of the survey.

Thank you in anticipation,

Prof. Rachel Cooper & Dr. Christopher Boyko

Urban Futures project, Lancaster University

The survey was active on the web site for 3 months, from May-July 2011. One attempt was made to follow up with three of the organisations when a fault was found with one organisation’s mailing distribution list (it was unclear at the time whether or not the fault lay with the email message or the organisation’s mailing distribution list).

2. Survey demographics

One hundred and twenty-nine people responded to the density survey. This section categorises the respondents according to age, gender, ethnicity, education, profession, employer, place of profession and decision-making within the organisation.

# 2.1 Age and gender of respondents

Of the 104 respondents who answered the question about gender, the majority were male (72.1%), with 27.9% female. The age range of the 109 respondents answering the question about age varied. The most common age range was 25-34 and 35-44 (27.5% each), followed by 45-54 (24.8%), 55-64 (15.6%), over 65 (2.8%) and under 25 (1.8%) (see *Figures 2.1 and 2.2*).

*Figure 2.1*. Gender of respondents.

*Figure 2.2.* Age of respondents.

# 2.2 Ethnicity and formal education of respondents

A majority of the 109 survey respondents who answered the question about ethnicity were Caucasian, comprising White British (79.8%), White Irish (2.8%) or White Other (13.8%). Additional ethnicities reported include Mixed (0.9%), Indian (0.9%), Black Caribbean (0.9%) and Other ethnic group (0.9%) (see *Figure 2.3*).

*Figure 2.3*. Ethnicity of respondents.

All of the 109 respondents had a university education: 5.5% possessed an undergraduate degree or equivalent, 22% received a professional qualification and 72.5% had a postgraduate degree or equivalent (see *Figure 2.4*).

*Figure 2.4.* Formal education of respondents.

# 2.3 Where respondents mainly work

Respondents work all over the UK and internationally, with just over 40% working in the southern half of England (17% in the Southeast, 14.3% in London and 8.9% in the Southeast). Almost 37% of respondents work mainly in the rest of England (10.7% in the Northwest, 8% in the West Midlands, 6.3% in the East Midlands, 5.4% in the East of England, 4.5% in Yorkshire and the Humber and 1.8% in the Northeast), with 11.7% working mainly in Scotland (5.4%), Ireland (4.5%) and Wales (1.8%). A further 11.6% work internationally (see *Table 2.1*).

*Table 2.1*. Where respondents mainly work.

|  |  |
| --- | --- |
| Where do you mainly work? | Response (%) |
| Southwest | 19 (17.0) |
| London | 16 (14.3) |
| International | 13 (11.6) |
| Northwest | 12 (10.7) |
| Southwest | 10 (8.9) |
| West Midlands | 9 (8.0) |
| East Midlands | 7 (6.3) |
| East of England | 6 (5.4) |
| Scotland | 6 (5.4) |
| Yorkshire & the Humber | 5 (4.5) |
| Wales | 5 (4.5) |
| Northeast | 2 (1.8) |
| Northern Ireland | 2 (1.8) |
| Total | **112 (100)** |

# 2.4 Respondents’ professions and type of organisation in which they work

A majority of the 113 respondents answering the question about profession work in town planning (53.1%), with another 20.4% working as urban designers. Of those remaining, 5.3% worked in academia or as transport planners, 2.7% considered themselves architects, 1.8% said they were highways engineers and 0.9% worked in civil engineering, landscape architecture or surveying. Of the 8.8% who selected ‘Other’, a diversity of professions could be found: managers (e.g., land management, facilities management, project management, policy/network management), housing specialists, a local authority development control officer, a daylight consultant, a regeneration specialist and people who had more than one profession (e.g., architect, urban designer and planner) (see *Table 2.2*).

*Table 2.2*. Respondents’ professions.

|  |  |
| --- | --- |
| Where do you mainly work? | Response (%) |
| Local authority | 72 (64.9) |
| Private practice | 14 (12.6) |
| Higher education institution | 7 (6.3) |
| Sole practitioner/consultant | 6 (5.4) |
| Construction/engineering company | 6 (5.4) |
| Central government | 4 (3.6) |
| Other | 2 (1.8) |
| Total | **111 (100)** |

In terms of the type of organisation in which respondents work, most of them are found in local authority (64.9%). Other organisations include private practice (12.6%), higher education institutions (6.3%), sole practitioner/consultant (5.4%), construction/engineering company (5.4%), central government (3.6%) and other (1.8%) (see *Figure 2.5*).

*Figure 2.5*. Organisations in which respondents work.

# 2.5 Length of time in practice and decision-making within the organisation

Two-thirds (66.7%) of the 111 survey respondents have worked more than 10 years in their profession. Just less than one quarter (22.5%) said that they worked between 5-10 years in their profession, with the remaining 10.8% working less than 5 years in their profession (see *Figure 2.6*).

*Figure 2.6*. Length of time in practice.

The majority of survey respondents stated that they made strategic decisions in their job (57.7%), with 42.3% of the 111 respondents making operational or day-to-day decisions (see *Figure 2.7*).

*Figure 2.7*. Decision-making within the organisation.

 3. Perceptions of density

Survey questions in this section involved respondents’ perceptions of density. In particular, residents were asked how often they thought about different density types or dimensions in their daily decision-making, the key drivers of density and what they believed were the numerical values or ranges associated with low, medium and high dwelling and population density.

# 3.1 Dimensions of density

Survey respondents were asked how frequently they normally considered a variety of dimensions of density in their decision-making. The dimensions were based on an extensive scientific review of previous research and included:

* Built form density (e.g., residential buildings)
* Population density (i.e., people)
* Mobile material form density (e.g., trains, buses)
* Natural form density (e.g., lakes, green spaces)
* Static form density (e.g., products, food)

Of the 127 respondents who answered this question, 89.8% considered built form density very frequently or frequently in their decision-making (v. 11.2% who considered it neither frequently nor infrequently, infrequently or very infrequently). Population density was the next most considered dimension of density, with 63.6% of respondents stating that they considered it very frequently or frequently in their decision-making (v. 36.4% who considered it neither frequently nor infrequently, infrequently or very infrequently).

Although 56.5% of respondents considered natural form density very frequently or frequently in their decision-making, almost as many considered it neither frequently nor infrequently, infrequently or very infrequently. The same can be said for mobile material form: 48.4% considered it very frequently or frequently whereas a majority considered it neither frequently nor infrequently, infrequently or very infrequently. Finally, in terms of static form density, more respondents considered this dimension on a very infrequent basis in their decision-making (46.3%) than other type of frequency, with 12 respondents (9.9%) not knowing if they considered static form density (see *Figure 3.1*).

*Figure 3.1*. Dimensions of density.

# 3.2 Sub-dimensions of density

Survey respondents were asked to consider various sub-dimensions of each dimension of density and how frequently they were considered in decision-making. The following sections show respondents’ answers.

## 3.2.1 Built form density

Of the 126 respondents who replied to this question, 90.5% stated that they considered residential dwellings very frequently or frequently in their decision-making (v. 9.5% who consider it neither frequently nor infrequently, infrequently, very infrequently or did not know). In addition, more than two-thirds of respondents considered non-residential buildings and mix of building uses (both 80.6%) and infrastructure (79.0%) very frequently or frequently in decision-making. The only built form types that were not considered very frequently or frequently were other structures and other, which included street intersections, pedestrian crosswalks and open space (e.g., squares). Moreover, some of the write-in responses suggested that ‘Non-residential buildings’ needed to be separated into shopping/retail buildings and community/educational buildings to be more effective (see *Figure 3.2*).

*Figure 3.2*. Built form density.

## 3.2.2 Population density

Of the 125 respondents who replied to this question, only one population density type was considered very frequently or frequently by more than half of respondents: demography (55.7%). This type includes densities of age, gender, education, occupation and so forth. The only other population density type approaching this level of frequency was private sector density, with 40.3% of respondents considering it very frequently or frequently. The remaining population density types possessed much higher infrequently and very infrequently percentages, ranging from 45.8% for density of government to 65.2% for density of religion. Furthermore, a healthy percentage of the population density types, between 16.7% and 26.9%, were considered neither frequently nor frequently by respondents.

*Figure 3.3*. Population density.

## 3.2.3 Mobile material form density

From the 119 responses, over half stated that they considered the density of vehicles (70.3%), bicycles (64.1%) and buses (63.6%) very frequently or frequently. The density of trains was considered very frequently or frequently by 44.9% of respondents; however, 29.7% of respondents also considered this density infrequently or very infrequently, thus there is no clear majority of responses. The density of airplanes was the only mobile material form that a majority of respondents considered infrequently or very infrequently (65.8%). Respondents also mentioned that the density of pedestrians was a mobile material form worth considering, although only 27.3% considered pedestrians very frequently or frequently (see *Figure 3.4*).

*Figure 3.4*. Mobile material form density.

## 3.2.4 Natural form density

The majority of the 124 respondents who answered this question stated that they would consider green spaces and water very frequently or frequently (79.7% and 61.5%, respectively). Additional sub-dimensions of natural form density mentioned by respondents included beaches, urban farms, mountains, hillsides, gardens, green routes, trees, hedges, woods, wildlife corridors, play areas, allotments, roof terraces, private outdoor space, areas of biodiversity and topography. Over one-third of respondents said that they did not know whether or not they considered these sub-dimensions of natural form density in their decision-making, with just under one-third stating that they considered these sub-dimensions very frequently or frequently (see *Figure 3.5*).

*Figure 3.5*. Natural form density.

## 3.2.5 Static form density

None of the sub-dimensions of static form density were considered very frequently or frequently by a majority of the 118 respondents who answered this question. Density of waste had the highest percentage of respondents who considered the sub-dimension very frequently or frequently (40.7%), with most respondents considering the other sub-dimensions infrequently or very infrequently: density of equipment (74.1%), products (73.3%), digital technology (70.2%) and food (62.9%). Other responses included storage space, broadband, health services and fixed- and semi-fixed culture (47.5% stated that they did not know if they considered these sub-dimensions in their decision-making) (see *Figure 3.6*).

*Figure 3.6*. Static form density.

# 3.3 Top three drivers of density

People draw on many reasons to explain their decisions to increase densities in cities. In this survey, respondents were asked to prioritise their top three choices.

According to the answers from the 120 respondents, the top drivers of density are (with the top 3 drivers in **bold**):

*Table 3.1.* Top three drivers of density.

|  |  |
| --- | --- |
| Number | Driver |
| 1 | **Efficient use of land** |
| 2 | **Increased profitability/return on investment** |
| 3 | **More use of public transport** |
| 4 | Efficient use of resources |
| 5 | Promoting a critical mass to support services |
| 6 | Policy/regulation |
| 7 | More people immigrating to cities |
| 8 | Creating area employment |
| 9 | Improving housing choice and affordability |
| 10 | Less use of private transport |
| 11 | Reduced energy consumption |
| 12 | Other |
| 13 | Increasing diversity in an area |

# 3.4 Perceived low, medium and high dwelling and population density

Two questions were asked of survey respondents concerning their perceptions, in numerical terms, of what constitutes low, medium and high density. The first question pertained to dwelling density whereas the second question pertained to population density.

Of the 103 people who responded to the question about dwelling density, *low* dwelling density was perceived to be about 23 dwellings per hectare (median= 20 dwellings per hectare, mode= 30 dwellings per hectare, range= 1-70 dwellings per hectare), *medium* dwelling density was approximately 44 dwellings per hectare (median= 40, mode= 30, range= 5-200) and *high* dwelling density was approximately 79 dwellings per hectare (median= 60, mode= 50, range= 10-400) (see *Table 3.2*).

*Table 3.2*. Perceived low, medium and high dwelling density.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dwelling density | Mean (dph) | Median (dph) | Mode (dph) | Range (dph) |
| Low | 23 | 20 | 30 | 1-70 |
| Medium | 44 | 40 | 30 | 5-200 |
| High | 79 | 60 | 50 | 10-400 |

*Note.* ‘dph’ refers to dwellings per hectare.

Of the 75 people who responded to the question about population density, *low* population density was perceived to be about 53 persons per hectare (median= 50 persons per hectare, mode= 50 persons per hectare, range= 0.5-40 persons per hectare), *medium* population density was approximately 115 persons per hectare (median= 97.5, mode= 100, range= 3.5-500) and *high* persons density was approximately 230 persons per hectare (median= 150, mode= 100, range= 20-1000) (see *Table 3.3*).

*Table 3.3*. Perceived low, medium and high population density.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Population density | Mean (pph) | Median (pph) | Mode (pph) | Range (pph) |
| Low | 53 | 50 | 50 | 0.5-40 |
| Medium | 115 | 97.5 | 100 | 3.5-500 |
| High | 230 | 150 | 100 | 20-1000 |

*Note.* ‘pph’ refers to persons per hectare.

4. Density in practice

In addition to respondents’ perceptions of density, a number of questions were asked in this section that explored density in practice. Respondents mentioned who they believed made decisions about density in urban design and development projects, when in the decision-making process that density decisions were made and what was used to help facilitate decision-making around density.

# 4.1 Who makes and who *should* make decisions about density

Survey respondents were asked to consider whom they believed made most of the decisions about density in the practice of urban design and development. Of the 767 responses from 113 respondents, 87.6% stated that developers made the most density-related decisions. In order of declining percentage, other professions who made density decisions included local authority development control/management officers and local authority policy planners (84.1% each), urban designers (72.6%), architects (65.5%), private sector planners (63.7%), Central government (62.8%), Councillors on planning committees (60.2%), financiers (43.4%), the local authority highways department (25.7%), residents (18.6%), local businesses (5.3%) and other (5.3%). The Other category included public health professionals contributing to planning, housing and education; property agents who act as consultants to developers; development agencies; landowners; and community organisations and specialist groups (see *Table 4.1*).

*Table 4.1*. Groups who make decisions about density.

|  |  |
| --- | --- |
| Who makes density decisions? | Response (%) |
| Developers | 99 (87.6) |
| Local authority development control/management officers | 95 (84.1) |
| Local authority policy planners | 95 (84.1) |
| Urban designers | 82 (72.6) |
| Architects | 74 (65.5) |
| Private sector planners | 72 (63.7) |
| Central government | 71 (62.8) |
| Councillors on planning committees | 68 (60.2) |
| Financiers | 49 (43.4) |
| Local authority highways department | 29 (25.7) |
| Residents | 21 (18.6) |
| Local businesses | 6 (5.3) |
| Other | 6 (5.3) |
| Total | **767 (100)** |

In addition to the above question, survey respondents also were asked whom they believed *should* make most of the decisions about density in the practice of urban design and development. Of the 631 responses from 114 respondents, 86.8% stated that local authority policy planners should make most of the density-related decisions. In order of declining percentage, other professions who the respondents believed should be making density decisions included local authority development control/management officers (76.3%), urban designers (70.2%), architects (53.5%), Councillors on planning committees (50.9%), residents (46.5%), developers (43.9%), private sector planners (37.7%), Central government (35.1%), the local authority highways department (22.8%), financiers and local businesses (12.3%) and other (5.3%). The Other category included collaborative teams comprising a number of the above groups, transport planners, leisure and recreation planners, development agencies, community groups and specialist organisations (see *Table 4.2*).

*Table 4.2*. Groups who *should* make decisions about density.

|  |  |
| --- | --- |
| Who makes density decisions? | Response (%) |
| Local authority policy planners  | 99 (86.8) |
| Local authority development control/management officers | 95 (76.3) |
| Urban designers | 95 (70.2) |
| Architects | 82 (53.5) |
| Councillors on planning committees | 74 (50.9) |
| Residents  | 72 (46.5) |
| Developers  | 71 (43.9) |
| Private sector planners  | 68 (37.7) |
| Central government  | 49 (35.1) |
| Local authority highways department | 29 (22.8) |
| Financiers | 21 (12.3) |
| Local businesses | 6 (12.3) |
| Other |  6 (5.3) |
| Total | **631 (100)** |

# 4.2 When in the process do respondents and other people make density decisions

To better understand when density decisions are made in urban design and development projects, respondents were asked to identify the process stage(s) in which *they* made decisions about density.

Based on the 111 people who responded to this question, 59.1% stated that they made density decisions very often or often during the Pre-design (Conceptual design and development) stage. This was followed by the Design (Detailed design and development) stage (56.9%), the Pre-design (Identify need or opportunity) stage (55.6%), the Pre-design (Explore and research) stage (50.5%) and the Design (choosing a design) stage (49.0%). In contrast, respondents stated that they made density decisions not often or not very often during the final two stages of the process: Post-design/Development and use (On-site implementation and construction) (61.0%) and Post-design/Development and use (Evaluation) (44.9%) (see *Figure 4.1*).

*Figure 4.1*. When respondents make density decisions in urban design and development projects.

As a follow-up question, respondents also were asked when they felt *other people* in their organisation make density decisions in the urban design and development process. Just fewer than three-quarters of the 105 respondents indicated that the Design (Detailed design and development) stage was when other people made density decisions very often or often (72.3%). In order of declining percentage, the other stages when respondents felt other people made density decisions very often or often were the Pre-design (Conceptual design and development) stage (69.9%), the Pre-design (Explore and research) stage (63.3%), the Design (choosing a design) stage (62.6%) and the Pre-design (Identify need or opportunity) stage (61.7%). There was nothing conclusive about whether or not other people made density decisions in the final two stages— Post-design/Development and use (On-site implementation and construction) and Post-design/Development and use (Evaluation) (see *Figure 4.2*).

*Figure 4.2*. When respondents felt *other people* make density decisions in urban design and development projects.

# 4.3 Tools, techniques and resources used by respondents and other people to inform density decisions

As there are many tools, techniques and resources to inform decisions made about density, survey respondents were asked to list the ones that they used most often. Of the 111 respondents who answered the question, 90.1% looked toward planning policy, 81.1% applied guidelines and standards, 72.1% used past experiences, 44.1% sought advice from colleagues, 42.3% utilised three-dimensional visualisations, 39.6% read academic publications and 27.9% employed other means. This latter category included using resources from CABE, undertaking public consultation and design review, accessing Supplementary Planning Documents and masterplans, visiting other developments, finding best practice examples, surveying the surrounding context, utilising statistical evidence and examining the financial viability of a scheme (see *Figure 4.3*).

*Figure 4.3*. Tools, techniques and resources used by respondents in density decision-making.

Respondents also were asked to reflect on what *other people* used to make decisions about density. Findings mirrored the previous question: of the 110 respondents who answered this question, 89.1% stated that other people would use planning policy, followed by guidance and standards (81.8%), past experiences (76.4%), advice from colleagues (54.5%), three-dimensional visualisations (42.7%), academic publications (36.4%) and other (18.2%). Write-responses to the latter category were similar to the previous question as well: respondents said that other people would use CABE, public consultations, design review, development control plans, contextual and character analyses, financiers and financial viability analyses, urban design publications, test designs and developers’ aspirations. This question also had another option compared to the previous question, *visits to other developments*, which 60.0% of the respondents believed other people would use in making density decisions (see *Figure 4.4*).

*Figure 4.4*. Tools, techniques and resources used by other people in density decision-making.

# 4.4 Additional information to help make density decisions

In the survey’s only open-ended question, respondents had the opportunity to mention any information—other than the tools, techniques and resources in Section 4.3—that decision-makers could use when making decisions about density. Fifty-one respondents answered this question.

The most-mentioned information that respondents felt could be used to make density decisions was *knowledge of the local context*. This may involve a design or physical analysis of the local area, taking stock of the general character or consulting with local people during the urban design and development process. Having *appropriate standards and guidelines* also was viewed as important to steer decision-making about density. Such documents include:

* Clear guidance at the national, regional and local scales about the importance of getting a proper balance between density and design quality
* Guidance about participatory processes to help show what density looks like
* A ‘pattern book’ of similar densities with different physical forms to improve innovation, variety and quality of buildings and spaces
* Recreation space standards
* Highways standards for existing urban design developments
* Guidance on legal policies for density and related issues
* Standards from Central government that illustrate ‘good’ and ‘bad’ examples of residential density and their impacts on the public realm, infrastructure, neighbourhoods and cities
* Best practice guidance on density

Related to guidance on good and bad examples, respondents believed that having access to *case studies from around the world* to demonstrate what ‘good density’ looks like and how it functions was important for making density decisions. Case studies should make an effort to focus on, among other things, how density and *transportation* can work together as well as the tradeoffs between density and *social issues*, like social equity and privacy.

Several respondents also felt that some clarification was needed about the quantitative side of density. *Having a better measure of density* was seen as one strategy to improve density decision-making whereas *obtaining better data* was another strategy.

In addition, respondents discussed the following:

* *Using models to visualise* different densities for urban design developments
* *Considering density at the appropriate scale* (e.g., there are times when the density of whole neighbourhoods is more important for decision-makers to think about than just individual dwellings or developments)
* *Earlier consideration of density in the urban design and development process*

Finally, *further research* on density was noted as helping to uncover more nuances about the concept and its relationship to other, important issues.

# 4.5 Importance of density in making urban design and development decisions

A final question asked survey respondents how important the concept of density was in making urban design and development decisions. Of the 112 respondents, 57.1% believed that density was very important in making urban design and development decisions. A further 37.5% stated that is was important, followed by 5.4% who said that density was neither important nor unimportant in making urban design and development decisions. No one felt that density was unimportant or not at all important in making decisions (see *Figure 4.5*).

*Figure 4.5*. Importance of density in making urban design and development decisions.

Conclusion

Decision-making about density in the process of urban design and development is currently unclear. In particular, not enough is known about what types of density are and should be explored in urban design and development, who makes density decisions and when and how they make those decisions. This report sought to provide some answers and, in so doing, equip policymakers, practitioners, academics and the public with information that can help improve the decision-making process.

The 129 people who responded to the online survey represented a diversity of stakeholders involved in a variety of professions and with a wealth of experience concerning density. Nonetheless, there appeared to be a slight bias towards younger-to-middle-aged, postgraduate-educated, White British males from the South East, London, North West or international locales who worked in local authorities. Respondents, on average, also seemed to have a significant amount of experience in their field, with a majority working over 10 years. There was a fairly even split, though, between respondents who made day-to-day decisions and more strategic decisions within their organisation.

In terms of what types of density they perceived to be making decisions about, respondents felt that built form and population density were the two most common. This was followed by natural form and mobile material form density. Static form density was considered least often in decision-making.

When probed further on each of the density types, respondents stated that they frequently or very frequently thought about the following in decision-making (i.e., receiving 50% or more of responses):

* Built form:
	+ Residential dwellings
	+ Non-residential dwellings
	+ A mix of the above two built form types
	+ Infrastructure
* Population:
	+ Demography
	+ Private sector
* Mobile material form:
	+ Vehicles
	+ Bicycles
	+ Buses
* Natural form:
	+ Green space
	+ Water

Furthermore, of the many reasons why decision-makers would want to increase density in cities, respondents believed that efficient use of land, increased profitability/return on investment and more use of public transportation were the top three drivers.

In the final section on perceptions of density, respondents were able to quantify what they considered to be low, medium and high dwelling and population densities. For dwelling density, low was 23dph, medium was 44dph and high was 79dph. For population density, low was 53pph, medium was 115pph and high was 230pph.

A number of questions were asked about respondents’ experience with density in practice. The first question, about who makes density decisions, revealed that the followed people or professions were viewed as the key decision-makers (i.e., receiving 50% or more of responses):

* Developers
* Local authority development control/management officers
* Local authority policy planners
* Urban designers
* Architects
* Private sector planners
* Central government
* Councillors on planning committees

When asked who *should* be making density decisions, some of the people and professions in the list dropped out (i.e., developers, private sector planners and Councillors on planning committees). They were not replaced by anyone, although residents were the next-most cited group that respondents felt should be making density decisions.

In terms of *when* they should make density decisions in the urban design and development process, respondents believed that this most-often occurred during the first four stages: Pre-design (Identify need or opportunity), Pre-design (Explore and research), Pre-design (Conceptual design and development) and Design (Detailed design and development), with conceptual design and development being the most prominent. Decisions about density were not seen to be made post-design and Design (Choosing a design) was not selected by over half of the respondents. When asked when *other people* made density decisions in the process, all five pre-design (3) and design (2) stages were chosen, with detailed design and development being the most prominent. Again, density decisions were not believed to have been made in the post-design stages.

Further questions were asked about *what* respondents and others used to help make density decisions. In both cases, the following tools, techniques and resources were seen to be the most common (i.e., received 50% or more of responses):

* Planning policy
* Guidelines and standards
* Past experiences
* Visits to other developments (believed to be used commonly by *other people*)
* Advice from colleagues (believed to be used commonly by *other people*)

In addition to these, respondents stated that knowledge of the local context, having global case studies on which to draw and considering transportation and social issues were important tools, techniques and resources for density decision-makers to have when making decisions.

Finally, almost 95% of respondents believed that density was very important or important in making urban design and development decisions. However, there is clearly a lack of tools and specific guidance to support such decision-making.

This report clarifies some of the issues around density and decision-making in the urban design and development process. Additional research is needed to further understand the nuances of density decision-making and to put into practice and policy some of the lessons learned here.Appendix: Density survey

**Perceptions**

1. How frequently do you normally consider the following dimensions of density in your decision-making? Please check in the appropriate box for ALL that apply

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Very frequently | Frequently | Neither frequently nor infrequently | Infrequently | Very infrequently | Do not know |
| Population density (i.e., people) |  |  |  |  |  |  |
| Built form density (i.e., residential dwellings) |  |  |  |  |  |  |
| Mobile material form (e.g., trains, buses) |  |  |  |  |  |  |
| Static form density (e.g., products, food) |  |  |  |  |  |  |
| Natural form density (e.g., lakes, green spaces) |  |  |  |  |  |  |

1. How frequently do you consider any of these sub-dimensions of POPULATION DENSITY in your decision-making?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Very frequently | Frequently | Neither frequently nor infrequently | Infrequently | Very infrequently | Do not know |
| Culture/ethnicity (e.g., Spanish) |  |  |  |  |  |  |
| Demography (e.g., older people, university-education) |  |  |  |  |  |  |
| Lifestyle (e.g., gardeners, urbanites) |  |  |  |  |  |  |
| Health (e.g., smokers) |  |  |  |  |  |  |
| Government (e.g., public sector departments) |  |  |  |  |  |  |
| Private sector (e.g., businesses) |  |  |  |  |  |  |
| Third sector/non-governmental organisations (e.g., charities) |  |  |  |  |  |  |
| Religion (e.g., practicing Hindus) |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |

1. How frequently do you consider any of these sub-dimensions of BUILT FORM DENSITY in your decision-making?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Very frequently | Frequently | Neither frequently nor infrequently | Infrequently | Very infrequently | Do not know |
| Residential buildings (i.e., terraces, flats) |  |  |  |  |  |  |
| Non-residential buildings (i.e., offices, shopping malls, churches) |  |  |  |  |  |  |
| Mix of building uses (i.e., vertical and/or horizontal mixed-use) |  |  |  |  |  |  |
| Infrastructure (e.g., roads, pavement, bridges) |  |  |  |  |  |  |
| Other structures (e.g., towers) |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |

1. How frequently do you consider any of these sub-dimensions of MOBILE MATERIAL FORM DENSITY in your decision-making?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Very frequently | Frequently | Neither frequently nor infrequently | Infrequently | Very infrequently | Do not know |
| Trains |  |  |  |  |  |  |
| Vehicles (e.g., cars, lorries) |  |  |  |  |  |  |
| Airplanes |  |  |  |  |  |  |
| Buses |  |  |  |  |  |  |
| Bicycles |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |

1. How frequently do you consider any of these sub-dimensions of STATIC FORM DENSITY in your decision-making?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Very frequently | Frequently | Neither frequently nor infrequently | Infrequently | Very infrequently | Do not know |
| Products (e.g., domestic equipment, clothes, bags) |  |  |  |  |  |  |
| Food |  |  |  |  |  |  |
| Waste (i.e., rubbish) |  |  |  |  |  |  |
| Equipment (e.g., sports kit, artist’s tools) |  |  |  |  |  |  |
| Digital technology (e.g., laptops, MP3 players) |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |

1. How frequently do you consider any of these sub-dimensions of NATURAL FORM DENSITY in your decision-making?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Very frequently | Frequently | Neither frequently nor infrequently | Infrequently | Very infrequently | Do not know |
| Water (e.g., rivers, lakes, ponds) |  |  |  |  |  |  |
| Green space (e.g., parks) |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |

1. In your opinion, what are the top 3 drivers of increasing densities in cities? Please prioritise your choices by selecting ‘1’, ‘2’ and ‘3’, with ‘1’ being your top choice
	1. Efficient use of land
	2. Efficient use of resources
	3. More people immigrating to cities
	4. Reduced energy consumption
	5. Less use of private transport
	6. More use of public transport (including bicycles, buses etc.)
	7. Improved housing choice and affordability
	8. Increasing diversity of people in an area
	9. Promoting a critical mass to support services
	10. Creating area employment
	11. Increased profitability/return on investment
	12. Policy/regulation
	13. Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Using DWELLINGS per hectare, in general, what do you consider to be:
	1. LOW dwelling density
	2. MEDIUM dwelling density
	3. HIGH dwelling density
3. Using PERSONS per hectare, in general, what do you consider to be:
	1. LOW population density
	2. MEDIUM population density
	3. HIGH population density

**Practice**

In thinking about the process of creating an urban design and development project in a city:

1. Who do you think makes decisions about density? Please check ALL that apply
	1. Architects (including landscape architects)
	2. Urban designers
	3. Private sector planners
	4. Developers
	5. Financiers
	6. Central government
	7. Councillors on planning committees
	8. Local authority development control/ management planners
	9. Local authority policy planners
	10. Local authority highways department
	11. Residents
	12. Local businesses
	13. Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Who do you think SHOULD make decisions about density? Please check ALL that apply
	1. Architects (including landscape architects)
	2. Urban designers
	3. Private sector planners
	4. Developers
	5. Financiers
	6. Central government
	7. Councillors on planning committees
	8. Local authority development control/ management planners
	9. Local authority policy planners
	10. Local authority highways department
	11. Residents
	12. Local businesses
	13. Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. How often do YOU make decisions about density in the urban design and development stages of a project?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Very often | Often | Neither often nor not often | Not often | Not very often | Do not know |
| Pre-design: identify need or opportunity |  |  |  |  |  |  |
| Pre-design: explore & research |  |  |  |  |  |  |
| Design: conceptual design & development |  |  |  |  |  |  |
| Design: detailed design & development |  |  |  |  |  |  |
| Design: choosing a design |  |  |  |  |  |  |
| Post-design/Development & use: on-site implementation & construction |  |  |  |  |  |  |
| Post-design/Development & use: evaluation |  |  |  |  |  |  |

1. How often do OTHER people in your organisation make decisions about density in the urban design and development stages of a project?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Very often | Often | Neither often nor not often | Not often | Not very often | Do not know |
| Pre-design: identify need or opportunity |  |  |  |  |  |  |
| Pre-design: explore & research |  |  |  |  |  |  |
| Design: conceptual design & development |  |  |  |  |  |  |
| Design: detailed design & development |  |  |  |  |  |  |
| Design: choosing a design |  |  |  |  |  |  |
| Post-design/Development & use: on-site implementation & construction |  |  |  |  |  |  |
| Post-design/Development & use: evaluation |  |  |  |  |  |  |

1. What do YOU use to inform decisions about density? Please check ALL that apply
	1. Planning policy
	2. Guidance and standards
	3. Past experiences
	4. Three-dimensional visualisations
	5. Advice from colleagues
	6. Academic publications (e.g., reports, books, journal articles)
	7. Other, including policies & publications \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What do OTHER PEOPLE use to inform decisions about density? Please check ALL that apply
	1. Planning policy
	2. Guidance and standards
	3. Past experiences
	4. Three-dimensional visualisations
	5. Advice from colleagues
	6. Academic publications (e.g., reports, books, journal articles)
	7. Visits to other developments
	8. Other, including policies & publications \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What additional information do you think could help in making decisions about density? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. How important do you think density is in making urban design and development decisions?
	1. Very important
	2. Important
	3. Neither important nor unimportant
	4. Unimportant
	5. Not at all unimportant
	6. Do not know

**Demographics**

1. In your job, do you mainly make:
	1. Strategic decisions
	2. Operational/day-to-day decisions
2. Which of the following best describes your profession?
	1. Academia
	2. Architecture
	3. Civil engineering
	4. Highways engineering
	5. Landscape Architecture
	6. Product/Industrial design
	7. Surveying
	8. Town centre management
	9. Town planning
	10. Transport planning
	11. Urban design
	12. Other \_\_\_\_\_\_\_\_\_\_\_\_\_
3. Which category best describes your employer?
	1. Sole practitioner/consultant
	2. Construction/engineering company
	3. Private practice
	4. Local authority
	5. Central government
	6. Non-government organisation (e.g., English Heritage)
	7. Higher education institution
	8. Other \_\_\_\_\_\_\_\_\_\_
4. How long have you been practising your profession?
	1. Less than 5 years \_\_\_
	2. 5-10 years \_\_\_
	3. More than 10 years \_\_\_
5. Where do you mainly work?
	1. East Midlands
	2. East of England
	3. London
	4. Northeast
	5. Northwest
	6. Southeast
	7. Southwest
	8. West Midlands
	9. Yorkshire & the Humber
	10. Northern Ireland
	11. Scotland
	12. Wales
	13. International
6. Age- Are you:
	1. Under 25 \_\_\_
	2. 25-34 \_\_\_
	3. 35-44 \_\_\_
	4. 45-54 \_\_\_
	5. 55-64 \_\_\_
	6. Over 65 years \_\_\_
7. Gender- Are you:
	1. Male \_\_\_
	2. Female \_\_\_
8. Ethnicity- Are you:
	1. White British \_\_\_
	2. White Irish \_\_\_
	3. Other White \_\_\_
	4. Mixed \_\_\_
	5. Indian \_\_\_
	6. Pakistani \_\_\_
	7. Bangladeshi \_\_\_
	8. Other Asian \_\_\_
	9. Black Caribbean \_\_\_
	10. Black African \_\_\_
	11. Other Black \_\_\_
	12. Chinese \_\_\_
	13. Other ethnic group \_\_\_
9. Formal education- What is your highest formal qualification:
	1. School qualifications \_\_\_
	2. Higher National Certificate / Diploma or equivalent \_\_\_
	3. Undergraduate degree / or equivalent \_\_\_
	4. Professional qualification \_\_\_
	5. Postgraduate degree or equivalent \_\_\_
10. Would you like a copy of the results?
	1. Yes
	2. No
	3. Please enter an email address \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. Would you like a copy of our report on dimensions of density?
	1. Yes
	2. No
	3. Please enter an email address \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
1. By 'informed', we mean a person who considers and/or makes decisions about density in their job, either operationally or strategically. [↑](#footnote-ref-1)