

Planning for High Density – A Contribution Towards Sustainable Urban Areas? Targets, Parameters, Perceptions

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1st UPE Lusophone Symposium

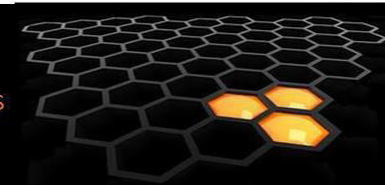


UPE 12
Symposium



CITIES FOR US

Engaging communities and citizens
for sustainable development



‘High densities? Yes, please – but ...’

- **reduced land take** required per dwelling unit – future opportunities.
- **environmental benefits** – saving habitats, open space provision etc.
- **economic benefits** - a high number of dwelling units can reduce the cost of buying or renting considerably as the proportion of the land cost is reduced.
- Presupposition for efficient road **infrastructure provision** and access.
- ditto: technical infrastructure such as sewers.
- high population densities allow **efficient supply of goods and services**, provision of social infrastructure, public transport facilities etc.
- Combined with mixed use developments high densities can help to increase **walkability** and to **reduce car** traffic within neighbourhoods
- ‘**Town cramming**’ should be categorically avoided – NIMBYism etc.
- (Personal) **perception of density** varies hugely.
- Questions about **human scale**, **the quality of public and private open space** provision and **sufficient privacy** have to be answered.
- **Mix of uses ...**

Sources: Adams, Watkins, 2002; Burton, Jenks, Williams, 1996; Ganser, 2012; Hall, 2014; Mitter, 2011; Weeber, 2013.

Case Study –

High Density Brownfield Development

Hypothesis:

‘There is a distinct (negative) correlation or causality between realised building densities and the density perception of inhabitants as well as their perceived quality of life.’

Objectives:

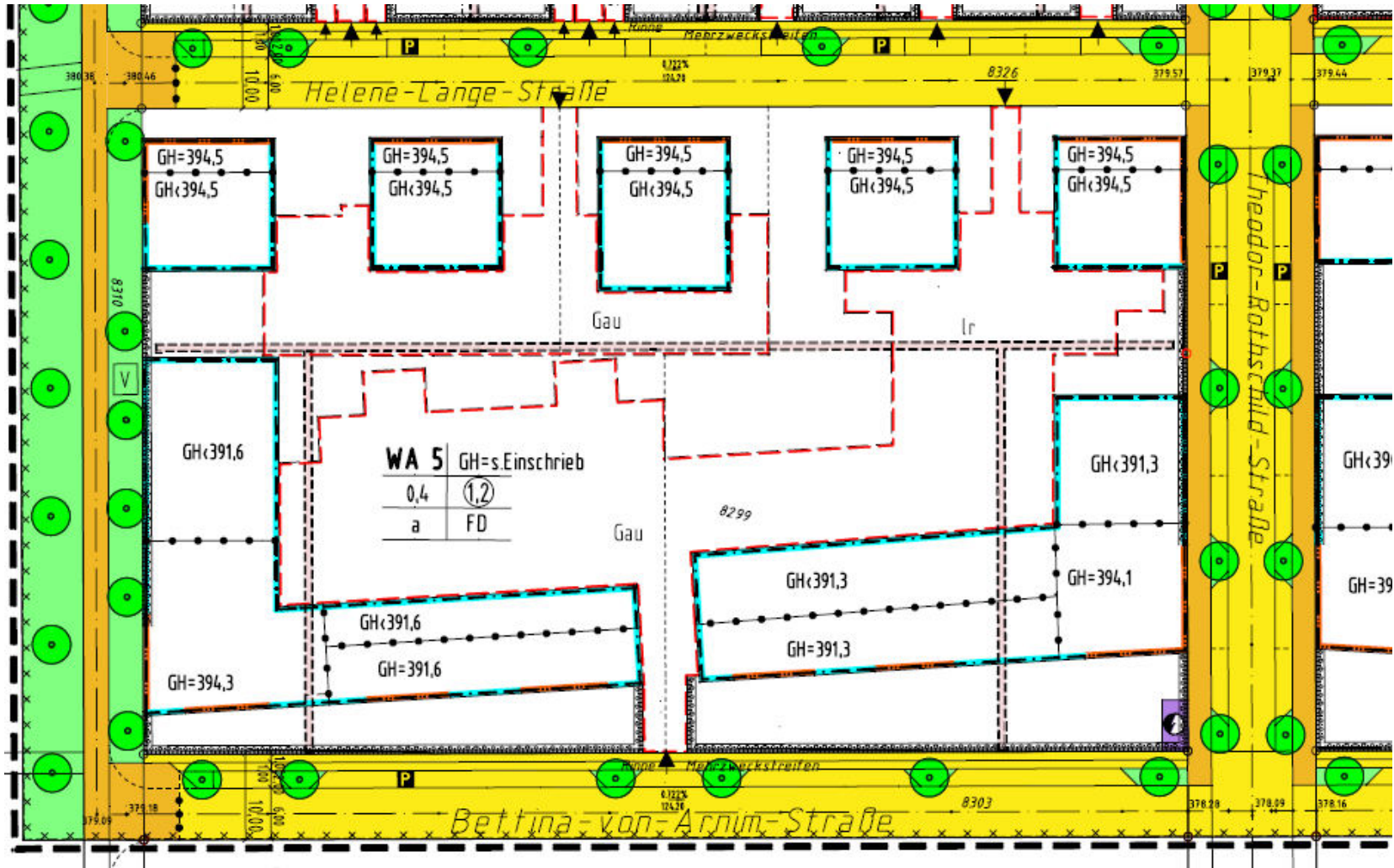
- In depth analysis of planning for high density in large scale urban developments,
- the realisation of densities and
- perception of inhabitants.
- Identify positive effects as well as problems of high densities in practice. In order to learn for future planning and development tasks...

Methods:

- Analysis of literature and planning law
- Desktop studies
- Household survey (personal interviews)

Density Parameters Binding Land Use Plan

Planning for high density



Source: Stadt Ostfildern, Bebauungsplan Scharnhäuser Park Teil 6, 2000

Impressions

Planning for high density



Impressions

Planning for high density



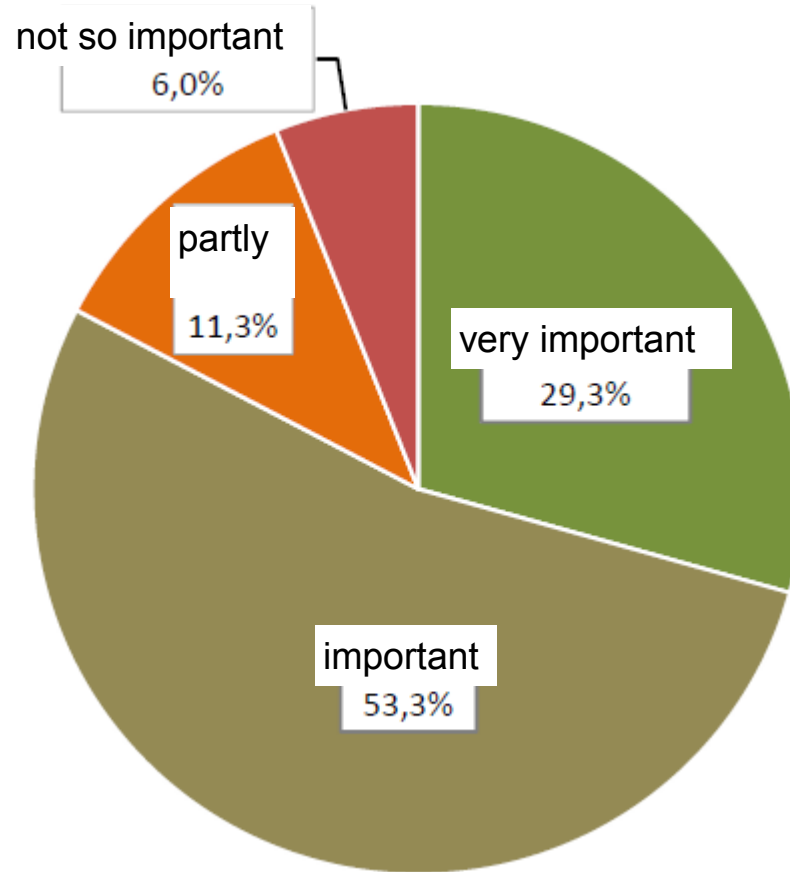
Planning Versus Reality

| Untersuchungs- bereich Eval.- Studie II | B-Plan/Baugebiete | Baublöcke Erhebung Stadt | GRZ Bplan | GRZ Real | GFZ Bplan | GFZ Real | Anzahl WE |
|---|---------------------------------|--------------------------------|-----------|----------|-----------|----------|-----------|
| A | SP-02-1 / WA7 | SH_3 | 0,3 | 0,25 | 1 | 1 | 71 |
| B | SP-02-1 / WA3 | SH_15 | 0,3 | 0,23 | 1 | 1,16 | 42 |
| | SP-02-1 / WA3 | SH_16 | 0,3 | 0,22 | 1 | 1,1 | 42 |
| C | SP-14-0 / WA3 | SH3_1 | 0,6 | 0,79 | 1,2 | 1,44 | 62 |
| D | SP-04-2 / MK7 | SH3_10 | 1 | 0,98 | 2 | 1,37 | 0 |
| | SP-04-2 / MK8 | SH3_11 | 1 | 0,79 | 1,5 | 1,81 | 22 |
| E | SP-06-0 / WA3.1;3.2;4.1;4.2;5;6 | SH2_1 | 0,4 | 0,4 | 1,2 | 1,2 | 54 |
| F | SP-03-2 / WA8-WA11 | SH4_3 | 0,4 | 0,62 | 0,8 | 0,76 | 66 |
| G | SP-08-0 / WA2 | SH2_6 | 0,4 | 0,52 | 1,2 | 1,2 | 64 |
| H | SP-05-2 / WA1-WA4 | SH4_4 | 0,4 | 0,53 | 0,8 | 0,66 | 34 |

Privileges and incentives at work ...

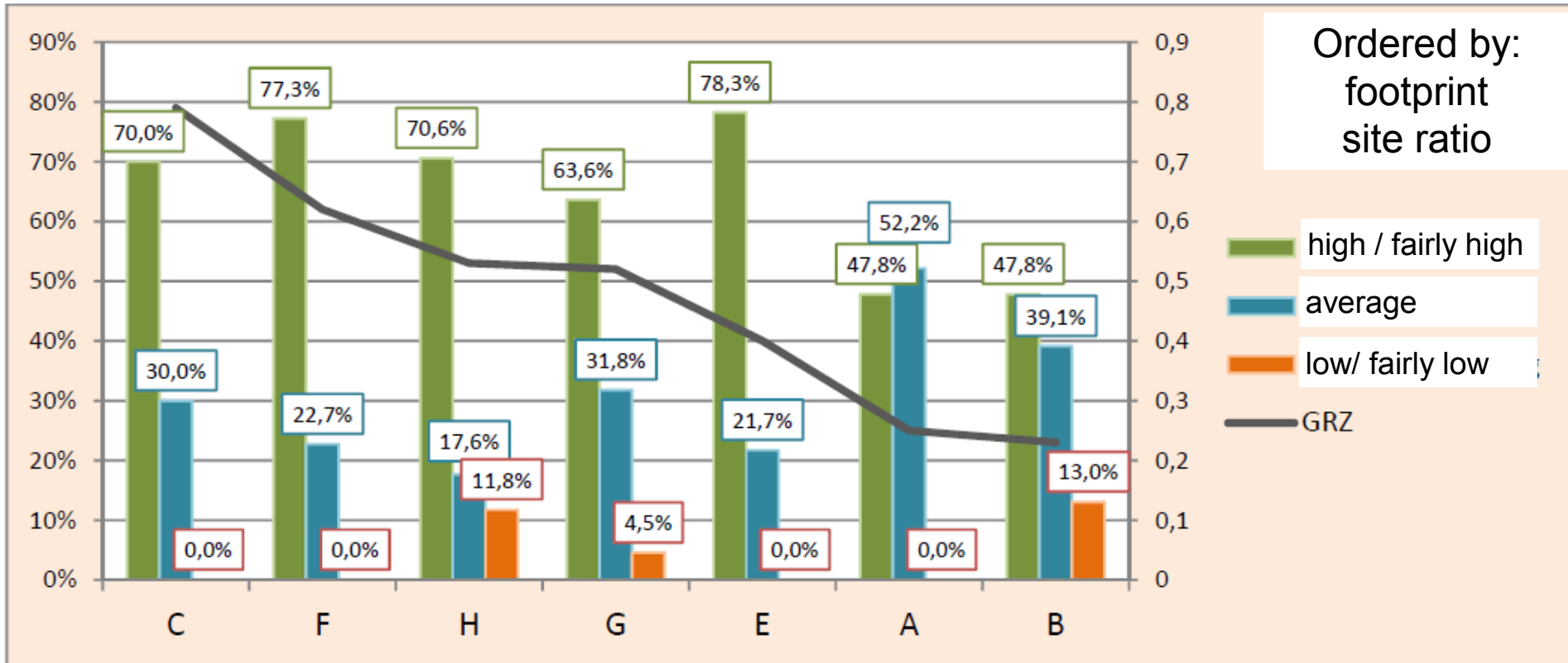
Planning law permits deviations from density parameters within certain limits.

Density Perceptions – Importance of Size of Private Open Space

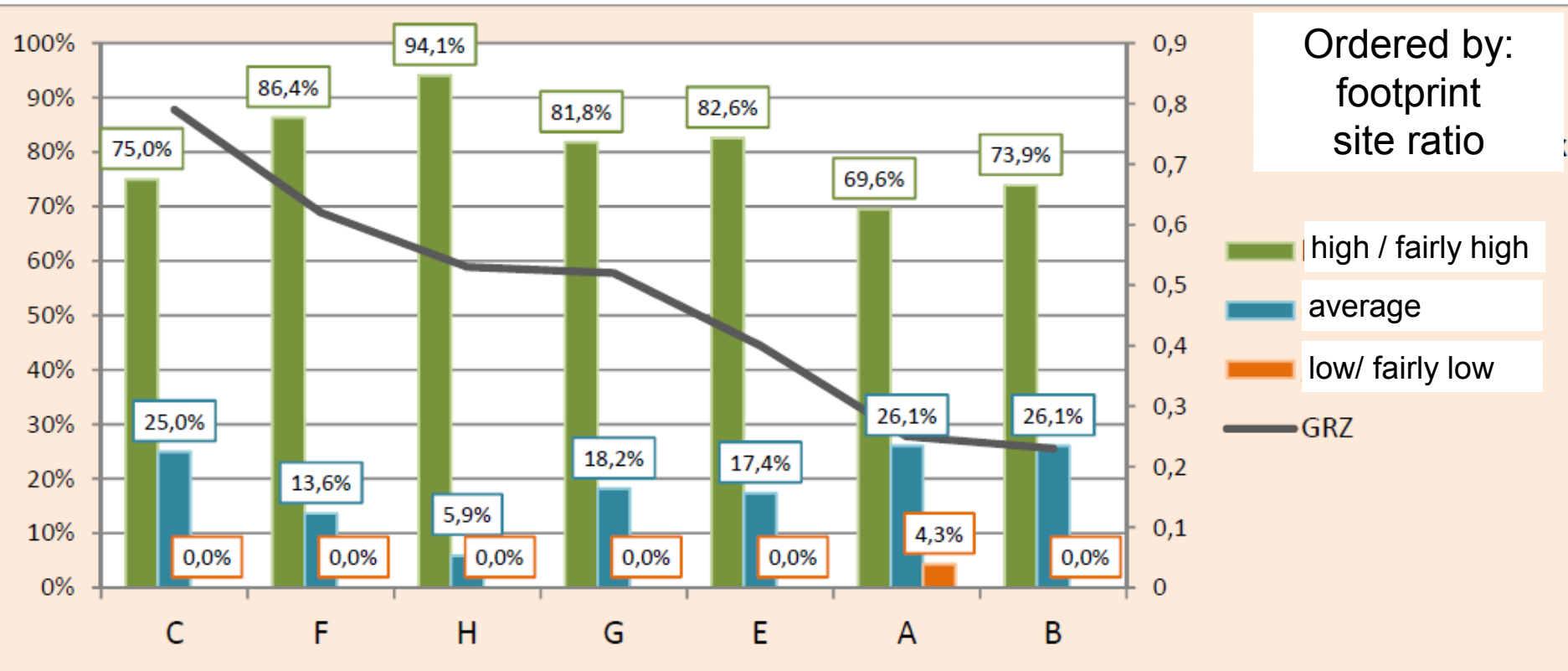


Planning for high density

Perceptions – Density in Neighbourhood Street

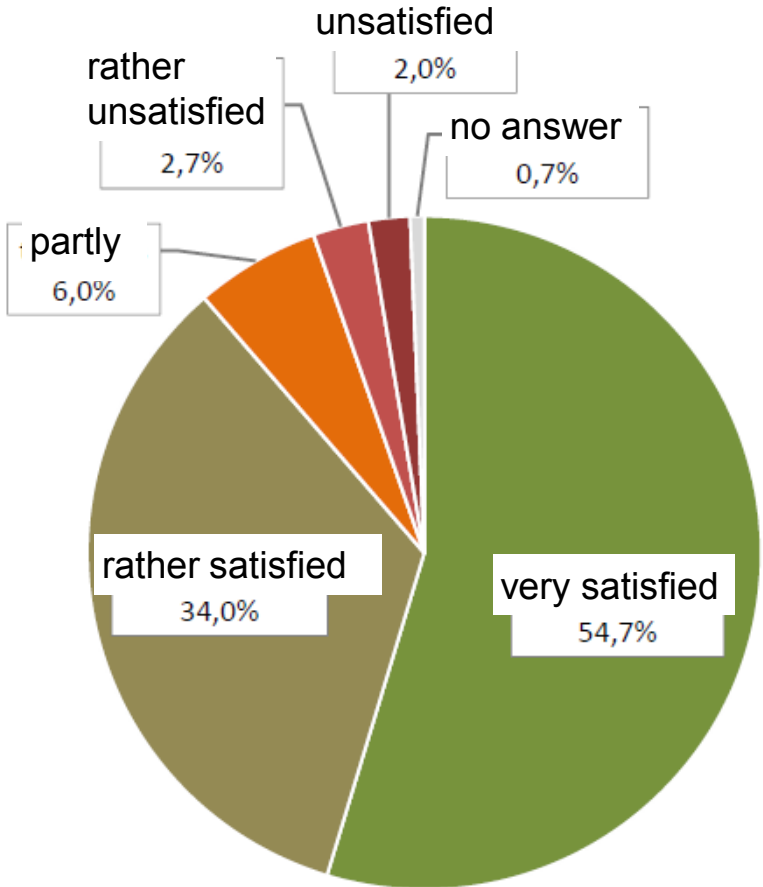


Perceptions – Density of Entire Development



Density Perceptions – Satisfaction With Own Home / Residential Environment

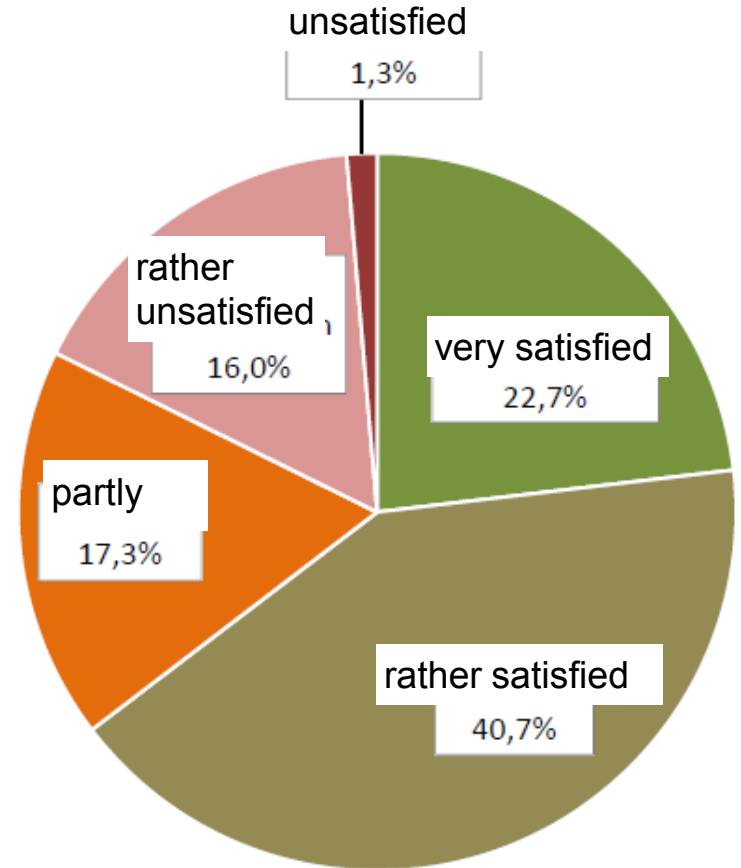
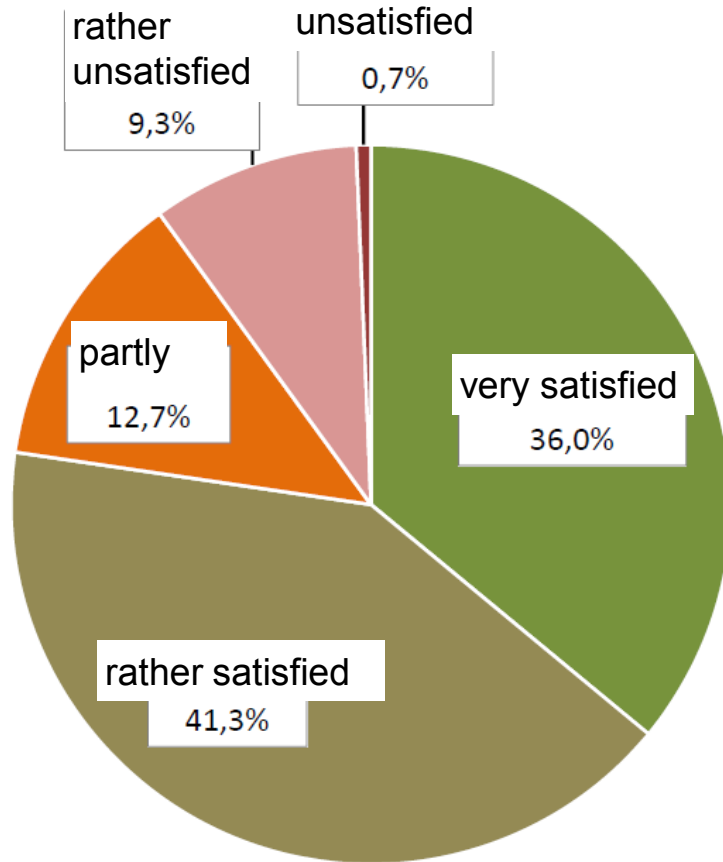
Planning for high density



Source: Ganser, 2015

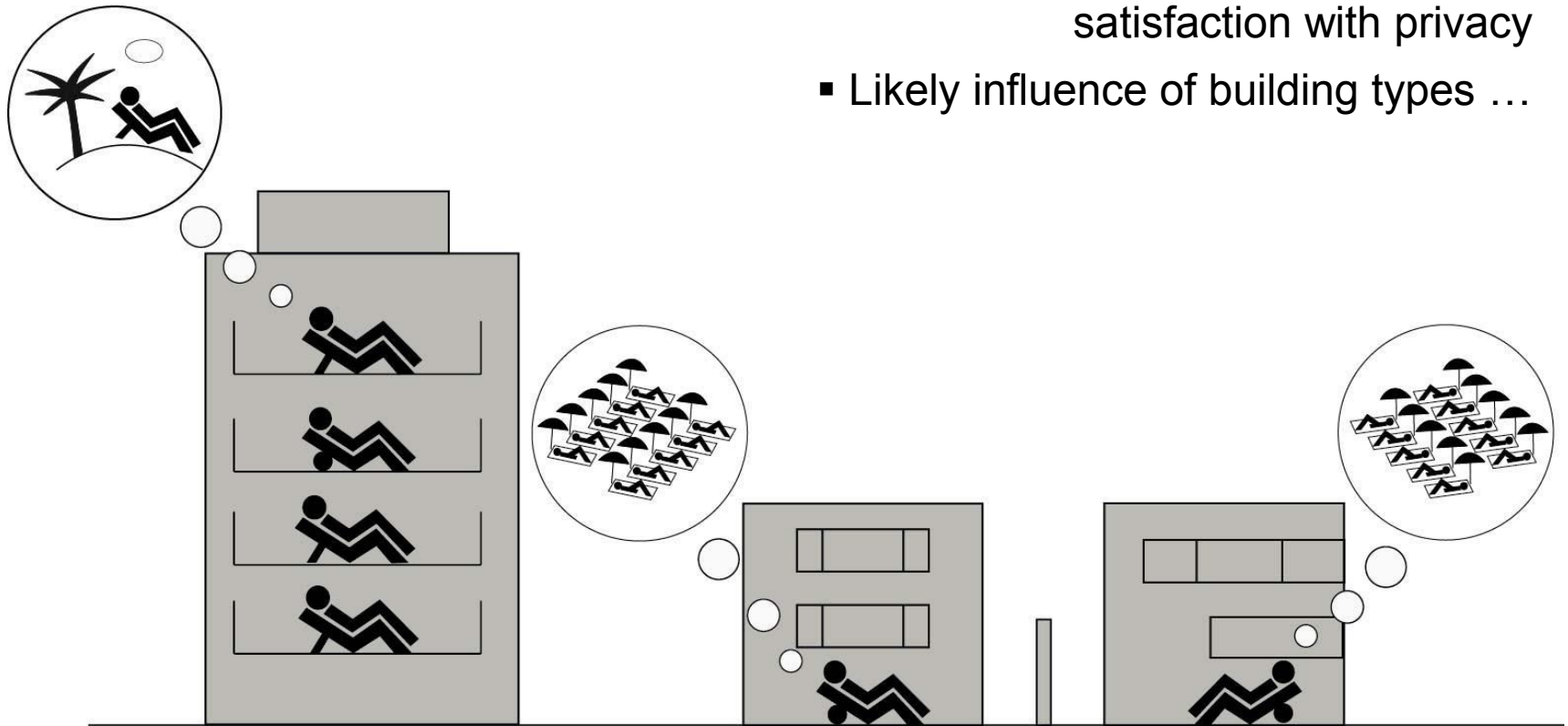
Density Perceptions – Satisfaction with Privacy Inside and Outside (Private Balcony / Garden)

Planning for high density



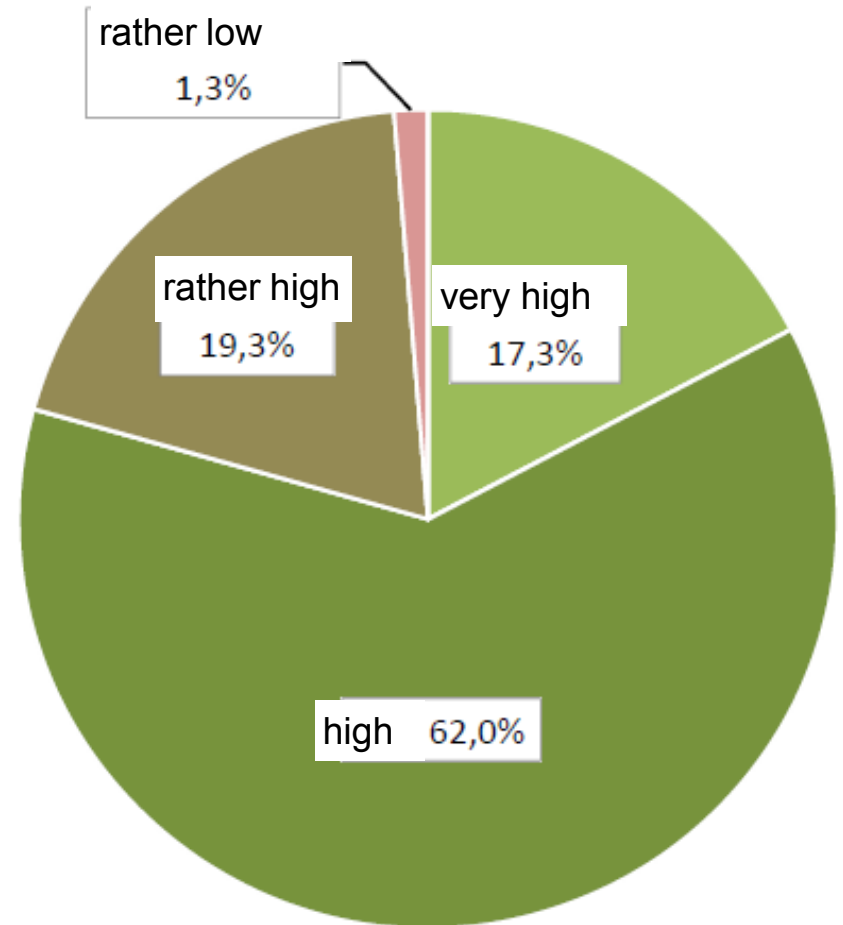
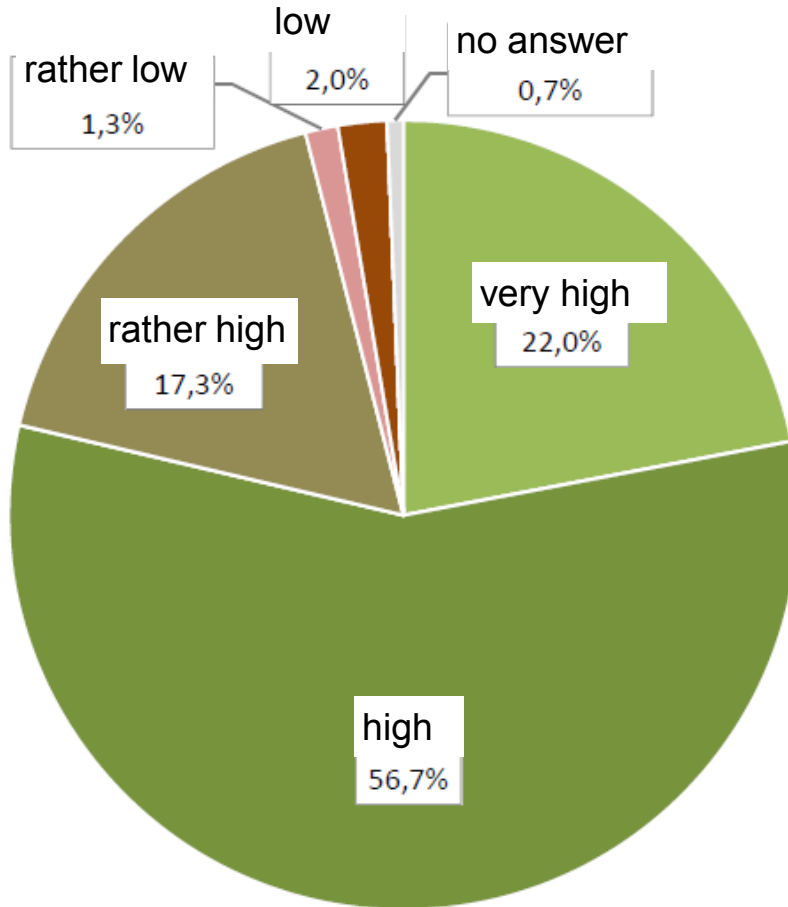
Density vs Privacy – Difficult Dichotomy

- Satisfaction with privacy lags behind other indicators of satisfaction (own home, size of own home, quality of neighbourhood ...)
- No distinct correlation between specific density parameters and satisfaction with privacy
 - Likely influence of building types ...



Perceptions – Satisfaction with Quality of Life in Neighbourhood / in Entire Development

Planning for high density



Conclusions and Outlook

- Falsification of hypothesis – there is no clear correlation between built densities and
 - Personal perceptions of density
 - Perceived quality of home
 - Perceived quality of life
- Substantial variation in perceptions of inhabitants across different neighbourhoods
- (Perceived) Privacy (most) difficult to achieve in high density developments
 - Building types and layouts likely to have influence
- Individual opinions in line with survey results
- High building densities can offer high quality living environment and quality of life
- Quality of planning documents, layout, buildings, infrastructure, open spaces appear to be of crucial importance
- Potential influence of ownership proportion on perceptions ...

Questions?

Density Definitions and Targets

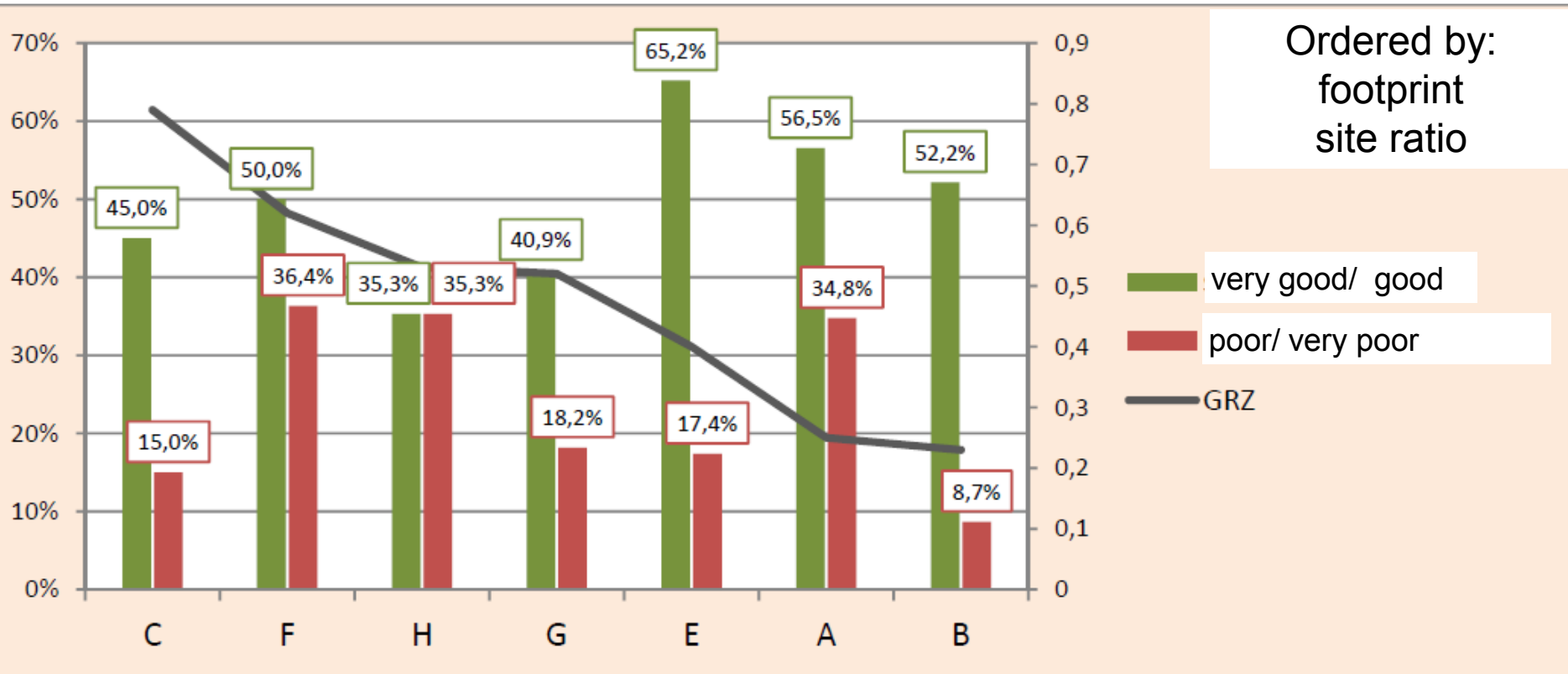
Building densities vs population densities

- Population per hectare (km² etc)
- Dwellings per hectare (dph)
- Building footprint – site ratio
- Floor space – site ratio
- Number of storeys

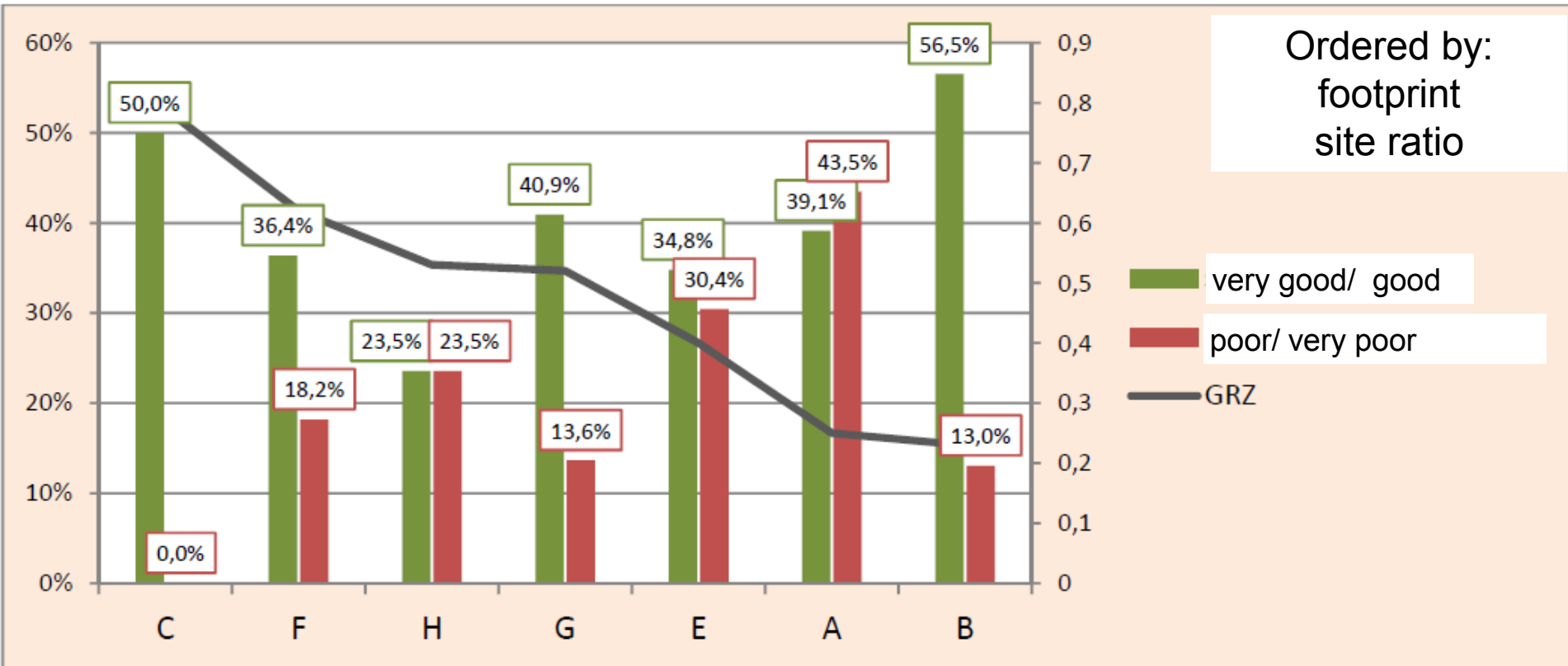
Quantified Targets

- To ensure efficient use of land (e.g. min. 30 dph)
- To ensure healthy living and working environment (e.g. max. floor space – site ratio)

Density Perceptions- Built up Area vs Open Space in Neighbourhood



Density Perceptions - Built up Area vs Open Space in Entire Development



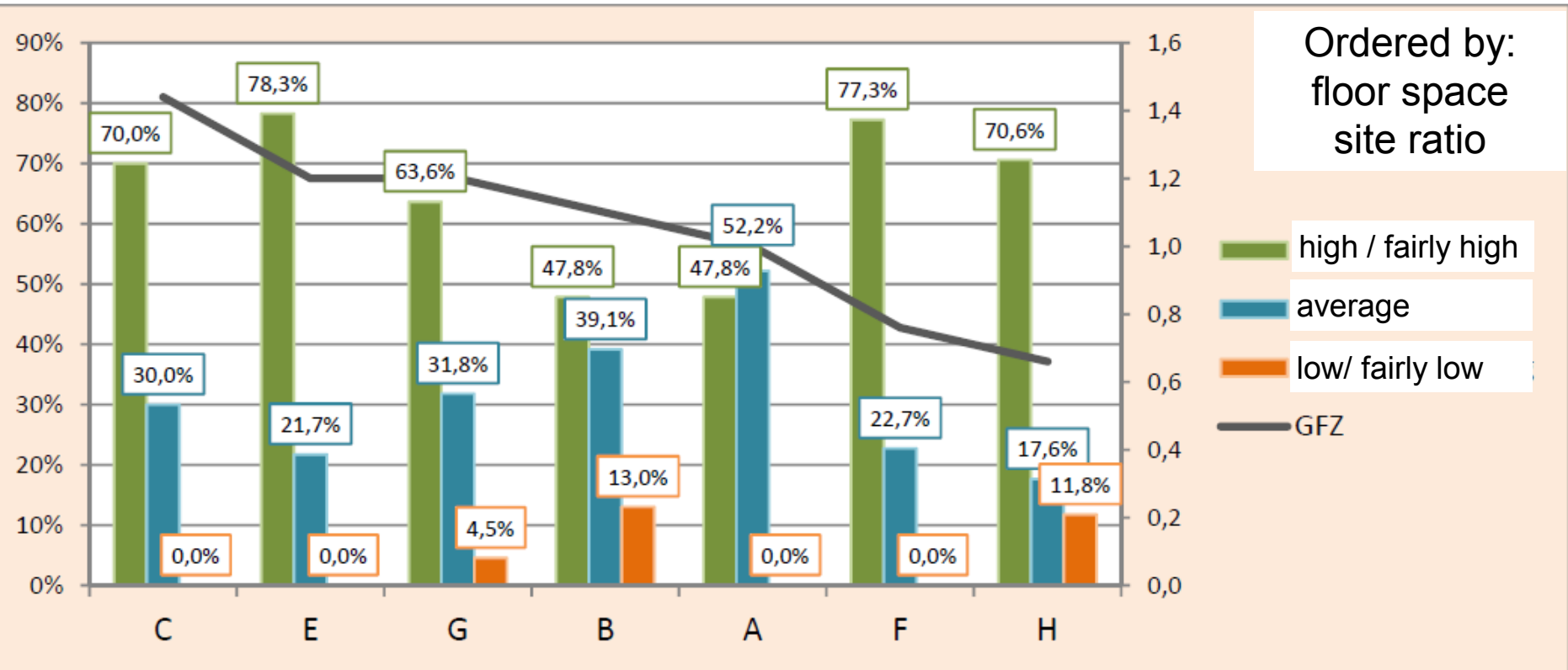
Density Parameters Binding Land Use Plan

Planning for high density



Source: Stadt Ostfildern, Bebauungsplan Scharnhauer Park Teil 5, Änderung, 2014

Perceptions – Density in Neighbourhood Street

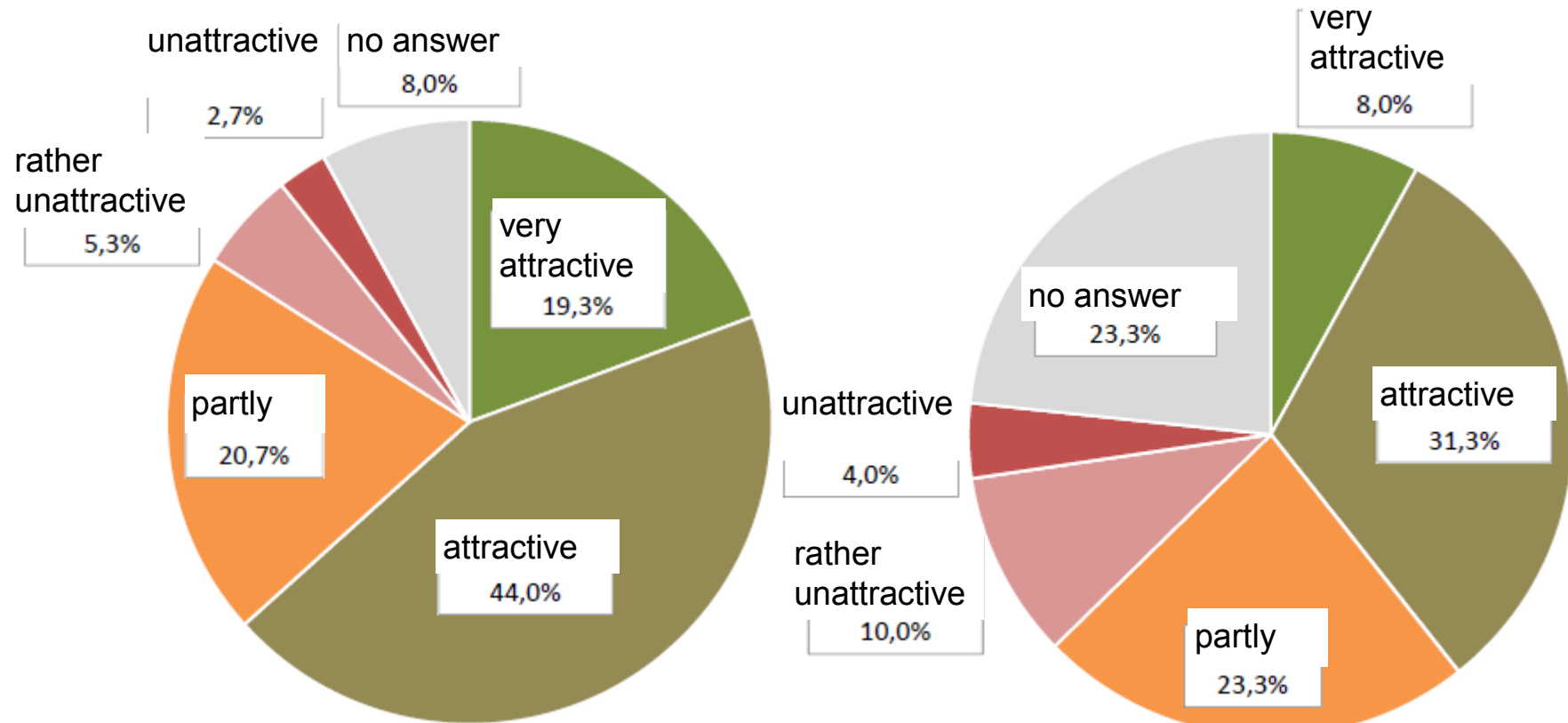


Density Perceptions – Individual Opinions

- Overall very positive connotations
 - Largest cluster of individual opinions (42) focus on high quality of life and good neighbours
 - Large cluster (21) with positive connotations on density and urbanity
 - Several suggestions of qualities which are central to the leitmotif of garden cities or urban villages
 - Smaller cluster (13) with negative references to density
 - Core problems linked with density: car traffic and parking

Open Space – Private vs Communal

Planning for high density



- Survey indicates higher satisfaction with private open space / gardens than with shared / communal spaces

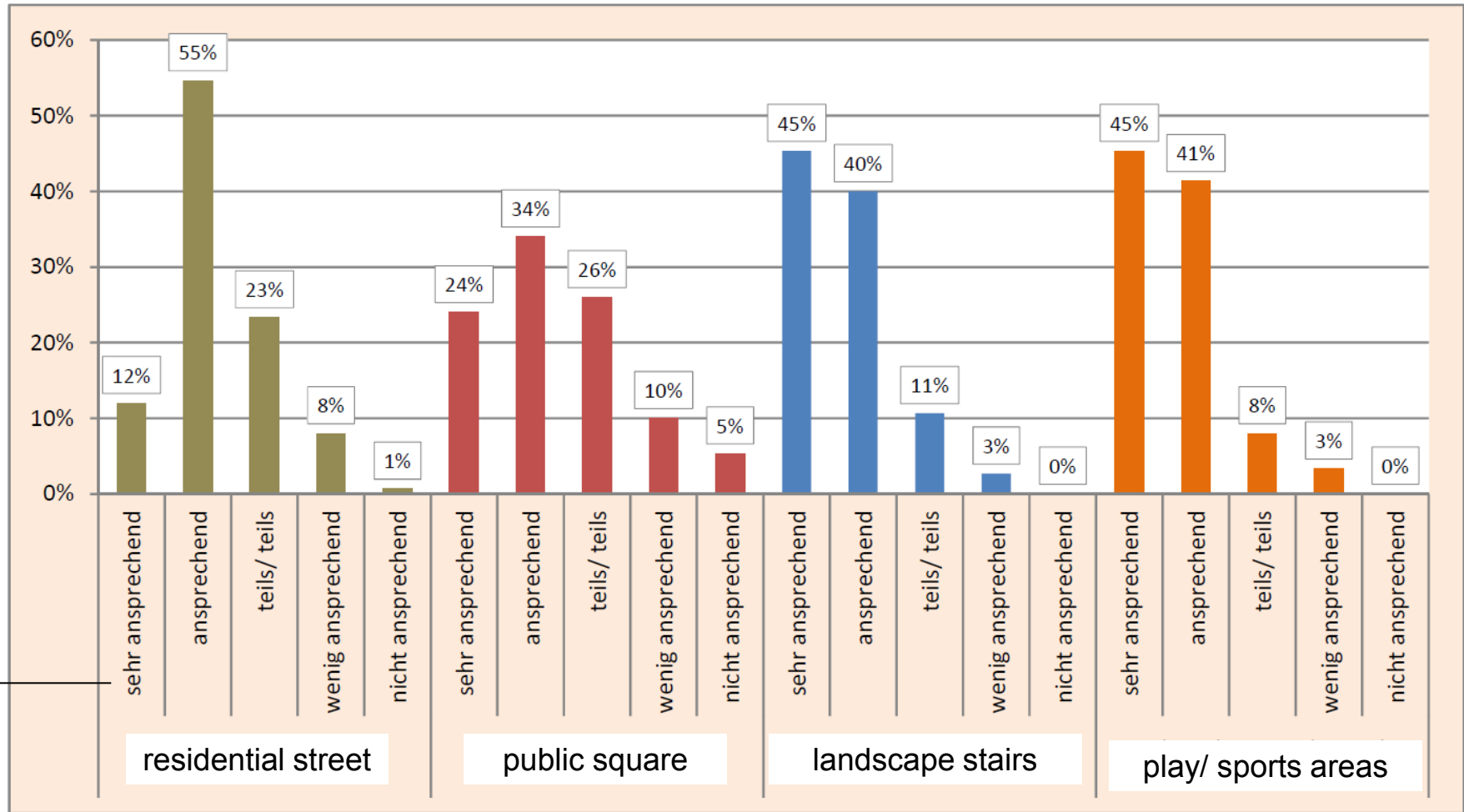
Impressions – Public Spaces

Planning for high density



Perception of Public Spaces

Planning for high density



→ very attractive, attractive, partly attractive, rather unattractive, unattractive

Conclusions and Further Research Questions

- Considerable variation in perception of public spaces
- High approval ratings of large green spaces indicate that they contribute to perceived high quality of life
- Ditto: contribution to image of development / neighbourhoods
- How can communal spaces be improved?
- What can we learn from private spaces / high quality public space?
- Even higher densities conceivable if adequate open spaces are provided?