Contents

I	ist of Figures, Tables and Boxes	X
A	cknowledgements	xiii
A	TOKE TO THE PARTY OF THE PARTY	Corne
1	Introduction	1
	Laraduction	1
	Who is this book aimed at:	2
	Aims and objectives	4
	Structure of the book	4
	How to use this book	8
2	Why GIS and Planning for the Built Environment?	10
4	Introduction	10
	GIS and planning	12
	GIS for describing our world	13
	GIScience as a discipline	14
	GIS for engagement and communication	15
	GIS in education	18
	Conclusion	1.7
3	GIS: A Spatial Database of Our World	20
	Introduction	20
	The importance of structured data	21
	Spatial ontologies: ways of representing what exists	25
	The world as a model	28
	Practical database considerations	35
	Conclusion	42
4	The Currency of GIS	44
	Introduction Introduction	44
	What is the role of data in GIS?	
	DIKW: does data always lead to wisdom? (clue: no!)	48
	Data models, file formats and image formats	
	Contemporary data buzzwords: 'open' and 'big'	
	'Bad data'	
	From data to wisdom? Not so fast!	61

5	Geovisualisation: Communicating with Spatial Data	63
	Introduction Geovisualisation: just a fancy word for 'mapping'?	63
	The purpose of geovisualisation	64
	'Principles for the orderly loss of information'	67
	Where to look for inspiration	73
	Visualising the third dimension	75
	Pointless points and clueless choropleths?	79
		82
	Augmented reality (AR) and virtual reality (VR): the future of GIS?	0.0
	Conclusion	86
	Conclusion	87
6	Mapping and the Built Environment: Some Guidance	88
	Introduction	88
	Land use maps	89
	Choropleth maps	92
	Mapping the urban fabric: building footprints	98
	Other types of map	101
	Map elements	104
	Conclusion: characteristics of a 'good' map	106
7	'Everything Is Related to Everything Else': Understanding	
	Spatial Analysis	109
	Introduction	109
	Tobler's 'First Law of Geography'	110
	What on earth is space?	111
	Why spatial analysis for planning and the built environment?	113
	Spatial analysis methods: what and how?	117
		122
	A note on distance and connection	126
	Conclusion	127
	Colletusion	12/
8	Network Problems and How to Solve Them	129
	Introduction	129
	Key concepts	130
	Outputs and applications	140
	Conclusion Telephone Telep	
0	Decision Making Using GIS: Bringing It All Together	
,	Introduction	148
	Organisational issues	150
		152
	Applications and adoption	157
	Some technical models for decision making	137

Maps as dialogue	160
Bringing it all together – our key points	162
Concluding remarks	164
	165
References	168
Index	100

Contents ix