

Table of contents

<i>Foreword: The World Road Association (PIARC)</i>	vii
<i>Editorial Review Committee</i>	viii
<i>Editors</i>	ix
<i>Introduction to the 2nd Edition</i>	x
<i>Acknowledgements</i>	xiv

Chapters

1. What are Intelligent Transport Systems?	2
1.1 Definition of ITS	2
1.2 Background to ITS	2
1.3 ITS Application Areas and Uses	5
1.4 Basic Concepts	8
1.5 Advanced Traffic Management Systems	13
1.6 Advanced Traveller Information Systems	17
1.7 Advanced Vehicle Control Systems	21
1.8 Commercial Vehicle Operations	23
1.9 Advanced Public Transport Systems	24
1.10 Electronic Payment Systems	27
1.11 Security and Emergency Response Systems	30
1.12 Conclusions	32
2. How do Intelligent Transport Systems Work?	34
2.1 ITS Technologies	34
2.2 Data Acquisition	37
2.3 Gaining Intelligence: Data Processing	40
2.4 Communications and Data Exchange	43
2.5 Information Utilisation	48
2.6 Electronic Payment	51
2.7 Human Factors	54
2.8 Conclusions	57
3. What about ITS Architecture and Standards?	60
3.1 ITS Architecture	60
3.2 ITS Standards	69
3.2 Conclusions	72
4. What are the Benefits of ITS?	74
4.1 Who Benefits from ITS?	74
4.2 What are the Specific Benefits?	77
4.3 Benefits to Road Network Operations	83

4.4	How are ITS Benefits Evaluated?	91
4.5	Advice on ITS Evaluation	98
4.6	Conclusions	107
5.	How do I Plan and Finance ITS?	110
5.1	Context for ITS Deployment	110
5.2	The ITS Framework Plan	114
5.3	Implementation Strategies	121
5.4	Financing and Contracts	125
5.5	Public-Private Partnerships	131
5.6	Conclusions	136
6.	How do I Launch ITS?	138
6.1	Launching ITS at the Programme Level	138
6.2	Launching ITS at the Project Level	140
6.3	Regional ITS Deployment	153
6.4	Conclusions	158
7.	What about ITS in Transitional and Developing Countries?	160
7.1	Special Considerations for Transitional and Developing Countries	160
7.2	ITS Status and Plans	162
7.3	Myths and Realities	168
7.4	Advice to Transitional and Developing Countries	170
7.5	Questions for Decision-Makers	178
7.6	Advice to Major Industrialised Countries	181
7.7	Conclusions	182
8.	What about ITS in the Long-term?	184
8.1	Future Scenarios	184
8.2	Forward-thinking ITS Programmes and Projects	187
8.3	Delivering the Future of ITS	203
8.4	Conclusions	204

Appendices

A.	ITS User Services	206
B.	ITS Case Studies	215
C.	Country Profiles	269
D.	Human Factors in ITS	310
E.	Application of Transport Evaluation Methods to ITS	317
F.	ITS Unit costs	326
G.	Bibliography	338
H.	Acronyms	348
J.	ITS Terminology	354
	Index	360