
TABLE OF CONTENTS

1	INTRODUCTION	1-1
1.1	What is STAG?	1-1
1.2	Where Should STAG be Used?	1-1
1.3	The Background to STAG	1-2
1.4	The Philosophy of STAG	1-2
1.5	Using STAG: The Structure of the Document	1-3
1.6	The Future of STAG	1-6
2	OBJECTIVES	2-1
2.1	Introduction	2-1
2.2	Terminology	2-1
2.3	The Role of Objectives	2-3
2.4	Why Set Planning Objectives?	2-4
2.5	How Much Effort?	2-5
2.6	Principles of Setting Planning Objectives	2-5
2.7	Developing Planning Objectives	2-11
2.8	Alternative Exercises to Aid Formulation of Planning Objectives	2-16
3	ANALYSIS OF EXISTING AND POTENTIAL PROBLEMS	3-1
3.1	Introduction	3-1
3.2	Terminology	3-1
3.3	Analysis of Data	3-2
3.4	The Use of Transport Models	3-7
3.5	The Link to Consultation	3-8
3.6	Constraints and Uncertainties	3-8
3.7	Presentation of Analysis of Problems	3-9
4	OPTION GENERATION, SIFTING AND DEVELOPMENT	4-1
4.1	Introduction	4-1
4.2	Option Generation	4-1
4.3	Option Sifting	4-3
4.4	Option Development	4-7
5	THE APPRAISAL PROCESS	5-1
5.1	Introduction	5-1
5.2	Performance Against the Various Sets of Objectives	5-2
5.3	Overview of Part 1	5-3
5.4	Part 2 AST	5-11

6	ENVIRONMENT	6-1
6.1	Introduction	6-1
6.2	Process	6-2
6.3	Baseline Information	6-3
6.4	STAG Part 1	6-4
6.5	STAG Part 2	6-5
6.6	General Advice on Environmental Impact Assessment	6-5
6.7	Impact Assessment Methodology (Part 2)	6-6
6.8	Evaluation of Impact Significance	6-9
6.9	Mitigation Measures	6-10
6.10	The Appraisal Sub-Objectives	6-11
6.11	Noise and Vibration	6-11
6.12	Air Quality	6-13
6.13	Water Quality, Drainage and Flood Defence	6-15
6.14	Geological Features	6-17
6.15	Biodiversity	6-18
6.16	Landscape	6-20
6.17	Visual Amenity	6-21
6.18	Agriculture and Soils	6-22
6.19	Cultural Heritage	6-23
7	SAFETY	7-1
7.1	Introduction	7-1
7.2	Accidents	7-1
7.3	Security	7-3
8	ECONOMY	8-1
8.1	Introduction	8-1
8.2	Transport Economic Efficiency - TEE	8-1
8.3	TEE Process	8-1
8.4	Principles of TEE Analysis	8-2
8.5	Calculation of TEE Inputs	8-3
8.6	Discounting, Price Bases etc	8-10
8.7	Economic Activity and Location Impacts - EALIs	8-10
8.8	EALIs as the Rationale for a Transport Project	8-13
8.9	The Basis of Analysis of EALIs	8-14
8.10	The Part 1 AST - Identification and Scoping of Potential EALIs	8-15
8.11	The Part 2 AST - EALIs	8-16
8.12	Further Technical Guidance	8-21
8.13	Additional Guidance on Completing the Part 2 AST	8-32

9	INTEGRATION	9-1
9.1	Introduction	9-1
9.2	Transport Integration	9-3
9.3	Land-Use Transport Integration	9-5
9.4	Policy Integration	9-9
10	ACCESSIBILITY AND SOCIAL INCLUSION	10-1
10.1	Introduction	10-1
10.2	Community Accessibility	10-2
10.3	Comparative Accessibility	10-3
10.4	General Approach to Calculation	10-3
10.5	Public Transport Network Coverage	10-4
10.6	Access to Local Services	10-10
10.7	The Distribution of Impacts by People Group	10-12
10.8	The Distribution of Impacts by Location	10-13
10.9	Summary of Accessibility Measures in AST	10-15
10.10	References and Further Reading	10-16
11	COST TO GOVERNMENT	11-1
11.1	Introduction	11-1
11.2	Investment Costs	11-1
11.3	Operating & Maintenance Costs	11-1
11.4	Grant and Subsidy Payments	11-2
11.5	Revenues	11-3
11.6	Indirect Tax Revenue	11-3
12	RISK AND UNCERTAINTY	12-1
12.1	Introduction	12-1
12.2	Risk Management	12-1
12.3	Assessing Optimism Bias and Risks	12-1
12.4	Applying Optimism Bias Factors	12-3
12.5	Valuing Risks and Calculating Expected Values	12-4
12.6	Unanticipated Risks and Contingency Allowances	12-5
12.7	Assessing Uncertainty	12-5
13	PARTICIPATION AND CONSULTATION	13-1
13.1	Introduction	13-1
13.2	What are the Objectives for the Process?	13-2
13.3	When to Involve People and on What?	13-3
13.4	Who to Involve?	13-6
13.5	How to Involve?	13-8

14	REPORTING	14-1
14.1	Introduction	14-1
14.2	Format of the Report	14-1
15	MONITORING AND EVALUATION	15-1
15.1	Introduction	15-1
15.2	The need for Monitoring	15-1
15.3	The Role of Monitoring	15-2
15.4	Monitoring Performance and Outcomes	15-2
15.5	Monitoring Processes and Methodologies	15-3
15.6	Planning and Management of the Information Gathering Process	15-5
15.7	Adaptation and Development	15-7
15.8	The need for Evaluation	15-7
15.9	The Role of Evaluation	15-8
15.10	Undertaking a Process Evaluation	15-8
15.11	The Role of Outcome Evaluation	15-10
15.12	The Outcome Evaluation Process	15-12
16	REFERENCES	16-1
16.1	From Chapter 1	16-1
16.2	From Chapter 2	16-1
16.3	From Chapter 3	16-1
16.4	From Chapter 4	16-2
16.5	From Chapter 6	16-2
16.6	From Chapter 8	16-3
16.7	From Chapter 9	16-4
16.8	From Chapter 10	16-4
16.9	From Chapter 12	16-5
16.10	From Chapter 13	16-5
16.11	From Chapter 15	16-6
A	NATIONAL DATA SOURCES	A-1
A.1	Introduction	A-1
A.2	United Kingdom Transport and Travel Databases	A-1
A.3	Scottish Transport and Travel Databases	A-1
A.4	Land Use and Services Databases	A-2
A.5	Summary	A-3
A.6	TEMPRO and the National Trip End Model (NTEM)	A-5
A.7	National Travel Survey	A-7
A.8	Census Journey to Work Trip Matrices	A-10
A.9	Rail Passenger Trip Matrix from CAPRI Data	A-11

A.10	National Rail Trends - Strategic Rail Authority	A-13
A.11	National Origin-Destination Transport Survey Databank	A-15
A.12	Route Action Plans (RAPs)	A-17
A.13	Road Accidents Scotland & Scottish Executive's Road Accidents Statistical Database	A-21
A.14	TREAD - Trunk Road Economic Assessment Database	A-23
A.15	Traveline Scotland	A-25
A.16	SRTDb - Scottish Road Traffic Database	A-27
A.17	Scottish Household Survey	A-29
A.18	Scottish Transport Statistics / Transport Statistics Great Britain	A-31
A.19	Bus & Coach Statistics	A-33
A.20	CSTM3 and CSTM3A - Central Scotland Transport Model	A-35
A.21	TMfS - Transport Model for Scotland	A-37
A.22	SITM - Strathclyde Integrated Transport Model	A-39
A.23	Land Uses and Services	A-41
B	MODELLING AND ASSESSMENT SOFTWARE	B-1
B.1	Introduction	B-1
B.2	Transport Demand Modelling Software	B-2
B.3	Economic Assessment Software	B-16
B.4	Environmental Assessment Software	B-21
B.5	Accessibility Modelling	B-22
B.6	Summary of Existing Scottish Transport Models	B-25
C	ENVIRONMENTAL WORKSHEETS AND USEFUL CONTACTS	C-1
C.1	Introduction	C-1
C.2	Noise and Vibration	C-2
C.3	Air Quality	C-6
C.4	Water Quality, Drainage and Flood Defence	C-14
C.5	Geological Features	C-16
C.6	Biodiversity	C-18
C.7	Agriculture and Soils	C-22
C.8	Cultural Heritage	C-26
C.9	Useful Environmental Contacts	C-41
D	SPECIFIC APPLICATIONS OF STAG	D-1
D.1	Introduction	D-1
D.2	Walking and Cycling	D-3
D.3	Bus Projects	D-6
D.4	Information	D-8
D.5	Park and Ride	D-8
D.6	Rail	D-9

D.7	Road	D-10
D.8	Ferries and Port Infrastructure	D-15
D.9	Aviation	D-18
D.10	Integrated Transport Initiatives	D-21
D.11	Regional Transport Strategies / Transport Corridor Studies	D-30

TABLES

2.1	Comparison Table of Problems versus Objectives	2-15
5.1	Part 1 Appraisal Summary Table	5-7
5.2	Part 2 Appraisal Summary Table	5-14
6.1	Environmental Consultation Bodies	6-3
8.1	Potential EALIs - Summary Assessment Table	8-19
8.2	Completed Example of Potential EALIs - Summary Assessment Table	8-20
8.3	Example of Sector Table: Qualitative / Quantitative Analysis of First Round Impacts (Manufacturing and Processing)	8-22
8.4	Completed Example of Qualitative / Quantitative Analysis of First Round Impacts (Manufacturing and Processing)	8-23
8.5	Sample Presentation of Spatial Impacts	8-29
10.1	Weighting Factors by Time Band	10-9
10.2	Indicative Criteria for Acceptable Walking Distance	10-12
10.3	Traffic Barriers to Walking and Cycling	10-12
10.4	Presenting Accessibility and Social Inclusion Results	10-15
12.1	Optimism Bias Factors	12-2
13.1	List of Organisations for Possible Involvement in Participation and Consultation	13-6
A.1	Summary of Transport Data Sources	A-4
A.2	Route Action Plan Study Methodology	A-18
A.3	Summary of Land Use and Service Data	A-41
B.1	Model Applications	B-7
B.2	Model Outputs	B-14
B.3	Assignment Methods	B-15
B.4	Public Transport Capability	B-15
B.5	Economic Assessment Program Capabilities	B-19
B.6	Classification of Models by Category	B-23
B.7	Central Scotland Transport Model (CSTM3) Summary	B-26
B.7A	Central Scotland Transport Model (CSTM3A) Summary	B-27
B.7B	Transport Model for Scotland (TMfS) Summary	B-28
B.8	Strathclyde Integrated Transport Model (SITM) Summary	B-29
C.1	Index of Worksheets	C-1
D.1	Structure of Appendix	D-2
D.2	Potential Impacts of CWSS Projects	D-5
D.3	Small Project Appraisal Summary Table Example	D-13

FIGURES

1.1	Planning and Appraisal Process	1-4
13.1	Relationship Between Participation and Consultation Activities and the Wider Planning Process	13-5
15.1	The Monitoring Process	15-4

