

TABLE OF CONTENTS

ACKNOWLEDGEMENTSi
PREFACEiii
TABLE OF CONTENTSvii
DEFINITIONS OF SPEED MANAGEMENT TERMS xiii
CHAPTER 1: INTRODUCTION1
Purpose and Scope
Format of the Guide
What is Speed Management?2
Why Focus on Speed?
Government Policies on Speed5
Issues in Speed Management5
Driver Issues
Measuring Speed
Spot Speeds
CHAPTER 2: SPEED MANAGEMENT IN CANADA
State-of-the-Practice
Speed Limits
Setting Speed Limits
Speed During Road Design
Speed Management on In-service Roads15
Public Participation Programs
Special Areas
Operating Speeds
Automated Enforcement 18



	Canadian Speed-related Crash Data
	Results
	The Crash 19 The Road User 20 The Vehicle 21 The Environment 22
	Alberta Speed Crashes
CHAF	PTER 3: THE IMPACT OF SPEED ON SAFETY31
	Crashes
	Crash Severity
	The Speed-Safety Paradox
	Speed Differential/Variance
	Driver Behaviour and Capabilities
	Perception-Reaction Time .39 Manoeuvres and Execution Time .40 Visual Field .41 Closing Rate .42
	Safety Equity Among Users
	Effects at the Network Level
	Emergency Services Response Times
CHAF	PTER 4: THE DRIVER'S CHOICE OF SPEED47
	Public Opinions About Speed
	Who Speeds and Where?
	Acceptability of Present Speeds
	Factors Affecting Speed Choice
	Internal Factors Affecting Speed
	External Factors Affecting Speed Choice53
	Enforcement53
	Vehicle Design54
	Road Design 54



Environmental Conditions55
CHAPTER 5: SPEED MANAGEMENT POLICY57
Organizational Structure
Formal Process
The Engineering Practitioner's Role
Target Speeds61
Measures and Tools62
Monitoring and Evaluation62
Communicating the Need for Speed Management
Gaining Support63
CHAPTER 6: SETTING SPEED LIMITS
Static Speed Limits
Statutory Speed Limits66
Speed Zones67
Current Methods Used in Canada
The TAC Guidelines76
Quebec
Northwestern Speed Zoning79
Comparison of Alternative Methods79
Night Speed Limits81
Trucks Maximum Speed Limits82
Minimum Speed Limits82
School Area (and Playground) Speed Zones83
Temporary (Work Zone or Construction) Maximum Speed Limits85
Seasonal or Holiday Speed Limits90
Transitional Speed Limits91
Variable Speed Limits91
Selecting a Speed Limit93
Monitoring and control95
0.7



	Speed Limits and Safety	98
	Administrative Issues	101
	Minimum Lengths of Speed Zones	101
	Speed Limit Reviews	101
	Policy Considerations	102
	Advisory Speeds	103
	Ball-bank Indicator	105
	Curve Formula	106
CHAI	PTER 7: SPEED AND ROAD DESIGN	109
	Introduction	109
	Elements of a Revised Approach	110
	Systems Consideration	111
	Matching Design to User Operation	112
	Longitudinal Consistency	119
	Conflict Speeds	119
	Self-enforcing (SE) Roads	122
CHAI	PTER 8: ENGINEERING AND OTHER MEASURES	
CHAI		125
CHAI	PTER 8: ENGINEERING AND OTHER MEASURES	125
CHAI	PTER 8: ENGINEERING AND OTHER MEASURES	
CHAI	PTER 8: ENGINEERING AND OTHER MEASURES	125125126127
CHAI	PTER 8: ENGINEERING AND OTHER MEASURES	125 126 127
СНА	PTER 8: ENGINEERING AND OTHER MEASURES Warrants for Speed Management Measures Limitations of Engineering Measures Geometric Design Measures Roundabouts	
CHAI	PTER 8: ENGINEERING AND OTHER MEASURES. Warrants for Speed Management Measures. Limitations of Engineering Measures. Geometric Design Measures. Roundabouts. Road Diet	
CHAI	PTER 8: ENGINEERING AND OTHER MEASURES Warrants for Speed Management Measures Limitations of Engineering Measures Geometric Design Measures Roundabouts Road Diet Traffic Calming	
CHAI	PTER 8: ENGINEERING AND OTHER MEASURES. Warrants for Speed Management Measures. Limitations of Engineering Measures. Geometric Design Measures. Roundabouts. Road Diet. Traffic Calming Speed Kidney	
CHAI	PTER 8: ENGINEERING AND OTHER MEASURES Warrants for Speed Management Measures Limitations of Engineering Measures Geometric Design Measures Roundabouts Road Diet Traffic Calming Speed Kidney Median Treatment	
CHAI	PTER 8: ENGINEERING AND OTHER MEASURES. Warrants for Speed Management Measures. Limitations of Engineering Measures. Geometric Design Measures. Roundabouts. Road Diet. Traffic Calming. Speed Kidney. Median Treatment. Narrow Lanes.	125126127128129130131133135
CHAI	PTER 8: ENGINEERING AND OTHER MEASURES. Warrants for Speed Management Measures. Limitations of Engineering Measures. Geometric Design Measures. Roundabouts. Road Diet. Traffic Calming. Speed Kidney. Median Treatment. Narrow Lanes. Roadside Measures.	



Roa		
	ad Surface Treatments	137
	Transverse Rumble Strips	.139
	Longitudinal Rumble Strips	.140
	Rumblewave Surface	.141
	Coloured or Textured Pavement	.141
Tra	ffic Control Devices	142
	Enhanced Speed Limit Signs	.142
	Unique Traffic Control Signs (non-MUTCDC)	.143
	All-way Stop Control	.144
	Flashing Beacons	.144
	Speed Sensitive Traffic Signals	.145
	Coordination of Traffic Signals	.145
	Removal of Longitudinal Pavement Markings	.146
	Central Hatching	.147
	Optical Speed Bars and Dragon's Teeth	
	Optical Specia bars and Dragon's rectif	.147
	Pavement Marking Legends	
	-	.151
	Pavement Marking Legends	.151 .152
Hig	Pavement Marking Legends	.151 .152 .153
_	Pavement Marking Legends	.151 .152 .153 156
_	Pavement Marking Legends Community Safety Zones or Double Fines Speed Feedback Signs h-to-Low Speed Transition Zones	.151 .152 .153 156 158
_	Pavement Marking Legends	.151 .152 .153 .156 .158
Edu	Pavement Marking Legends Community Safety Zones or Double Fines. Speed Feedback Signs. th-to-Low Speed Transition Zones June Car Programs.	.151 .152 .153 156 158 .158
Edu	Pavement Marking Legends Community Safety Zones or Double Fines. Speed Feedback Signs ch-to-Low Speed Transition Zones cational, Information, and Encouragement Pace Car Programs Incentive Programs	.151 .152 .153 156 158 .158 .159
Edu	Pavement Marking Legends Community Safety Zones or Double Fines. Speed Feedback Signs. th-to-Low Speed Transition Zones ucational, Information, and Encouragement. Pace Car Programs Incentive Programs	.151 .152 .153 156 158 .158 .159 160