

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	iv
PROJECT STEERING COMMITTEE.....	v
EXECUTIVE SUMMARY	vi
1. INTRODUCTION.....	1
1.1. Purpose	1
1.2. Scope.....	1
1.3. Uses and Users.....	2
1.4. Method and Approach.....	2
1.5. Limitation of the Guidelines.....	3
1.6. Structure of the Document.....	3
2. DEFINING CONGESTION.....	5
2.1. Overview	5
2.2. Suggested Congestion Definitions	14
2.3. Chapter References.....	14
3. CONGESTION MEASURES.....	17
3.1. Overview	17
3.2. Selection Factors.....	28
3.3. Measure Selection	31
3.4. Chapter References.....	39
4. TECHNOLOGIES AND DATA SOURCES	41
4.1. Fixed Point Technologies	41
4.2. Probe Vehicle Technologies.....	44
4.3. Connected Vehicle	45
4.4. Future Technology: Autonomous Vehicles.....	46
4.5. Chapter References.....	47
5. ASSESSMENT OF TECHNOLOGIES AND DATA SOURCES	51
5.1. Assessment Criteria	51
5.2. Technology and Data Source Assessment Results.....	54
5.3. Chapter References.....	63

6.	CONGESTION VISUALIZATION	65
6.1.	Types of Visualizations	65
6.2.	Selecting the most appropriate type of visualization	86
6.3.	Chapter References.....	89
7.	CONCLUSION & DECISION SUPPORT PROCESS	91
8.	ACRONYMS	95
9.	GLOSSARY OF TERMS.....	96
APPENDIX A:	SURVEY OF CURRENT PRACTICES OF AGENCIES	99
APPENDIX B:	DETAILED CHARACTERISTICS OF TRAFFIC CONGESTION MEASURES.....	10