

CONTENTS

1.1	INTRODUCTION	1
1.1.1	What Is Design?	1
1.1.2	The Use Of Standards And Guidelines	1
1.1.2.1	Standards	1
1.1.2.2	Guidelines	2
1.1.3	The Goal Of Design	3
1.1.4	The Concept Of Safety	3
1.1.5	Managing Design Risk	4
1.1.6	The Evolving Approach	5
1.1.7	Rehabilitation Design	6
1.1.8	Value Engineering	6
1.2	BENEFIT COST ANALYSIS	8
1.2.1	Introduction	8
1.2.2	Policy Decisions and Trade-Offs	8
1.2.3	Design Decisions	9
1.3	BENEFITS AND COSTS	10
1.3.1	Mobility	10
1.3.1.1	The Need to Accommodate All Modes	10
1.3.1.2	Mobility and Motorized Traffic	10
1.3.1.3	Mobility and Active Transportation Modes	11
1.3.2	Safety	11
1.3.2.1	Safety Performance Measures	11
1.3.2.2	Collision Modification Factors	14
1.3.2.3	Collision Types and Geometric Design	14
1.3.2.4	The Cost Of Collisions	15
1.3.2.5	Design Choices	15
1.3.2.6	Road Safety Audits	16
1.3.3	Environmental Impacts And Aesthetics	16
1.3.4	Financial Costs	17
1.3.4.1	Capital Costs	17
1.3.4.2	Maintenance Costs	17
1.3.4.3	Vehicle Operating Costs	17

1.4	THE DESIGN DOMAIN CONCEPT	18
1.4.1	What is the Design Domain Concept?.....	18
1.4.2	Applying the Design Domain Concept.....	20
1.4.3	Extending the Design Domain	21
1.5	DESIGN EXCEPTIONS.....	21
1.5.1	Definition.....	21
1.5.2	Suggested Key Criteria for Design Exceptions.....	21
1.5.3	Design Exception Process.....	22
	REFERENCES	34