

ISO/TR 12353-4:2024-11 (E)

Road vehicles - Traffic accident analysis - Part 4: Compilation of methodologies for assessment of vehicle safety system effectiveness

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols and abbreviated terms	2
5	Overview of assessment methodologies	3
5.1	Prospective and retrospective methods	3
5.2	Exposure	3
5.3	Risk	4
5.4	Odds	4
5.5	Field of effect	4
5.6	Effectiveness rate	5
5.7	Potential effectiveness	5
5.8	Benefit	7
5.9	Safety performance	7
6	Crash rate estimation using crash case and exposure data (retrospective assessment)	8
6.1	Introduction	8
6.2	Applicability, advantages and limitations	8
6.3	Methodology	8
6.3.1	Description	8
6.3.2	Input data	8
6.3.3	Output data	9
6.4	Accuracy, sensitivity and validation	9
7	Dose-response model (retrospective assessment)	9
7.1	Introduction	9
7.2	Applicability, advantages and limitations	11
7.3	Methodology	12
7.3.1	Description	12
7.3.2	Input data	12
7.3.3	Output data	12
7.4	Accuracy, sensitivity and validation	12
8	Induced exposure (retrospective assessment)	12
8.1	Introduction	12
8.2	Applicability, advantages and limitations	12
8.3	Methodology	13
8.3.1	Description	13
8.3.2	Input data	14
8.3.3	Output data	14
8.4	Accuracy, sensitivity and validation	14
9	Paired comparisons (retrospective assessment)	14

9.1	Introduction	14
9.2	Applicability, advantages and limitations	14
9.3	Methodology	14
9.3.1	Description	14
9.3.2	Input data	15
9.3.3	Output data	15
9.4	Accuracy, sensitivity and validation	15
10	Prospective assessment based on virtual simulations according to ISO/TR 21934-1	16
10.1	Introduction	16
10.2	Applicability, advantages and limitations	16
10.3	Methodology	17
10.3.1	General	17
10.3.2	Input data	18
10.3.3	Output data	19
10.4	Accuracy, sensitivity and validation	19
11	Crash momentum index, C-Vr plane (prospective or retrospective assessment)	20
11.1	Introduction	20
11.2	Applicability, advantages and limitations	20
11.3	Methodology	21
11.3.1	Description	21
11.3.2	Input data	23
11.3.3	Output data	23
11.4	Accuracy, sensitivity and validation	24
Annex A (informative) Application of prospective and retrospective methods		25
Bibliography		27