Exhibit 1. Methodology Flowchart



Note: (.) indicates chapter number in the report

	AADT per Lane			Crashes per Mile per Year			Crashes per 100 Million Vehicle Miles		
Percentiles	All Sites	Non-FSP	FSP Sites	All Sites	Non-FSP	FSP Sites	All Sites	Non-FSP	FSP Sites
		Sites			Sites			Sites	
95	19163	14407	22388	84.8	53.6	138.0	395	375	416
90	16677	12769	20000	53.1	30.3	78.0	237	211	259
85	15370	11500	19000	36.8	19.0	63.1	167	144	204
80	14000	10805	17900	27.4	14.6	48.8	134	112	164
75	13000	10250	16674	20.0	11.1	40.3	110	95	143
70	12167	9996	15825	16.7	9.5	33.3	96	84	116
65	11256	9250	15500	13.7	8.3	28.6	84	72	105
60	10750	8750	14625	11.1	7.0	24.2	73	63	95
55	10250	7996	14000	9.5	6.1	20.5	65	58	83
50	9750	7500	13500	8.3	5.4	18.5	58	51	74
45	9167	7000	12667	6.9	4.8	16.1	52	45	67
40	8474	6285	12333	5.9	4.2	14.3	45	42	59
35	7596	5838	12000	5.0	3.5	12.5	41	38	52
30	6833	5238	11107	4.3	2.9	10.5	37	34	44
25	6136	4842	10750	3.5	2.3	9.0	33	28	40
20	5309	4394	10500	2.6	1.8	7.6	26	21	35
15	4719	3686	10000	1.8	0.9	6.0	18	9	29
10	3719	3279	9167	0.0	0.0	4.5	0	0	24
5	3039	2450	7330	0.0	0.0	0.6	0	0	3

Exhibit 2. Measures of Performance: Percentile Distributions

Note: (1) The above numbers are based on 1997-1999 statewide crash and inventory data.

(2) All sites refers to all freeway facilities in North Carolina.

(3) Non-FSP sites refers to all freeway facilities in North Carolina that do not currently have IMAP service

Exhibit 3. Initial unmatched GIS data (subsequently corrected)



Missing Roadway Segments

Exhibit 4. Segment Level Planning Analysis Map

Segment Level Analysis of IMAP Candidate Sites

Candididate sites are in the 85th percentile of one or more of the following statistics: AADT per Lane, Crashes per Mile per Year, and Crashes per 100 Million Vehicle Miles



Note: Graphics depicting current IMAP locations are exaggerated for effect and may inaccurately suggest continuous coverage in areas where multiple IMAP routes exist in close proximity. For example, no IMAP patrols currently exist in Orange County.



AADT per Lane Density

Exhibit 6. Crashes per Mile per Year Density Map



Crashes per Mile per Year Density

Exhibit 7. Crashes per 100 Million Vehicle Miles Density Map



Crashes per 100 Million Vehicle Miles Density

Exhibit 8. Density Map of IMAP Candidate Sites

Density Analysis of IMAP Candidate Sites

Candidate sites are in the 85th percentile of one or more of the following statistics: AADT per Lane, Crashes per Mile per Year, and Crashes per 100 Million Vehicle Miles



Incident Type	Frequency (%)	Average Response Time (minutes)	Average Clearance Time (minutes)	Average Duration (minutes)
Abandoned Vehicle	405 (19.4)	1.0	3.4	4.3
Crash	259 (12.4)	9.0	33.5	42.5
Debris in Roadway	179 (8.6)	11.7	5.0	16.7
Disabled Vehicle	1203 (57.8)	7.3	9.7	17.0
Fire	12 (0.5)	7.6	11.5	19.1
Hazardous Material Spill	2 (0.2)	10.5	106.0	116.5
Maintenance	5 (0.1)	9.2	52.6	61.8
Other	16 (0.7)	3.5	9.0	12.5
Total	2081	6.6	11.3	17.9

Exhibit 9. Average Incident Frequencies, Response, Clea	arance, and Duration Times for Charlotte and Greensboro
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Exhibit 10. Incident Distribution Tree



^aAverage Duration with Freeway Service Patrol

^bPeak periods are assumed to be Monday- Friday, 7 – 9 am and 4 - 6 pm

Exhibit 11. Urban Traffic Volume Profile



Urban Hourly Weekday Traffic Volume Profile from permanent automatic traffic recorder sites in North Carolina

Exhibit 12. Rural Traffic Volume Profile



Rural Hourly Weekday Traffic Volume Profile from permanent automatic traffic recorder sites in North Carolina





Exhibit 14. Synthetic Rural Traffic Volume Divisions



Exhibit 15. Sample Urban Facility Delay Rate Models for Indicated Available % Capacities



15-min Incident Results for 4 Lane Urban Freeway