



Date: MM/DD/YY		Start Time: 1500						
Name: John Doe		End Time: 1545						
Location: 4th Street and University Avenue		Down Time: N.A.						
Speed Limit: 30 mph		Weather: Clear						
Seconds	mph for 176 feet	Passenger Vehicles		Buses		Trucks		Total
		Record	No.	Record	No.	Record	No.	
1.0	120.0							
1.2	100.0							
1.4	85.7							
1.6	75.5							
1.8	66.6							
2.0	60.0							
2.2	54.5							
2.4	50.0							
2.6	46.1							
2.8	42.8		1					1
3.0	40.0		1					1
3.2	37.5		6					6
3.4	35.2		9					9
3.6	33.3		8				2	10
3.8	31.5		8				2	10
4.0	30.0		6				3	9
4.2	28.9		10		3			13
4.4	27.2		9				2	11
4.6	26.1		7				2	9
4.8	25.0		7				1	8
5.0	24.0		4		1		2	7
5.2	23.0		1					1
5.4	22.2		2				1	2
5.6	21.4		3					3
5.8	20.6							
6.0	20.0							
6.2	19.3							
6.4	18.7							
6.6	18.1							
6.8	17.6							
7.0	17.1							
Total								100

Figure 2.3. Example Stopwatch Spot Speed Study Data Form

### ANALYSIS OF SPOT SPEED STUDY

Num	Group Of Speed (km)	Average Of Speed in Group (v)	Number Of Vehicles In group (f)	% of Vehicles In Group	% of Accumulate Vehicles	vf	(v-x) <sup>2</sup>	f(v-x) <sup>2</sup>
1								
2								
3								
4								
5								
6								
			$\sum f$			$\sum vf$	$\sum (v-x)^2$	$\sum f(v-x)^2$

Number of data : n  
 Number of class :  $k = 1 + 3.31 \log_{10} n$   
 Range ,w : w  
 Class Width, l : w/k

**Instruction :**

- Draw the graph of % Accumulate Vehicles Vs Speed
- From graph, get at 15 % (minimum of speed), 85% ( Design of Speed) and 50%(Medium of Speed).
- Mean of speed =  $\sum fv / \sum f$
- Standard Deviation, s

Speed Group	Mean speed of group ( $v$ )	Number of vehicle in group ( $f$ )	Percent of total observations in group	Cumulative percent of total observations	$v * f$	$(v - \bar{x})^2$	$f(v - \bar{x})^2$
20-24.9	22.45	0	0.0	0.0		760.877	0
25-29.9	27.45	5	1.5	1.5	137.25	510.037	2550.185
30-34.9	32.45	13	4.0	5.5	421.85	309.197	4019.562
35-39.9	37.45	27	8.2	13.7	1011.15	158.357	4275.641
40-44.9	42.45	50	15.2	28.9	2122.5	57.517	2875.853
45-49.9	47.45	66	20.1	48.9	3131.7	6.677	440.6857
50-54.9	52.45	72	21.9	70.8	3776.4	5.837	420.268
55-59.9	57.45	52	15.8	86.6	2987.4	54.997	2859.847
60-64.9	62.45	24	7.3	93.9	1498.8	154.157	3699.769
65-69.9	67.45	15	4.6	98.5	1011.75	303.317	4549.756
70-74.9	72.45	5	1.5	100.0	362.25	502.477	2512.385
75-79.9	77.45	0	0.0	100.0	0	751.637	0
$\Sigma$		329	100		16461.05	3575.084	28203.95



