



040483

To: Wes Anderson, Director of Public Works  
From: Justine Gembala, PE, Civil Engineer *JG*  
Date: September 27, 2004  
Subject: Request for a Multi-way Stop at Stewart Avenue and Central Avenue

The Lombard Park District requested a multi-way stop at Stewart Avenue and Central Avenue. Currently, Central Avenue is stopped at Stewart Avenue. There are "Cross Traffic Does Not Stop" warning signs posted below the existing stop signs on Central Avenue.

Traffic counts taken on September 15, 2004, revealed that the average vehicular volume on Stewart for the highest eight hours of an average day is 225 and the average vehicular volume for Central Avenue for the same eight hours is 74. These volumes are below the nationally recognized minimum requirements warranting the installation of multi-way stop controls.

There are no reported accidents from October 2002 through August 2004 at this intersection.

Based on the above information, it is not recommended to install a multi-way stop at Stewart Avenue and Central Avenue at this time.

This item will be on the October 4, 2004 Transportation and Safety Committee agenda. The meeting is held at the Village Hall in the Community Room at 7:30 PM. This is a public meeting and public participation is encouraged.

JG/jg

cc: Rick Soderstrom, Trustee, District 6  
Lombard Park District, Mike Fugiel  
John Burg, Assistant Public Works Director  
David Dratnol, Village Engineer  
Transportation and Safety Committee

## Stewart Avenue at Central Avenue

Traffic Counts: 9/15/2004

Rank (Major Street Total Vehicles)	Time	Major Street			Minor Street		
		NB Stewart	SB Stewart	Total Stewart	EB Central	WB Central	Total Central
2	11am-12pm	150	87	237	24	26	50
4	12pm-1pm	166	63	229	41	31	72
6	1pm-2pm	154	58	212	32	28	60
7	2pm-3pm	139	67	206	39	36	75
8	3pm-4pm	137	68	205	50	42	92
3	4pm-5pm	166	70	236	34	45	79
1	5pm-6pm	180	68	248	47	50	97
5	6pm-7pm	168	57	225	29	36	65
		Stewart Average		225	Central Average		74

### Multiway Stop Control Warrants:

MUTCD 2003, Section 2B.07 Multiway Stop Applications, C. Minimum volumes:

1. Vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least **300** vehicles per hour for any 8 hours of an average day.

Stewart Avenue has an average of **225** vehicles per hour for the highest 8 hours of an average day.

This warrant is not met.

2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least **200** units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour.

Central Avenue has an average of **74** vehicles per hour for the same highest 8 hours of the major street volumes.

This warrant is not met.

Notes: Pedestrian and bicycle counts were not taken.  
A delay study was not conducted.

**Nu-Metrics Traffic Analyzer Study  
Computer Generated Summary Report  
City: Lombard  
Street: S.B.Stewart at Central**

A study of vehicle traffic was conducted with HI-STAR unit number 811. The study was done in the lane on S.B.Stewart at Central in Lombard, Il in DuPage county. The study began on 09/14/2004 at 09:00 AM and concluded on 09/16/2004 at 09:00 AM, lasting a total of 48 hours. Data was recorded in 60 minute time periods. The total recorded volume of traffic showed 2,191 vehicles passed through the location with a peak volume of 108 on 09/16/2004 at 07:00 AM and a minimum volume of 0 on 09/15/2004 at 03:00 AM. The AADT Count for this study was 1,096.

**SPEED**

Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

**Chart 1**

0 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to >
0	42	131	266	711	722	223	51	25	8	4	1	2	3	1

At least half of the vehicles were traveling in the 25 - 29 mph range or a lower speed. The average speed for all classified vehicles was 30 mph with 47.4 percent exceeding the posted speed of 30 mph. The HI-STAR found 0.50 percent of the total vehicles were traveling in excess of 55 mph. The mode speed for this traffic study was 30 mph and the 85th percentile was 34.93 mph.

**CLASSIFICATION**

Chart 2 lists the values of the eight classification bins and the total traffic volume accumulated for each bin.

**Chart 2**

0 to 20	21 to 27	28 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 to >
2103	57	22	4	3	0	1	0

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 2,160 which represents 98.60 percent of the total classified vehicles. The number of Small Trucks in the study was 22 which represents 1.00 percent of the total classified vehicles. The number of Trucks/Buses in the study was 4 which represents 0.20 percent of the total classified vehicles. The number of Tractor Trailers in the study was 4 which represents 0.20 percent of the total classified vehicles.

**HEADWAY**

During the peak time period, on 09/16/2004 at 07:00 AM the average headway between the vehicles was 33.03 seconds. The slowest traffic period was on 09/15/2004 at 03:00 AM. During this slowest period, the average headway was 3600.0 seconds.

**WEATHER**

The roadway surface temperature over the period of the study varied between 66 and 113 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

### Class/Volume Report Graph

HI-Star ID: 811	Begin: 09/14/2004 09:00 AM	End: 09/16/2004 09:00 AM
Street: S.B.Stewart at Central	Lane:	Hours: 48:00
State: IL	Oper: EP	Period: 60
City: Lombard	Posted: 30	Raw Count: 2191
County: DuPage	AADT Factor: 1	AADT Count: 1096

NC97 - Feet	Count	0 to 20	21 to 27	28 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 >	Total	0	68	136	204
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**09/14/2004**

[09:00 AM-10:00 AM]	68	65	2	1	0	0	0	0	0	68	
[10:00 AM-11:00 AM]	44	41	2	0	1	0	0	0	0	44	
[11:00 AM-12:00 PM]	66	63	2	1	0	0	0	0	0	66	
[12:00 PM-01:00 PM]	78	73	3	1	1	0	0	0	0	78	
[01:00 PM-02:00 PM]	63	57	2	3	1	0	0	0	0	63	
[02:00 PM-03:00 PM]	69	66	2	1	0	0	0	0	0	69	
[03:00 PM-04:00 PM]	74	72	1	0	0	1	0	0	0	74	
[04:00 PM-05:00 PM]	71	67	3	0	0	1	0	0	0	71	
[05:00 PM-06:00 PM]	68	66	1	1	0	0	0	0	0	68	
[06:00 PM-07:00 PM]	81	76	3	2	0	0	0	0	0	81	
[07:00 PM-08:00 PM]	56	56	0	0	0	0	0	0	0	56	
[08:00 PM-09:00 PM]	35	32	1	2	0	0	0	0	0	35	
[09:00 PM-10:00 PM]	25	23	2	0	0	0	0	0	0	25	
[10:00 PM-11:00 PM]	19	19	0	0	0	0	0	0	0	19	
[11:00 PM-12:00 AM]	22	20	1	1	0	0	0	0	0	22	
	839	796	25	13	3	2	0	0	0	839	

Daily Totals:

	839	25	3	0	0
	796	13	2	0	839
Peak Time (AM): [ 9:00:00AM - 10:00:00AM]				68	Peak Count:
Peak Time (PM): [ 6:00:00PM - 7:00:00PM]				81	Peak Count:

**09/15/2004**

SB Stewart

### Class/Volume Report Graph

NC97 - Feet	Count	0 to 20	21 to 27	28 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 >	Total	0	68	136	204
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**09/15/2004**

[12:00 AM-01:00 AM]	11	11	0	0	0	0	0	0	0	11	
[01:00 AM-02:00 AM]	5	5	0	0	0	0	0	0	0	5	
[02:00 AM-03:00 AM]	5	5	0	0	0	0	0	0	0	5	
[03:00 AM-04:00 AM]	0	0	0	0	0	0	0	0	0	0	
[04:00 AM-05:00 AM]	9	9	0	0	0	0	0	0	0	9	
[05:00 AM-06:00 AM]	28	28	0	0	0	0	0	0	0	28	
[06:00 AM-07:00 AM]	41	38	2	0	1	0	0	0	0	41	
[07:00 AM-08:00 AM]	107	105	1	0	0	0	0	0	0	106	
[08:00 AM-09:00 AM]	79	79	0	0	0	0	0	0	0	79	
[09:00 AM-10:00 AM]	87	81	5	1	0	0	0	0	0	87	
[10:00 AM-11:00 AM]	57	54	2	1	0	0	0	0	0	57	
[11:00 AM-12:00 PM]	87	81	4	2	0	0	0	0	0	87	
[12:00 PM-01:00 PM]	63	59	1	2	0	0	0	1	0	63	
[01:00 PM-02:00 PM]	58	56	2	0	0	0	0	0	0	58	
[02:00 PM-03:00 PM]	67	62	3	2	0	0	0	0	0	67	
[03:00 PM-04:00 PM]	68	66	2	0	0	0	0	0	0	68	
[04:00 PM-05:00 PM]	70	69	1	0	0	0	0	0	0	70	
[05:00 PM-06:00 PM]	68	66	2	0	0	0	0	0	0	68	
[06:00 PM-07:00 PM]	57	57	0	0	0	0	0	0	0	57	
[07:00 PM-08:00 PM]	47	45	2	0	0	0	0	0	0	47	
[08:00 PM-09:00 PM]	32	31	0	0	0	1	0	0	0	32	
[09:00 PM-10:00 PM]	12	11	1	0	0	0	0	0	0	12	
[10:00 PM-11:00 PM]	15	14	1	0	0	0	0	0	0	15	
[11:00 PM-12:00 AM]	18	18	0	0	0	0	0	0	0	18	
	1091	1050	29	8	1	1	0	1	0	1090	

Daily Totals: 1091 1050 29 8 1 1 0 1 0 1090  
 Peak Time (AM): [ 7:00:00AM - 8:00:00AM] Peak Count: 107  
 Peak Time (PM): [ 4:00:00PM - 5:00:00PM] Peak Count: 70

**09/16/2004**

[12:00 AM-01:00 AM]	5	5	0	0	0	0	0	0	0	5	
[01:00 AM-02:00 AM]	3	3	0	0	0	0	0	0	0	3	
[02:00 AM-03:00 AM]	1	1	0	0	0	0	0	0	0	1	
[03:00 AM-04:00 AM]	2	2	0	0	0	0	0	0	0	2	
[04:00 AM-05:00 AM]	7	7	0	0	0	0	0	0	0	7	
[05:00 AM-06:00 AM]	21	20	0	1	0	0	0	0	0	21	
[06:00 AM-07:00 AM]	43	42	1	0	0	0	0	0	0	43	
[07:00 AM-08:00 AM]	108	106	2	0	0	0	0	0	0	108	
[08:00 AM-09:00 AM]	71	71	0	0	0	0	0	0	0	71	
	261	257	3	1	0	0	0	0	0	261	

Daily Totals: 261 257 3 1 0 0 0 0 0 261  
 Peak Time (AM): [ 7:00:00AM - 8:00:00AM] Peak Count: 108  
 Peak Time (PM): Peak Count: 0

### Class/Volume Report Graph

NC97 - Feet		0	21	28	40	50	60	70	80					
Date & Time Range	Count	to	to	to	to	to	to	to	>	Total	0	68	136	204
		20	27	39	49	59	69	79						

Total Counted: 2191    2191    2103    57    22    4    3    0    1    0    2190  
 Total Classified: 2190  
 Total UnClassified: 1

Report Percentages:                      2.60%            0.18%            0.00%            0.00%  
     96.03%            1.00%            0.14%            0.05%

Peak Time:  
     Peak Time (AM):            9/16/4                      [ 7:00:00AM - 8:00:00AM]            Peak Count:            108  
     Peak Time (PM):            9/14/4                      [ 6:00:00PM - 7:00:00PM]            Peak Count:            81

**Nu-Metrics Traffic Analyzer Study  
Computer Generated Summary Report  
City: Lombard  
Street: N.B.Stewart at Central**

A study of vehicle traffic was conducted with HI-STAR unit number 8230. The study was done in the lane on N.B.Stewart at Central in Lombard, Il in DuPage county. The study began on 09/14/2004 at 09:00 AM and concluded on 09/16/2004 at 09:00 AM, lasting a total of 48 hours. Data was recorded in 60 minute time periods. The total recorded volume of traffic showed 4,240 vehicles passed through the location with a peak volume of 203 on 09/14/2004 at 05:00 PM and a minimum volume of 2 on 09/15/2004 at 03:00 AM. The AADT Count for this study was 2,120.

**SPEED**

Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

**Chart 1**

0 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 >
0	118	621	509	902	1274	596	145	36	13	4	7	4	5	3

At least half of the vehicles were traveling in the 25 - 29 mph range or a lower speed. The average speed for all classified vehicles was 29 mph with 49.2 percent exceeding the posted speed of 30 mph. The HI-STAR found 0.54 percent of the total vehicles were traveling in excess of 55 mph. The mode speed for this traffic study was 30 mph and the 85th percentile was 36.49 mph.

**CLASSIFICATION**

Chart 2 lists the values of the eight classification bins and the total traffic volume accumulated for each bin.

**Chart 2**

0 to 20	21 to 27	28 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 >
4073	115	37	10	2	0	0	0

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 4,188 which represents 98.80 percent of the total classified vehicles. The number of Small Trucks in the study was 37 which represents 0.90 percent of the total classified vehicles. The number of Trucks/Buses in the study was 10 which represents 0.20 percent of the total classified vehicles. The number of Tractor Trailers in the study was 2 which represents 0.00 percent of the total classified vehicles.

**HEADWAY**

During the peak time period, on 09/14/2004 at 05:00 PM the average headway between the vehicles was 17.65 seconds. The slowest traffic period was on 09/15/2004 at 03:00 AM. During this slowest period, the average headway was 1200.0 seconds.

**WEATHER**

The roadway surface temperature over the period of the study varied between 64 and 109 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 97.92 percent of the time.

### Class/Volume Report Graph

HI-Star ID: 8230	Begin: 09/14/2004 09:00 AM	End: 09/16/2004 09:00 AM
Street: N.B.Stewart at Central	Lane:	Hours: 48:00
State: IL	Oper: EP	Period: 60
City: Lombard	Posted: 30	Raw Count: 4240
County: DuPage	AADT Factor: 1	AADT Count: 2120

NC97 - Feet	Count	0 to 20	21 to 27	28 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 >	Total	0]	68]	136]	204]
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**09/14/2004**

[09:00 AM-10:00 AM]	99	97	1	1	0	0	0	0	0	99	
[10:00 AM-11:00 AM]	90	85	1	4	0	0	0	0	0	90	
[11:00 AM-12:00 PM]	137	127	8	2	0	0	0	0	0	137	
[12:00 PM-01:00 PM]	159	155	3	1	0	0	0	0	0	159	
[01:00 PM-02:00 PM]	150	142	7	1	0	0	0	0	0	150	
[02:00 PM-03:00 PM]	125	122	2	1	0	0	0	0	0	125	
[03:00 PM-04:00 PM]	144	139	3	2	0	0	0	0	0	144	
[04:00 PM-05:00 PM]	150	138	11	0	1	0	0	0	0	150	
[05:00 PM-06:00 PM]	203	199	1	1	1	1	0	0	0	203	
[06:00 PM-07:00 PM]	168	160	5	2	0	0	0	0	0	167	
[07:00 PM-08:00 PM]	151	150	1	0	0	0	0	0	0	151	
[08:00 PM-09:00 PM]	116	115	1	0	0	0	0	0	0	116	
[09:00 PM-10:00 PM]	67	64	3	0	0	0	0	0	0	67	
[10:00 PM-11:00 PM]	52	52	0	0	0	0	0	0	0	52	
[11:00 PM-12:00 AM]	19	19	0	0	0	0	0	0	0	19	
	1830	1764	47	15	2	1	0	0	0	1829	

Daily Totals:

1830	47	2	0	0
1764	15	1	0	1829

Peak Time (AM): [11:00:00AM - 12:00:00PM]      Peak Count: 137  
 Peak Time (PM): [ 5:00:00PM - 6:00:00PM]      Peak Count: 203

**09/15/2004**





### Class/Volume Report Graph

NC97 - Feet		0	21	28	40	50	60	70	80					
Date & Time Range	Count	to	to	to	to	to	to	to	>	Total	0	68	136	204
		20	27	39	49	59	69	79						

Total Counted: 4240    4240    4073    115    37    10    2    0    0    0    0    4237  
 Total Classified: 4237  
 Total UnClassified: 3

Report Percentages:                      2.71%                      0.24%                      0.00%                      0.00%  
     96.13%                      0.87%                      0.05%                      0.00%

Peak Time:  
     Peak Time (AM):                      9/15/4                      [11:00:00AM - 12:00:00PM]                      Peak Count:                      150  
     Peak Time (PM):                      9/14/4                      [ 5:00:00PM - 6:00:00PM]                      Peak Count:                      203

**Nu-Metrics Traffic Analyzer Study  
Computer Generated Summary Report  
City: Lombard  
Street: W.B.Central at Stewart**

A study of vehicle traffic was conducted with HI-STAR unit number 2963. The study was done in the lane on W.B.Central at Stewart in Lombard, IL in DuPage county. The study began on 09/14/2004 at 09:00 AM and concluded on 09/16/2004 at 09:00 AM, lasting a total of 48 hours. Data was recorded in 60 minute time periods. The total recorded volume of traffic showed 1,143 vehicles passed through the location with a peak volume of 57 on 09/14/2004 at 05:00 PM and a minimum volume of 0 on 09/15/2004 at 03:00 AM. The AADT Count for this study was 572.

**SPEED**

Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

**Chart 1**

0 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 >
0	137	715	215	35	8	7	2	0	0	2	0	0	1	0

At least half of the vehicles were traveling in the 15 - 19 mph range or a lower speed. The average speed for all classified vehicles was 19 mph with 1.78 percent exceeding the posted speed of 30 mph. The HI-STAR found 0.27 percent of the total vehicles were traveling in excess of 55 mph. The mode speed for this traffic study was 15 mph and the 85th percentile was 22.37 mph.

**CLASSIFICATION**

Chart 2 lists the values of the eight classification bins and the total traffic volume accumulated for each bin.

**Chart 2**

0 to 20	21 to 27	28 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 >
1069	40	11	2	0	0	0	0

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 1,109 which represents 98.80 percent of the total classified vehicles. The number of Small Trucks in the study was 11 which represents 1.00 percent of the total classified vehicles. The number of Trucks/Buses in the study was 2 which represents 0.20 percent of the total classified vehicles. The number of Tractor Trailers in the study was 0 which represents 0.00 percent of the total classified vehicles.

**HEADWAY**

During the peak time period, on 09/14/2004 at 05:00 PM the average headway between the vehicles was 62.07 seconds. The slowest traffic period was on 09/15/2004 at 03:00 AM. During this slowest period, the average headway was 3600.0 seconds.

**WEATHER**

The roadway surface temperature over the period of the study varied between 66 and 117 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

### Class/Volume Report Graph

HI-Star ID: 2963	Begin: 09/14/2004 09:00 AM	End: 09/16/2004 09:00 AM
Street: W.B.Central at Stewart	Lane:	Hours: 48:00
State: IL	Oper: EP	Period: 60
City: Lombard	Posted: 30	Raw Count: 1143
County: DuPage	AADT Factor: 1	AADT Count: 572

  

NC97 - Feet	Count	0 to 20	21 to 27	28 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 >	Total	0]	20]	40]	60]
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**09/14/2004**

[09:00 AM-10:00 AM]	32	31	1	0	0	0	0	0	0	32	
[10:00 AM-11:00 AM]	27	26	0	0	0	0	0	0	0	26	
[11:00 AM-12:00 PM]	26	24	0	1	1	0	0	0	0	26	
[12:00 PM-01:00 PM]	35	33	1	1	0	0	0	0	0	35	
[01:00 PM-02:00 PM]	30	28	1	0	0	0	0	0	0	29	
[02:00 PM-03:00 PM]	42	38	2	1	0	0	0	0	0	41	
[03:00 PM-04:00 PM]	38	35	3	0	0	0	0	0	0	38	
[04:00 PM-05:00 PM]	37	37	0	0	0	0	0	0	0	37	
[05:00 PM-06:00 PM]	57	54	2	0	0	0	0	0	0	56	
[06:00 PM-07:00 PM]	49	47	0	0	0	0	0	0	0	47	
[07:00 PM-08:00 PM]	36	34	0	1	0	0	0	0	0	35	
[08:00 PM-09:00 PM]	28	26	2	0	0	0	0	0	0	28	
[09:00 PM-10:00 PM]	15	13	0	1	0	0	0	0	0	14	
[10:00 PM-11:00 PM]	14	13	0	0	0	0	0	0	0	13	
[11:00 PM-12:00 AM]	6	5	0	0	0	0	0	0	0	5	
	472	444	12	5	1	0	0	0	0	462	

Daily Totals:

	472	12	1	0	0
	444	5	0	0	462
Peak Time (AM): [ 9:00:00AM - 10:00:00AM]				32	Peak Count:
Peak Time (PM): [ 5:00:00PM - 6:00:00PM]				57	Peak Count:

**09/15/2004**

W.B. Central

**Class/Volume Report Graph**

NC97 - Feet	Count	0 to 20	21 to 27	28 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 >	Total	0	20	40	60
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**09/15/2004**

[12:00 AM-01:00 AM]	4	4	0	0	0	0	0	0	0	4	
[01:00 AM-02:00 AM]	3	2	1	0	0	0	0	0	0	3	
[02:00 AM-03:00 AM]	2	2	0	0	0	0	0	0	0	2	
[03:00 AM-04:00 AM]	0	0	0	0	0	0	0	0	0	0	
[04:00 AM-05:00 AM]	4	4	0	0	0	0	0	0	0	4	
[05:00 AM-06:00 AM]	8	8	0	0	0	0	0	0	0	8	
[06:00 AM-07:00 AM]	10	9	0	1	0	0	0	0	0	10	
[07:00 AM-08:00 AM]	43	39	1	0	0	0	0	0	0	40	
[08:00 AM-09:00 AM]	52	49	2	0	0	0	0	0	0	51	
[09:00 AM-10:00 AM]	17	16	1	0	0	0	0	0	0	17	
[10:00 AM-11:00 AM]	32	31	1	0	0	0	0	0	0	32	
[11:00 AM-12:00 PM]	27	23	2	1	0	0	0	0	0	26	
[12:00 PM-01:00 PM]	32	28	3	0	0	0	0	0	0	31	
[01:00 PM-02:00 PM]	29	25	2	0	1	0	0	0	0	28	
[02:00 PM-03:00 PM]	36	35	1	0	0	0	0	0	0	36	
[03:00 PM-04:00 PM]	42	39	3	0	0	0	0	0	0	42	
[04:00 PM-05:00 PM]	46	45	0	0	0	0	0	0	0	45	
[05:00 PM-06:00 PM]	50	48	1	1	0	0	0	0	0	50	
[06:00 PM-07:00 PM]	36	36	0	0	0	0	0	0	0	36	
[07:00 PM-08:00 PM]	24	23	0	1	0	0	0	0	0	24	
[08:00 PM-09:00 PM]	29	25	3	1	0	0	0	0	0	29	
[09:00 PM-10:00 PM]	21	20	0	0	0	0	0	0	0	20	
[10:00 PM-11:00 PM]	8	8	0	0	0	0	0	0	0	8	
[11:00 PM-12:00 AM]	6	6	0	0	0	0	0	0	0	6	
	561	525	21	5	1	0	0	0	0	552	

Daily Totals:

561		21	1	0	0	0	0	0	552
	525	5	0	0	0	0	0	552	
Peak Time (AM):	[ 8:00:00AM - 9:00:00AM]	Peak Count:	52						
Peak Time (PM):	[ 5:00:00PM - 6:00:00PM]	Peak Count:	50						

**09/16/2004**

[12:00 AM-01:00 AM]	2	2	0	0	0	0	0	0	0	2	
[01:00 AM-02:00 AM]	4	4	0	0	0	0	0	0	0	4	
[02:00 AM-03:00 AM]	2	2	0	0	0	0	0	0	0	2	
[03:00 AM-04:00 AM]	0	0	0	0	0	0	0	0	0	0	
[04:00 AM-05:00 AM]	2	2	0	0	0	0	0	0	0	2	
[05:00 AM-06:00 AM]	11	9	2	0	0	0	0	0	0	11	
[06:00 AM-07:00 AM]	16	14	1	1	0	0	0	0	0	16	
[07:00 AM-08:00 AM]	28	27	0	0	0	0	0	0	0	27	
[08:00 AM-09:00 AM]	45	40	4	0	0	0	0	0	0	44	
	110	100	7	1	0	0	0	0	0	108	

Daily Totals:

110		7	0	0	0	0	0	0	108
	100	1	0	0	0	0	0	108	
Peak Time (AM):	[ 8:00:00AM - 9:00:00AM]	Peak Count:	45						
Peak Time (PM):		Peak Count:	0						

### Class/Volume Report Graph

NC97 - Feet		0	21	28	40	50	60	70	80					
Date & Time Range	Count	to	to	to	to	to	to	to	>	Total	0	20	40	60
		20	27	39	49	59	69	79						

Total Counted: 1143    1143    1069    40    11    2    0    0    0    0    0    1122  
 Total Classified: 1122  
 Total UnClassified: 21

Report Percentages:                      3.57%            0.18%            0.00%            0.00%  
     95.28%            0.98%            0.00%            0.00%

Peak Time:  
     Peak Time (AM):                    9/15/4                                    [ 8:00:00AM - 9:00:00AM]            Peak Count:            52  
     Peak Time (PM):                    9/14/4                                    [ 5:00:00PM - 6:00:00PM]            Peak Count:            57

**Nu-Metrics Traffic Analyzer Study  
Computer Generated Summary Report  
City: Lombard  
Street: E.B. Central at Stewart**

A study of vehicle traffic was conducted with HI-STAR unit number 809. The study was done in the lane on E.B. Central at Stewart in Lombard, Il in DuPage county. The study began on 09/14/2004 at 09:00 AM and concluded on 09/16/2004 at 09:00 AM, lasting a total of 48 hours. Data was recorded in 60 minute time periods. The total recorded volume of traffic showed 921 vehicles passed through the location with a peak volume of 55 on 09/16/2004 at 07:00 AM and a minimum volume of 0 on 09/16/2004 at 02:00 AM. The AADT Count for this study was 461.

**SPEED**

Chart 1 lists the values of the speed bins and the total traffic volume for each bin.

**Chart 1**

0 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 >
0	128	523	192	22	10	7	3	1	2	3	0	0	0	0

At least half of the vehicles were traveling in the 15 - 19 mph range or a lower speed. The average speed for all classified vehicles was 19 mph with 2.92 percent exceeding the posted speed of 30 mph. The HI-STAR found 0.34 percent of the total vehicles were traveling in excess of 55 mph. The mode speed for this traffic study was 15 mph and the 85th percentile was 22.77 mph.

**CLASSIFICATION**

Chart 2 lists the values of the eight classification bins and the total traffic volume accumulated for each bin.

**Chart 2**

0 to 20	21 to 27	28 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 >
838	30	19	4	0	0	0	0

Most of the vehicles classified during the study were Passenger Cars. The number of Passenger Cars in the study was 868 which represents 97.40 percent of the total classified vehicles. The number of Small Trucks in the study was 19 which represents 2.10 percent of the total classified vehicles. The number of Trucks/Buses in the study was 4 which represents 0.40 percent of the total classified vehicles. The number of Tractor Trailers in the study was 0 which represents 0.00 percent of the total classified vehicles.

**HEADWAY**

During the peak time period, on 09/16/2004 at 07:00 AM the average headway between the vehicles was 64.29 seconds. The slowest traffic period was on 09/16/2004 at 02:00 AM. During this slowest period, the average headway was 3600.0 seconds.

**WEATHER**

The roadway surface temperature over the period of the study varied between 66 and 121 degrees Fahrenheit. The HI-STAR determined that the roadway surface was Dry 100.00 percent of the time.

### Class/Volume Report Graph

HI-Star ID: 809	Begin: 09/14/2004 09:00 AM	End: 09/16/2004 09:00 AM
Street: E.B.Central at Stewart	Lane:	Hours: 48:00
State: IL	Oper: EP	Period: 60
City: Lombard	Posted: 30	Raw Count: 921
County: DuPage	AADT Factor: 1	AADT Count: 461

NC97 - Feet	Count	0 to 20	21 to 27	28 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 >	Total	0	18	36	54
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**09/14/2004**

[09:00 AM-10:00 AM]	24	21	0	2	1	0	0	0	0	24	
[10:00 AM-11:00 AM]	18	15	3	0	0	0	0	0	0	18	
[11:00 AM-12:00 PM]	15	15	0	0	0	0	0	0	0	15	
[12:00 PM-01:00 PM]	13	12	1	0	0	0	0	0	0	13	
[01:00 PM-02:00 PM]	17	17	0	0	0	0	0	0	0	17	
[02:00 PM-03:00 PM]	12	11	0	1	0	0	0	0	0	12	
[03:00 PM-04:00 PM]	23	20	0	1	0	0	0	0	0	21	
[04:00 PM-05:00 PM]	17	16	0	0	0	0	0	0	0	16	
[05:00 PM-06:00 PM]	10	8	1	0	0	0	0	0	0	9	
[06:00 PM-07:00 PM]	16	15	1	0	0	0	0	0	0	16	
[07:00 PM-08:00 PM]	20	19	0	1	0	0	0	0	0	20	
[08:00 PM-09:00 PM]	14	13	1	0	0	0	0	0	0	14	
[09:00 PM-10:00 PM]	15	13	0	0	0	0	0	0	0	13	
[10:00 PM-11:00 PM]	19	18	0	1	0	0	0	0	0	19	
[11:00 PM-12:00 AM]	5	4	0	1	0	0	0	0	0	5	
	<u>238</u>	<u>217</u>	<u>7</u>	<u>7</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>232</u>	

Daily Totals:

238	7	1	0	0	0	0	0	0	0	232
	217	7	0	0	0	0	0	0	0	232
Peak Time (AM): [ 9:00:00AM - 10:00:00AM]										Peak Count: 24
Peak Time (PM): [ 3:00:00PM - 4:00:00PM]										Peak Count: 23

**09/15/2004**



E.B. Central

**Class/Volume Report Graph**

NC97 - Feet	Count	0 to 20	21 to 27	28 to 39	40 to 49	50 to 59	60 to 69	70 to 79	80 >	Total	0	18	36	54
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**09/15/2004**

[12:00 AM-01:00 AM]	1	1	0	0	0	0	0	0	0	1				
[01:00 AM-02:00 AM]	3	3	0	0	0	0	0	0	0	3				
[02:00 AM-03:00 AM]	1	1	0	0	0	0	0	0	0	1				
[03:00 AM-04:00 AM]	2	2	0	0	0	0	0	0	0	2				
[04:00 AM-05:00 AM]	2	2	0	0	0	0	0	0	0	2				
[05:00 AM-06:00 AM]	12	12	0	0	0	0	0	0	0	12				
[06:00 AM-07:00 AM]	33	28	1	1	1	0	0	0	0	31				
[07:00 AM-08:00 AM]	41	40	1	0	0	0	0	0	0	41				
[08:00 AM-09:00 AM]	37	36	0	1	0	0	0	0	0	37				
[09:00 AM-10:00 AM]	22	18	2	1	0	0	0	0	0	21				
[10:00 AM-11:00 AM]	18	17	0	0	0	0	0	0	0	17				
[11:00 AM-12:00 PM]	26	23	0	1	0	0	0	0	0	24				
[12:00 PM-01:00 PM]	42	38	1	2	0	0	0	0	0	41				
[01:00 PM-02:00 PM]	32	31	1	0	0	0	0	0	0	32				
[02:00 PM-03:00 PM]	41	36	2	1	0	0	0	0	0	39				
[03:00 PM-04:00 PM]	54	46	3	0	1	0	0	0	0	50				
[04:00 PM-05:00 PM]	36	33	1	0	0	0	0	0	0	34				
[05:00 PM-06:00 PM]	47	44	1	1	1	0	0	0	0	47				
[06:00 PM-07:00 PM]	31	28	1	0	0	0	0	0	0	29				
[07:00 PM-08:00 PM]	30	29	0	0	0	0	0	0	0	29				
[08:00 PM-09:00 PM]	13	12	0	0	0	0	0	0	0	12				
[09:00 PM-10:00 PM]	11	10	1	0	0	0	0	0	0	11				
[10:00 PM-11:00 PM]	9	9	0	0	0	0	0	0	0	9				
[11:00 PM-12:00 AM]	8	7	1	0	0	0	0	0	0	8				
	552	506	16	8	3	0	0	0	0	533				

Daily Totals:

552	506	16	8	3	0	0	0	0	533
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Peak Time (AM): [ 7:00:00AM - 8:00:00AM] Peak Count: 41  
 Peak Time (PM): [ 3:00:00PM - 4:00:00PM] Peak Count: 54

**09/16/2004**

[12:00 AM-01:00 AM]	4	2	1	0	0	0	0	0	0	3				
[01:00 AM-02:00 AM]	1	1	0	0	0	0	0	0	0	1				
[02:00 AM-03:00 AM]	0	0	0	0	0	0	0	0	0	0				
[03:00 AM-04:00 AM]	2	1	1	0	0	0	0	0	0	2				
[04:00 AM-05:00 AM]	3	3	0	0	0	0	0	0	0	3				
[05:00 AM-06:00 AM]	13	13	0	0	0	0	0	0	0	13				
[06:00 AM-07:00 AM]	26	23	0	3	0	0	0	0	0	26				
[07:00 AM-08:00 AM]	55	50	2	1	0	0	0	0	0	53				
[08:00 AM-09:00 AM]	27	22	3	0	0	0	0	0	0	25				
	131	115	7	4	0	0	0	0	0	126				

Daily Totals:

131	115	7	4	0	0	0	0	0	126
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Peak Time (AM): [ 7:00:00AM - 8:00:00AM] Peak Count: 55  
 Peak Time (PM): Peak Count: 0

### Class/Volume Report Graph

NC97 - Feet		0	21	28	40	50	60	70	80					
Date & Time Range	Count	to	to	to	to	to	to	to	>	Total	0	18	36	54
	921	20	27	39	49	59	69	79		891				

Total Counted: 921  
 Total Classified: 891  
 Total UnClassified: 30

Report Percentages:
 3.37%
0.45%
0.00%
0.00%  
94.05%
2.13%
0.00%
0.00%

Peak Time:
 9/16/4
[ 7:00:00AM - 8:00:00AM]
Peak Count: 55  
9/15/4
[ 3:00:00PM - 4:00:00PM]
Peak Count: 54