Chicago Department of Transportation

Evaluation of School Traffic Safety Program Traffic Control Measure Effectiveness

April 2005

Background

Since 2002, the Chicago Department of Transportation has undertaken a comprehensive experimental traffic safety program at selected elementary schools throughout the City of Chicago, using a combination of traffic control devices and other calming measures in an effort to slow traffic and improve safety around schools. These measures included the installation of speed humps along local street frontages of schools, variable speed indicator signs giving interactive speed indication to motorists passing by schools on arterial streets, installation of traditional school crossing warning signs and school zone 20 mph speed limit signs, and the experimental use of strong yellow/green (SYG) pavement marking materials to mark crosswalks, "SCHOOL" legends, speed humps, center lines, and stop bars in the blocks adjacent to schools. Nearly 90 schools have received some combination of these devices.

To assess the effectiveness of these devices, the City has undertaken an evaluation of the program by studying traffic speeds before and after implementation, reviewing crash data before and after installation of the devices, and surveying various interested parties familiar with the schools, such as crossing guards, school administrators, and parents. The analysis of the strong yellow/green pavement marking materials was undertaken since use of these non-standard materials had been approved on an experimental basis by the Federal Highway Administration (FHWA) in accordance with provisions of the Manual on Traffic Control Devices that require an evaluation of the effectiveness of the experimental device.

Typical School Traffic Safety Program Design Elements

In Chicago, schools are usually located in a typical Chicago neighborhood block that is 660 feet by 330 feet (center-of-street to center-of-street). The school safety program elements included school crossing warning signs on the approach to and at every intersection, 20 MPH during School Hours When Children Are Present speed limit signs on every surrounding street, speed humps on the local streets around the school (at least in the 660 foot blocks), interactive speed indicators on selected approaches along arterial street frontages, and strong yellow/green (SYG) pavement markings at the speed humps, at all crosswalks, at "SCHOOL" legends on arterial streets, and center lines and stop bars along streets adjacent to the schools. A typical schematic of the location of program controls is included as Exhibit 1 in the Appendix.

At the intersection of two local streets near a school, there is typically All-Way Stop Control. In addition, many of the local streets are one-way operation. Arterial streets typically are free flow along the school frontage, although there may be signalized intersections near the schools.

The combination of various elements installed on the surrounding streets obviously complicated efforts to undertake a scientific, controlled evaluation of individual control measures. However, it was the City's intent to install as comprehensive program of school traffic controls as possible, with different devices used in combination with the

goal of having the greatest impact on slowing vehicles and making the school environment safer, rather than just test the effectiveness of one single element at a time. The use of the strong yellow/green markings was likewise expanded beyond just marking every other bar of an International pattern (step ladder) crosswalk marking. The intent was to communicate to the motorists that they were entering a special school zone, as indicated not only by the yellow/green crosswalks, but the center line, any stop bars, SCHOOL legends, and speed hump markings, as well as more standard school warning and speed limit signs. Consequently, the analysis to some extent measures the overall effectiveness of the entire combination of program elements as much as the individual effectiveness of any one type of device.

Study Approach

In early 2004, the City directed T.Y. Lin International to conduct the study of the school safety program. The intent of the study was to evaluate the effectiveness of the various program elements in increasing motorist awareness of the school zones and associated controls, reducing speeds, and ultimately increasing safety. Various measures of effectiveness were considered in conducting this evaluation. One direct measure would be to analyze crash data before and after the installations. However, any analysis of crash data can be limited by the amount of available data and the need to wait several years to get sufficient data after the installations to draw meaningful conclusions.

An indirect measure of effectiveness is the speed of traffic before and after the installations. While reduction in traffic speed may not always result in a reduction in the incidence of crashes, it does correspond to a reduced severity of accidents. Furthermore, public perception and the presence of legislated school zone speed limits suggests that the public generally feels that traffic speeds should be reduced near schools where children are present. However, traffic speed may not necessarily be a good indicator of a motorist's level of awareness, as cited in previous research on SYG pedestrian warning signs.

Another means of measuring effectiveness involves a survey of system users or stakeholders, to see if they have noticed a difference in driver behavior, or, as drivers, if the new program elements have increased their awareness of the school zone and the need to drive more carefully. Interviews of drivers were considered, but it was decided that the police and personnel manpower requirements would be too substantial, and that motorists might not necessarily respond objectively when stopped by police or questioned by a representative of the transportation agency. Instead, interviews were conducted with individuals who would be affected by the motorists' potential change in behavior, namely, crossing guards and parents or school administrators speaking on behalf of the children. The surveys sought to ascertain the perceptions, admittedly subjective, of these interested parties on the effectiveness of the program.

Other surrogate measures, such as observing pedestrian-vehicle conflicts and actions before and after the program installations, were not studied. While these measures have been used in evaluating devices such as SYG pedestrian warning signs and In-Street

Yield-to-Pedestrian signs, they were not employed for this study since there was a desire to evaluate speed on streets around the schools as well as conflicts at individual crossing locations, and the personnel needed to make multiple observations at many schools was substantial.

It should be noted that the analysis was limited only to those schools that were included in the School Traffic Safety Program, and not other comparison or control locations where no new devices were installed. In addition, there were no other comparison locations where similar pavement marking treatments might have been installed using white materials instead of SYG markings.

Crash Data Review

A Before-and-After analysis of crash data would only be meaningful for locations where a reasonable amount of After data could be collected. Crash data was available for the four years from 2000 to 2003. This precluded a study of 2003 and 2004 program locations.

For the 2002 program year, crash data was reviewed for 23 schools, with two years of before data (2000 and 2001), and one year of after data (2003). (There were a total of 25 schools in the 2002 program, but at two schools, speed humps and strong yellow/green pavement markings were not used at the local alderman's request.) Since various elements of the program were installed throughout 2002, it was decided to omit that year's data since the program was essentially "under construction" during that period. While traffic studies traditionally use three years of data to assess a before or after condition, the study used what data was available, given the study time frame. Results were aggregated for all similar location conditions to give an aggregate assessment of the before and after experience.

Speed Data Review

Speed studies were limited to schools included in the 2004 program. Since nearly 50 schools had already had various traffic control devices installed during the 2002 and 2003 program years, it was not possible to conduct Before condition speed studies at these locations. Traffic speed studies were conducted at 15 of the 40 schools included in the 2004 program. These 15 schools were selected for study since they had at least one arterial street frontage of the four blocks surrounding the school. Traffic volume and speed data was collected for the arterial frontage streets, as well as on local streets surrounding the school. However, in some cases where the local street blocks were short, were interrupted by driveways, or had speed humps in a short block, meaningful local street speed data could not be collected.

Before-condition speed and volume data was collected in May and June of 2004, after the Spring Break, but before Summer Recess and before the installation of any of the control devices. The program installations generally occurred in May through September of 2004, and the After-condition speed and volume counts were undertaken in October and

November of 2004. Automatic counting meters with pneumatic tubes were used to collect the speed and volume data. Analysis of the data focused on the peak hours of school pedestrian activity, typically 8 am to 9 am, and 2:30 pm to 3:30 pm. Total daily volume and speed data was also available.

Surveys of Interested Parties

Surveys of interested parties, or stakeholders, were undertaken in December of 2004, after the devices had been in place for several months. Over 90 persons were interviewed, including crossing guards, school administrators (principals and assistant principals), and parents. While these surveys do not provide an objective, physical measurement of the effectiveness of the devices, it was felt that they could provide some insight into the subjective public perception of their effectiveness.

Summary of Analysis

Crash Data Analysis

As noted, crash data was analyzed for 23 schools in the 2002 Program for which After-condition crash data was available. The results for all schools are summarized in Tables 1 and 2. Before the implementation of the various program elements, there were a total of 276.5 crashes per year on the streets surrounding these schools; after the installations, there were 229 crashes in 2003, or a reduction of 17.2 % overall (47.5 crashes per year, or about 2 per school.)

In an attempt to assess the effectiveness of the different program elements, the data was further broken down by street type---arterial versus local--- with additional breakout of arterial streets that had Speed Indicator signs installed. For arterial streets, there was an overall 13.6% reduction in crashes at midblock locations, and a 7.3% reduction at intersection locations. However, for just arterial streets with Speed Indicator signs, the reduction was 5.5% at midblock locations, and 38.2% at intersections. For arterial streets without Speed Indicators, where only the Yellow/Green markings and various school-related signs were installed, there was a 17.0% reduction in crashes at midblock locations, but a 23.6% increase at intersection locations.

For local streets, there was a 22.4% reduction in crashes at midblock locations, and a 27.7% reduction at intersections. For most of the local streets, speed humps were installed, and were the significant element of the program installed on these streets.

While there should be caution in drawing conclusions about crash experience on the basis of only one year of After-condition crash data, it appears that, in the aggregate, speed humps had a positive effect on reducing crashes on local streets, and Speed Indicator signs may have had a positive effect on arterial streets, particularly at intersections. However, the mixed results for crashes on arterial streets without Speed Indicators suggests that the other program elements installed on those streets---namely yellow/green

markings and school speed limit and warning signing---may not have had a significant effect on crash experience.

Speed Data Analysis

The study included the collection of speed and volume data for 15 schools included in the 2004 School Safety Program. These schools were selected for study since each of them had at least one arterial street bordering the block in which the school was located. Speed data on a total of 16 arterial street segments was collected. Data on 30 local streets bordering the schools was also gathered.

On the arterial streets, there generally was no All-Way Stop control adjacent to the schools, which was the typical condition at intersections of local streets near schools. Consequently, it was felt that the relatively free-flow arterial street segments would be the best locations to evaluate the effect of various traffic control devices, including yellow/green pavement markings and interactive Speed Indicator signs, on traffic speeds adjacent to the schools. On the local streets, the typical program application involved the installation of speed humps, and it was felt that the midblock humps, in combination with stop controls at the upstream and downstream intersections, would have an impact on speed that overshadowed any impact from yellow/green markings or signing.

The speed studies focused on the peak hours of school crossing activity, namely from 8 am to 9 am and from 2:30 pm to 3:30 pm, when children are visibly present going to and from schools, and when crossing guards are also on duty. At these times, the "20 MPH School Speed Limit" is clearly in effect, since it is during school days and children are present.

The arterial streets studies typically were 42 to 48 feet in width, with two-way 24-hour volumes of 12,000 to 20,000 vehicles per day, and one-way school peak hour volumes of 300 to 600 vehicles per hour. Typically, one lane of traffic in each direction is provided on these streets throughout the day, although there may be peak period parking prohibitions in place from 7 AM to 9AM or from 4 PM to 6 PM. In addition, parking is typically prohibited during school days (8 AM to 4:30 PM) on the side of the street adjacent to the school. The local streets studies typically were about 30 feet in width, generally were one-way, and had 24-hour volumes of 600 to 1200 vehicles per day and one-way school peak hour volumes of 40 to 80 vehicles per hour. One traffic lane is provided (one lane in each direction on two-way streets), with on-street parking on both sides, although typically parking will again be prohibited along the school side of the street from 8 AM to 4:30 PM.

Mean traffic speeds and 85th percentile speeds were determined for each location before and after the implementation of the program elements. For the peak school hours, the speed limit was defined as 20 miles per hour for purposes of comparison to the mean and 85th percentile speeds. Data on the percentage of motorists exceeding the speed limit was also gathered and reviewed. The detailed speed and volume data for each location is included as Exhibit 2 in the Appendix.

The data for mean speeds was aggregated for all 16 arterial street segments and for all 30 local street segments in order to come up with an overall measure of mean speed before and after the installations. The aggregate mean speed was a weighted (by volume) arithmetic mean of all of the peak hour mean speeds for all locations. It roughly corresponds to the 50th percentile speed, rather than the 85th percentile speed. Similarly, the percentage of traffic exceeding the speed limit was aggregated for all arterial and all local streets segments. The 85th percentile speeds for all street segments were also reviewed. Since a volume-weighted arithmetic average of 85th percentile speeds would not represent a true aggregate of all 85th percentile speeds, only the mode and median values of all the individual peak hour 85th percentile speeds were examined.

The results of the various speed data analyses are summarized in Tables 3, 4, and 5.

Arterial Street Speeds

Effect of Combined Program Installation Elements

For all arterial locations, the overall average mean speed was 26.3 mph before the installations, and 25.6 mph after, a reduction in mean speed of only 2.7%. The percentage of traffic over the speed limit on arterials was 78.1% before, and 77.5 % after the installations, a reduction of only 0.8%.

While it was not possible to aggregate 85th percentile speeds for all locations, individual hourly 85th percentile speed data values were analyzed in an effort to see what changes may have occurred after the program installations. For arterial locations, the mode of 85th percentile speeds was 30 mph before (63 samples), and 30 mph after (64 samples). The median value of the 85th percentile speeds was 32 mph before and 30 mph after. While there was a modest reduction, the median 85th percentile speed was still 10 mph over the speed limit after the installation. Moreover, it is worth noting that the aggregate mean speed, which would roughly correspond to an "average" or 50th percentile speed, was itself 5 mph over the speed limit both before and after the program installations.

Speed Results on Streets with Speed Indicator Signs

For the arterials streets, the street segments that included an installation of a speed indicator sign were broken out for separate analysis, to see if there was a different impact between streets with the indicators and those streets that had only new yellow/green striping and signing. For the four street segments that had Speed Indicator signs (admittedly a small sample), the aggregate mean peak hour speed was 24.3 mph before the installation, and 25.0 mph after, an <u>increase</u> in speed of 2.9%. The percentage of traffic going faster than the 20 mph school zone speed limit was 75.4% before the installation, and 77.6% after, an <u>increase</u> of 2.9% in the percentage of motorists exceeding the speed limit.

The individual hourly 85th percentile speeds were analyzed for the four arterial streets segments, and the mode of 85th percentile speeds was 30 mph before the installations, and 30 mph after, while the median value was 30 or 32 mph before and 30 mph after, speeds which were 10 mph over the 20 mph speed limit even after the installations.

For whatever reason, the presence of the speed indicator signs did not result in significant reduction in speed in the school zone, as might have been expected based on their effectiveness in other locations throughout the country.

Speed Results on Streets with Only Strong Yellow-Green Pavement Markings

For the 12 arterial street segments that did not have Speed Indicator signs installed, the aggregate mean peak hour speed was 27.1 mph before the program installations, and 25.8 mph after, a decrease of 4.8%. The percentage of traffic going faster than the 20 mph speed limit was 79.4% before the installation, and 77.5% after, a decrease of 2.4% in the percentage of motorists exceeding the speed limit.

The individual hourly 85th percentile speeds were analyzed for these 12 arterial segments, and the mode of 85th percentile speeds was 30 mph before and 30 mph after, while the median value was 33 mph before and 30 mph after, speeds which again were 10 mph over the speed limit even after the installations.

These results did not indicate a significant reduction in speeds due to the installation of the combination of yellow/green pavement markings for crosswalks, centerlines and stop bars, and SCHOOL legends, and various school-related signs.

Local Street Speeds

Effect of Combined Program Installation Elements

For local street locations, the overall average mean speed was 16.5 mph before the installations, and 16.8 mph after, a slight <u>increase</u> of 1.8% in mean peak hour speed. The percentage of traffic over the 20 mph speed limit on local streets was 31.3% before, and 29.6% after, a reduction of only 5.4% in the percentage of motorists traveling over the speed limit.

The discrete values for 85th percentile speeds before and after the installations were also analyzed in a further effort to see whether the combined program elements had an effect on 85th percentile speeds. For the local street locations, the mode of the 85th percentile speeds was 24 mph before the installations, and 18 mph after the installations. The median value of the 85th percentile speeds was 24 mph before the installation, and 20 mph after. Thus, it appears that while the aggregate number of motorists traveling over the speed limit only dropped from 31.3% to 29.6%, a substantial number of individual locations had a fairly significant reduction in the value of the hourly 85th percentile speeds, as reflected in the change in the mode and median values of these hourly speeds.

Surveys of Interested Parties

As noted above, surveys were conducted with over 90 interested parties involved with school crossings, to see what their perceptions were on the effectiveness of the program installations. These included school crossing guards, parents, and school administrators, such as principals and assistant principals. The short survey attempted to assess whether the strong yellow/green markings had increased motorist awareness of the school zone, whether vehicle speeds had changed, and whether motorists were more likely to yield to pedestrians and the crossing guards. In addition, respondents were asked whether parents had commented on the yellow/green markings, and whether any other program measures such as speed humps had an effect on increasing traffic safety for the school children.

In terms of motorist awareness, 30% of the respondents felt that the yellow/green markings had increased awareness of the school zone, while 67% felt there was no increase in awareness (3% had no opinion). Regarding traffic speeds, 21% of respondents perceived a difference in speeds after the markings were installed, while 79% said there was no difference. Likewise, only 22% felt that the new markings made it more likely that vehicles would yield to pedestrians and crossing guards, while 78% felt there was no difference in the likelihood of yielding. Non-parent respondents said that 30% of parents had commented positively on the markings, 6% had commented negatively, while 60% had not commented on the markings.

By contrast, 96% of the respondents commented that speed humps had had a positive effect on traffic safety, while only 4% felt that speed humps had had no effect. Only a small number of respondents commented on the Speed Indicator signs, with no clear-cut opinion on their effectiveness.

While the survey responses are admittedly subjective, they do somewhat match the results of the speed analyses and crash data reviews. The speed data indicated that generally there was only a minor difference in traffic speeds on arterial streets, in terms of aggregate mean speeds, percentage of traffic exceeding the speed limit, or peak hour 85th percentile speed values before and after the installations. There was also a minimal difference in crash experience on the arterials. On local streets, there was a greater difference in peak hour 85th percentile speed values, and a somewhat greater difference in crashes, which seems to be reflected in the respondents' perception of the greater effectiveness of speed humps.

Conclusions and Recommendations

The analysis conducted was limited by the absence of control locations where similar marking treatments might have been installed using standard white pavement marking colors for crosswalks, "SCHOOL" legends, stop bars, and speed hump markings. The program analysis also generally was limited to assessing the combined effect of

yellow/green markings, improved signing, and speed humps (on local streets), rather than analyzing the effect of individual traffic control measures. Understandably, it was the City's intent to maximize the impact on motorists to increase their awareness, slow traffic, and improve overall safety in the school zones, rather than simply conduct a limited experiment on alternating color pattern crosswalks using a combination of white and strong yellow/green pavement marking materials.

The usefulness of the crash analysis was somewhat limited by only having one year of After-condition data available for the 2002 Program installation locations. No After-condition analysis was possible for the 2003 Program locations, nor, obviously, for the 2004 Program schools.

The results of the analysis suggest that the use of strong yellow/green pavement markings did not seem to have a significant effect on traffic speeds or crash experience. On arterial streets, the change in aggregate mean speeds, the aggregate percentage of traffic exceeding the speed limit, and the mode and median values of peak hour 85th percentile speeds was minimal. The use of speed indicators, which have proven effective in reducing speeds in other locations throughout the country, did not have a large effect on either speeds or crashes during school peak hours. The combined use of speed indicators and strong yellow/green markings also did not have a major impact on reducing speeds or crashes.

On local streets, the locations studied all had a combination of speed humps and strong yellow/green pavement markings. Most of theses locations already had all-way stop control at adjoining intersections, thus already limiting the speeds on those streets. While the change in aggregate mean speeds and the aggregate percentage of traffic exceeding the speed limit was minimal, there did appear to be a reduction in the mode and median values of peak hour 85th percentile speeds. However, it seems reasonable to conclude that this reduction may have been largely attributable to the installation of speed humps rather than the yellow/green markings or upgraded school zone signing. This conclusion was reflected by the perception of survey respondents on the relative effectiveness of speed humps versus yellow/green markings.

One possibility for continuing the School Safety Program would be to provide the various elements such as speed humps, Speed Indicator signs at selective arterial street locations, other school zone signing upgrades, and new or improved crosswalk and "SCHOOL" legend and speed hump pavement markings, but using standard MUTCD white reflective pavement marking materials rather than the experimental strong yellow/green color. The use of standard colors in combination with the other School Program traffic control measures could prove to be as effective as the yellow/green in terms of alerting motorists to the presence of the school. At some point, however, application of engineering measures such as traffic control devices may be limited in usefulness, and enforcement efforts, possibly including automated speed enforcement cameras, might be needed in order to achieve greater effectiveness in reducing speeds in school zones and improving traffic safety in those areas.

Table 1

Annual Number of Crashes
2002 Program Locations

	Arterial M	id-block	Arterial Inte	ersection	Local Mi	d-Block	Local Inte	rsection
School	Before	After	Before	After	Before	After	Before	After
Pritzker*	2	2	7	4	6.5	1	1	0
Pirie	-	-	-	- ,	4	2	0.5	0
Coles*	4	0	2.5	0	0.5	0	0.5	0
Our Lady of Fatima	5.5	7	9	11	5	1	0.5	0
Nightingale	-	-	-	-	2	4	1	2
Morrill	-	-	-	- 1	6.5	6	1	0
Fulton	-	-	-	-	5.5	2	0.5	0
Oglesby	3	1	2.5	6	4.5	5	0.5	0
Brownell	1	4	3	3	6.5	7	0.5	0
Kipling	-	-	-	-	0	3	2	0
Irving*	-	-	-	-	1.5	2	0.5	1
Von Humboldt	-	-	-	-	12	7	0.5	1
Ryerson	-	-	-	-	6	5	4	1
Key	16	13	8.5	14	3	1	1	1
Whistler*	0.5	2	2.5	0	2	4	0	1
Monroe	-	-	-	-	8.5	5	1.5	3
Dever	-	-	-	-	2	0	1	0
Smyser	14	12	9	6	11.5	11	1	2
Volta	-	-		-	8.5	5	1	2
Peterson*	8.5	5	12.5	8	2.5	1	0	0
Ogden	5	6	9	10	16.5	13	4.5	3
Hawthorne	_	_	_	_	5.5	5	0.5	0
Brennemann*	3	2	2.5	1	2	5	-	-
Total	62.5	54	68	63	122.5	95	23.5	17

^{*}speed indicator location

Table 2

Annual Number of Crashes by Street and Control Type 2002 Program Locations

	Before	re	After		% C	% Change
	Midblock	Intersections	Midblock	Intersections Midblock	Midblock	Intersections
All Streets	185	91.5	149	80	-19.5%	-12.6%
Arterial Streets						
All Arterial Streets	62.5	89	54	63	-13.6%	-7.3%
Speed Indicator Streets	18	17	34	21	-5.5%	-38.2%
SYG-Only Streets	44.5	37	34	42	-17.0%	+23.6%
Local Streets						
All Local Streets	122.5	23.5	95	17	-22.4%	-27.7%

Table 3

Aggregate Mean Peak Hour Traffic Speeds (Miles Per Hour)

Arteri	al Streets	Before	After	% Change
	All Arterial Streets	26.3	25.6	-2.7%
	Speed Indicator Streets	24.3	25.0	+2.9%
	SYG-Only Streets	27.1	25.8	-4.8%
Local	Streets			
	All Local Streets	16.5	16.8	+1.8%

Table 4

Aggregate Percentage of Traffic Over the Speed Limit

Arteria	al Streets	Before	After	% Change
	All Arterial Streets	78.1%	77.9%	-0.8%
	Speed Indicator Streets	75.4%	77.6%	+2.9%
	SYG-Only Streets	79.4%	77.5%	-2.4%
Local	Streets			
	All Local Streets	31.3%	29.6%	-5.4%

Table 5

85th Percentile Peak Hour Speed Values
(Miles Per Hour)

	Ве	fore	A	fter
Arterial Streets	Mode	Median	Mode	Median
All Arterial Streets	30	32	30	30
Speed Indicator Streets	30	30/32	30	30
SYG-Only Streets	30	33	30	30
Local Streets				
All Local Streets	24	24	18	20

Appendix

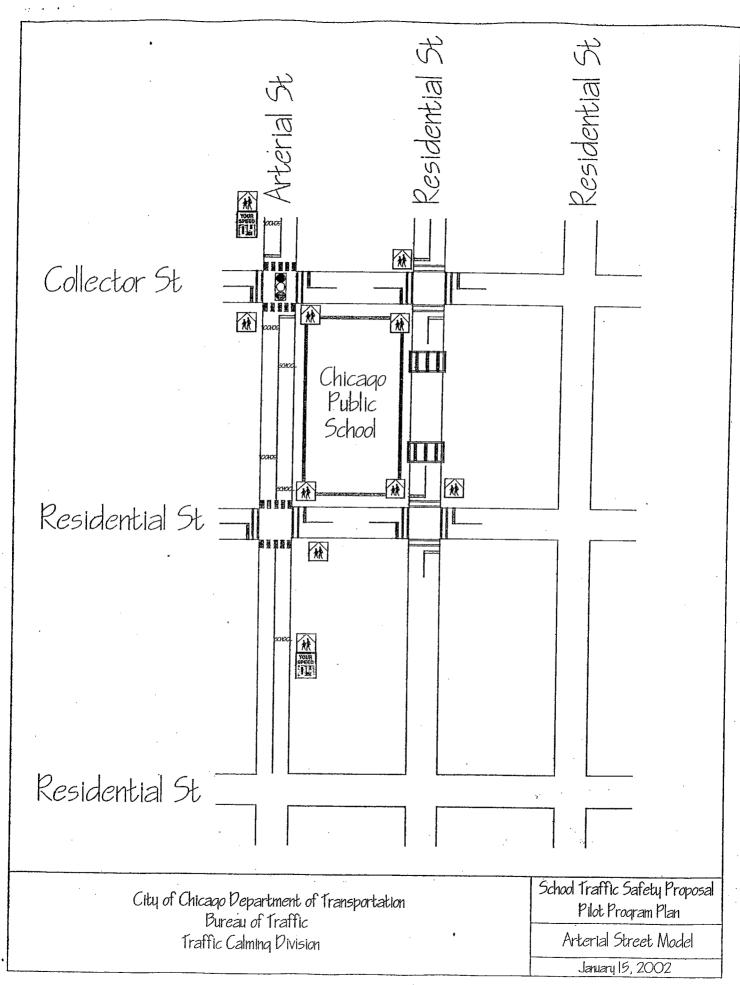


Exhibit 2

Speed and Volume Data by School

BOONE - PRATT

						BEFORE						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	(doc:			ALL DAY		
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
EB	3 25	17	202	37.6%	26	17	399	44.6%	29	23	5,906	7.3%
WB	30	26	397	96.5%	28	23	484	74.2%	30	26	6,256	9.6%
						AFTER						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	:30b)			ALL DAY		
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
EB	3 25	17	323	37.8%	25	16	271	36.5%	28	21	4.440	4.8%
N/D	20	100	224	04 40/	70	***	24.0	,20,00	8	100		

BOUCHETT - JEFFERIES

					_				
		% > Speed Limit	46.1%	29.9%			% > Speed Limit	44.8%	32 40/
		Volume	11,304	11,388			Volume	10.004	0000
	ALL DAY	Mean Speed Volume	29	28		ALL DAY	Mean Speed	29	č
		85th % tile Speed		34			85th % tile Speed	L.	PE
		% > Speed Limit	%0:09	61.5%			% > Speed Limit	85.2%	78 0%
	3:30p)	Volume	909	741		3:30p)	Volume	567	622
BEFORE PM (2:30) - 3 Mean Speed 22 22 22 AFTER PM (2:30) - 3 Mean Speed 26 26	25								
	85th % tile Speed Mea 30 30 30 85th % tile Speed Mea	32							
		% > Speed Limit	71.0%	80.3%			% > Speed Limit	71.1%	91.9%
	7 (8a - 9a) Peed Volume 824 824 569 1 (8a - 9a)	681	472						
		Mean Speed	24	25		- AM (8a -	Mean Speed	25	27
		85th % tife Speed	32	32			85th % tile Speed	34	33
_			æ	SB				ВВ	SB

BUDLONG - FOSTER

DELONE	PM (2:30p - 3:30p)	Mean Speed Volume % > Speed Limit 85th % tile Speed Mean	33 26 11,171		AFTER	PM (2:30p - 3:30p) ALL DAY	Mean Speed Volume % > Speed Limit 85th % tile Speed Mean	26	15 206 24.20/ 00 05 7.504
		% > Speed Limit	L	28.0%			% > Speed Limit		31.3%
	3:30p)	Volume	1	685		3:30p)	Volume	258	326
DELONE	PM (2:30p -	Mean Speed	24	20	AFTER	PM (2:30p - :	Mean Speed	22	15
		85th % tile Speed	30	29			85th % tile Speed	29	25
		olume % > Speed Limit	75.4%	56.2%			% > Speed Limit	68.3%	46.8%
	за)	Volume	714	655		la)	Volume	328	325
	AM (8a - 9a)	Mean Speed	24	20		AM (8a - 9a)	Mean Speed	23	24
		85th % tile Speed	30	28			85th % tile Speed	30	30
			EB	ΜB				EB	WB

CROWN - CERMAK

BEFORE	PM (2:30p - 3:30p) ALL DAY	85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean	35 30 8.109	8,856		AFTER	PM (2:30p - 3:30p) ALL DAY	85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed Mea	34 7 285	TOTAL TOTAL CO.
BEFORE	PM (2:30p	2				AFTER	PM (2:30p	Ë		100
		% > Speed Limit	92.6%	90.5%				% > Speed Limit	%9:26	00 20
	AM (8a - 9a)	Mean Speed Volume	30 548	27 422			AM (8a - 9a)	Mean Speed Volume	30 542	27 72
85th % tile Speed	35	33				85th % tile Speed	35	2.5		
	MB 88						EB	WR		

FARADAY - MADISON

						BEFORE							
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	(d0£)			ALL DAY			
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	
8	34	29	597	95.3%	35	29	432	95.6%	35	30	7,335	44.8%	
ΝB	1	•	,	•	33	26	449	84.2%	35	29	5 898	37.8%	
						AFTER							
		AM (8a - 9a)	9a)		, 	PM (2:30p - 3:30p)	:30p)			ALL DAY			
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	ume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	
EB	31	24	423	70.7%	33	27	270	87.4%	34	28	5.282	31.0%	
S S	20	22	366	62 30/	33	90	04.4	0.4 50/	24	100	1000	700 00	

HEARST - 47TH

	Γ	mit					mit		
		% > Speed Limit	75.5%	%6'29			% > Speed Limit	68.0%	63.2%
		Volume	7,844	8,175			Volume	7.151	7,069
	ALL DAY	Mean Speed	34	33		ALL DAY	Mean Speed	32	32
		85th % tile Speed	39	39			85th % tile Speed	38	38
		% > Speed Limit	92.1%	98.4%			% > Speed Limit	88.1%	95.9%
	3:30p)	Volume	929	629		3:30p)	Volume	444	556
BEFORE	PM (2:30p - 3:30p)	Mean Speed	31	31	AFTER	PM (2:30p - 3:30p)	Mean Speed	29	30
		85th % tile Speed	39	38			85th % tile Speed	35	36
		% > Speed Limit	%8.96	%9.66			% > Speed Limit	94.8%	98.8%
	Эа)	Volume	597	406		ea)	Volume	929	411
	AM (8a - 9a)	Mean Speed	34	34		AM (8a - 9a)	Mean Speed	32	32
		85th % tile Speed	40	40			85th % tile Speed	39	39
			EΒ	ΜB				EB	WB

HINTON - 71ST

_	_		_	_	,	_	_	_	_	_
		% > Speed Limit	61.6%	54.8%				% > Speed Limit	64.7%	56.3%
		Volume	8.879	9.548				Volume		7,825
	ALL DAY	Mean Speed	32	31			ALL DAY	Mean Speed		34
		85th % tile Speed	38	38				85th % tile Speed	38	37
		% > Speed Limit	83.7%	68.2%				% > Speed Limit	84.9%	86.7%
	3:30p)	Volume	509	535			3:30p)	Volume	405	421
BEFORE	PM (2:30p - 3:30p)	Mean Speed	26	24		AFTER	PM (2:30p - 3:30p)	Mean Speed	29	28
		85th % tile Speed	33	33				85th % tile Speed	35	35
		% > Speed Limit	94.5%	77.8%				% > Speed Limit	91.0%	%9'29
	9a)	Volume	523	490			9a)	Volume	398	327
	1 (8a - 9a) peed 1 (8a - 9a)	29	25							
		85th % tile Speed	35	36				85th % tile Speed	36	33
			EB	WB					EB	MΒ

HOWE - CHICAGO

BEFORE

		AM (8a - 9a)	3a)			PM (2:30p - 3:30p)	(30p)			ALL DAY	ļ	
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
EB	33	26	330	77.9%	30	23	548	%0.69	32	25	8.416	18.1%
WB	30	24	553	73.8%	28	21	640	22.0%	29	22	9,963	9.1%
		ì										
						AFTER						
		AM (8a - 9a))a)			PM (2:30p - 3:30p)	(d06:			ALL DAY		
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
EB	30	23	297	68.7%	30	22	229	27.6%	30	24		12.5%
MΒ	28	19	289	37.0%	27	19	382	45.0%	28	20	6.040	8.5%
						_						

LEMOYNE - ADDISON

HALSTED

						BEFORE						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	(d0:)			ALL DAY	_	
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
RB	24	19	258	44.2%	24	18	326	35.3%	24	8		%2 0
SB	27	23	497	75.9%	27	22	384	70.3%	28	23	6,611	2.4%
						AFTER						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	1:30b)			ALL DAY	\ \>	
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
8 R	25	19	163	47.2%	23	16	267	28.5%	25	19	4.355	1.4%
SB	28	23	402	76.4%	25	21	569	62.1%	27	23	4.865	2.4%
											-	?: i

OLD SULLIVAN - 83RD

						BEFORE						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	1:30p)			ALL DAY		
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	ema Ema	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
EB	31	25	248	83.1%	30	24	197	80.7%	33	26	3.292	23.0%
MΒ	33	27	214	86.9%	33	26	220	86.4%	35	28	3,260	37.6%
						AFTER						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	(30b)			ALL DAY		
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
EB	30	24	272	75.7%	28	23	247	78.9%	33	25		24.2%
WB	34	28	189	91.5%	31	25	184	81.0%	35	28	2 754	37.3%

OWEN - 83RD

ST. ANDREW - ADDISON

			:			BEFORE						
L		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	3:30p)			ALL DAY		
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	ame	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit
E B	39	28	729	77.1%	44	32	610	87.7%	42	31	11,507	59.7%
WB	25	19	565	39.8%	25	19	645	42.6%	53	24	10,428	9.6%
											İ	
						AFTER						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	3:30p)			ALL DAY		
	85th % tite Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
EB	25	16	313	41.5%	27	19	272	51.8%	30	22	7.172	12.9%
MW	36	19	231	70 70%	90	06	388	E7 40/	000	70	000	40.70

ST. BARBARA - ARCHER

-	_	,	_	_	_	_	_	_	_
		Volume % > Speed Limit	57.8%	%9:69			% > Speed Limit	55.6%	63.7%
		Volume	9.818	9,836			Volume	9,037	9,399
	ALL DAY	Mean Speed	32	34		ALL DAY	Mean Speed	32	33
		85th % tile Speed	40	42			85th % tile Speed	39	41
		Volume % > Speed Limit	89.26	91.5%			% > Speed Limit	95.5%	88.8%
	3:30p)	Volume	589	749		3:30p)	Volume	512	728
DELONE	PM (2:30p - 3:30p)	Mean Speed	32	32	AFTER	PM (2:30p - 3:30p)	Mean Speed	32	32
		85th % tile Speed	40	41			85th % tile Speed	39	40
	a)	% > Speed Limit	%0'86	95.5%			% > Speed Limit	95.8%	91.3%
		Volume	833	418		9a)	Volume	718	391
	AM (8a - 9a	Mean Speed	32	35		AM (8a - 9a)	Mean Speed	30	31
		85th % tile Speed	40	42			85th % tile Speed	38	39
			EB	ŘΒ				B	MΒ

ST. THECLA - DEVON

Г	Γ	ب	Π		1	Γ	Γ	_	T	
		% > Speed Limit	78.0%	27.0%		:		% > Speed Limit	56 7%	53.4%
		Volume	10.163	10,076				Volume	6 599	7.129
	ALL DAY	Mean Speed	33	30			ALL DAY	Mean Speed	30	30
		85th % tile Speed	38	36				85th % tile Speed	36	35
		% > Speed Limit	99.5%	81.3%				% > Speed Limit	88.7%	84.1%
	3:30p)	Volume	592	678			3:30p)	Volume	362	458
BEFORE	PM (2:30p - 3:30p)	Mean Speed	33	27		AFTER	PM (2:30p - 3:30p)	Mean Speed	59	28
		85th % tile Speed	38	34				85th % tile Speed	34	34
		% > Speed Limit	%2'66	88.6%				% > Speed Limit	90.5%	%9:06
	AM (8a - 9a)	Volume	719	629			9a)	Volume	443	466
		Mean Speed	32	29			AM (8a - 9a)	Mean Speed	30	30
		85th % tile Speed 36 35						85th % tile Speed	36	35
			EB	ΜB					EB	WB

STOCKTON - MONTROSE

						REEOBE						
L		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	(300)			ALI DAY		
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
	32	27	589	89.5%	33	27	522	%0.06	34	29	8 681	35.2%
ļ	30	23	479	73.3%	28	19	501	49.5%	30	24	8,434	14.4%
						ACTED						
ł						אַ ורט						
J		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	:30b)			ALL DAY	·	
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
1	30	25	411	86.1%	30	26	341	83.6%	32	27	6 151	21.8%
ļ	29	23	341	68.9%	59	22	344	62.8%	30	25	6.329	14.5%

BOONE - FAIRFIELD

						BEFORE						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	1:300)			AI DAY		
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit
R	18	11	118	7.6%	19	15	21	9.5%	20	15	626	0.5%
						AFTER						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	1:30p)			ALL DAY	ļ	
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	me	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	Mean Speed Volume % > Speed Limit
B	18	13	162	4.9%	20	14	32	12.5%	-	15	626	0.2%
							1					

NORTH SHORE

WASHNETAW

Γ	Ī	nit.	Τ]	Γ	T	į	
		Volume % > Speed Limit	0.5%				ri I baans < %	70500
	Ļ	Volume	1.027				Volume	1 034
	ALL DAY	Mean Speed	15			ALL DAY	Mean	14
		85th % tile Speed	20				85th % tile Speed	19
		Mean Speed Volume % > Speed Limit	2.5%				Volume % > Speed Limit	%U U
	3:30p)	Volume	40			3:30p)	Volume	71
BEFORE	PM (2:30p - 3:30p)	Mean Speed	11		AFTER	PM (2:30p - 3:30p)	Mean Speed	-
		85th % tile Speed	15				85th % tile Speed	16
	AM (8a - 9a)	'olume	18.1%				% > Speed Limit	2.7%
		Volume	116			3a)	Volume	185
		Mean Speed	15			AM (8a - 9a)	Mean Speed	12
		85th % tile Speed	22				85th % tile Speed	17
			SB					SB

BOUCHETT - 73RD

	5	ı			I		32			
		85th % tile Speed	27	25				85th % tile Speed	26	25
	AM (8a - 9a)	Mean Speed	22	18			AM (8a - 9a)	Mean Speed	22	18
	9a)	Volume	86	240			- 9a)	Volume	96	233
		% > Speed Limit	71.4%	38.0%				% > Speed Limit	61.1%	35.6%
		85th % tile Speed	27	25				85th % tile Speed	27	25
BEFORE	PM (2:30p - 3:30p)	Mean Speed	21	16	AETER		PM (2:30p - 3:30p)	Mean Speed	22	17
	3:30p)	nme		176			3:30p)	Volume	131	165
		% > Speed Limit	64.5%	28.4%				% > Speed Limit	66.4%	27 0%
		85th % tile Speed	29	26				85th % tile Speed	66	22
	AII DAY	Mean Speed	23	19			ALL DAY	Mean Speed	77	5
		Volume	1 802	2.587				Volume	1 644	2000
		% > Speed Limit	7.0%	6.2%				"> Sneed I imit	7 0%	1.370

74TH

						BEFORE						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	1:30p)			ALL DAY	_	
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	95th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit
EB	20	15	69	8.7%	21	15	56	17.9%	24	18	718	0.3%
WB	•	-	-		20	15	74	13.5%	24	18	371	0.3%
						AFTER						
L		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	1:30p)			ALL DAY	\	
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	ame	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
8	21	16	89	17.6%	23	18	99	26.2%	24	19	711	0.1%
ΝB	24	19	67	41.8%	25	20	74	45 9%	25	21	765	780

CHAPPEL

Main Speed Mean Speed Limit S5th % tile Speed Limit S5th % tile Speed Mean Speed Mean Speed Mean Speed Mean Speed Limit S5th % tile Speed Limit S5th % tile Speed Limit S5th % tile Speed Mean Speed Limit S5th % tile S5th % ti							BEFORE						1
S5th % tile Speed Mean Speed Volume % - Speed Limit S5th % tile Speed Volume % - Speed Limit Speed			AM (8a - :	9a)			PM (2:30p - 3	:30b)			ALL DA	_	
19 13 112 7.1% 14 8 81 2.5% 20 13 13 13 14 15 15 15 15 15 15 15		85th % tile Speed			% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	eds < %
AM (8a - 9a) 85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mon Spee	NB NB	19	13	112	7.1%	14	8	81	2.5%	20	13	663	%9:0
AFTER AM (8a - 9a) AM (8a - 9a) PM (2:30p - 3:30p) PM (2:30p - 3:30p) ALL DAY 85th % tile Speed Volume % > Speed Limit 85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed Volume 12 100 5:0% 18 13 61 4:9% 22 16													
AM (8a - 9a) AM (8a - 9a) ALL DA 85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed Mean Speed Mean Speed Mean Speed 18 12 10 5.0% 18 13 61 4.9% 22 16							AFTER						
85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed 18 12 100 5.0% 18 13 61 4.9% 22 16			AM (8a - 9	9a)			PM (2:30p - 3	:30b)			ALL DA	,	
18 12 100 5.0% 18 13 61 4.9% 22 16 620 7		85th % tile Speed		Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	peeds < %
	NB N	18	12	100	2.0%	18	13	61	4.9%	22	16	620	1.3%

BUDLONG - WINONA

8	1,203
% > Spee	Volume % > Speed Limit 85th % tile Speed Mean Speed Volume % > Speed Limit
]	
0.3%	1,203
Mean Speed Volume % > Speed Limit	Volume

CROWN - DRAKE

		ij			Γ	ij	Γ
		% > Speed Li	0.1%			Volume	0.2%
	-	Volume	738		\	Volume	626
	ALL DAY	Mean Speed Volume % > Speed Limit	13		ALL DAY	Mean Speed	13
		85th % tile Speed	19		•	85th % tile Speed	17
	,	% > Speed Limit	8.0%			Volume % > Speed Limit	3.9%
	3:30p)	Volume	20		3:30p)		51
BEFORE	PM (2:30p - 3:30p)	Mean Speed	15	AFTER	PM (2:30p - 3:30p)	Mean Speed	15
		85th % tile Speed	19			85th % tile Speed	18
		% > Speed Limit	6.5%			% > Speed Limit	0.0%
	9a)	Volume	31		9a)	Volume	43
	AM (8a - 9a)	Mean Speed	13		AM (8a - 9a)	Mean Speed	11
		85th % tile Speed	16			85th % tile Speed	16
			NB				NB

ST. LOUIS

Γ	Τ	Ţ	Γ	1	Γ	Г	L	Γ
		Volume % > Speed Limit	6.7%				Mean Speed Volume % > Speed Limit	0.1%
		Volume	1,427				Volume	1,135
	ALL DAY	Mean Speed	21			ALL DAY	Mean Speed	16
		85th % tile Speed	28				85th % tile Speed	20
		Volume % > Speed Limit	%9:99				Volume % > Speed Limit	6.3%
	3:30p)	Volume	66			3:30p)	Volume	96
BEFORE	PM (2:30p - 3:30p)	Σ	21		AFTER	PM (2:30p - 3:30p)	Mean Speed	15
		85th % tile Speed	27				85th % tile Speed	19
		% > Speed Limit	42.5%				Volume	9.9%
100	9a)	Volume	73			9a)		76
	AM (8a - 9a)	Mean Speed	19			AM (8a - 9a)	Mean Speed	15
		85th % tile Speed	25				85th % tile Speed	19
			SB					SB

FARADAY - SPAULDING

П	Г	Ţ.	Τ	1	Γ	Т	L	Π
		Volume % > Speed Limit	2.4%				Mean Speed Volume % > Speed Limit	0.0%
		Volume	411				Volume	308
	ALL DAY	Mean Speed	19			ALL DAY	Mean Speed	15
		85th % tile Speed	1				85th % tile Speed	
		Volume % > Speed Limit	37.5%				Volume % > Speed Limit	0.0%
	3:30p)	Volume	16			3:30p)	Volume	18
BEFORE	PM (2:30p - 3:30p)	Mean Speed	16		AFTER	PM (2:30p - 3:30p)	Mean Speed	12
		85th % tile Speed	24				85th % tile Speed	17
		% > Speed Limit	42.9%				% > Speed Limit	33.3%
	9a)	Volume	14			- 9a)	Volume	9
	AM (8a - 9a)	Mean Speed	19			AM (8a - 9a)	Mean Speed	19
		85th % tile Speed	24				85th % tite Speed	21
			SB					SB

HEARST - 46TH

AFTER AFTER 85th % tile Speed AM (8a - 3a) AM (8a - 3a) ALL DAY ALL DAY EB 22 18 13 30.8% 24 18 42 35.7% 26 10mme % > Speed Limit WB 24 13 30.8% 25 14 14% VB 24 25 25 20 580 1.0% VB 24 35.7% 25 20 580 1.0%
AM (8a - 9a) ALL DAY 85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Wolume % > Speed Limit Mean Speed Nolume B 22 18 13 30.8% 24 18 18 38.9% 26 10 215 B 24 20 31 54.8% 25 18 42 35.7% 25 20 580
AFTER AFTER B 24 AM (8a - 9a) PM (2:30p - 3:30p) PM (2:30p - 3:30p) PM (2:30p - 3:30p) PM (2:30p - 3:30p) PM (2:30p - 3:30p) B 22 18 13 30.8% 24 18 38.9% 26 11 B 24 25 18 42 35.7% 25 2
AFTER AM (8a - 9a) PM (2:30p - 3:30p) PM (2
AFTER AM (8a - 3a)
AFTER 85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed B 22 18 13 30.8% 24 18 B 24 20 31 54.8% 25 18
AM (8a - 9a) AM (8a - 9a) B5th % tile Speed Mean Speed Volume % > Speed Limit B5th % tile Speed Mean Speed
AM (8a - 3a)
AM (8a - 9a) AM (
85th % tile Speed Mear 22 B 24
85th % tile Speed Mear 22 B 24
85th % B
WB

% > Speed Limit 1.4% 1.3%

% > Speed Limit 27.0% 20.0%

 BEFORE

 PM (2:30p - 3:30p)

 85th % tile Speed
 Mean Speed
 Volume

 23
 16
 37

 21
 17
 40

 AM (8a - 9a)
 % > Speed Limit

 Mean Speed
 Volume
 % > Speed Limit

 16
 44
 27.3%

 17
 33
 36.4%

85th % tile Speed

LAMON

Seth % tile Speed Mean Speed Limit Seth % tile Speed Limit Seth % tile Speed Mean Speed Limit Seth % tile Speed Mean Spee	t						DETORE						
85th % tile Speed Mean Speed Wolume % > Speed Limit 85th % tile Speed Mean Speed Wolume % > Speed Limit 85th % tile Speed Mean Speed </th <th>_</th> <th></th> <th>AM (8a - ;</th> <th>9a)</th> <th></th> <th></th> <th>PM (2:30p - 3</th> <th>3:30p)</th> <th></th> <th></th> <th>ALL DAY</th> <th>_</th> <th></th>	_		AM (8a - ;	9a)			PM (2:30p - 3	3:30p)			ALL DAY	_	
33 23 46 60.9% 27 16 106 34.0% 30 20		85th % tile Speed	Mean Speed			85th % tile Speed		Aoune	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
AFTER AM (8a - 9a) ALL DA (8a - 9b) ALL DA (8a - 9b) ALL DA (8a - 9c) ALL		33	23	46	%6.09	27		106	34.0%	30	20	902	15.0%
AM (8a - 9a) AFTER AM (8a - 9a) PM (2:30p - 3:30p) PM (2:30p - 3:30p) ALL DA Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed 15 48 6.3% 19 14 78 7.7% 23 17													
AM (8a - 9a) ALL DA (8bed Limit 85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed Volume 19 15 48 6.3% 19 14 78 7.7% 23 17							AFTER						
85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed 19 15 48 6.3% 19 14 78 7.7% 23 17	Т		AM (8a - \$	9a)			PM (2:30p - 3	3:30p)			ALL DAY		
19 15 48 6.3% 19 14 78 7.7% 23 17		85th % tile Speed	Mean Speed		% > Speed Limit	85th % tile Speed	г	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
		19	15	48	6.3%	19	14	78	7.7%	23	17	740	0.8%

HINTON - LOWE

						BEFORE						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	:30b)			ALL DAY		
	85th % tile Speed	Mean Speed	Volume	Volume	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	Volume % > Speed Limit 85th % tile Speed	Mean Speed	Volume	Mean Speed Volume % > Speed Limit
SB	24	15	58	34.5%	24	16	98	31.4%	25	18	645	1.2%
												}
						AFTER						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	:30p)			ALL DAY		
	85th % tile Speed	Mean Speed		Volume % > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	Volume % > Speed Limit 85th % tile Speed	Mean Speed	Volume	Mean Speed Volume % > Speed Limit
SB	20	16	89	13.2%	20	14	99	12 1%	20	15	576	7000

NOIN

		20, 110										
_		AIVI (68 - 98)	ga)			PM (2:30p - 3:30p)	300)			ALL DAY	_	
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
B.	25	17	72	38.9%	23	16	69	26.1%	29	21	661	8.0%
						AFTER						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	(d06:			ALL DAY	_	
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed		Volume % > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit
ВВ	27	15	25	24.6%	19	15	99	%0:0	20	16	528	%0.0

HOWE - LONG

BEFORE
PM (2:30p - 3:30p)
85th % tile Speed | Mean Speed | Volume

| AM (8a - 9a) | AM (8a - 9a) | Speed Limit | Speed Limit | 20 | 155 | 45.2% |

9

		imit	
		% > Speed L	2.6%
	_	Volume	2,066
	ALL DAY	Mean Speed	22
		85th % tile Speed	28
		% > Speed Limit	33.9%
	- 3:30p)	Volume	168
AFTER	PM (2:30p - 3	Mean Speed	17
		85th % tile Speed	24
		% > Speed Limit	54.3%
	9a)	Volume	129
	- AM (8a -	Mean Speed	21
		85th % tile Speed	28
			ВВ

Volume % > Speed Limit 2,118 7.2%

ALL DAY 85th % tile Speed | Mean Speed 29 22

> % > Speed Limit 50.6%

LOREL

		85th	NB.	SB				85th	NB	SB
		85th % tile Speed	27	28				85th % tile Speed	20	20
	AM (8a - 9a) PM (2:30p - 3:30p)	Mean Speed	20	23			AM (8a - 9a)	Mean Speed	16	15
		Volume	42	26				Volume	27	40
		% > Speed Limit	47.6%	73.0%				% > Speed Limit	14.8%	12.5%
		85th % tile Speed	25	31				85th % tile Speed	21	19
BEFORE		Mean Speed	20	24		AFTER	PM (2:30p - 3:30p)	Mean Speed	16	7.
	3:30p)	Volume	59	27			3:30p)	Volume	41	45
		% > Speed Limit	54.2%	74.1%				% > Speed Limit	17.0%	70/ 9
		85th % tile Speed	27	29				85th % tile Speed	22	00
	ALL DAY	Mean Speed	20	22			ALL DAY	Mean Speed	16	46
	_	Volume		446			\ \	Volume	445	722
		% > Speed Limit	5.0%	10.3%				% > Speed Limit	0.2%	0 30/

LEMOYNE - FREMONT

	AM (8a - 9a)	85th % tile Speed Mean Speed Volume % > Speed Limit	23 17 57 29.8%			AM (8a - 9a)	85th % tile Speed Mean Speed Volume % > Speed Limit	18 4 0.0%	18 14 37 370/
		d Limit 85th % tile Speed	27	19			d Limit 85th % tile Speed	r	
BEFORE	PM (2:30p - 3:30p)	Mean Speed	22	18	AFTER	PM (2:30p - 3:30p)	Mean Speed		
:	30b)	Volume	41	2		30p)	Volume		
		% > Speed Limit	68.3%	%0.0			Volume % > Speed Limit		
		85th % tile Speed	25	21			85th % tile Speed	16	
	ALL DAY	Mean Speed	18	16		AII DAY	Mean Speed	12	!!;
	<u></u>	Volume	858	49		\ \ \	Volume		
		% > Speed Limit	0.5%	4.1%			fimi Page S < %	3 8%	0.0.0

OLD SULLIVAN - COLES

						BEFORE						
		AM (8a - 9a)	3 a)			PM (2:30p - 3:30p)	:300)			AII DAY		
	85th % tile Speed	Mean Speed	Volume	olume % > Speed Limit	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit
NB	25	17	91	33.0%	24	17	81		27	19	878	6.2%
						AFTER						
		AM (8a - 9a)	la)			PM (2:30p - 3:30p)	(300)			AII DAY		
	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit	85th % tile Speed	Mean Speed	Volume	Mean Speed Volume % > Speed Limit	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit
NB	20	13	66	13.1%	21	16	56	16.1%	22	16	903	0.1%

HOUSTON

						BEFORE							
		AM (8a - 9a)	la)			PM (2:30p - 3:30p)	(30p)			AI I DAY			
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit	85th % tile Speed	Mean Speed	Volume	Mean Speed Volume % > Speed Limit	
SB	25	19	61	49.2%	20	14	7.1	15.5%	26	19	816	4.4%	
						AFTER							
		AM (8a - 9a)	la)			PM (2:30p - 3:30p)	(30b)			AI L DAY			
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	Volume % > Speed Limit 85th % tile Speed	Mean Speed	Volume	Mean Speed Volume % > Speed Limit	
NB	19	13	69	1.4%	18	14	59	1 7%	20	7 4	107	7000	

OWEN - CHRISTIANA

- 3:30p) Nolume							BETORE						
Sith % tile Speed Mean Speed Volume % > Speed Limit Speed Mean Speed Volume % > Speed Limit Speed Mean			AM (8a -	9a)			PM (2:30p • 3	(30b)			ALL DA		
18 13 91 3.3% 20 17 13 15.4% 23 16 16 16 16 16 16 16 1		85th % tile Speed	-	Volume		85th % tile Speed	_	Volume	% > Speed Limit	85th % tile Speed	Mean	Volume	Volume % > Speed ! imit
AM (8a - 9a) AM (8a - 9a) S5th % tile Speed	NB	18	13	91	3.3%	20	17	13	15.4%	23	_	302	%Z U
AM (8a - 9a) 85th % tile Speed													
AM (8a - 9a)							AFTER						
85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed 20			AM (8a -)	9a)			PM (2:30p - 3	(300)			ALL DA		
20 14 78 15.4% 32 26 9 66.7% 29 20		85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed		% > Speed Limit	85th % tile Speed	Mean	Volume	% > Speed imit
25	NB	20	14	7.8	15.4%	32	26		%2 99	29	20	262	11 0%
												101	0/0/1

SPAULDING

						BEFORE						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	:30p)			ALL DAY	,	
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	me	% > Speed Limit	85th % tile Speed	Mean		Volume % > Speed Limit
SB	31	26	37	91.9%	32	26	35		30			14.9%
						AFTER						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	:30p)			ALL DAY		
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit	85th % tile Speed	Mean Speed	Volume	Mean Speed Volume % > Speed Limit
SB	30	24	51	70.6%	34	31	53	%9.96	32	24	424	21.0%

ST. ANDREW - HERMITAGE

		imi l be	%!			ad Limit	%
		Volume % > Speed Limit	%0.0			% > Sne	0.0%
	 -		657			Volume	635
	ALL DAY	Mean	12		AII DAY	Mean	13
		85th % tile Speed	┺			85th % tile Speed	22
		Volume % > Speed Limit	4.1%			Volume % > Speed Limit	10.0%
	3:30p)	Volume	49		3:30p)	Volume	90
BEFORE	PM (2:30p - 3:30p)	Mean Speed	6	AFTER	PM (2:30p - 3:30p)	Mean Speed	10
		85th % tile Speed	16			85th % tile Speed	18
	ia)	% > Speed Limit	1.4%			% > Speed Limit	20.4%
		Volume	70		9a)	Volume	49
	AM (8a - 9a)	Mean Speed	6		AM (8a - 9a)	Mean Speed	14
		85th % tile Speed	17			85th % tile Speed	
			NB				B

PAULINA

AM (8a - 9a) BEFORE PM (2:30p - 3:30p)	85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed Volume % > Speed Limit	AFTER	AM (8a - 9a)	88	85th % tile Speed	Mean		% > Speed Limit % > Speed Limit	85th % tile Speed	Mean Speed AFTER PM (2:30p - 3 AFTER Mean Speed	3:30p)	% > Speed Limit	85th % tile Speed	ALL DAY Mean Speed ALL DAY Mean Speed	Volume Volume	% > Speed I
85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Wean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed Wean				3 I				_		-		-				
85th % tile Speed Wean Speed Volume % > Speed Limit 85th % tile Speed Wean Speed Volume % > Speed Limit Wean Speed Wean Speed Limit Wean Speed	AFTER AM (8a - 9a) PM (2:30p - 3:30p)	AM (8a - 9a) PM (2:30p - 3:30p)			85th % tile Speed			% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	% > Speed Li
Sight Speed Mean Speed Volume % > Speed Limit Sight Steed Mean Speed Volume % > Speed Limit	AM (8a - 9a) AM	AM (8a - 9a) Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed Volume % > Speed Limit	Mean Speed Volume % > Speed Limit 85th % tite Speed Mean Speed Volume % > Speed Limit	as	18		70	/00/1								1 50000

ST. BARBARA - QUINN

AM (8a - 9a
AM 85th % tile Speed Mean Sp 24 17

THROOP

<u> </u>	85th % tile Speed	AM (8a - 9a) Mean Speed	Volume	% > Speed Limit	85th % tile Speed	BEFORE PM (2:30p - 3:30p) Mean Speed Vol Vol	3:30p)	Limit	85th % tile Speed	peed LL DAY	Volume	% > Speed Limit
	8	3	2	1.170	0	07	001	03.1%	32	/7	2,046	%0.12
- BS	90	24	99	77.3%	30	25	121	81.0%	32	27	1 440	22.0%
	200	77	3	11.070	90	23	171	01.070	32	/7	044,	%O.22

ST. THECLA - NEWCASTLE

						BEFORE						
		AM (8a - 9a	9a)			PM (2:30p - 3:30p)	:30p)			ALL DAY		
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit	85th % tile Speed Mean Speed Volume % > Speed Limit	Mean Speed	Volume	% > Speed Limit
BB	19	11	75	8.0%	54	17	36	30.6%	28	19	484	4.5%
						AFTER						
		AM (8a - 9a)	9a)			PM (2:30p - 3:30p)	:30b)			ALL DAY		
	85th % tile Speed	Mean Speed	Volume	% > Speed Limit	95th % tile Speed	Mean Speed		Volume % > Speed Limit	85th % tile Speed	Mean Speed	Volume	Volume % > Speed Limit
NB	15	11	29	%0.0	14	8	56	%0:0	17	12	487	9.0

OAK PARK

BEFORE

Г	Τ	Т	1	Г	Т	Т	Т
	Volume % > Speed Limit	10.1%				Volume % > Speed Limit	0.5%
	Volume	734				Volume	664
ALL DAY	Mean Speed	23			ALL DAY	Mean Speed	14
	85th % tile Speed	29				85th % tile Speed	19
	Volume % > Speed Limit	90.3%				Volume % > Speed Limit	%0:0
3:30p)	Volume	63			3:30p)	Volume	67
PM (2:30p - 3:30p)	Mean Speed	21		AFTER	PM (2:30p - 3:30p)	Mean Speed	13
	85th % tile Speed	26				85th % tile Speed	16
	% > Speed Limit	63.5%				% > Speed Limit	4.0%
Эа)	Volume	52)a)	Volume	50
AM (8a - 9a)	Mean Speed	21			AM (8a - 9a)	Mean Speed	14
	85th % tile Speed	29				85th % tile Speed	18
		SB					SB

PALATINE

Γ		83	WB				83	O/VI
	85th % tile Speed		,			85th % tile Speed	27	Į,
AM (8a - 9a)	Mean Speed		-		AM (8a - 9a)	Mean Speed	23	
9a)	Volume				9a)	Volume	29	5
	% > Speed Limit		•			% > Speed Limit	75.9%	/07 70
	85th % tile Speed		•			85th % tile Speed	27	-
PM (2:30p - 3:30p)	Mean Speed			AFTER	PM (2:30p - 3:30p)	2	22	3
3:30p)	Volume	Ĭ.			3:30p)	ᆫ	27	
	Volume % > Speed Limit					Volume % > Speed Limit	%2 99	
	85th % tile Speed					85th % tile Speed	28	
ALL DAY	Mean Speed				ALL DAY	Mean Speed	23	
	Volume				\ \			
	Mean Speed Volume % > Speed Limit		,			Volume % > Speed Limit	2 8%	2001

STOCKTON - BEACON

XX 1 1 XX	Mean Speed Volume % > Speed	18 659	729
	it 85th % tile Speed	╀	78
	% > Speed Limit	22.6%	20.9%
3-30m)	Volume	53	43
BEFORE PM (2:30n - 1	Mean Speed	14	15
	85th % tile Speed	22	22
	% > Speed Limit	36.5%	25.0%
(a)	Volume	74	26
AM (8a - 9	Mean Speed	17	17
	85th % tile Speed	24	23
		NB	SB

AFTER 85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed Mean Speed Limit 85th % tile Speed Mean Speed Mean Speed Limit 85th % tile Speed Mean Speed Mean Speed Limit 85th % tile Speed Mean Speed Mean Speed Limit 85th % tile Speed Mean Speed Mean Speed Limit 85th % tile Speed Mean Speed Mean Speed Limit 85th % tile Speed Mean Speed Limit Mean Speed Limit 85th % tile Speed Mean Speed Limit Mean Speed Limit 85th % tile Speed Mean Speed Limit Mean Speed Limit 85th % tile Speed Limit Mean Speed Limit 85th % tile Speed Limit Mean Speed Limit 85th % tile Speed Limit			Γ	ŧ			į	Γ	
AFTER AETER 85th % tile Speed Volume % > Speed Limit 85th % tile Speed Volume % > Speed Limit ALL DAY 23 15 27.3% 20 14 62 14.5% 25 18 20 17 50 16.0% 21 14 56 17.9% 25 19				Sneed	20000	%b U	0,0,0	1 50%	
AFTER 85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Wean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed Wolume % > Speed Limit 85th % tile Speed Mean Speed Wean S			<u></u>	>	0.000	561		582	
AM (8a - 9a) AFTER 85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed Volume % > Speed Limit 23 15 27.3% 20 12 65 14.5% 20 17 50 16.0% 21 14 56 17.3%			ALL DAY	ALL DAY	Mean Speed	manda imani	48	2	19
AFTER 85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed Mean Speed Volume 23 15 27.3% 20 12 65 27.3% 20 12 65 55 56 <				85th % tile Speed		25		25	
AFTER 85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed PM (2:30p - 3:3) 23 15 55 27.3% 20 12 20 17 50 16.0% 21 14				% > Speed Limit		14.5%		17.9%	
AFTER 85th % tile Speed Mean Speed Volume % > Speed Limit 85th % tile Speed PM (2:30p-130p-130p-130p-130p-130p-130p-130p-1			3:30p)	Volume		62		29	
AM (8a - 9a) AM (8a - 9a) Sth % tile Speed Mean Speed Volume % > Speed Limit 23 15 55 27.3% 17 50 16.0%	AETED	AL IER	a	Mean Speed		12		7	
85th % tile Speed Mean Speed Volume % > Speed Li 23 15 55 27.3% 20 17.0%				85th % tile Speed		50		21	
AM (8a - 9a) 85th % tile Speed Wean Speed Volum 23				% > Speed Limit		27.3%		0	
AM (8a- 85th % tile Speed Mean Speed 23 15 20 17			la)	Ē		ဌ		20	
85th % tile S 23 20			AM (8a -	S	,	15		٦,	
				85th % tile Speed		53		25	
		ŀ	_		-	2		ņ	

DOVER