



February 22, 2008

Ms. Ann Chaney
Community Development Director
City of Albany
1000 San Pablo Avenue
Albany, CA 94706-2295

Re: Albany Traffic Calming Study

Dear Ms. Chaney:

This memorandum summarizes our traffic calming study for the neighborhood south of El Cerrito Plaza. The neighborhood, as shown on Figure 1, consists of Kains Avenue, Stannage Avenue, Cornell Avenue, Talbot Avenue, and Evelyn Avenue between El Cerrito Plaza and Garfield Avenue in the City of Albany. Currently, many motorists coming from the east and south, or wishing to bypass congestion on San Pablo Avenue, use these residential streets to travel to and from El Cerrito Plaza. As a result, these residential streets experience higher traffic volumes than typical residential streets.

Previously, the *Albany Street Closure Study* (Kimley-Horn and Associates, March 2006) was prepared for the City of Albany, which considered various street closure options in this area. The Preferred Street Closure Option recommended by the study would close access into the El Cerrito Plaza at Cornell, Talbot, and Evelyn Avenues (at the El Cerrito/Albany border) to vehicles, and maintain access between El Cerrito Plaza and Kains Avenue. In addition, southbound Kains Avenue would be partially closed just south of Brighton Avenue. The Kimley-Horn study did not address detailed traffic calming options beyond full closures. Therefore, the Albany City Council directed that various traffic calming options be analyzed, including their potential effects on traffic flow in the study area, prior to making a final decision on the street closure option. This letter presents various traffic calming options for the study area and compares the potential effects of this option with the street closure option.

The recommendations contained in this letter are based on Fehr & Peers experience in preparing traffic calming plans for many other jurisdictions. The basis for our recommendations is rooted in knowledge of the fields' "best practices" and familiarity with municipalities' adopted policies relating to traffic calming locally and abroad. Factors influencing the selection of devices include local aesthetic sensibilities, capital cost to the community, potential loss of on-street parking, slope of the roadway, and ability to effectively reduce vehicle speeds.

The following presents our findings and recommendations.

UNDERSTANDING OF TRAFFIC CONCERNS

The redevelopment of the El Cerrito Plaza shopping center approximately seven years ago has resulted in an increase in traffic volumes on adjacent residential streets south of the center. These streets are primarily fronted by single-family and multi-family residential units. Residents on the streets south of the shopping center have expressed concerns to the City regarding significant impacts on neighborhood safety and livability caused by additional traffic entering and exiting the Plaza on these streets.

Currently, Talbot Avenue is one-way southbound and Evelyn Avenue is one-way northbound between El Cerrito Plaza and Brighton Avenue. Kains and Cornell Avenues are two-way, although Kains Avenue is one-way southbound south of Brighton Avenue.

In general, the street blocks between El Cerrito Plaza and Brighton Avenue are about 450 feet long and the street blocks between Brighton Avenue and Garfield Avenue are about 600 feet long. The study streets are about 30 feet wide with parking allowed on both sides. Both Brighton and Garfield Avenues provide stop-signs on all four approaches at intersections with Stannage and Talbot Avenues, and they provide stop-signs on the north-south approaches at intersections with Kains, Cornell, and Evelyn Avenues. The all-way stop-signs on Brighton were installed in 1999 prior to the opening of the Albany Middle School, and in 2002 as part of the Traffic Management Plan implementation program. Stop-signs are also provided where the study streets enter El Cerrito Plaza. Signs prohibit trucks on Kains, Cornell, Talbot, and Evelyn Avenues between El Cerrito Plaza and Brighton Avenue.

The Cerrito Creek Trail, located at the border between Albany and El Cerrito adjacent to Cerrito Creek, provides a pedestrian path between Talbot and Kains Avenues. Patterned crosswalks are provided where the trail crosses Talbot and Cornell Avenues.

Brighton Avenue is a designated collector in the City of Albany. The following facilities and uses contribute to pedestrian, bicycle, and vehicle traffic on Brighton Avenue:

The Ohlone Greenway, a multi-purpose path along BART tracks; the Albany Middle School, which is the City's only middle school and is located on Brighton Avenue, just east of the BART tracks; and the traffic signal on Brighton Avenue at San Pablo Avenue. Based on data obtained from the City of Albany and field visits to the site, traffic volumes, speeds, and collisions are described below.

Traffic Volumes

To assess the magnitude of traffic volumes and vehicle speeds in the study area, the City of Albany collected data on Kains, Stannage, Cornell, Talbot, and Evelyn Avenues between Garfield and Brighton Avenue and on Kains, Cornell, Talbot, and Evelyn Avenues between Brighton Avenue and El Cerrito Plaza. Table 1 summarizes the typical weekday and Saturday daily traffic volumes on the study streets. Attachment A presents the traffic data count sheets, and Attachment B presents daily volume profiles.

**TABLE 1
 AVERAGE DAILY ROADWAY TRAFFIC VOLUMES ¹**

Street	Weekday			Saturday		
	Northbound	Southbound	Total	Northbound	Southbound	Total
Between El Cerrito Plaza and Brighton Avenue (400 Block)						
Kains Avenue	500	790	1,290	480	1,070	1,550
Cornell Avenue	810	1,300	2,110	900	1,530	2,430
Talbot Avenue	0	1,450	1,450	0	1,690	1,690
Evelyn Avenue	1,670	0	1,670	1,850	0	1,850
Total	2,980	3,540	6,520	3,230	4,290	7,520
Between Brighton Avenue and Garfield Avenue (500 Block)						
Kains Avenue	0	480	480	0	490	490
Stannage Avenue	290	200	490	280	180	460
Cornell Avenue	270	470	740	330	500	830
Talbot Avenue	200	480	680	200	490	690
Evelyn Avenue	260	90	350	230	90	320
Total	1,020	1,720	2,740	1,040	1,750	2,790

1. Based on data collected in May 2007.

Considering the residential uses on the study streets, each street segment is estimated to generate about 500 to 700 daily vehicle trips on typical weekdays¹. Thus, at least half of the current vehicles on the streets north of Brighton Avenue are considered "cut-through" vehicles. As shown in Table 1, traffic volumes on the streets south of Brighton Avenue are at least 50 percent less than the traffic volumes north of Brighton Avenue, indicating that most of the cut-through vehicles turn on Brighton Avenue. Since the southbound street segments in general have higher volumes than the northbound segments, more vehicles use the study streets to exit the Plaza than enter it. Cornell Avenue has the highest volumes of the study roadways as it serves the El Cerrito Plaza most directly.

Speeds

Table 2 presents the median and 85th percentile speeds² on the study streets. Attachment 2 provides detailed daily speed profiles. As shown in Table 2, the median speeds on all study street segments are below the posted speed limit of 25 miles per hour (mph) on both weekdays and Saturdays. However, the 85 percentile speeds on Evelyn Avenue, north of Brighton Avenue and on all study street segments south of Brighton Avenue exceed the speed limit of 25 mph. The 85th percentile speeds do not exceed 30 mph.

¹ The amount of traffic is on each street segment is estimated based on uses on each street and trip generation rates published by Institute of Transportation Engineers (ITE) *Trip Generation* (7th Edition, 2003).

² The median speed is defined as the speed at which 50 percent of vehicles travel at or below, while the 85th percentile speed is defined as the speed at which 85 percent of vehicles travel at or below. The *California Vehicle Code* establishes speed limits on public roadways based on the 85th percentile speed.

**TABLE 2
 MEDIAN AND 85TH PERCENTILE SPEEDS**

Street	Median Speed (mph)				85th Percentile (mph)			
	Weekday		Saturday		Weekday		Saturday	
	NB	SB	NB	SB	NB	SB	NB	SB
Between El Cerrito Plaza and Brighton Avenue (400 Block)								
Kains Avenue	19	20	19	17	24	25	24	24
Cornell Avenue	21	20	21	21	25	25	25	25
Talbot Avenue	N/A	22	N/A	21	N/A	25	N/A	25
Evelyn Avenue	22	N/A	22	N/A	25	N/A	26	N/A
Between Brighton Avenue and Garfield Avenue (500 Block)								
Kains Avenue	N/A	23	N/A	23	N/A	28	N/A	28
Stannage Avenue	21	20	22	21	27	27	28	28
Cornell Avenue	23	22	23	22	29	27	28	26
Talbot Avenue	22	23	20	23	27	28	25	28
Evelyn Avenue	24	21	24	21	29	26	29	27
Bold indicated speeds above 25 mph. mph = miles per hour; NB = northbound, SB = southbound 1. Based on data collected in May 2007.								

In general, the median and 85th percentile speeds on the one-way segments of Talbot and Evelyn Avenues are higher than the other parallel study segments. This is likely a function of the streets' one-way operation, which results in fewer vehicle conflicts and a wider travel lane. Speeds on study street segments south of Brighton Avenue are higher than north of Brighton Avenue due to longer block lengths, which provide more opportunity for vehicles to accelerate.

Traffic Collisions

City of Albany provided Fehr & Peers with traffic collision data in the study area. During the four year period between 2003 and 2006, 34 collisions were reported in the study area. Figure 2 shows the location of these collisions. The majority of the collisions (80%) occurred at intersections along Brighton Avenue (56%) and Garfield Avenue (24%). The Brighton Avenue/Cornell Avenue intersection was the intersection with the highest number of collisions (24%). Cornell Avenue also has higher volumes than the other north-south streets. Thus, the higher number of collisions is proportional to the higher volume at this location.

A summary of collisions in the study area are summarized by collision type in Table 3, and by collision factor in Table 4. The most common types of collisions were broadside (44%), sideswipe (20%), and rear-end (15%). The most common causes for collisions were auto right-of-way violation (32%), improper turning (26%), and traffic sign violation (15%). None of these collisions resulted in a fatality and seven resulted in injury. No collisions involved pedestrians and two involved bicyclists. The collisions involving bicyclists occurred on Brighton Avenue at Talbot Avenue and on Evelyn Avenue north of Brighton Avenue, and were caused by motorists turning

or passing improperly. The collision on Brighton Avenue at Talbot Avenue involved an eleven-year old bicyclist with visible injuries.

TABLE 3 COLLISION SUMMARY BY COLLISION TYPE (2003-2006)		
Collision Type	Number of Collisions	Percent
Broadside	15	44%
Sideswipe	7	20%
Rear-end	5	15%
Hit Object	4	12%
Vehicle/Bicycle	2	6%
Other	1	3%
Total	34	100%

Based on data provided by City of Albany.

TABLE 4 COLLISION SUMMARY BY COLLISION FACTOR (2003-2006)		
Collision Factor	Number of Collisions	Percent
Auto Right-of-Way	11	32%
Improper Turning	9	26%
Traffic Sign Violation	5	15%
Unsafe Speed	3	9%
Unsafe Starting or Backing	3	9%
Improper Passing	1	3%
Driving Under the Influence	1	3%
Hazardous Parking	1	3%
Total	34	100%

¹Based on data provided by City of Albany.

In comparison, during the four year period between 1996 and 1999, 11 collisions were reported in the study area. The approximately 200 percent increase in the number of collisions between 1996 to 1999 and 2002 to 2006 period may be attributed to increased traffic volumes in the area generated by redevelopment of El Cerrito Plaza Shopping Center in 2000 and the relocation of the Albany Middle School in fall 1999. Comparison of traffic counts collected in 1998 and 2005 shows a 110 percent increase in traffic volumes on Brighton Avenue.³

RECOMMENDED TRAFFIC CALMING DEVICES

The goal of this traffic calming program is to improve safety and quality of life by reducing vehicle speeds through the use of physical measures placed on the streets in the study area. In many locations, traffic calming devices are also intended to reduce traffic volumes, but in the subject location, the travel time increase resulting from using the adjacent arterials such as San Pablo Avenue is greater than any travel time increases that would result from installation of traffic calming measures. The prior study evaluated strategies (street closures) that would restrict traffic's ability to access certain streets. The inevitable result of this strategy is shifting of traffic to other streets. When this shift moves traffic back onto arterial and collector streets, this is an appropriate treatment. However, this shift is inequitable when it shifts traffic from one local street to another. There are many examples of cities who have installed treatment that shift traffic from one residential street to another, and in almost all cases the result is removal of treatments or expansion of treatments to protect impacted areas.

The benefit of reducing traffic speeds, while not specifically targeting volume reduction as a desired outcome, should not be under-estimated. A study conducted by Fehr & Peers in 1996, and presented to the Institute of Transportation Engineers, correlated observed vehicle speeds and volumes with resident perceptions of traffic. The study found that "there is little correlation between observed traffic volumes (average daily traffic) and resident perceptions of traffic or other perceived quality of life issues ... Traffic speeds are the key determinant of resident perceptions of traffic acceptability. Speeds affect perceptions of traffic volumes, safety, and noise⁴." This study included four streets in Albany in its data sample (Curtis Street, Sonoma Avenue, Thousand Oaks Boulevard, and Washington Avenue).

The major factor in determining the placement of traffic calming measures is the spacing between slow points (i.e., speed between traffic calming devices intended to slow or stop motorists). In general, traffic calming devices should be placed about 300 to 500 feet from other slow-points. Devices placed at intervals of less than 300 feet can become a nuisance to drivers and measures placed greater than 500 feet can decrease the ability to slow speeds to the target midpoint speed.

Figure 3 shows the recommended traffic calming plan for the study area. The recommended traffic calming devices do not need to be implemented simultaneously. Their implementation can be phased and depending on their effectiveness, additional devices may not be necessary.

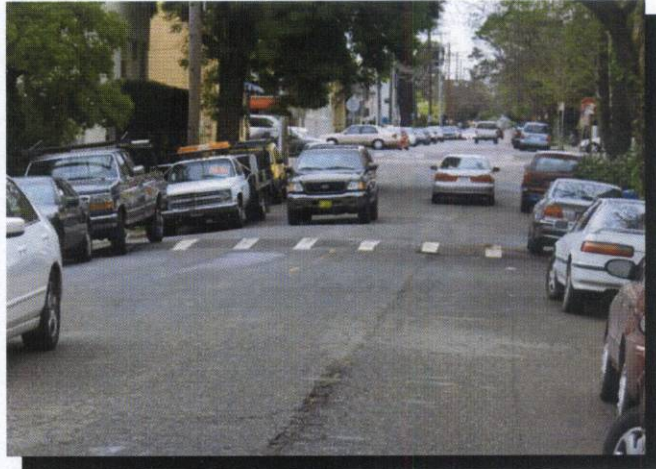
³ 1998 traffic data as presented in the *Traffic Management Plan for City of Albany* (Korve Engineering, May 2000), and 2005 traffic data as presented in *Albany Street Closure Study* (Kimley-Horn and Associates, March 2006).

⁴ *Residential Street – Quality of Life assessment*, Jack Peers and Matthew Ridgway, Fehr & Peers, presented at the ITE District 6 Conference in Salt Lake City, 1996.

Each traffic calming device or strategy is described below.

Speed Humps

Speed humps are rounded raised areas constructed out of asphalt that are placed across the roadway. They are generally 12 feet long (in the direction of travel), 3 to 3 ½ inches high and have a design speed of 15 to 20 miles per hour. Speed humps should be constructed the full width of the pavement leaving the drainage unimpeded.



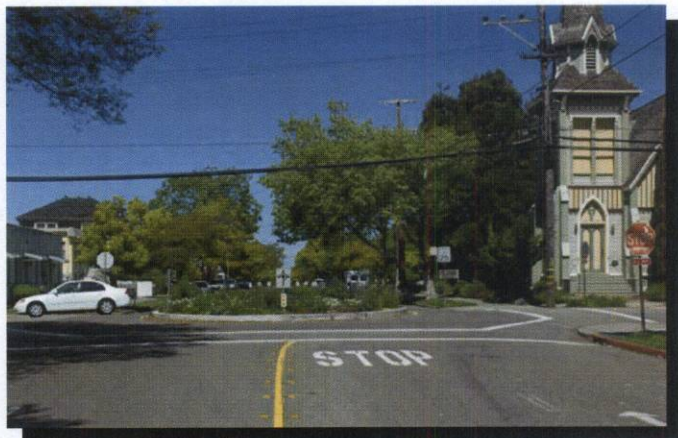
Although speed humps are very effective in slowing travel speeds, their main disadvantages are that they slow emergency vehicles and can result in a rough ride for all drivers, especially people with some skeletal disabilities. Typically, speed humps reduce 85th percentile speeds by about 22 percent and the number of collisions by 13 percent.⁶

Typically, speed humps reduce 85th percentile speeds by about 22 percent and the number of collisions by 13 percent.⁶

We recommend speed humps be installed on Kains, Cornell, Talbot, and Evelyn Avenues mid-block between El Cerrito Plaza and Brighton Avenue and mid-block between Brighton Avenue and Garfield Avenue.

Traffic Circles

Traffic circles are raised islands, placed in intersections, around which traffic circulates. Stop or yield signs can be used to control traffic entering the circle. Traffic circles prevent vehicles from speeding through intersections by impeding the straight-through movement and forcing motorists to yield.



If traffic circles are not designed properly, they can be difficult for emergency vehicles or large trucks to navigate, or could result in conflicts between vehicles and pedestrians.

⁶ *Traffic Calming State-of-the-Practice* (ITE, 1999)

⁸ *Traffic Calming State-of-the-Practice* (ITE, 1999)

Typically, traffic circles reduce 85th percentile speeds by about 11 percent and number of collisions by 71 percent.⁸

We recommend traffic circles be installed on Brighton Avenue at intersections with Kains, Cornell, Talbot, and Evelyn Avenues. These circles should have a radius of 10 or 11 feet and may result in loss of one or two on-street parking spaces on each street approach. This issue is further discussed in later sections

Raised Crosswalks with Neckdowns

Raised crosswalks are flat-topped speed humps that provide pedestrians with a level street crossing. Neckdowns are curb extensions that are generally the width of a parked car and narrow travel lanes for motorists. Raised crosswalks combined with neckdowns increase the visibility of pedestrians to motorists and reduce the pedestrian crossing distance. The raised crosswalks can be constructed with textured pavement to increase their aesthetics.



Raised crosswalks are not as effective as speed humps in reducing vehicle speeds due to their design features. Neckdowns also reduce vehicle speeds, especially right-turning vehicles, by decreasing the intersection curb radii. The disadvantage of raised crosswalks and neckdowns is that they may slow right-turning emergency vehicles and would result in loss of on-street parking. Typically, raised crosswalks reduce 85th percentile speeds by about 18 percent and number of collisions by 45 percent.⁹

We recommend raised crosswalks with neckdowns be installed on Kains, Cornell, Talbot, and Evelyn Avenues at the entrance to El Cerrito Plaza. Currently, there are no crosswalks at Evelyn Avenue. A raised crosswalk at Evelyn Avenue would facilitate potential extension of the Cerrito Creek Trail to the Ohlone Greenway along BART tracks.

Conversion of One-way Streets to Two-way Streets

As previously stated, motorists on the one-way segments of Talbot and Evelyn Avenues travel at higher speeds than motorists on the other parallel streets due to fewer vehicle conflicts and wider effective lanes. In addition, local residents on these streets currently must take circuitous routes traveling to and from these streets. Conversion of these two streets to two-way travel is expected to reduce vehicle speeds and travel times to and from destinations on these streets.

We recommend that both Talbot and Evelyn Avenues be converted to two-way streets between El Cerrito Plaza and Brighton Avenue. The conversion of Evelyn Avenue to a two-way street may result in an increase of traffic on Evelyn Avenue as it would provide a shorter travel distance to

⁹ *Traffic Calming State-of-the-Practice* (ITE, 1999)

the north side of the Plaza. Thus, additional traffic calming options for Evelyn Avenue may be needed if traffic would continue to not be restricted on the east side of the shopping center.

Expected Results

Implementing traffic calming measures has proven to reduce both vehicle speeds and collisions experienced on roadways that utilize them. The potential for speed reduction is based on the types of traffic calming devices selected and the spacing between devices. The proposed combination of traffic calming devices is expected to reduce 85th percentile speeds to about 18 mph midpoint between the traffic calming devices on the streets north of Brighton Avenue and 22 mph on the streets south of Brighton Avenue.

Considering the congestion on San Pablo Avenue and other roadways in the area, the study streets would continue to provide shorter travel times than other roads after the implementation of the traffic calming measures. Thus, the traffic calming measures are not expected to significantly reduce traffic volumes on the study streets. However, as previously mentioned, residents' perception of traffic on residential streets is highly correlated with travel speeds. Thus, the proposed traffic calming measures would increase the livability of these streets for the residents.

Emergency Response

A major concern associated with the installation of traffic calming devices is the potential delay in emergency response time. Generally, traffic calming devices will cause some delay to emergency response time and the delay will vary based on the type of device, frequency and spacing of the device used, type of emergency response vehicle, and driver skill. Extensive studies were published in *Traffic Calming State-of-the-Practice* (ITE, 1999). Table 5 summarizes emergency response delays measured in various jurisdictions for speed humps and traffic circles.

The City's fire station is located at the San Pablo Avenue/Buchanan Street intersection. It is expected that most fire trucks would access the study area from south on San Pablo Avenue. The recommended traffic calming plan would have minimal affect on areas south of Brighton Avenue. The recommended traffic calming devices would likely increase emergency response times for the areas north of Brighton Avenue by between 10 and 50 seconds depending on the destination and route.

TABLE 5 EMERGENCY RESPONSE DELAY			
Device	City of Boulder, CO	City of Portland, OR	Montgomery County, MD
Speed Hump	2.8 to 4.7 seconds	0 to 9.4 seconds	2.8 to 7.3 seconds
Traffic Circle	7.5 to 10.0 seconds	1.3 to 10.7 seconds	3.2 to 7.0 seconds

Source: *Traffic Calming State-of-the-Practice* (ITE, 1999)

As an alternative to speed humps, speed lumps may be used. Speed lumps are similar in design to speed humps but provide cutouts that allow the wheelbase of emergency vehicles to pass through. Other jurisdictions permit placement of speed lumps on residential streets that serve as primary emergency response route. Below are two examples of a speed lump. The image on the left is of a speed lump constructed out of asphalt and the image to the right is of a speed cushion, which is a manufactured device constructed from recycled rubber. Because speed cushions are pre-manufactured, they have a more uniform shape than asphalt speed lumps and can be relocated if necessary. However, speed lumps are not as effective as speed humps in reducing travel speeds as vehicles with wide wheel base can pass through the wheel cutouts.



On February 1, 2008, the Albany Fire Department conducted a field test of traffic circles by placing cones at the Brighton Avenue/Cornell Avenue intersection to replicate traffic circles of various radii and navigating a fire engine through the intersection. Based on the field test, fire engines were able to maneuver around an 11-foot radius circle. However, the Fire Department would prefer a traffic circle with a 10-foot radius. In addition, the installation of a traffic circle may require elimination of one or two on-street parking spaces on each approach to the traffic circles to provide adequate clearance for the fire trucks. In addition, the Albany Fire Department has stated that speed humps, similar to the ones installed on Key Route Boulevard adjacent to Albany High School, are acceptable.

PLANNED EL CERRITO PLAZA RESIDENTIAL DEVELOPMENT

The Creekside condominiums at El Cerrito Plaza, a 128 multi-family residential development, is planned to replace the existing parking lot in the southeast portion of El Cerrito Plaza. The proposed development would maintain the current vehicular access between Albany and El Cerrito Plaza. As shown on the conceptual figure on the next page, Evelyn Avenue would continue as a one-way northbound street on the southwest corner of the planned development and intersect Talbot Avenue. One of the driveways for the planned project would be located on the Evelyn Avenue extension, while the other would be on the north side of the project.

As part of the planned development, the Cerrito Creek Trail would be constructed between Ohlone Greenway and Evelyn Avenue. However, the new trail would not connect with the existing trail west of Talbot Avenue, and there would be a gap between Evelyn and Talbot Avenues. To connect the two disconnected segments of the trail, the project proposes to provide an eastbound contra flow bicycle lane on the south side and a sidewalk on the north side of the new Evelyn Avenue extension with a crosswalk where Evelyn Avenue would intersect Talbot Avenue extension. The City of El Cerrito is currently studying options to improve pedestrian and bicycle access and circulation through the site.



Based on data presented in the *El Cerrito Plaza Mixed Use Development Project SEIR* (City of El Cerrito, November 2004), the planned 128 unit residential development would generate 67 AM peak hour, 78 PM peak hour, and 824 daily vehicles. The SEIR estimates that about half of these trips would use Albany streets to access the project site. Most of these vehicles would use Evelyn and Talbot Avenues as they are the nearest streets to the project site. It is estimated that the planned project would increase daily volumes on Evelyn and Talbot Avenues by as much 175 vehicles each. This represents an increase of about 10 to 12 percent over current traffic volumes.

The previously presented recommended traffic calming plan would continue to be effective if the proposed Creekside at El Cerrito Plaza project is constructed. However, the following modifications are recommended as shown on the figure above:

- The raised crosswalk with neckdown recommended on Evelyn Avenue at the entrance to El Cerrito Shopping Center should be replaced by a speed hump.
- A raised crosswalk on the Evelyn Avenue extension at the intersection with the Talbot Avenue extension should be installed, since this would be the primary location for pedestrians to cross the Evelyn Avenue extension.

In addition, the conversion of Evelyn and Talbot Avenues from one-way to two-way streets would result in more traffic generated by the project using Evelyn Avenue as it would provide a slightly shorter travel distance between the project driveway and Brighton Avenue. Thus, the conversion would not reduce traffic volumes on Evelyn Avenue but it would reduce traffic speeds on both Evelyn and Talbot Avenues.

The recommended traffic calming plan would not discourage many of the new residents from using the study streets as they would continue to provide shorter travel times than other streets. However, as previously mentioned, the proposed traffic calming measures would increase the livability of these streets by lowering travel speeds.

COMPARISON WITH THE STREET CLOSURE OPTION

As previously stated, the Preferred Street Closure Option presented in the *Albany Street Closure Study* (Kimley-Horn and Associates, March 2006) recommended closing vehicular access into El Cerrito Plaza at Cornell, Talbot, and Evelyn Avenues, and maintaining access between El Cerrito Plaza and Kains Avenue. In addition, the Preferred Street Closure Option would close southbound Kains Avenue just south of Brighton Avenue to prevent additional cut-through traffic on Kains Avenue south of Brighton Avenue. Both Talbot and Evelyn Avenues would be converted to two-way streets under this option.

The Preferred Street Closure Option would eliminate cut-through traffic on all study streets except Kains Avenue and divert most of them to Kains Avenue, as Kains Avenue would continue to provide the shortest travel path to and from destinations east and south of the Plaza. Based on the analysis presented in the Kimley-Horn study, the elimination of the cut-through traffic would reduce traffic volumes on all study intersections except Kains Avenue by as much as 65 percent and increase the volumes on Kains Avenue by about 200 percent.

The Kimley-Horn analysis determined that the traffic diverted by the street closures would result in additional congestion on other streets such as San Pablo Avenue. In addition, the Brighton Avenue/Kains Avenue intersection would degrade to LOS E¹⁰ if the Preferred Street Closure Option were implemented. However, the intersection can be improved to LOS B by installing all-

¹⁰ The level of service (LOS) grading system qualitatively characterizes traffic conditions associated with varying levels of vehicle traffic, ranging from LOS A (indicating free-flow traffic conditions with little or no delay experienced by motorists) to LOS F (indicating congested conditions where traffic flows exceed design capacity and result in long queues and delays).

way stops at the intersection and striping a left-turn lane on the eastbound Brighton Avenue approach.

The Preferred Street Closure Option would also prohibit emergency vehicles from accessing the three closed streets from the north or accessing the Plaza from the three closed streets, which can severely limit emergency access if other access points are blocked. However, emergency vehicles can be accommodated by using removable bollards or "oil pan bashers" which would allow vehicles with high clearance such as fire engines to pass but not most passenger vehicles. The Preferred Street Closure Option would also limit access by large trucks, such as trash collection trucks and moving trucks, as the closed streets would not have adequate turnaround space and may force large truck to back into the three closed streets.

Table 6 compares the effects of the Preferred Street Closure Option with the Traffic Calming Option presented in this letter. In comparison to the traffic calming option, the main disadvantage of the Preferred Street Closure Option would disproportionately benefit residents of Cornell, Talbot, and Evelyn Avenues, while harming the residents of Kains Avenue.

TABLE 6 COMPARISON OF STREET CLOSURE AND TRAFFIC CALMING		
Measure	Preferred Street Closure Option	Traffic Calming Option
Volumes on Kains Avenue	About 200 percent greater than existing	Slightly lower than existing
Volumes on Other Streets	As much as 65 percent lower than existing	
Speed on Kains Avenue	About same as existing	Lower than existing
Speed on Other Streets	Lower than existing	
Congestion on San Pablo Avenue and other streets	Increase	Slightly lower increase
Emergency Access	May be limited to and from the north	Same as existing
Emergency Response Time	Increase due to added congestion on other streets	Increase by between 10 and 50 seconds depending on destination and route
Large Truck Access	Severely limited and may force trucks to back for long distances	Same as existing
Pedestrian and Bicycle Access	Maybe limited depending on type of closure	Same as existing

Source: Preferred Street Closure Option as documented in *Albany Street Closure Study (Kimley-Horn and Associates, March 2006)*

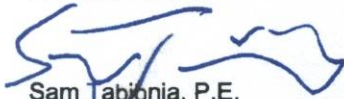
CONCLUSIONS

The traffic calming plan presented in this letter is expected to reduce vehicle speeds on the streets just south of the El Cerrito Plaza and improve their livability for local residents. In comparison to the Preferred Street Closure Option which would favor Cornell, Talbot, and Evelyn Avenues over Kains Avenue, the traffic calming plan would improve livability of all study streets by reducing speeds on all the study streets without disproportionately impacting other streets.

We hope you find this information helpful. Please do not hesitate to contact us if you have any questions or comments.

Sincerely,

FEHR & PEERS



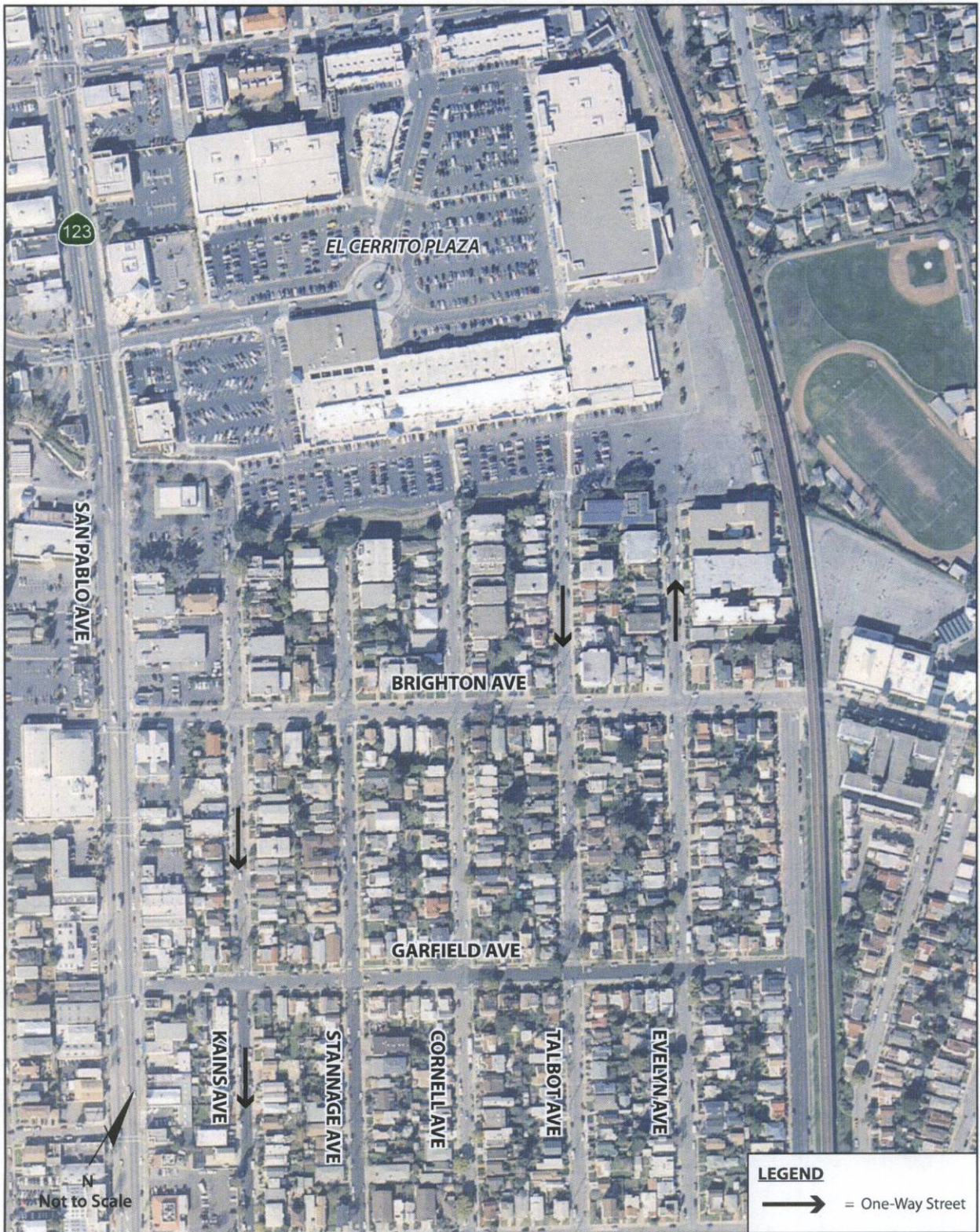
Sam Tabornia, P.E.
Senior Engineer

Figure 1 – Study Area

Figure 2 – Location of Collisions (2003-2006)

Figure 3 – Recommended Traffic Calming Plan

Attachment A – Traffic Volume and Speed Profiles

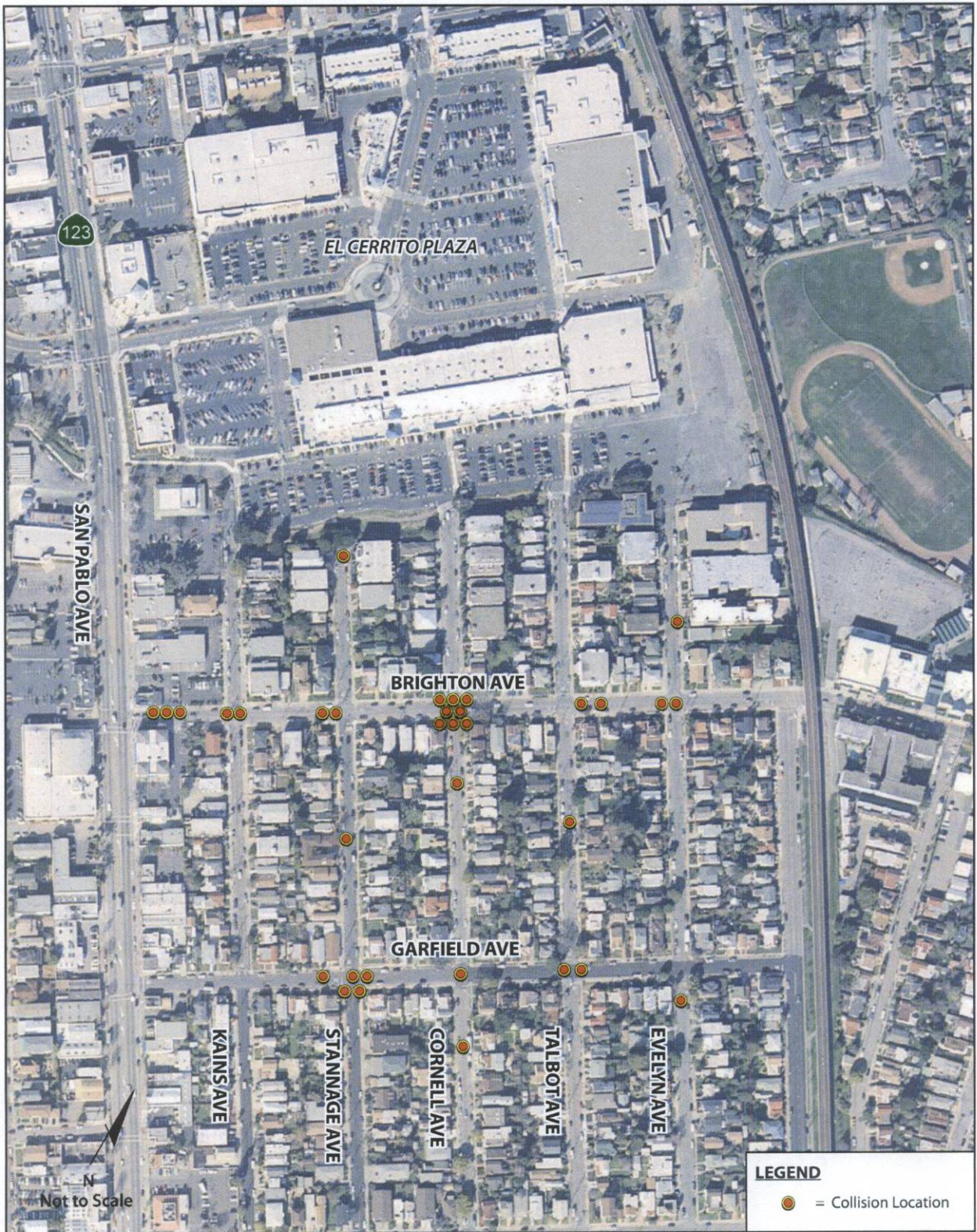


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TRANSPORTATION CONSULTANTS

February 2008
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STUDY AREA

Figure 1



LEGEND
 ● = Collision Location

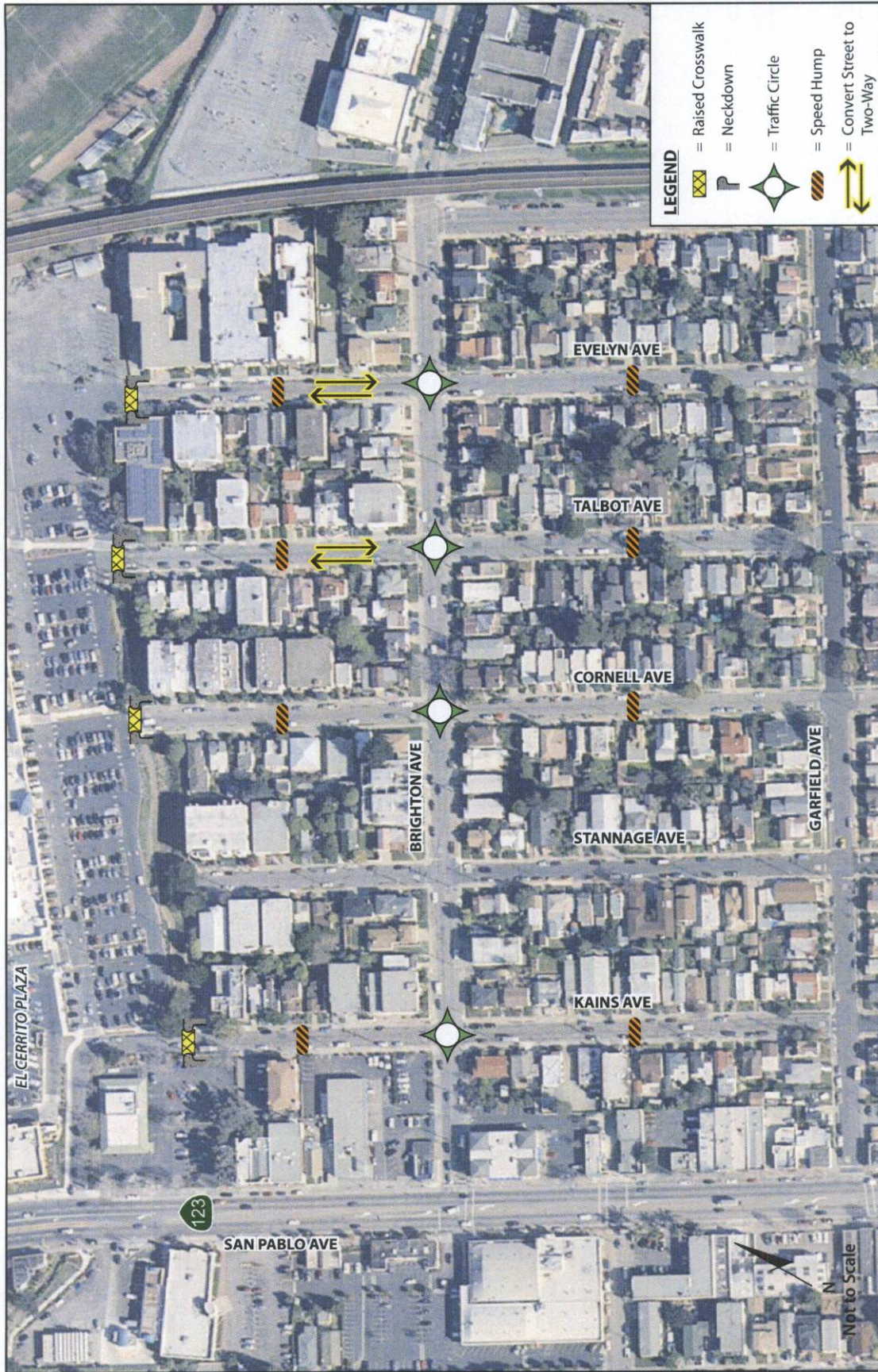
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LOCATION OF COLLISIONS (2003 - 2006)

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Figure 2



Albany Traffic Calming

RECOMMENDED TRAFFIC CALMING PLAN

Figure 3

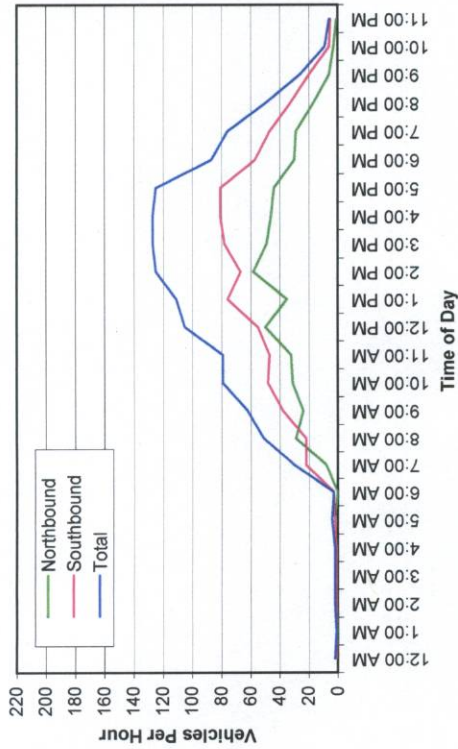


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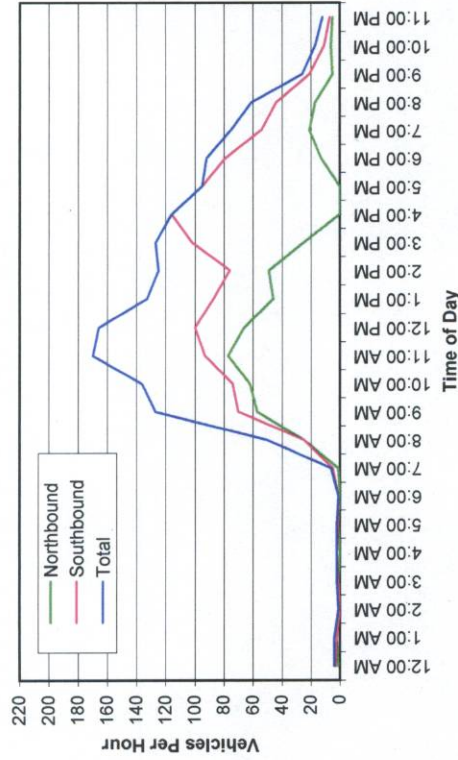
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ATTACHMENT A
TRAFFIC VOLUME AND SPEED PROFILES

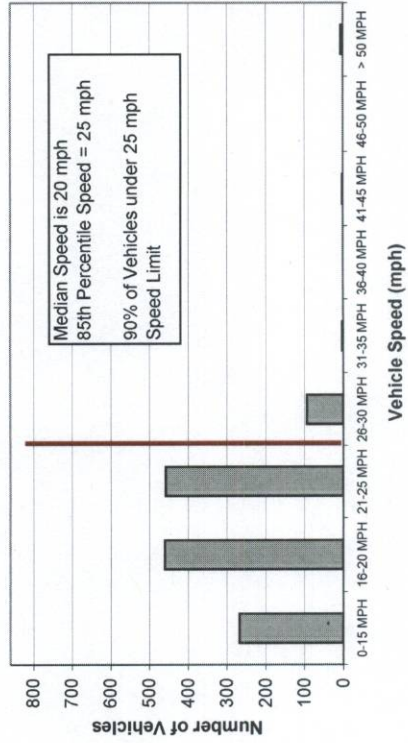
Weekday Traffic Volumes (24 Hours)
Kains Avenue between El Cerrito Plaza and Brighton Avenue



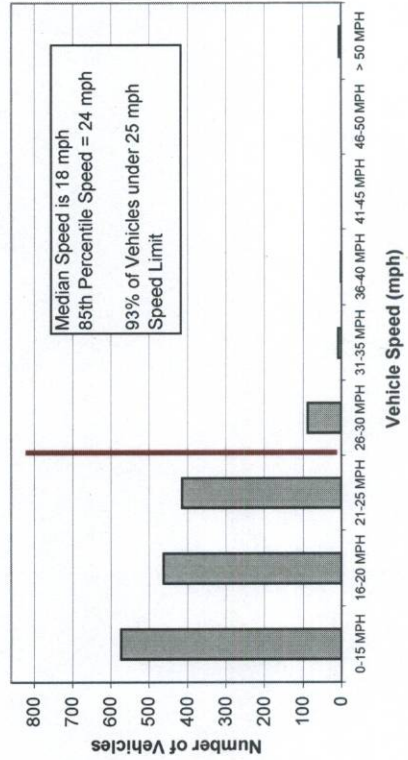
Saturday Traffic Volumes (24 Hours)
Kains Avenue between El Cerrito Plaza and Brighton Avenue



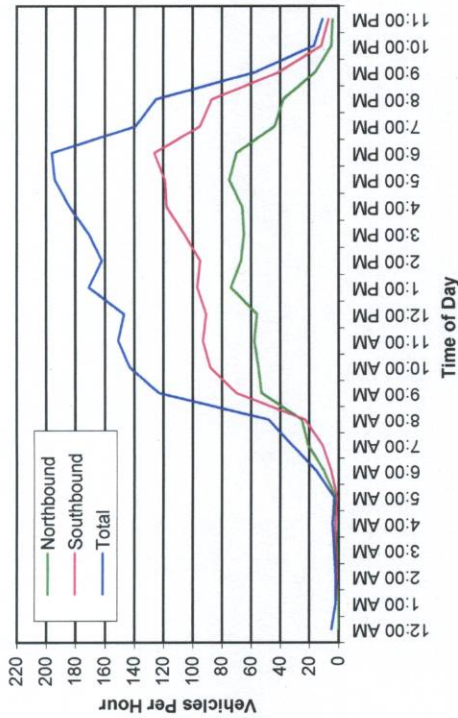
Weekday Vehicle Speeds (24 Hours)
Kains Avenue between El Cerrito Plaza and Brighton Avenue



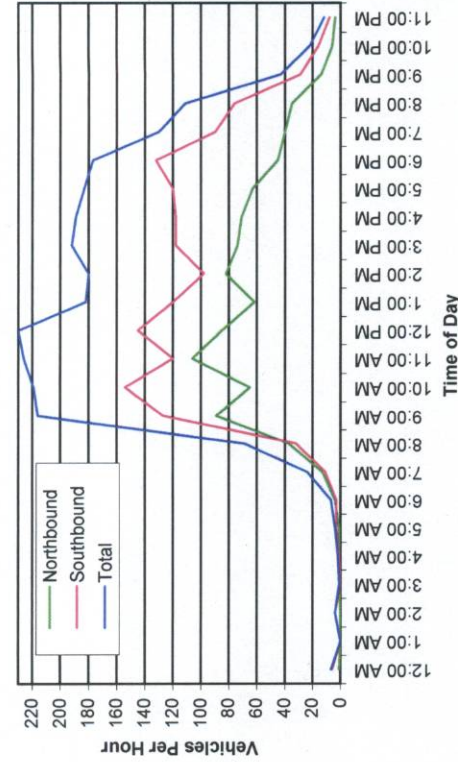
Saturday Vehicle Speeds (24 Hours)
Kains Avenue between El Cerrito Plaza and Brighton Avenue



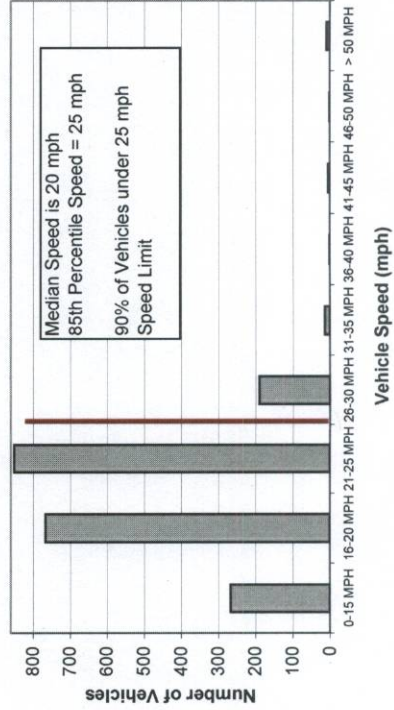
Weekday Traffic Volumes (24 Hours)
Cornell Avenue between El Cerrito Plaza and Brighton Avenue



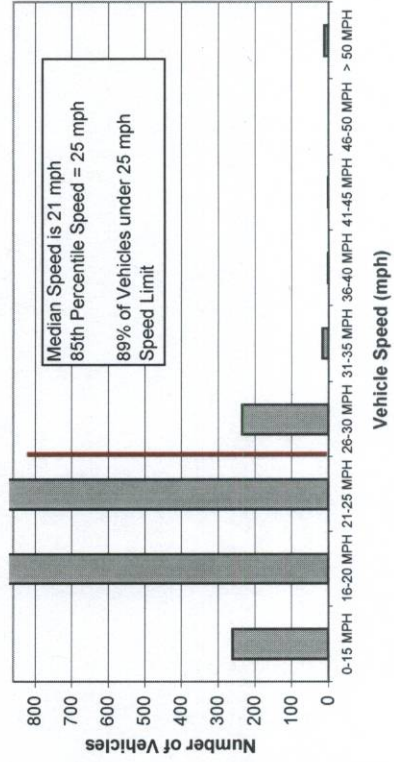
Saturday Traffic Volumes (24 Hours)
Cornell Avenue between El Cerrito Plaza and Brighton Avenue



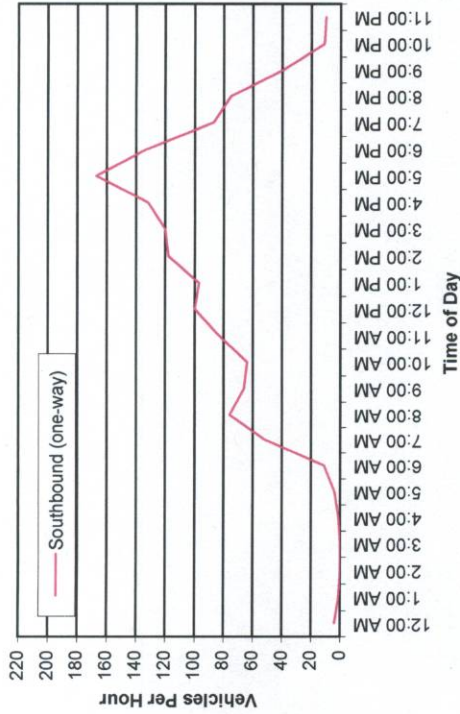
Weekday Vehicle Speeds (24 Hours)
Cornell Avenue between El Cerrito Plaza and Brighton Avenue



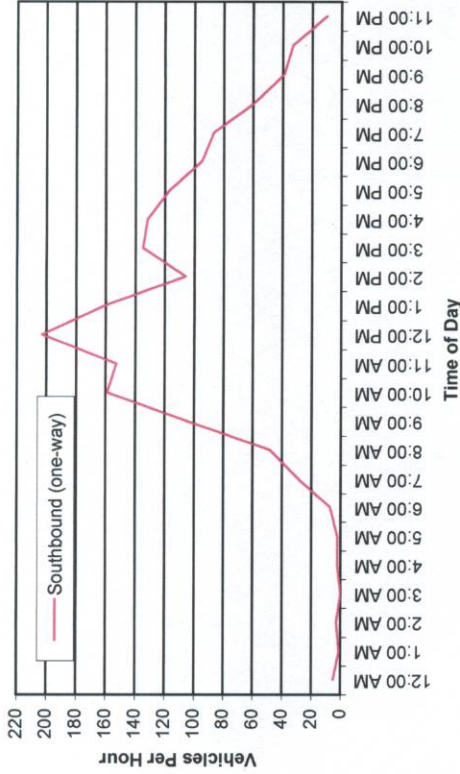
Saturday Vehicle Speeds (24 Hours)
Cornell Avenue between El Cerrito Plaza and Brighton Avenue



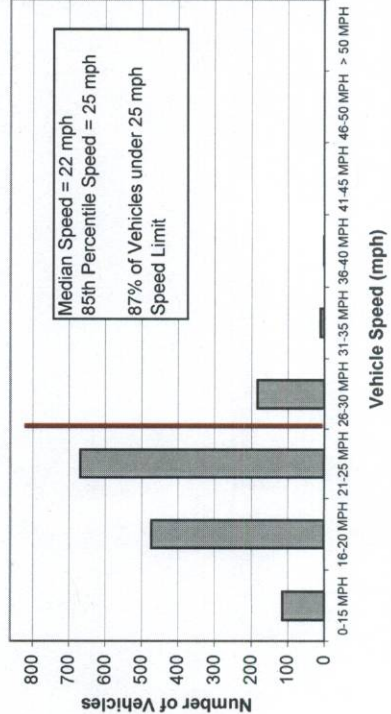
Weekday Traffic Volumes (24 Hours)
Talbot Avenue between El Cerrito Plaza and Brighton Avenue



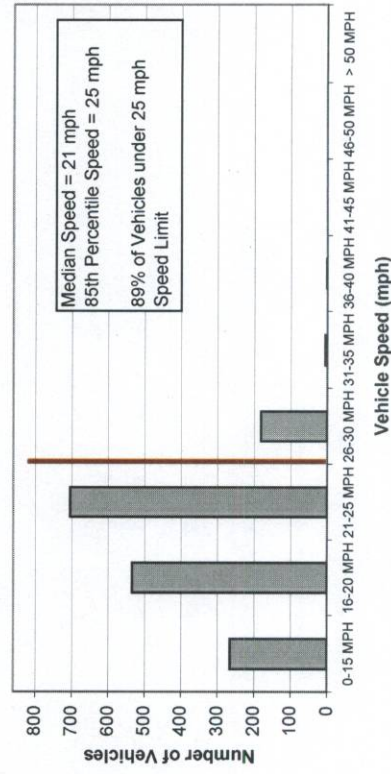
Saturday Traffic Volumes (24 Hours)
Talbot Avenue between El Cerrito Plaza and Brighton Avenue



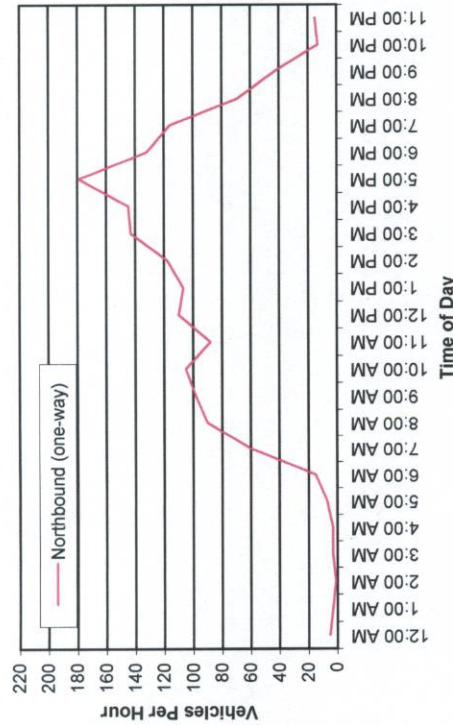
Weekday Vehicle Speeds (24 Hours)
Talbot Avenue between El Cerrito Plaza and Brighton Avenue



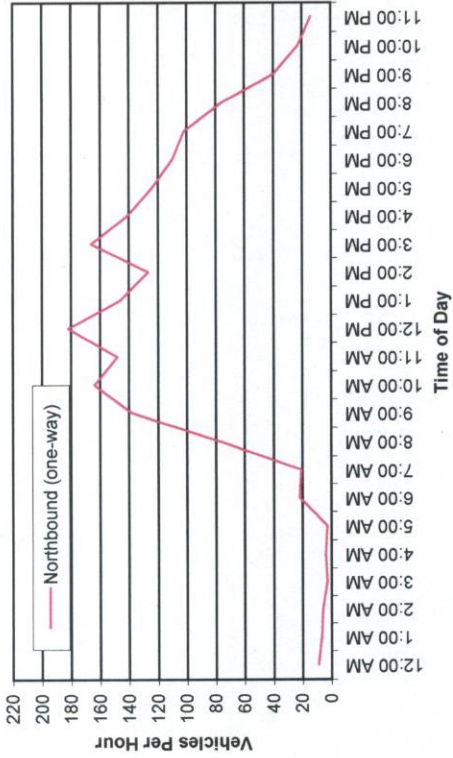
Saturday Vehicle Speeds (24 Hours)
Talbot Avenue between El Cerrito Plaza and Brighton Avenue



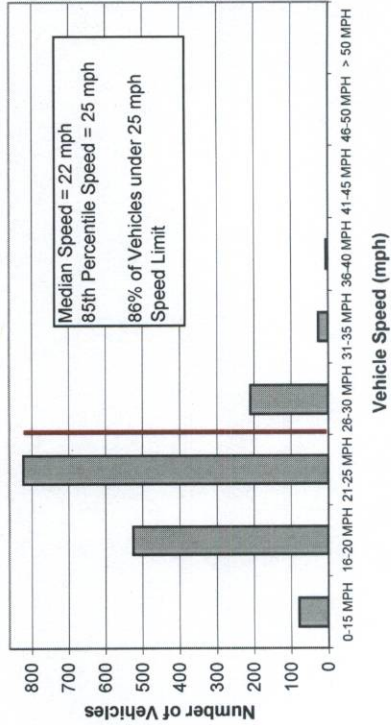
Weekday Traffic Volumes (24 Hours)
 Evelyn Avenue between El Cerrito Plaza and Brighton Avenue



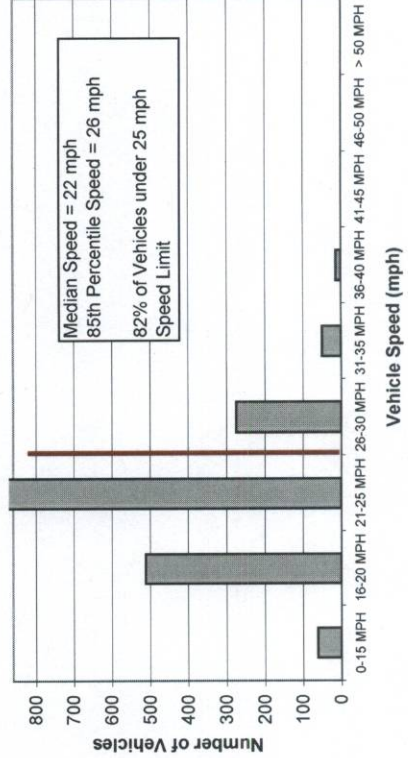
Saturday Traffic Volumes (24 Hours)
 Evelyn Avenue between El Cerrito Plaza and Brighton Avenue



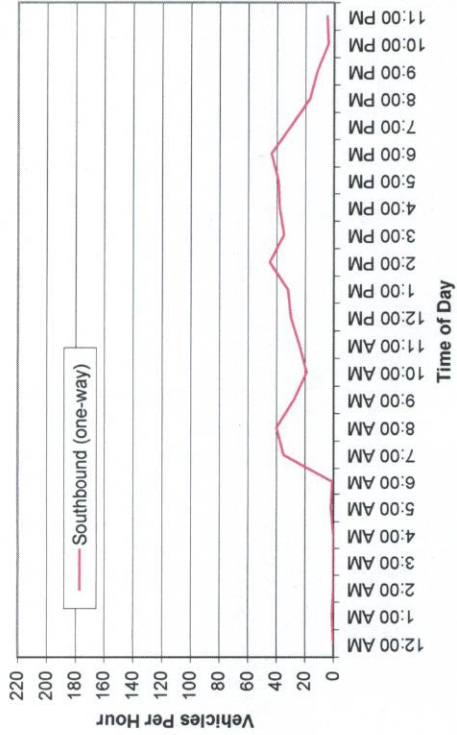
Weekday Vehicle Speeds (24 Hours)
 Evelyn Avenue between El Cerrito Plaza and Brighton Avenue



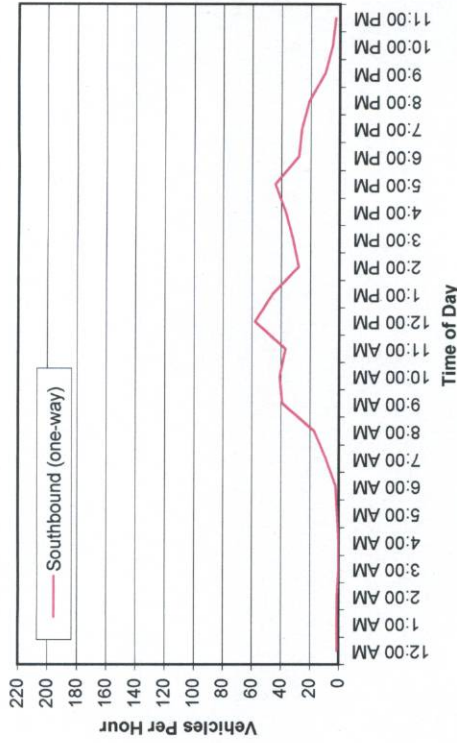
Saturday Vehicle Speeds (24 Hours)
 Evelyn Avenue between El Cerrito Plaza and Brighton Avenue



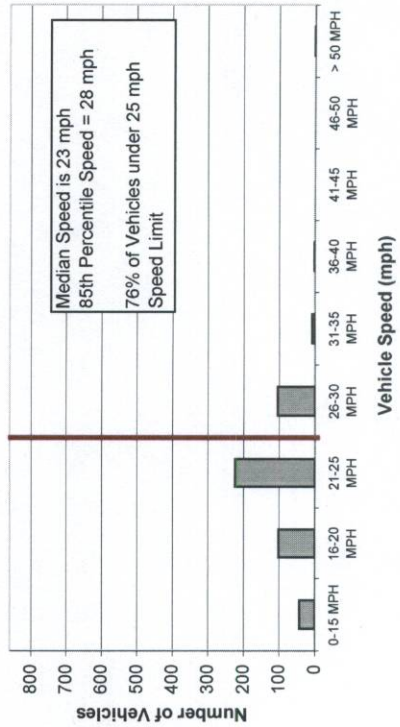
Weekday Traffic Volumes (24 Hours)
Kains Avenue between Brighton Avenue and Garfield Avenue



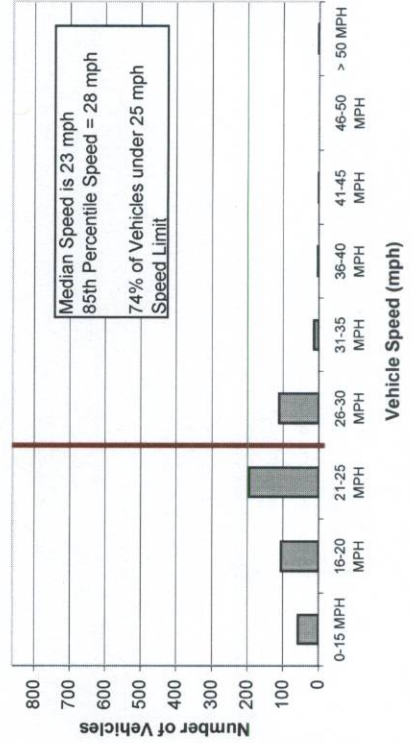
Saturday Traffic Volumes (24 Hours)
Kains Avenue between Brighton Avenue and Garfield Avenue



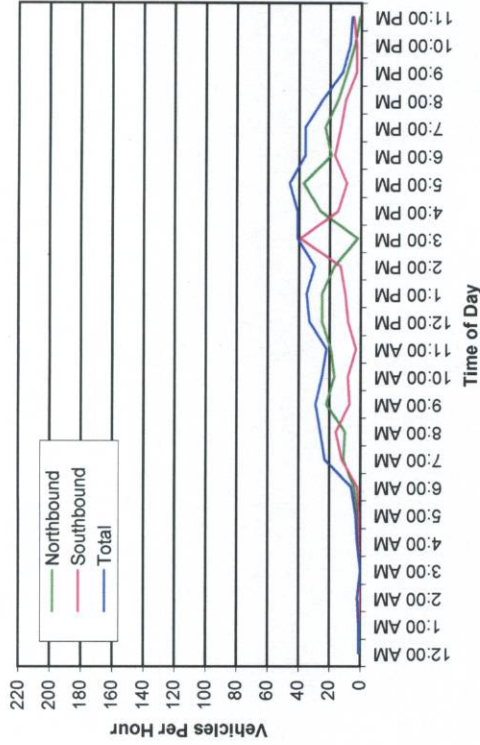
Weekday Vehicle Speeds (24 Hours)
Kains Avenue between Brighton Avenue and Garfield Avenue



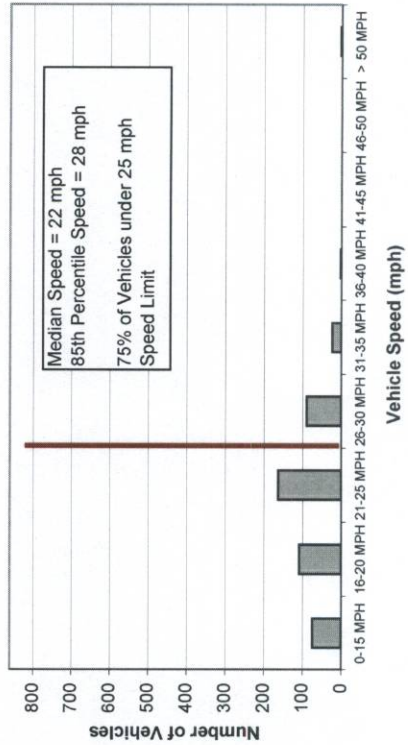
Saturday Vehicle Speeds (24 Hours)
Kains Avenue between Brighton Avenue and Garfield Avenue



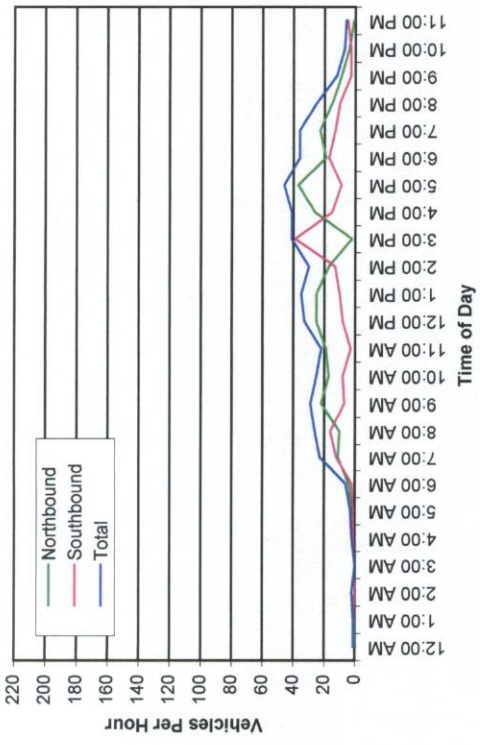
Saturday Traffic Volumes (24 Hours)
Stannage Avenue between Brighton Avenue and Garfield Avenue



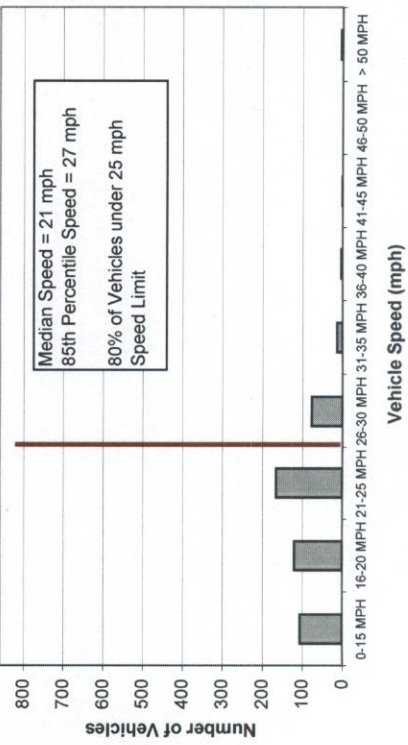
Saturday Vehicle Speeds (24 Hours)
Stannage Avenue between Brighton Avenue and Garfield Avenue



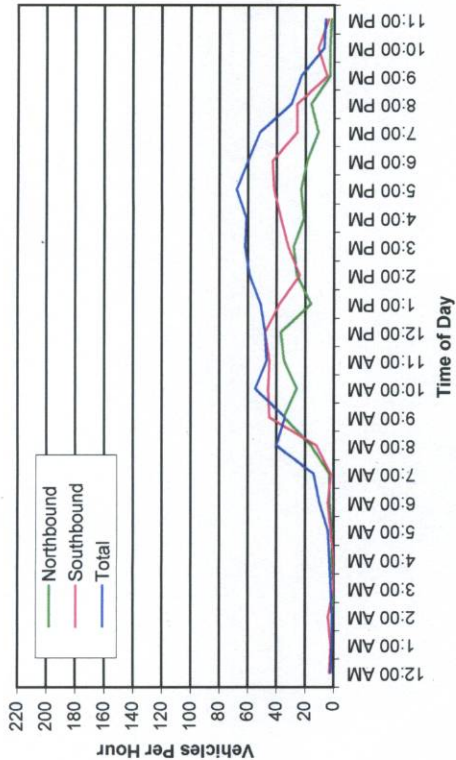
Weekday Traffic Volumes (24 Hours)
Stannage Avenue between Brighton Avenue and Garfield Avenue



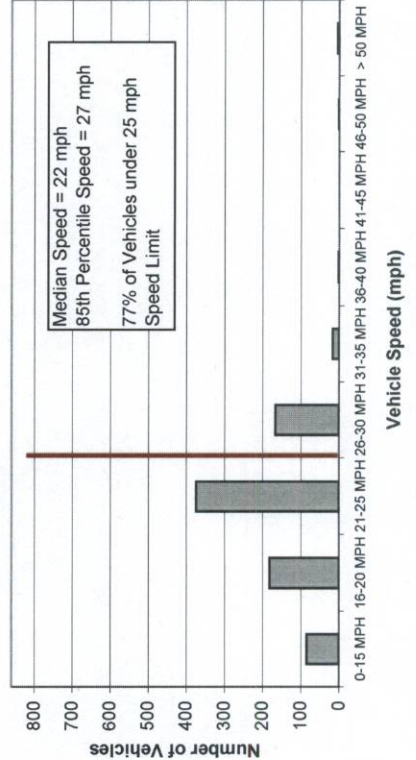
Weekday Vehicle Speeds (24 Hours)
Stannage Avenue between Brighton Avenue and Garfield Avenue



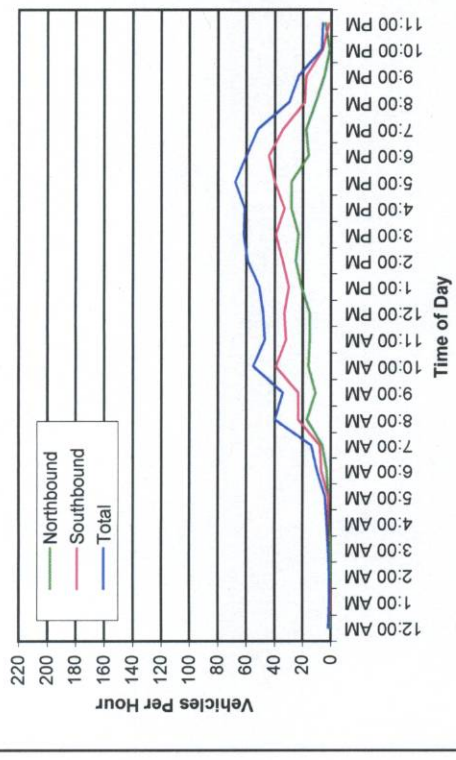
Saturday Traffic Volumes (24 Hours)
Cornell Avenue between El Cerrito Plaza and Brighton Avenue



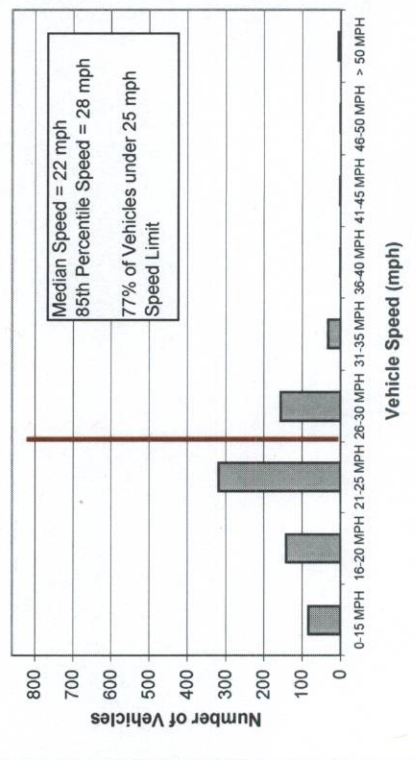
Saturday Vehicle Speeds (24 Hours)
Cornell Avenue between El Cerrito Plaza and Brighton Avenue



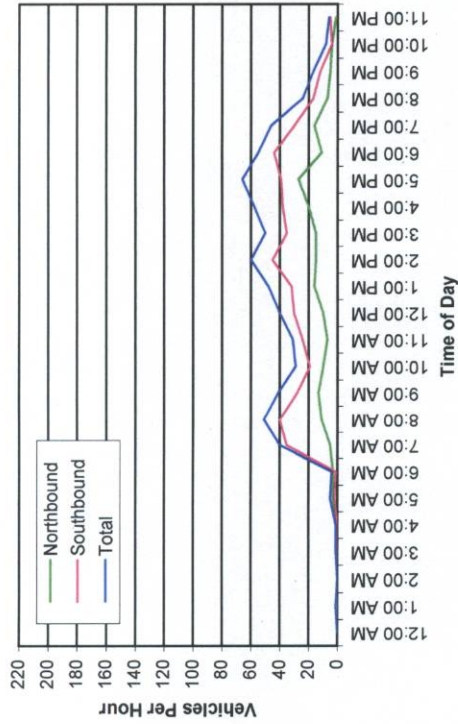
Weekday Traffic Volumes (24 Hours)
Cornell Avenue between El Cerrito Plaza and Brighton Avenue



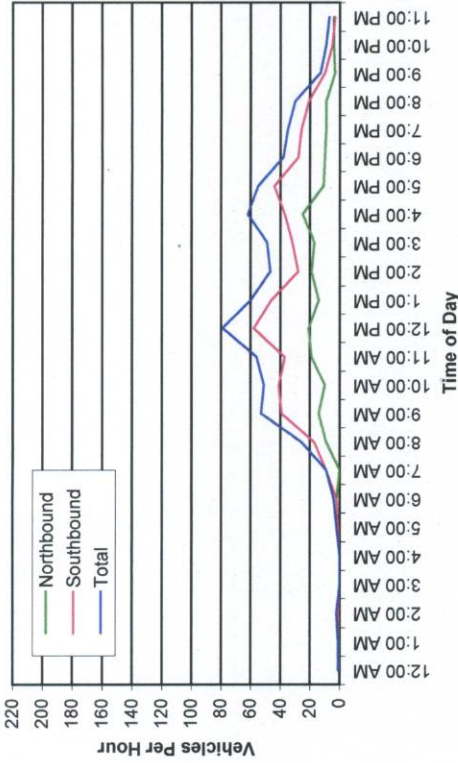
Weekday Vehicle Speeds (24 Hours)
Cornell Avenue between Brighton Avenue and Garfield Avenue



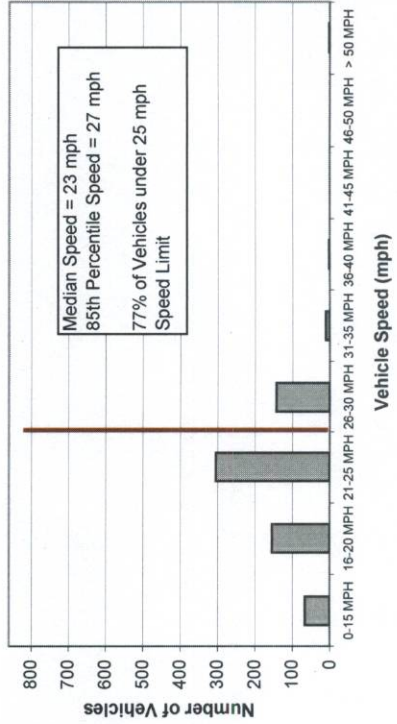
Weekday Traffic Volumes (24 Hours)
Talbot Avenue between Brighton Avenue and Garfield Avenue



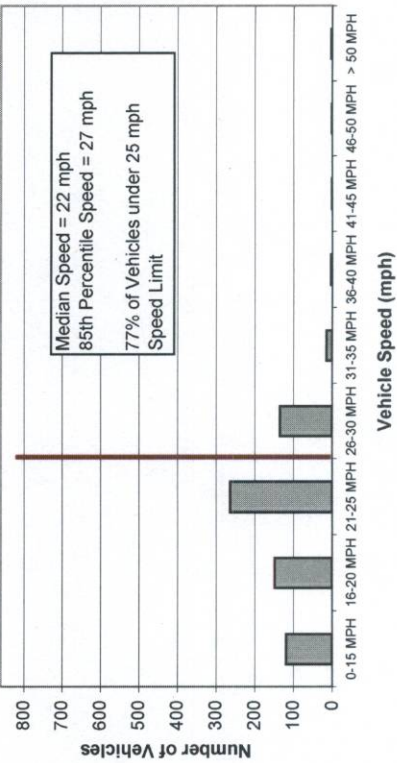
Saturday Traffic Volumes (24 Hours)
Talbot Avenue between Brighton Avenue and Garfield Avenue



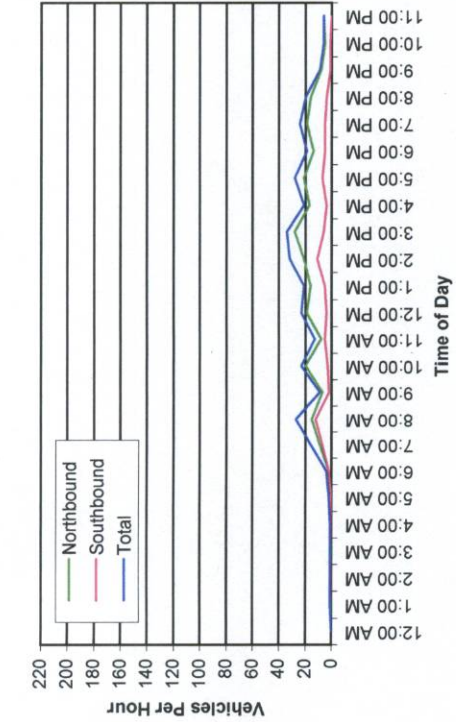
Weekday Vehicle Speeds (24 Hours)
Talbot Avenue between Brighton Avenue and Garfield Avenue



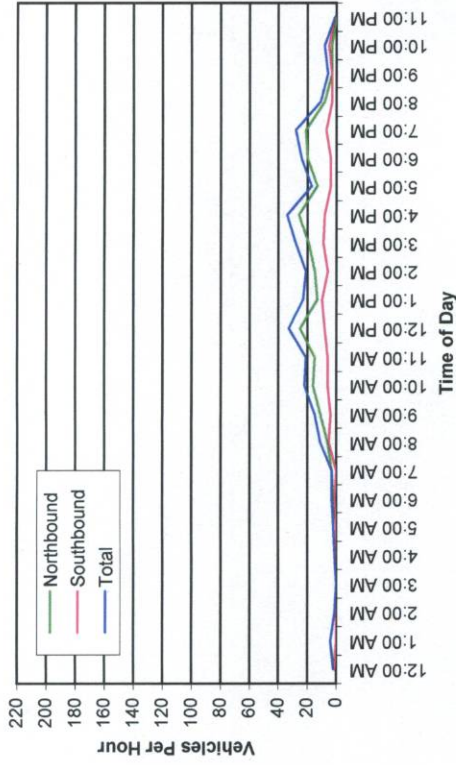
Saturday Vehicle Speeds (24 Hours)
Talbot Avenue between Brighton Avenue and Garfield Avenue



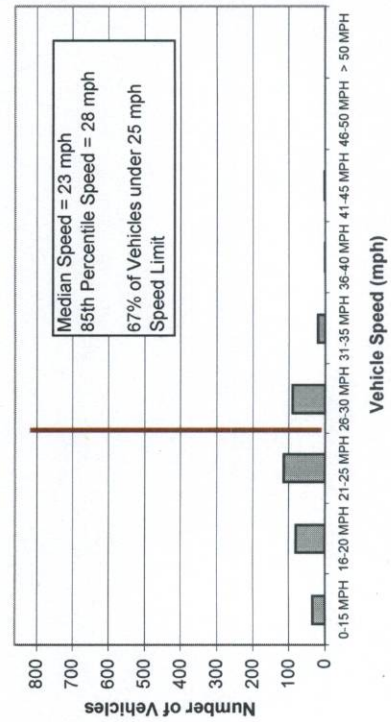
Weekday Traffic Volumes (24 Hours)
Evelyn Avenue between Brighton Avenue and Garfield Avenue



Saturday Traffic Volumes (24 Hours)
Evelyn Avenue between Brighton Avenue and Garfield Avenue



Weekday Vehicle Speeds (24 Hours)
Evelyn Avenue between Brighton Avenue and Garfield Avenue



Saturday Vehicle Speeds (24 Hours)
Evelyn Avenue between Brighton Avenue and Garfield Avenue

