

CITY COUNCIL MEETING
DECEMBER 2, 1987

APPROVED CONVERSION
OF "YIELD" SIGNS TO
"STOP" SIGNS ON DAISY
AVENUE AT PLEASANT
AVENUE

CC-45(a)
CC-48(i)

Due to numerous accidents at the corner of Daisy Avenue and Pleasant Avenue, Public Works staff performed an intersection study and, based on the accident records and traffic volumes, staff recommended converting the "yield" signs to "stop" signs on Daisy Avenue.

Following discussion, on motion of Council Member Hinchman, Snider second, Council approved the conversion of "yield" signs to "stop" signs on Daisy Avenue at Pleasant Avenue.

The motion carried by the following vote:

Ayes: Council Members - Hinchman, Pinkerton,
Snider and Olson (Mayor)

Noes: Council Members - Reid

Absent: Council Members - None

On motion of Council Member Hinchman, Snider second, Council approved revising the order of the Agenda to adopt the traffic ordinance due to the fact that it relates to items on the Agenda regarding conversion of yield signs to stop signs on Daisy Avenue at Pleasant, speed limits on Beckman Road, Century Boulevard, Lodi Avenue, Lower Sacramento Road north of Turner Road, Mills Avenue, Victor Road, Vine Street and the adoption of the traffic resolution.



CITY OF LODI

PUBLIC WORKS DEPARTMENT

COUNCIL COMMUNICATION

TO: City Council
FROM: City Manager
MEETING DATE: December 2, 1987
AGENDA TITLE: Approve Conversion of "Yield" Signs to "Stop" Signs on Daisy Avenue at Pleasant Avenue

RECOMMENDED ACTION: That the City Council approve the conversion of "yield" signs to "stop" signs on Daisy Avenue at Pleasant Avenue.

BACKGROUND INFORMATION: Due to the number of accidents at this location and citizen complaints, Public Works staff performed an intersection study at the above location. Based on the accident records and traffic volumes, staff recommends converting the "yield" signs to "stop" signs on Daisy Avenue. As shown on the attached exhibit, 4 of 5 accidents in 3 years and 10 months were caused by failure to yield. The volumes indicated that four-way stop signs would not be justified, and the existing right of way control is on the appropriate street.

If approved, this change will be shown in the Traffic Resolution to be adopted later in the December 2 meeting.

Jack L. Ronsko
Public Works Director

JLR/PJF/ma

Attachment

cc: Street Superintendent
Police Chief
Frankie/Cindi Baker

APPROVED:

THOMAS A. PETERSON, City Manager

FILE NO.

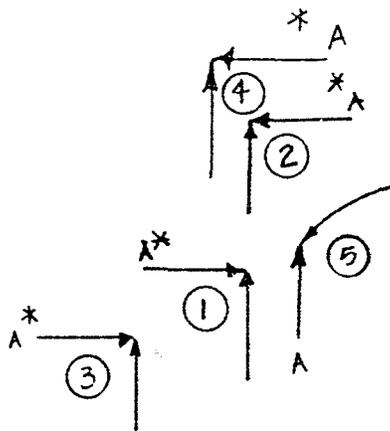
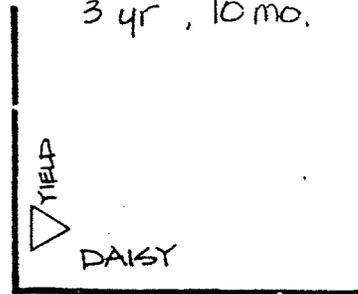
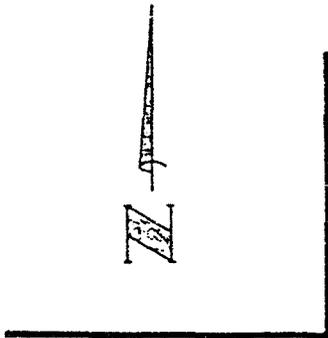


CITY OF LODI

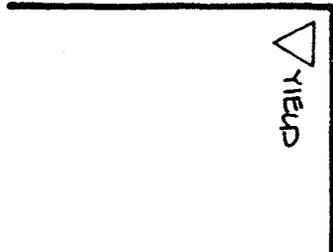
PUBLIC WORKS DEPARTMENT

Collision Diagram Intersection Of PLEASANT and DAISY

Jan 1984 - Oct 1987
3 yr, 10 mo.



550 vpd



No.	DATE	TIME	DAMAGE	INJURED	APPARENT CAUSE (A)
* 1	10-11-86	16:44	MOD-MOD	2	FAILURE TO YIELD
* 2	4-23-86	11:02	MAX-MAX	2	FAILURE TO YIELD
* 3	2-14-87	11:35	MOD ?	2	FAILURE TO YIELD
* 4	9-27-87	14:40	MOD-MIN	1	FAILURE TO YIELD
5	10-16-87	10:28	MIN-MAX	1	SPACE OPEN

* CORRECTABLE ACCIDENTS
VPD = VEHICLES PER DAY

LEGEND

- PATH OF MOVING VEHICLE
- REAR END COLLISION
- FIXED OBJECT
- PARKED VEHICLE
- SIDESWIPE

MEMORANDUM, City of Lodi, Public Works Department

1987 DEC 24 AM 9 52
ALICE M. BIRCH
CITY CLERK
CITY OF LODI

TO: City Council
FROM: Public Works Director
DATE: December 23, 1987
SUBJECT: Stop and Yield Sign Guidelines

At the December 2, 1987 Council meeting, Councilmembers expressed an interest in how staff determines when to install a yield sign versus a stop sign. Staff suggested providing Councilmembers with our internal stop and yield sign guidelines.

Attached are the Intersection Control and High Accident Investigation Guidelines. These guidelines were developed in-house to provide consistency in handling intersection studies.

Section A contains the basic policy. Section B discusses recordkeeping and the priority system we use to determine which existing intersection is to be studied. Section C covers complaint handling.

Section D, "Analysis Procedure", is used to determine the appropriate two-way control at intersections. On low volume minor streets, staff will look at volume and correctable accidents. ("Correctable" accidents are only those that could be eliminated by the proposed control. For example, a rear-end accident would not be counted when considering stop or yield signs.) If accidents indicate a stop sign, it will usually be recommended. If, however, a yield sign is indicated, staff would then use the safe approach method from the California American Automobile Association and Federal Highway Administration Traffic Control Device Manual.

The safe approach method is primarily based on sight distance at the intersection. The sight distance determines the safe approach speed on the minor street. The safe approach speed is the threshold speed at which a motorist cannot react in time to avoid a possible accident.

The following threshold speeds are used to determine the type of control:

<u>Minor Street Safe Approach Speed</u>	<u>Type of Control</u>
More than 15 mph	No control
10 mph to 15 mph	Yield Sign
Less than 10 mph	Stop Sign

When using the safe approach method, staff measures the location of the sight obstruction which may be a tree, fence, bush, building, or a combination of obstructions. The safe approach speed chart is used to determine the safe approach speeds. Since this is a difficult method to explain, we've attached an example.

Example Data:

Intersection: Major Street & Minor Street

Volumes:

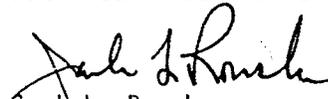
Major Street 2500 Average Daily Traffic
Minor Street 250 Average Daily Traffic

Correctable Accidents: 3 in three years

As shown on the chart, a yield sign would be installed if the major street had speeds of 20-28 mph and a stop sign installed with speeds greater than 28 mph. City staff would perform a radar survey and determine the 85th percentile speed since the speeds could range from 25-35 mph.

The underlying assumption in this method is that a driver approaching an intersection will slow down enough to look for vehicles on the cross street. If the driver must slow to 10 mph or less, then a stop sign should be installed. If the approach can be made at 15 mph or greater, no control is needed. In between, a yield sign is used. This assumption is certainly open to question. The method itself requires judgement as to what constitutes a sight obstruction. This method has been used on over 15 intersections in the last two years. If time permits, after a few years it would be useful to do a "before and after" study to see how well the method has worked in Lodi.

For a high volume minor street, staff would perform additional evaluations as outlined in Section D-2.


Jack L. Ronsko
Public Works Director

JLR/ma

Attachments

cc: City Manager
City Clerk

Intersection Control and High Accident Investigation Guidelines

A. Basic Policy

1. 4-Way Intersections

a) New Streets

Generally new 4-way intersections are discouraged in new developments. However, intersections of major streets are usually 4-way and will be controlled. The proposed Traffic Ordinance will indicate through streets and will govern most cases. If not covered in the Ordinance, a decision must be made on which (or both) streets to control.

Occasionally a 4-way intersection will include a short cul-de-sac, bulb or stub street on one leg. If the overall layout of the development is such that cross traffic will be infrequent, the intersection may be considered as a 3-way intersection.

b) Existing Streets

As of Jan. 1987, most existing 4-way intersections already have right-of-way control established. There are some exceptions similar to those described above.

2. 3-Way Intersections

a) New Streets

If the straight leg is a designated "through" street, install a Stop on the perpendicular leg. If it is not so designated and volumes are or will soon be over 2000 ADT, the perpendicular leg should be controlled with a Yield, assuming there are no obvious sight distance problems. This case should not occur very often, since most streets over 2000 ADT will be a designated through street.

b) Existing Streets

Install control based on the results of the High Accident Location Analysis procedures. (B,C & D below)

B. High Accident Location List

a) Existing List

The list prepared in January, 1987 includes two-way stop and yield intersections and a few uncontrolled intersections. At the bottom are some caveats which should be noted when reviewing the list.

b) 1987 Expansion of List

The January, 1987 list will be expanded in 1987 to also include all signalized intersections, 4-way stop and any other intersection with two or more accidents in three years.

During 1987, if the joint Police/Public Works OTS grant is realized, a new report will replace the list. The new report will include all intersections having accidents. However, until we have three years worth of data in the Police computer, the present system will be used.

C. Complaint Procedure

1. Receive Call/Check List

a) Intersection NOT on List

The caller should be told of the City's accident surveillance system AND that the records on the intersection will be checked to make sure that it wasn't overlooked and should really be on the list. Otherwise there are numerous other intersections needing study.

b) Intersection on List

The caller should be told of the City's accident surveillance system and that due to the number of intersections on the list, they are studied in priority order.

D. Analysis Procedure

1. Low Volume - Minor St. less than 500 ADT

On low volume streets, the procedure follows the recommendations contained in FHWA Report, "RD-81/084 Stop, Yield, and No Control at Intersections". The only study required is:

Preliminary - verify volumes and accidents to be sure they are correctable by the proposed control (revise the List if necessary) and field check the site for any unusual conditions.

Control Guidelines:

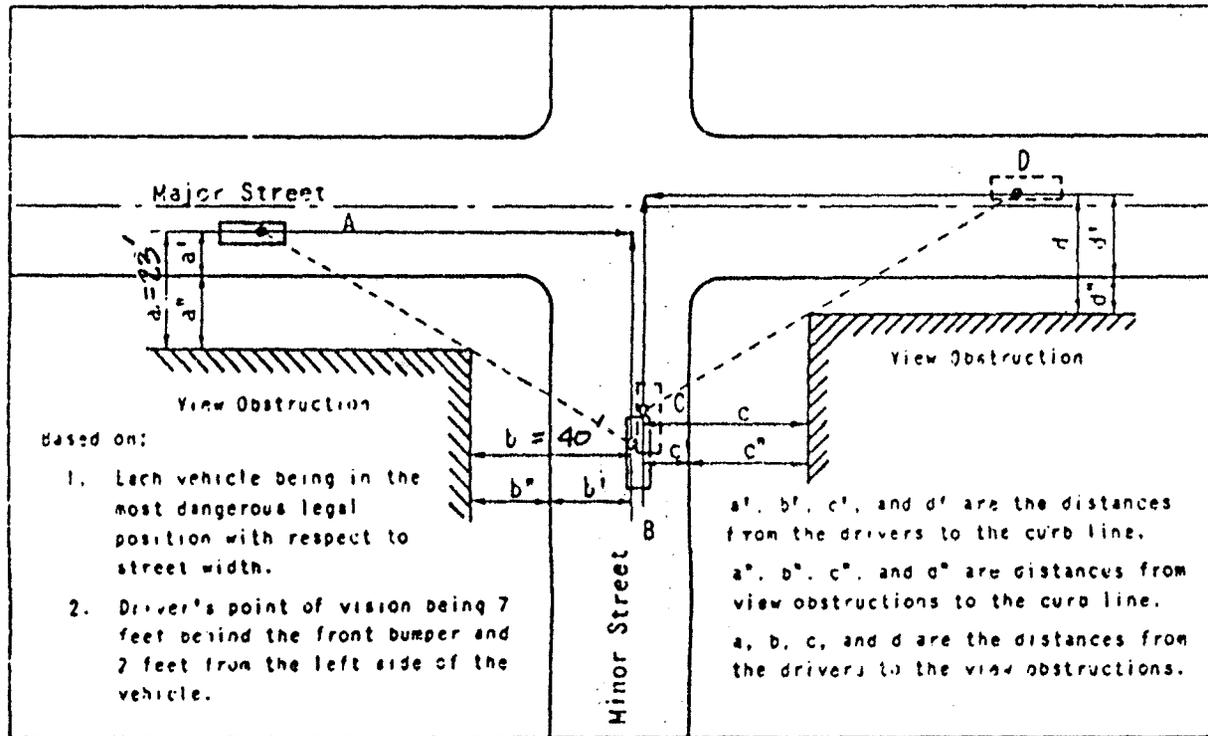
# Accidents (in 3 yrs)	Normal Control
4+	Stop
3 (minor vol. 300-500)	Stop
3 (minor vol. < 300)	Yield*
1-2	Yield*
0 (major vol. \geq 2000)	Yield*
0 (major vol. < 2000)	No Control

* always do Safe Approach Speed study before recommending Yield signs.

2. High Volume - Minor St. greater than 500 ADT

On these higher volume minor streets, more analysis is necessary. The procedure always includes the Preliminary Study described above. In addition, depending on the type of existing controls, the analysis may include determination of Safe Approach Speed or Sight Distance, detailed collision diagram, turn counts, parking demand, etc. Given the higher volumes, a higher number of accidents may be more acceptable than on a low volume intersection.

SAFE APPROACH SPEEDS AT INTERSECTIONS
Based on American Automobile Association Method



A - Vehicle Speed on Main Street in mph

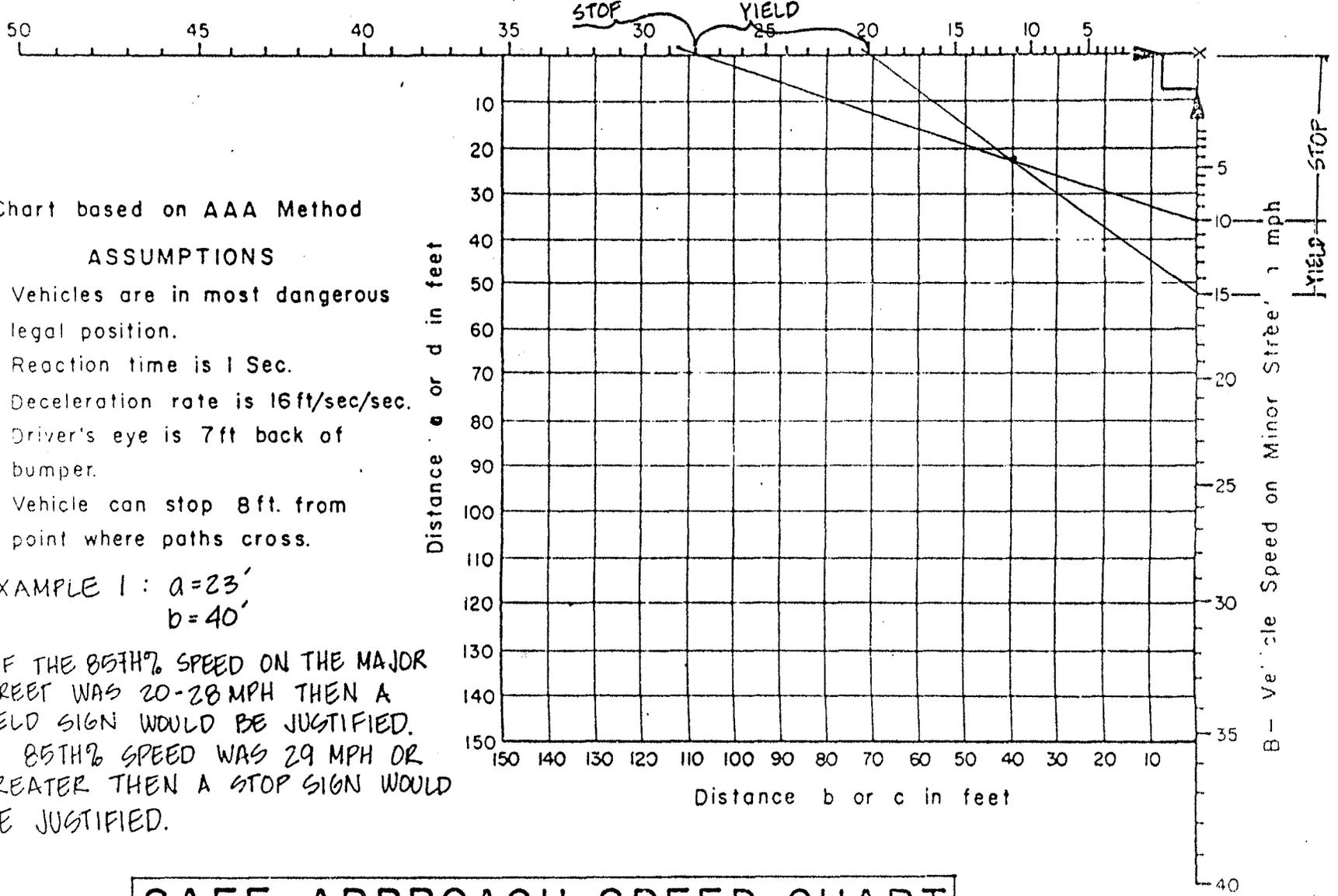


Chart based on AAA Method

ASSUMPTIONS

1. Vehicles are in most dangerous legal position.
2. Reaction time is 1 Sec.
3. Deceleration rate is 16ft/sec/sec.
4. Driver's eye is 7ft back of bumper.
5. Vehicle can stop 8ft. from point where paths cross.

EXAMPLE 1 : a=23'
b=40'

IF THE 85TH% SPEED ON THE MAJOR STREET WAS 20-28 MPH THEN A YIELD SIGN WOULD BE JUSTIFIED. IF 85TH% SPEED WAS 29 MPH OR GREATER THEN A STOP SIGN WOULD BE JUSTIFIED.

SAFE APPROACH SPEED CHART