

PROPOSED SYSTEM OF ONE-WAY STREETS  
AND ITS RELATIONSHIP TO  
TRAFFIC MOVEMENT AND BUSINESS ACTIVITY.

CENTRAL BUSINESS DISTRICT  
CITY OF SAN DIEGO

AUGUST, 1953

QUINTON ENGINEERS, LTD.  
LOS ANGELES

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## Delay and Decentralization

Traffic delay in the Central Business District of the city of San Diego is the problem under consideration in this report. Delay is defined in the HIGHWAY CAPACITY MANUAL\* as the time consumed while traffic is impeded in its movement by some element over which it has no control. This lost time is always an inconvenience to the driving public and frequently causes considerable annoyance. Both the value of the time lost as a result of traffic delays and the cost of stopping and starting delayed vehicles mean money lost by the users of the streets.

When drivers experience delay, they are inclined to alter their travel patterns. This may involve trying other streets to see if better time can be made between their points of origin and destination. If this does not prove satisfactory, they may, particularly in the case of shoppers, change their destinations. Changing of destinations is of vital concern to those in business in the Central Business District of San Diego. This effect of delay is one of the primary factors causing decentralization\*\*. If customers and clients of these businesses experience what they consider too much delay in reaching and circulating within the District, they will go elsewhere.

The central business districts of all large American cities - as well as many smaller ones - face the problem of competition from newer outlying districts. New business districts are usually characterized by ease of accessibility and traffic circulation, adequate and convenient off-street parking areas, functional grouping of business establishments, modern building design and attractive interior arrangements. They are frequently in advantageous geographical locations compared with the central business district, being between it and areas of new residential development and nearer to areas of higher buying power. Except when aggressive measures are taken to compete with newer business districts, decentralization means the deterioration of the central business district. Its competitive position becomes gradually poorer and the volume of business declines.

In San Diego, there is some decentralization, but it is not as far advanced as in many cities. The North Park and Hillcrest Districts were developed in the 1930's. The Linda Vista shopping center was constructed during the war. Within the next year, there will be shopping centers in the Claremont Section. It would appear that there is an unusual opportunity in San Diego to preserve the Central Business District before decentralization has progressed too far. However, this must be vigorously and promptly undertaken. One of the most important phases of this program is a reduction in traffic delay.

\* Definition in Appendix A.

\*\* The development of competitive business districts in outlying areas.

Second, it is probable that many of the traffic accidents which now occur with two-way streets would be eliminated by the installation of a one-way grid. On the other hand, some accidents may occur which would not have taken place with two-way streets.

In Portland, Oregon\*, which on March 1, 1950 established a complete grid of one-way streets in the central west side business area, accidents were greatly reduced. In 1951, compared with 1949, all types of accidents at intersections were reduced 51 per cent and, between intersections, 37 per cent. The corresponding figures for pedestrian accidents alone, were 46 and 50 per cent.

In Sacramento\*\*, "there were 14 per cent fewer accidents on Sixteenth Street during one-way operation than during two-way operation in face of a city-wide accident increase of 16.6 per cent during the same period."

The Traffic Engineering Division of the City of San Diego has prepared a list of the 245 worst accident intersections in the city for 1952 (Table VII). Eighty-two, or 33 per cent, of the 245 are located in the Central Business District. Of the 33 intersections with fifteen or more accidents, seven were in the Central Business District. Eighteen among forty-five of those with from ten to fourteen accidents occurred there, as did fifty-seven of 167 with from five to nine.

It can be definitely stated, that one-way streets tend to reduce traffic accidents for several reasons, including:

1. The possible number of conflicting movements is reduced, including the elimination of turning movements across on-coming traffic.
2. Drivers and pedestrians do not have to watch so many directions to avoid collisions.
3. The increased number of traffic control devices will largely eliminate certain types of collisions.
4. Headlight glare is eliminated.

Table VIII is a summary, by street and direction, of the pertinent information obtained in the analysis of the speed and delay and volume data relating to the Central Business District.

\* One-Way Grid System of Portland, Oregon, by Fred T. Fowler, TRAFFIC ENGINEERING, April 1953, page 231.

\*\* IMPROVING THE TRAFFIC ACCESS TO SACRAMENTO'S BUSINESS DISTRICT, by D. J. Faustman, TRAFFIC QUARTERLY, July 1950, page 249.

## EFFECT OF ONE-WAY STREETS IN OTHER CITIES

The effect of one-way streets on business has received much attention from both traffic authorities and business in various parts of the country. However, for such a controversial subject, little actual research has been carried on. There are three reports which we feel have real significance as far as application to the San Diego situation is concerned. All three were made on the west coast.

### Fresno Questionnaire

In 1949, the Traffic Engineering Department of the City of Fresno, California, made a nationwide survey of experience with one-way streets\*. Two questionnaires were sent out. The first went to traffic engineers and police traffic officials in 100 cities and the second to merchant associations in 90 cities. The second questionnaire was sent because the replies to the first indicated such a preponderance of favorable reaction to one-way streets that it was feared the replying officials might have been prejudiced in their viewpoints. However, the replies from the merchant associations confirmed those from the traffic engineers and police traffic officials.

A summary of the replies to the Fresno questionnaires is shown on Plate F. Usable replies were received from officials in 56 cities and from merchant associations in 50 cities. All of the officials reported that the one-way streets were successful. Eighty per cent of the merchant associations replied that the merchants in their city favored one-way streets, ten per cent were opposed and ten per cent were neutral. In five per cent of the cities, the officials reported that one-way streets were harmful to business and property values. The corresponding per cent for the merchant associations was four. Eighty-four per cent of the replies from officials reported that merchants were "for one-way streets" or that there was "general acceptance." Seven per cent indicated they were opposed.

It must be assumed, in the absence of information to the contrary, that the replies to the Fresno questionnaire represented opinion and were not based on comprehensive factual studies. However, studies of the "before and after" effect of one-way streets on business are available

\* ONE-WAY STREET EXPERIENCE, by Robert D. Dier, TRAFFIC ENGINEERING, January 1950, page 153.

for a pair of one-way streets in Olympia, Washington, and for Sixteenth Street in Sacramento, California.\*

Olympia

The Olympia report shows that, exclusive of automobile dealers, the volume of retail sales of 39 businesses on the one-way streets was slightly better than that of 36 comparable businesses on two-way streets.

| NUMBER AND<br>LOCATION OF<br>BUSINESSES | VOLUME OF RETAIL SALES IN<br>PER CENT OF THREE YEAR AVERAGE |   |  |
|---|---|---|--|
|   | SECOND YEAR<br>BEFORE<br>ONE-WAY STREETS                    | FIRST YEAR<br>BEFORE<br>ONE-WAY STREETS | FIRST YEAR<br>AFTER<br>ONE-WAY STREETS |
| 36 ON TWO-WAY STREETS                   | 100.8   | 100.3                                   | 98.9                                   |
| 39 ON ONE-WAY STREETS                   | 101.9   | 98.2                                    | 99.9                                   |

The automobile dealers were not included because they represented 60 per cent of the total annual gross sales for the businesses studied and it was felt that conditions in the automobile business during the period were abnormal.

Sacramento

The TRAFFIC QUARTERLY article on Sacramento reports that "contrary to popular claim by individual businesses or business groups, survey data compiled by the State Division of Highways from the State Board of Equalization records indicates that one-way streets, do not, on the whole unfavorably effect the gross volume of business transacted." The following table indicates the per cent change in gross business for Sacramento County and Sixteenth Street in the City of Sacramento between a nine-month period (fourth quarter of 1947 and first two quarters of 1948) when two-way

\* A STUDY OF VEHICLE TRAFFIC AND BUSINESS TRENDS "BEFORE" AND "AFTER" ONE-WAY STREETS IN OLYMPIA, WASHINGTON, Traffic Engineering Division, State of Washington, Highway Commission, Department of Highways, January 1952.

IMPROVING TRAFFIC ACCESS TO SACRAMENTO'S BUSINESS DISTRICT, by D. J. Faustman, TRAFFIC QUARTERLY, July 1950, page 239.

APPRAISAL OF ONE-WAY STREET SYSTEM IN SACRAMENTO, by D. J. Faustman, A.S.C.E. Convention Preprint #82, March 1953.

THE ONE-WAY STREET, ITS EFFECT ON RETAIL BUSINESS, by John F. Kelly, CALIFORNIA HIGHWAYS AND PUBLIC WORKS, March-April 1953, page 24.

traffic was in effect on Sixteenth Street and a nine-month period (fourth quarter of 1948 and first two quarters of 1949) when one-way traffic was in effect on Sixteenth Street.

| TYPE OF BUSINESS   | PER CENT CHANGE   |                                 |
|--|-------------------|---------------------------------|
|  | SACRAMENTO COUNTY | SACRAMENTO CITY ONE-WAY STREETS |
| Auto Supply Stores, Garages, Auto Dealers, Service Stations and Tire Shops | -4.67             | -2.9                            |
| Eating and Drinking Places   | -7.18             | -3.98                           |
| All Other Businesses   | -0.43             | +8.6                            |
| ALL BUSINESSES   | -1.30             | +2.09                           |

The article in CALIFORNIA HIGHWAYS AND PUBLIC WORKS reports that the increase in retail business on Sixteenth Street for the year following the installation of one-way streets\* (July 1, 1950 to July 1, 1951) compared with the year before (July 1, 1949 to July 1, 1950) was 26.57 per cent compared with 21.70 per cent for all retail business in Sacramento County. Corner locations on Sixteenth Street -- intersection of two-way with one-way streets - made gains of 26.90 per cent compared with 25.39 per cent for those retail outlets which had their entire frontage on Sixteenth Street. The corner locations represented 78.24 per cent of all business. The article states: "These figures show that although the greatest volume of business was performed at the corner sites, their gains were only slightly higher than the increased returns made by the smaller businesses having inside locations."

The CALIFORNIA HIGHWAYS AND PUBLIC WORKS article also states: "Further information of interest with respect to the retail phase of this economic study deals with the changes made in business operations along 16th Street. During the year of two-way traffic, there were seven new businesses started, whereas 11 new businesses started in the year of one-way traffic. During each single year of the study there were three retail outlets which closed without a succeeding successor."

\* Sixteenth Street was returned, for a time, to two-way operation. Hence the different periods of study and different results.



# RETAIL MERCHANTS ASSOCIATION

FORUM BLDG., SACRAMENTO 14, CALIFORNIA • HU 4-8246

## of Sacramento

### DIRECTORS

M. KENNETH ANDERSON  
Hale Bros.

EDW. R. BECKMAN  
Green's Fur Store

FRED J. BONETTI  
Sacramento Rubber Co.

F. A. BULLOCK  
Sears, Roebuck & Co.

WALTER CHRISTIANSEN  
The Eastern

MARIAN ARMSTRONG  
Weinstock-Lubin Company

RAYMOND W. JOHNSTON  
Enos Department Store

DW. A. GREBITUS  
Jeweler

YRON GREGG  
Hessens, Inc.

ARVIN FRANK  
Joseph Magnin

ARLE L. KURTZ  
J. C. Penney Co.

SCAR IEZMAN  
Lerner Shops

HANK D. MOFFETT  
Roos Bros., Inc.

W. MORTON  
H. S. Crocker Co.

K. SIDOLE  
John Breuner Co.

VAN DEMERT  
Montgomery Ward

J. BORMAN  
Don Burton, Inc.

ARLES L. JENSEN  
S. H. Kress, Co.

WEB KORNSTIEN  
Foreman & Clark

DE MAYHOOD  
Mayhood's

ROLD H. ROBINSON  
Merchants National Bank

W. M. FRENCH  
Jackson's

BY S. EMIGH  
Emigh Hardware Co.

J. E. JOHNSON  
Johnson's Restaurants

OLD ENLOE  
Pay Less Drug Co.

W. BURTON  
Burton & White Motors

WY M. MOBS  
Moe & Moe

MAN KAUFFMAN  
N L

GEISREITER  
Bell Florists

MONRO  
Lawrence Mvng. & Stg.

F. A. BULLOCK, SEARS, PRESIDENT

HAROLD J. MCCURRY, SECRETARY-MANAGER

April 7, 1953



Margaret Woolverton, Traffic Engineer  
Quinton Engineers, Ltd.  
816 South Figueroa Street  
Los Angeles 17, California

Dear Margaret Woolverton:

In reply to your letter of March 23, regarding the merchants reaction to one-way streets, and since we do have several in Sacramento, with the sincere hope and plans for more in the very near future, I will try to answer your inquiries.

- 1- As a whole I believe Sacramento business men will tell you that while they may have questioned the advisability of having one-way streets in the beginning, they are now almost 100% in favor of them. In fact our Association is urging the City Government to express our present one-way street system as fast as manly possible.
- 2- Regarding the attitude of business men, I believe I have pretty well covered that, I will again say that in many instances the attitude of the business man has changed from disfavor to favor since one-way streets have been in operation.
- 3- One-way streets do not seem to injure business. There was a feeling on the part of Filling Station and Apartment owners the one-way system on 16th would hurt their business. This has proved to be the exact opposite. Business has improved in this area and property values have risen substantially.

I believe this will answer your inquiries, if not we will be happy to give you any further information you may desire. Please feel free to write us at any time.

Sincerely,

*Harold J. McCurry*  
Harold J. McCurry  
Manager

HJMc/cc  
cc Faustman

*Portland*

# RETAIL TRADE BUREAU

824 S. W. Fifth Avenue  
PORTLAND 4, OREGON

April 20, 1953



Miss Margaret Woolverton  
Traffic Engineer  
Quinton Engineers, Ltd.  
816 South Figueroa Street  
Los Angeles 17, California


Dear Miss Woolverton:

Relative to your recent inquiry concerning the Portland business men's attitude toward one-way streets.

This organization went on record for one-way streets several years prior to its being put into effect. Of course, there were some retailers who opposed the project. Today, those very same people would not go back to two-way traffic.

One-way streets has helped increase the flow of traffic and, to some degree, has eliminated congestion. The only vehement opposition we have had lately has been an automobile concern that happens to be on a through artery and still feels that one-way streets has hurt its business.

Yours very truly,

  
Edw. N. Weinbaum,  
M A N A G E R

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