ORDINANCE NO. ___

ORDINANCE ADDING CHAPTER 10.25 *SPEED LIMITS* AND AMENDING SECTION 10.20.010 OF TITLE 10 *VEHICLES AND TRAFFIC* IN THE COTATI MUNICIPAL CODE

The City Council for the City of Cotati does hereby ordain as follows:

SECTION 1. Chapter 11.25 *Speed Limits* shall be added to Title 10 *Vehicles and Traffic* in the Cotati Municipal Code, to read as follows:

11.25.010 - Engineering and Traffic Survey.
It is hereby determined by this City Council upon the basis of an Engineering and Traffic Survey made upon those certain portions of the City Streets as set out in this section and upon the basis of the findings of these investigations, that each portion of the City Streets as set out in this section should have a prima facie speed limit as herein designated and the Council further determines that these prima facie speed limits are set in accordance with the California Vehicle Code to facilitate the orderly movement of traffic and are reasonable and safe for the portions of the City Streets as are herein listed under each of the prima facie speed limits.

11.25.020 - Authority and Purpose.
This section is passed upon the authority of the California Vehicle Code and is for the purpose of establishing prima facie speed limits on those portions of the City Streets where the prima facie speed limits are not apparent.

11.25.030 - Twenty-Five (25) Miles Per Hour.
The following portions of the City Streets are hereby declared to have a prima facie speed limit of twenty-five (25) miles per hour:

Name of Street	Location
Commerce Boulevard	Old Redwood Highway to City Limits
Old Redwood Highway	East Cotati Avenue/West Sierra Avenue to McGinnis Circle
Valparaiso Avenue	West Sierra Avenue to Lund Hill Lane

11.25.040 - Thirty (30) Miles Per Hour.
The following portions of the City Streets are hereby declared to have a prima facie speed limit of thirty (30) miles per hour:

Name of Street	Location
East Cotati Avenue	Old Redwood Highway to 500 Feet West of La Salle Avenue
Old Redwood Highway	SR 116 to East Cotati Avenue/West Sierra Avenue
West Sierra Avenue	East School Street to City Limits
West Sierra Avenue	East School Street to Old Redwood Highway
Valparaiso Avenue	Lund Hill Lane to Old Redwood Highway

11.25.050 - Thirty-Five (35) Miles Per Hour.
The following portions of the City Streets are hereby declared to have a prima facie speed limit of thirty-five (35) miles per hour:

Name of Street	Location
East Cotati Avenue	500 Feet West of La Salle Avenue to City Limits
Old Redwood Highway	McGinnis Circle to City Limits
Redwood Drive	SR 116 to City Limits

11.25.060 - Forty (40) Miles Per Hour.
The following portions of the City Streets are hereby declared to have a prima facie speed limit of forty (40) miles per hour:

Name of Street	Location
Reserved	

11.25.070 - Forty-Five (45) Miles Per Hour.
The following portions of the City Streets are hereby declared to have a prima facie speed limit of forty-five (45) miles per hour:

Name of Street	Location
Reserved	

11.25.080 - Fifty (50) Miles Per Hour.
The following portions of the City Streets are hereby declared to have a prima facie speed limit of fifty (50) miles per hour:

Name of Street	Location
Reserved	

11.25.090 - Fifty-Five (55) Miles Per Hour.
The following portions of the City Streets are hereby declared to have a prima facie speed limit of fifty-five (55) miles per hour:

Name of Street	Location
Reserved	

SECTION 2. Section 10.20.010 of Chapter 10.20 *Administration,* Title 10 *Vehicles and Traffic* of the Cotati Municipal Code is amended to read as follows:

In addition to any other duties and responsibilities imposed by this title and other provisions of this code or state law, the city traffic engineer shall be responsible for the following:

A. The designation, location and removal of no parking zones and red zones (except bus red zones);

B. The designation, location and removal of stop signs and yield signs;

C. Recommendations to the city council on appropriate street engineering standards, including the designation, location and removal, through streets, road undulations, commercial vehicle prohibitions, school zones, one-way streets, traffic signals, keep clear locations, and permanent street closures.

D. Recommendations to the city council on maximum posted speed limits, based on the requirements of the California Vehicle Code.

SECTION 3. Severability. If any section, subsection, sentenced, clause, phrase or portion of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision and such holding shall not affect the validity of the remaining portions thereof.

SECTION 4. Effective Date. This ordinance shall become effective thirty (30) days after the date of adoption.

SECTION 5. Posting. The City Clerk shall cause this ordinance to be posted and/or published within fifteen (15) days after the date of adoption.

IT IS HEREBY CERTIFIED that the foregoing ordinance was duly introduced at a regular meeting of the City Council of the City of Cotati held on the 25th day of November, 2014 by the following vote, to wit:

SKILLMAN	_____
MOORE	_____
DELL'OSSO	_____
HARVEY	_____
LANDMAN	_____

Approved:_____
Wendy Skillman, Mayor

Attest:_____
Tamara Taylor, CMC
Deputy City Clerk

This document is a true and correct copy of Ordinance Number _____ and has been published or posted pursuant to law. *California Government Code § 40806*

_____
Tamara Taylor, CMC, Deputy City Clerk

PUBLIC HEARING

6. ENGINEERING AND TRAFFIC SURVEY (Engineering/Public Works) (*Action*)

City Engineer/Director of Public Works Damien O'Bid presented the staff report.

Mayor Landman opened the public hearing. The following individuals addressed the Council:

Neil Hancock of Cotati (expressed concern for safety of pedestrians and bicyclists; submitted written correspondence regarding the item)

George Barich, of Cotati (supported)

Greg Karraker of Sonoma County (commented on the item)

Jenny Blaker of Cotati (expressed concerns regarding the proposed ordinance)

There being no one else wishing to speak, Mayor Landman closed the public hearing.

City Engineer O'Bid addressed questions and concerns expressed by members of the public and council related to the location of the survey equipment, safety of drivers if the speed limit is raised on East Cotati Avenue, the issue of speed limits being enforceable by radar if the speed limits are not adjusted, variables that may have affected the survey results.

Discussion ensued, with the Council expressing concern about the safety of raising the speed limit, particularly in residential areas, particularly Valparaiso Avenue, the enforceability of the speed limits, and concerns about what is required to reduce speed limits.

Council concurred in general support of the study and further agreed to continue the item and directed staff to confer with the consultant regarding the recommended speed limits.

Moved by Vice Mayor Dell'Osso, seconded by Councilmember Skillman, and passed unanimously to accept the Engineering and Traffic Survey and continue discussion of the proposed ordinance.

Brief discussion ensued with City Attorney Donoghue in response to a question from the Council about continuing discussion of the ordinance.

Moved by Vice Mayor Dell'Osso, seconded by Councilmember Skillman, and passed 4-1 (Councilmember Harvey voting no) to reconsider the prior vote.

Moved by Vice Mayor Dell'Osso, seconded by Councilmember Skillman and passed 4-1 (Councilmember Harvey voting no) to accept the Engineering and Traffic Survey and to introduce an ordinance adding Chapter 10.25 (Speed Limits) and amending Section 10.20.010 of Title 10 (Vehicles and Traffic) in the Cotati Municipal Code (CMC).

Attachment 3

w-trans

Engineering and Traffic Surveys

Prepared for the

City of Cotati

Submitted by

Whitlock & Weinberger Transportation, Inc.

490 Mendocino Avenue
Suite 201
Santa Rosa, CA 95401
voice 707.542.9500

475 14th Street
Suite 290
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January 5, 2015

Balancing Functionality and Livability
Traffic Engineering • Transportation Planning

Table of Contents

Introduction

This report provides background and presents the results of the analysis performed in preparing Engineering and Traffic Surveys for the City of Cotati for the ten street segments shown in Figure 1. These surveys were performed in compliance with the current laws and practices of the State of California, which require that an Engineering and Traffic Survey be completed in order to establish radar enforceable speed limits under certain conditions.

Chapter 7 of Division 11 of the *California Vehicle Code* (CVC) deals with speed laws. Basically, the CVC indicates that prima facie speed limits on roadways are 25 miles per hour (mph) in residential and business districts and 15 mph at railroad grade crossings, highway intersections with sight restrictions, and on any alley. Section 22349 currently sets the maximum speed limit at 65 mph and also sets the maximum speed limit on a two-lane undivided highway at 55 mph. The CVC also allows for intermediate speed limits. Section 22357 indicates that whenever a local jurisdiction

> *...determines upon the basis of an Engineering and Traffic Survey that a speed greater than 25 mph would facilitate the orderly movement of vehicular traffic and would be reasonable and safe..., the local authority may by ordinance determine and declare a prima facie speed limit of 30, 35, 40, 45, 50, 55 or 60 mph..., whichever is found most appropriate to facilitate the orderly movement of traffic and is reasonable and safe.*

Similarly, Section 22358 allows local jurisdictions to decrease a prima facie 65-mph speed limit by ordinance to 25, 30, 35, 40, 45, 50, 55 or 60 mph based on an Engineering and Traffic Survey, if such speed is found to be appropriate, reasonable and safe.

The Engineering and Traffic Survey is defined in Section 627 of the CVC as being a survey of highway and traffic conditions in accordance with methods determined by the Department of Transportation for use by the State and Local authorities. In the Engineering and Traffic Survey, consideration must be made for prevailing speeds, collision records, highway traffic and roadside conditions not readily apparent to the driver. The *California Manual on Uniform Traffic Control Devices* (CA-MUTCD) contains two methods for conducting an Engineering and Traffic Survey; one for State Highways, and one for City and County Through-Highways, Arterials, and Collector Roads and Local Streets. Recommendations contained in the CA-MUTCD have been used in the preparation of this report.

In addition to the above requirements, Section 40802 of the CVC, the "speed trap" law, indicates that radar cannot be used to enforce a speed limit unless the speed limit is justified by an Engineering and Traffic Survey which was conducted within the last five years, though this time frame may be extended to seven years if the requirements listed in Section 40802 regarding arresting officer training and certification requirements as well as the electronic equipment calibration and operation have been met. The renewal time frame may be further extended to ten years if an interim review is performed by a registered engineer and a determination made that there have been no significant changes to the roadway or traffic conditions. Such an interim review has been made and is currently in force for the segments covered by this report.

This report and the procedures used to formulate its recommendations fully meet the requirements of the *California Vehicle Code* and the CA-MUTCD and will allow the Cotati Police Department to continue to enforce speed limits with the use of radar.

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Engineering and Traffic Surveys
City of Cotati

Figure 1
Study Segments

Study Procedures

Selection of Locations

The main objective of this study was to analyze ten street segments in the City of Cotati and to recommend appropriate speed limits for each of these street segments consistent with the laws and practices of the State of California. Some of the streets were broken into more than one segment to ensure that each street section having unique characteristics was individually surveyed.

Conducting the Radar Surveys

Radar surveys were made on street sections where the traffic speeds, the traffic volumes, the street width or other significant factors were different from an adjacent section. Thus, a major arterial may require speed surveys at several locations to account for changes in these factors whereas a minor street with consistency in these areas may be sufficiently evaluated with just one survey. Each of the radar speed surveys was made by a person stationed inconspicuously along the street, either from a standing position outside the travel way or from a parked, unmarked vehicle. An effort was made to ensure that the presence of the person or vehicle in no way affected the speed of the traffic being surveyed. Field information was recorded on forms and later coded for computer analysis. Part 2 of the CA-MUTCD indicates that it is desirable to have a minimum sample size of 100 vehicles for a speed zone survey. For low volume roadways this may result in excessive survey periods, so a smaller survey is adequate though in no case should it contain less than 50 vehicles. For this study more than 103 vehicles were sampled for each street segment.

Analysis of Data

Observed conditions include the direction of travel and number of vehicles surveyed, the date and day of the week, and the time period during which the survey was conducted. The existing posted speed limit is also noted.

Calculated values include the 50th percentile speed, the 85th percentile speed, the 10-mph pace speed, the percent of vehicles observed within the 10-mph pace speed, the range of speeds observed, and the total number of vehicles observed. An explanation of these terms follows.

The 50th percentile speed is that speed above and below which 50 percent of the sample speeds lie. This is also known as the median or middle speed.

The 85th percentile or critical speed is that speed at or below which 85 percent of the observed vehicles were traveling. It is a well-recognized fact among traffic engineers that most drivers are able to drive at reasonable speeds without the benefit of any speed limits, speed signs, or enforcement. The behavior of traffic is a good indication of the appropriate speed zone which should apply on a particular highway section. It is generally felt that at least 85 percent of the drivers operate at speeds which are reasonable and prudent for the conditions pertaining to each situation. Therefore, the 85th percentile speed of a spot speed survey is the primary indicator of a speed limit which might be imposed subject to the secondary factors of collision experience, traffic volumes, road features or other special situations.

The pace is the 10-mph increment of observed speeds which contains the greatest number of vehicles. In nearly all cases, the 85th percentile speed and the recommended speed limit lie somewhere within the pace, frequently in the middle to upper ranges. This is another indicator that traffic engineers use to determine appropriate speed limits.

The percent (of vehicles) in the pace speed is an indication of the bunching of vehicular speeds. Ideally, if all vehicles were traveling at or about the same speed, there would be a reduced likelihood of traffic collisions. In speed limit analysis, the higher the percent of vehicles within the pace speed, the more optimal the speed distribution. The percent in the pace is often between 60 and 80.

Vehicles observed is the total number of vehicles surveyed during the spot speed survey.

Driving the Streets

A final field check involves an experienced traffic engineer registered in the State of California driving each street surveyed while "floating" with prevailing traffic to determine the speed of traffic which is reasonable from the driver's viewpoint. The traffic engineer is equipped with the previously described data analysis and is particularly cognizant of the 85th percentile speed and the pace speeds. The engineer evaluates the appropriateness of the 85th percentile speed and adds the perspective of human judgment to the speed limit setting process. Such factors as roadside land use, the number and location of driveways, parked vehicles, emergency shoulder areas, schools and playgrounds, areas frequented by pedestrians, horizontal and vertical alignment of the roadway, super elevation, intersection spacing, visibility and control, landscaping and numerous other less tangible factors, all go into the judgment producing a final recommended limit.

Collision Review

Collision histories are important factors in speed limit establishment. Before developing the final recommended limits, the engineer must be aware of collision histories, collision problems and collision distributions. The most recent two-year period of reported collision histories available at the time of this evaluation, between April 1, 2008, and March 31, 2010, were reviewed prior to developing the recommendations for the speed limits described in this report. The collision rate is noted for all street segments. The collision history is presented both numerically and as a rate of the number of collisions per million vehicle miles. For the study segments, the collision rates vary from 0.00 to 5.47 collisions per million vehicle miles. According to *2007 Accident Data on California State Highways*, Caltrans, the statewide average collision rates for various comparable facilities vary from 2.05 to 4.45 collisions per million vehicle miles for conventional urban two-lane, three-lane, and undivided five-lane roadways. The comparable statewide average rates were used as a point of comparison to determine if the collision experience on any study segment was typical of what might be expected or represented an unusually high number of collisions.

Where a study segment was found to have a higher than average collision rate, consideration was given to recommending a speed limit that is five mph lower than the nearest 85th percentile speed, as allowed by state law. The presence of a higher than average collision rate alone does not necessarily indicate justification for a reduced speed limit; however, it was reviewed in conjunction with other conditions not readily apparent to drivers to determine if a reduced speed limit is appropriate.

Speed Limit Recommendation Philosophy

With all of the statistics inherent in the speed survey process, there is a great deal of engineering judgment required, and to a certain extent, a philosophy implied during the establishment of speed limits. Speed limits should be reasonable and realistic regardless of the results of the field studies. Reasonable limits are those at which responsible motorists would drive without enforcement and without any signing. One cannot rely totally on this philosophy, however, as motorists tend to drive somewhat faster in residential districts away from their homes than the residents on that street would prefer. In other words, motorists tend to be more concerned about speeds near their own homes and less concerned elsewhere. This is not so much a tendency to willfully break the law or to drive unsafely, but rather a reflection of human

nature, the press of time, and the use of high-performance vehicles. For this reason, speed limits on two-lane local residential streets tend to be somewhat further removed from the critical 85th percentile speed than those on multi-lane arterial and collector streets.

Frequent changes in the limit or relatively short segments with a different limit than adjacent segments should also be avoided in the establishment of speed limits. Speed limits which change every few blocks may accurately reflect prevailing driving conditions on the roadway, but do not give motorists a reasonable opportunity to become totally aware of the lawful limit. Additionally, the constant attention to the need to change vehicular speed may detract from the attention needed for other aspects of driving. For these reasons, recommendations in this report are offered to provide consistency of limits and to discourage unsafe speeds. Recommended limits are discussed later.

The CVC and CA-MUTCD prescribe that a speed limit shall be established at the nearest 5-mph increment to the critical 85th percentile speed. The speed limit may be reduced by 5 mph from this nearest 5-mph increment based upon factors such as collision experience or other factors not readily apparent to the motorist. For cases in which the nearest 5-mph increment of the 85th percentile speed would require a rounding up, then the speed limit may be rounded down to the nearest 5-mph increment below the 85th percentile speed, but no further reduction is allowed. For this reason, speed limits that are 5 mph higher than currently posted are indicated for several of the study segments.

It should be noted that the purpose of the Engineering and Traffic Survey is to establish a **radar-enforceable** speed limit. It is not, however, required that the City adopt the recommended speed limits, and in the case of those segments where a higher speed limit is indicated, the City may choose to retain the current speed limit but discontinue enforcement using radar. Other methods of speed enforcement, including pacing and estimating, may be used for enforcement where the speed limit is not consistent with what is indicated by the Engineering and Traffic Survey.

In urban areas many major streets have more than one lane in each direction and posted speed limits, while many minor streets have low traffic volumes and are often un-posted, relying on prima facie speed limits. Streets that do not have posted speed limits should be enforced at one of two *prima facie* speed limits, 15 mph or 25 mph, or the maximum speed limits of 55 mph or 65 mph, whichever may apply. The *prima facie* speed limit of fifteen (15) mph applies to railroad grade crossings, intersections with sight restrictions, and alleys. The *prima facie* speed limit of 25 mph applies on any non-state highway in a business or residence district, as defined in Sections 235 and 515 of the CVC, respectively, when passing a school posted by a "SCHOOL" sign when children are traveling to or from the facility, or when passing a senior center or other facility primarily used by senior citizens. The 25-mph *prima facie* speed limit is radar enforceable on "local streets" based on the provisions of Section 40802 of the CVC. In the CVC, a local street is defined as one that is functionally classified as "local" on the *California Road System Maps*, is no more than 40 feet wide, has not more than one-half mile of uninterrupted length, and has no more than one traffic lane in each direction. Other un-posted two-lane roads which do not meet the criteria described above have a maximum speed limit of 55 mph.

Study Segments

A field survey was conducted of all of the study segments. The physical characteristics are summarized below. They are presented in alphabetical order by street name. The study segments are shown in Figure 1.

Summary of Street Attributes

Commerce Boulevard – Old Redwood Highway to City Limits North

Average Daily Traffic (vehicles per day) – 16,000
Segment Length and Width – 0.3 miles in length, 46 feet in width
Lane Configuration – three-lanes, including center turn lane
Mid-segment Intersection Controls – none
Street Parking – prohibited
Bike Facilities – no existing; proposed Class II (bike lanes)
Sidewalks – continuous on east side and none on west side
Land Uses –commercial and residential
Posted Speed – 25 mph
Defining Characteristic – a frontage road along US 101 North

East Cotati Avenue – Old Redwood Highway to 500 feet west of La Salle Avenue

Average Daily Traffic (vehicles per day) – 17,200
Segment Length and Width – 0.30 miles in length, 68 feet in width
Lane Configuration – three-lanes, including center turn lane
Mid-segment Intersection Controls – none
Street Parking – some restrictions
Bicycle Facilities – existing Class II (bike lanes)
Sidewalks – continuous on both sides
Land uses – commercial and mixed-use
Posted Speed – 30 mph
Defining Characteristic – a downtown street with traffic signal controls at Old Redwood Highway

East Cotati Avenue – 500 feet west of LaSalle Avenue to City Limits East

Average Daily Traffic (vehicles per day) – 17,200
Segment Length and Width – 0.72 miles in length, 76 feet in width
Lane Configuration – five-lanes, including center turn lane
Mid-segment Intersection Controls – traffic signal controls at Adrian Drive and Lancaster Drive
Street Parking – permitted on both sides
Bicycle Facilities – existing Class II (bike lanes)
Sidewalks – continuous on both sides
Land uses – residential, commercial and industrial
Posted Speed – 30 mph
Defining Characteristic – the primary connection between downtown and areas to the east, including residential neighborhoods, commercial and industrial land uses, and regions beyond the city boundary

Old Redwood Highway – State Route 116 (SR 116) to East Cotati Avenue-West Sierra Avenue

Average Daily Traffic (vehicles per day) – 24,000
Segment Length and Width – 0.40 miles in length, 62 feet in width

Lane Configuration – five-lanes, including center turn lane
Mid-segment Intersection Controls – all-way stop-controls at William Street-George Street
Street Parking – prohibited
Bicycle Facilities – existing Class II (bike lanes)
Sidewalks – discontinuous on west side
Land uses – commercial and residential
Posted Speed – 30 mph (there exists a 25-mph speed limit sign southbound, just south of William Street, that does not reflect the adopted speed limit)
Defining Characteristic – the northerly one-third segment of the busiest travel corridor in Cotati, with signalized controls at both ends

Old Redwood Highway – East Cotati Avenue-West Sierra Avenue to McGinnis Circle

Average Daily Traffic (vehicles per day) – 18,700
Segment Length and Width – 0.25 miles in length, 54 feet in width
Lane Configuration – two-lanes
Mid-segment Intersection Controls – all-way stop controls at Charles Street-Henry Street
Street Parking – some restrictions
Bicycle Facilities – existing Class II (bike lanes)
Sidewalks – discontinuous on west side
Land uses – commercial, residential and mixed use
Posted Speed – 25 mph
Defining Characteristic – operates as the "main street", with a high degree of pedestrian activity

Old Redwood Highway – McGinnis Circle to City Limits South

Average Daily Traffic (vehicles per day) – 18,700
Segment Length and Width – 0.50 miles in length, 54 feet in width
Lane Configuration – two-lanes, with short segment of dedicated right- and left-turn lanes at south end
Mid-segment Intersection Controls – traffic signal controls at Myrtle Avenue-Valparaiso Avenue
Street Parking – none
Bicycle Facilities – existing Class II (bike lanes)
Sidewalks – discontinuous
Land uses – residential and park
Posted Speed – 35 mph
Defining Characteristic – the southerly one-third segment of the main north-south travel corridor in Cotati, with a rural-urban area transition

Redwood Drive – City Limits North to SR 116

Average Daily Traffic (vehicles per day) – 9,400
Segment Length and Width – 0.85 miles in length, 33 to 46 feet in width
Lane Configuration – two-lanes north of Hellman Lane and three-lanes with center turn lane south of Hellman Lane
Mid-segment Intersection Controls – none
Street Parking – none
Bicycle Facilities – existing Class II (bike lanes)
Sidewalks – discontinuous
Land uses – commercial and industrial
Posted Speed – 35 mph
Defining Characteristic – a frontage road along US 101 South

Valparaiso Avenue – West Sierra Avenue to Lund Hill Lane

Average Daily Traffic (vehicles per day) – 1,900
Segment Length and Width – 0.21 miles in length, 23 feet in width
Lane Configuration – two-lanes
Mid-segment Intersection Controls – none
Street Parking – discontinuous
Bicycle Facilities – none
Sidewalks – discontinuous
Land uses – residential and park
Posted Speed – 25 mph
Defining Characteristic – rural/urban mix of residences in close proximity to downtown

West Sierra Avenue – City Limits West to East School Street

Average Daily Traffic (vehicles per day) – 7,500
Segment Length and Width – 0.50 miles in length, 40 feet in width
Lane Configuration – two-lanes
Mid-segment Intersection Controls – none
Street Parking – none
Bicycle Facilities – existing Class II (bike lanes)
Sidewalks – discontinuous
Land uses – residential and institutional (city offices)
Posted Speed – 25 mph
Defining Characteristic – US 101 North and South connections, in rural-urban area transition

West Sierra Avenue – East School Street to Old Redwood Highway

Average Daily Traffic (vehicles per day) – 7,500
Segment Length and Width – 0.25 miles in length, 40 feet in width
Lane Configuration – two-lanes, with short segment of four-lanes at Old Redwood Highway
Mid-segment Intersection Controls – none
Street Parking – none
Bicycle Facilities – existing Class II (bike lanes)
Sidewalks – continuous on both sides
Land uses – commercial and residential
Posted Speed – 25 mph
Defining Characteristic – connects downtown with regions to the west, and the presence of a pre-school and a park

Policy on Establishing Speed Limits

In accordance with Sections 627, 22357, 22358, and 40802 of the *California Vehicle Code*, Engineering and Traffic Surveys (E&TS) were completed to determine the recommended speed limits along each corridor. The CA MUTCD was consulted prior to preparation of the E&TS contained in this report. Part 2, *Signs*, contains the policy for establishing speed limits based on an E&TS, and indicates that the speed limit shall be established at the nearest five mile per hour (mph) increment to the 85th-percentile speed, except that the posted speed may be reduced by 5 mph from the nearest 5-mph increment of the 85th percentile speed in compliance with CVC Sections 627 and 22358.5 and justified by an E&TS, including approval by a registered Civil or Traffic Engineer. The CA MUTCD also includes standards for the preparation of E&TS, specifically noting that each E&TS shall consider prevailing speeds, collision records, and highway or traffic or roadside conditions not readily apparent to the driver.

Recommended Speed Limits

Speed limits are recommended for each of the segments studied based on the policies described in the California Vehicle Code and the CA-MUTCD. The results of the surveys are summarized below, with the existing posted speeds and recommended speeds for all segments tabulated in Table 1. Copies of the Engineering and Traffic Survey forms compiled from the field data and subsequent analysis are contained in Appendix A.

Table 1
Summary of Engineering and Traffic Surveys

Street *Segment*	Collision Rate	Critical Speed (85th %-tile)	Existing Speed Limit	Proposed Speed Limit
Commerce Blvd				
Old Redwood Hwy to City Limits North	*2.85*	30	25	25
East Cotati Ave				
Old Redwood Hwy to 500 west of LaSalle Ave	*2.2*	35	30	30
500 west of LaSalle Ave to City Limits East	*1.88*	38	30	**35**
Old Redwood Hwy				
SR 116 to E Cotati Ave-W Sierra Ave	1.57	32	30	30
E Cotati Ave-W Sierra Ave to McGinnis Cir	2.64	30	25	25
McGinnis Cir to City Limits South	0.29	37	35	35
Redwood Dr	0.17	40	35	35
Valparaiso Ave				
West Sierra Ave to Lund Hill Ln	0.00	31	25	25
West Sierra Ave				
City Limits West to E School St	1.1	35	25	**30**
E School St to Old Redwood Hwy	0.73	33	25	**30**

Note: All speeds are in miles per hour (mph); *Italics* indicates a collision rate higher than the statewide average; **Bold** text indicates a change from existing conditions

Commerce Boulevard – Old Redwood Highway to City Limits North

The calculated collision rate of 2.85 collisions per million vehicle miles traveled (c/mvm) exceeds the statewide average rate of 2.05 c/mvm for similar facilities, indicating a traffic safety condition not readily apparent to drivers. With an 85th percentile of 30 mph, the nearest 5-mph increment is 30 mph. However, a 25 mph posted speed limit is determined to be appropriate, in consideration of the higher-than-average collision rate of 2.85 c/mvm.

East Cotati Avenue – Old Redwood Highway to 500 west of LaSalle Avenue

The calculated collision rate of 2.2 c/mvm exceeds the statewide average of 2.05 c/mvm for comparable streets, indicating a traffic safety condition not readily apparent to drivers. With an 85th percentile speed of 35 mph, the nearest 5-mph increment is 35 mph. However a 30 mph posted speed limit is determined to be appropriate for this segment of East Cotati Avenue, in consideration of the higher-than-average collision rate of 2.2 c/mvm.

East Cotati Avenue – 500 west of LaSalle Avenue to City Limits East

This segment of East Cotati Avenue is located between the central business district to the west and regions to the east, including Sonoma State University. With an 85th percentile speed of 38 mph, the nearest 5-mph

increment is 40 mph. The adjacent speed zones to the east and west are 35 mph and 30 mph, respectively. In consideration of adjacent speed zoning, it is recommended a speed limit of 35 mph be posted.

Old Redwood Highway – SR 116 to East Cotati Avenue-West Sierra Avenue

This segment of Old Redwood Highway provides a link to the regional transportation network. The collision rate of 1.57 c/mvm is lower than the statewide average of 4.05 c/mvm for a comparable five-lane facility. With an 85th percentile speed of 32 mph, the nearest 5-mph increment is 30 mph, which is the recommended speed limit.

Old Redwood Highway – East Cotati Avenue /West Sierra Avenue to McGinnis Circle

This segment of Old Redwood Highway is the main street in Cotati's central business district, with significant pedestrian activity to and from the numerous commercial establishments on both sides of the street. Pedestrians are required to walk in the street where no sidewalk is provided on the south end of the segment along the west side of the street, as well as cross the street at a few uncontrolled intersections. This street segment has a high daily traffic volume, including many unfamiliar, inexperienced drivers associated with first-year students attending Sonoma State University. With an 85th percentile speed of 30 mph, the nearest 5-mph increment is 30 mph. A 25-mph posted speed limit is determined to be reasonable and appropriate for this street segment in consideration of the combination of unfamiliar drivers and high levels of pedestrian activity.

Old Redwood Highway – McGinnis Circle to City Limits South

This segment of Old Redwood Highway provides a link between the rural areas south of Cotati and the downtown area. The collision rate for this segment, 0.29 c/mvm, is much lower than the statewide average of 3.05 c/mvm for a comparable facility. With an 85th percentile speed of 37 mph, the nearest 5-mph increment is 35 mph, which is the recommended speed for this street segment.

Redwood Drive – City Limits North to SR 116

Redwood Drive provides access to a major commercial development south of a high-density industrial business area, with employee pedestrian activity during normal business hours between the two types of land uses. The critical speed for this segment is 40 mph, so the speed limit would normally be set at 40 mph. However, given the lack of continuous sidewalks on the corridor for use by pedestrians, it is recommended that this segment be posted at 35 mph.

Valparaiso Avenue – West Sierra Avenue to Lund Hill Lane

This approximately one-quarter mile segment of Valparaiso Avenue serves a residential community and provides access to Delano Park. It has a mix of rural characteristics such as no sidewalk, narrow travel lanes and open drainage ditches, though a portion of each end of the segment has been improved to provide sidewalks. Pedestrian activity is common as people walk to and from the park, but the lack of sidewalks requires that they walk in the narrow street lanes. With an 85th percentile speed of 31 mph, the nearest 5-mph increment is 30 but a speed limit of 25 mph is determined to be reasonable and appropriate in consideration of pedestrian safety.

West Sierra Avenue – City Limits West to East School Street

This segment of West Sierra Avenue provides access to US 101 and regions west of Cotati, with rural characteristics such as no sidewalk and a single narrow travel lane in each direction for portions of the segment. Pedestrian activity is common as it provides a connection from the residential neighborhoods

adjoining both sides of the street to the central business district to the east, though pedestrians are required to walk in the street where no sidewalk is provided. With an 85th percentile speed of 35 mph, the nearest 5-mph increment is 35 mph. A 30-mph posted speed limit is determined to be reasonable and appropriate for this street segment, so is recommended in consideration of pedestrian safety.

West Sierra Avenue – East School Street to Old Redwood Highway

This segment of West Sierra Avenue is located in the central business district and provides direct access to the town plaza. It also provides access to the Cotati-Rohnert Park Co-op Pre-school located on the southeast corner of the intersection of West Sierra Avenue/Henry Street, and school-age pedestrians cross West Sierra Avenue at this location. In addition, pedestrians cross West Sierra Avenue traveling to and from the park in the plaza, and the plaza street network has an unusual configuration that affects intersection geometrics and pedestrian crossing safety, which may not be apparent to corridor motorists.

With an 85th percentile speed of 33 mph, the nearest 5-mph increment is 35. A 30-mph posted speed limit is determined to be reasonable and appropriate for this segment, in consideration of pedestrian safety. Additionally, a 25-mph speed limit is applicable within the vicinity of the pre-school when children are traveling to or from the facility if the appropriate 'SCHOOL' signs are posted in advance of the school zone and the crosswalk markings are yellow-colored.

Study Participants and References

Study Participants

Principal in Charge:	Dalene J. Whitlock, PE, PTOE
Project Manager/Engineer:	Mary Jo Yung, PE
Assistant Engineer:	Smadar Boardman, EIT
Technician/Graphics:	Deborah J. Mizell
Data Collection:	Hannah Weinberger and City of Cotati staff
Engineering Intern:	Krystle Ricci
Editing/Formatting:	Angela McCoy

References

2007 Collision Data on California State Highways (road miles, travel, collisions, collision rates), California Department of Transportation, 2007

California Manual on Uniform Traffic Control Devices for Streets and Highways, California Department of Transportation, 2010

California Vehicle Code, California Department of Motor Vehicles, 2012

California Road Systems Maps, California Department of Transportation, 2011

Cotati Bicycle & Pedestrian Master Plan, 2010

COT084

Appendix A

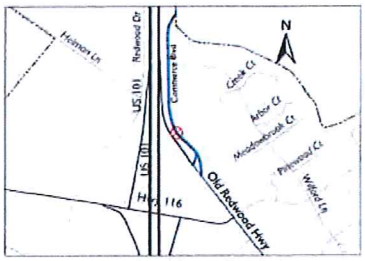
Engineering and Traffic Surveys

City of Cotati
Engineering and Traffic Survey

Street: Commerce Boulevard ***From:*** Old Redwood Highway ***To:*** City Limits-North

Street Conditions

Posted Limit:	25 mph
Width:	46 feet
Lanes:	3
Configuration:	2-way LT lane
Parking:	None
Bike Lanes:	One side
Sidewalks:	One side
Land Use:	Mixed
Character:	Urban
Terrain:	Flat



Legend:

Study Street

Survey Location

Observations and Evaluation

Volume (ADT):	16,000 vpd	*Vehicles Sampled:*	216
Segment Length:	0.3 miles	*85th Percentile Speed:*	30 mph
Collisions:	10 crashes	*Mean (50th Percentile) Speed:*	27 mph
Evaluation Period:	2 years	*Pace:*	21 to 31 mph
Collision Rate:	2.85 c/mvm (collisions per million vehicle miles)	*Percent in Pace:*	88.0%
Statewide Average Rate:	2.05 c/mvm		

(Additional details provided on the next sheet.)

Conditions Not Readily Apparent to the Driver:

The collision rate of 2.85 c/mvm on Commerce Boulevard exceeds the statewide average of 2.05 c/mvm for similar facilities, indicating a safety condition not readily apparent to drivers.

Conclusions and Recommendations

On the basis of this engineering and traffic investigation, Commerce Boulevard does not appear to be operating effectively. The 85th percentile speed was determined to be 30 mph, with the nearest 5 mph increment equal to 30 mph. The collision rate of 2.85 c/mvm exceeds the statewide average rate for similar facilities. It follows that the speed limit for the street segment identified above should be posted at 5 mph below the nearest 5 mph increment of the 85th percentile speed, or **25 mph**, in accordance with the provisions of Sections 627, 22357, 22358 and 40802 of the *California Vehicle Code* .

25 mph

Recommended Speed Limit

January 5, 2015

Date

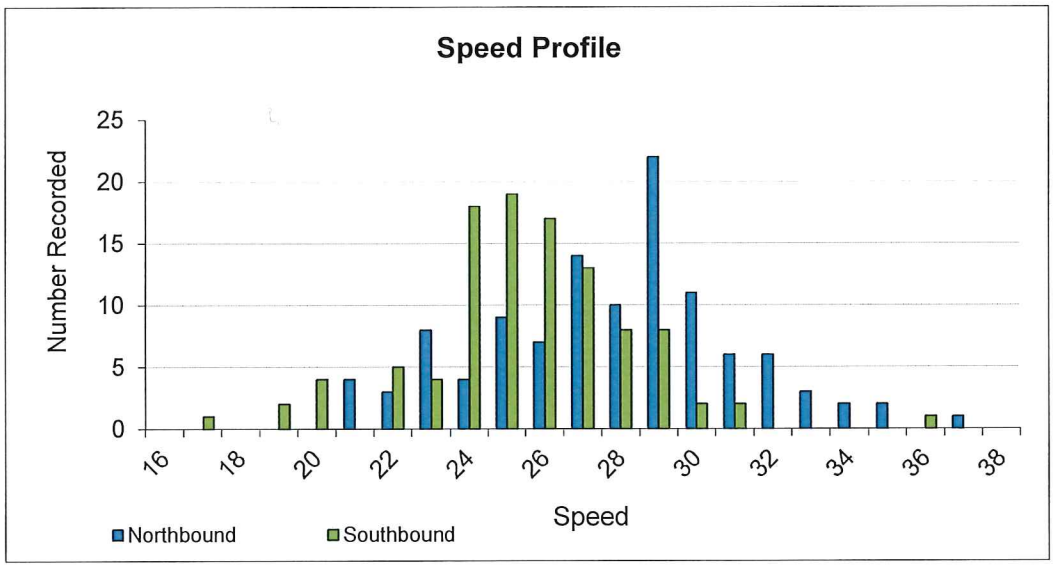
REGISTERED PROFESSIONAL ENGINEER
MARY JO R. YUNG
TR002054
TRAFFIC
STATE OF CALIFORNIA

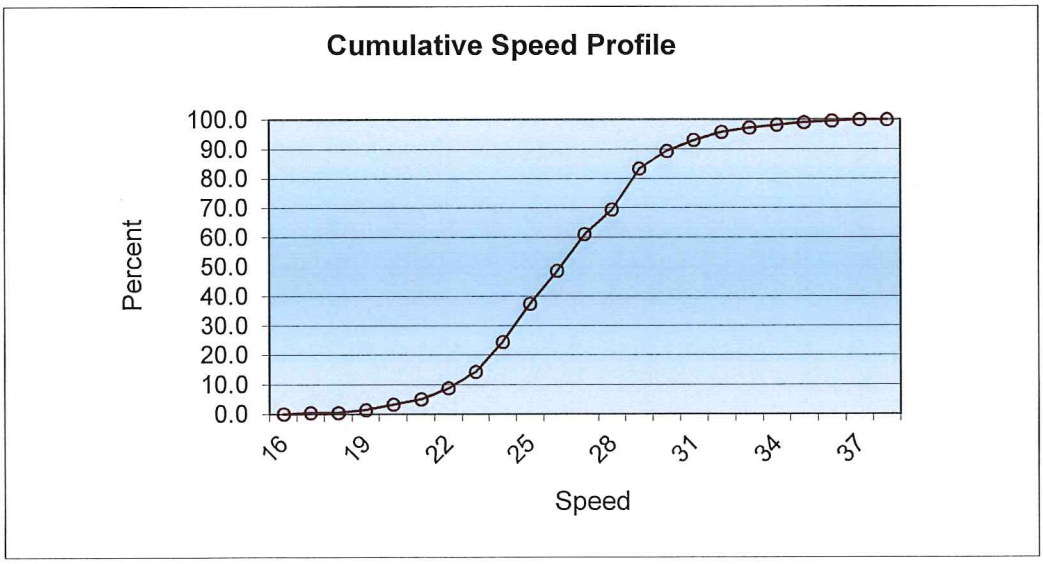
Mary Jo Yung, PE

Damien O'Bid, City Engineer

w-trans

Street: Commerce Boulevard ***From:*** Old Redwood Highway ***To:*** City Limits-North





Date Data Collected: June 9, 2011 *Start Time:* 9:30 AM *Weather:* Clear

Day of the Week: Thursday *End Time:* 10:25 AM *Recorder:* HW

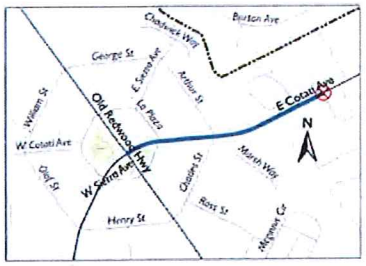
w-trans

City of Cotati
Engineering and Traffic Survey

Street: East Cotati Avenue ***From:*** Old Redwood Highway ***To:*** 500 feet west of LaSalle Avenue

Street Conditions

Posted Limit: 30 mph
Width: 68 feet
Lanes: 3
Configuration: 2-way LT lane
Parking: Some restrictions
Bike Lanes: Both sides
Sidewalks: Both sides
Land Use: Mixed
Character: Urban
Terrain: Flat



Legend:

Study Street

Survey Location

Observations and Evaluation

Volume (ADT). 17,200 vpd
Segment Length: 0.29 miles
Collisions: 8 crashes
Evaluation Period: 2 years
Collision Rate: 2.2 c/mvm (collisions per million vehicle miles)
Statewide Average Rate: 2.05 c/mvm

Vehicles Sampled: 103
85th Percentile Speed: 35 mph
Mean (50th Percentile) Speed: 31 mph
Pace: 25 to 35 mph
Percent in Pace: 83.5%

(Additional details provided on the next sheet.)

Conditions Not Readily Apparent to the Driver:
The calculated collision rate of 2.2 c/mvm exceeds the statewide average of 2.05 c/mvm for comparable streets, indicating a traffic safety condition not readily apparent to drivers.

Conclusions and Recommendations

With an 85th percentile speed of 35 mph, the nearest 5 mph increment is 35 mph. However a **30 mph** posted speed limit is determined to be appropriate for this segment of East Cotati Avenue, in consideration of the higher-than-average collision rate of 2.2 c/mvm and in accordance with the provisions of Sections 627, 22357, 22358 and 40802 of the *California Vehicle Code*.

30 mph
Recommended Speed Limit

January 5, 2015
Date

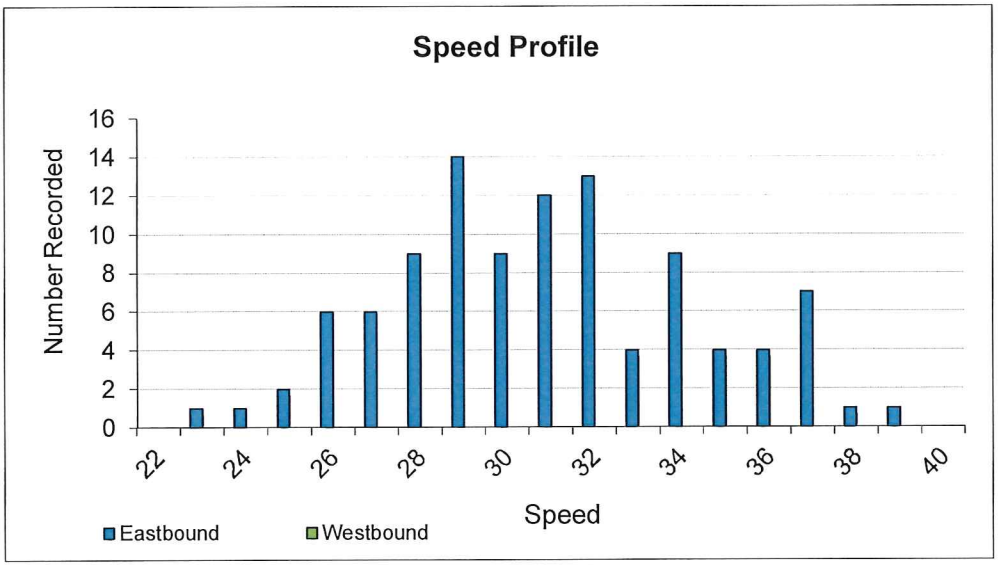
REGISTERED PROFESSIONAL ENGINEER
MARY JO R. YUNG
TR002054
TRAFFIC
STATE OF CALIFORNIA

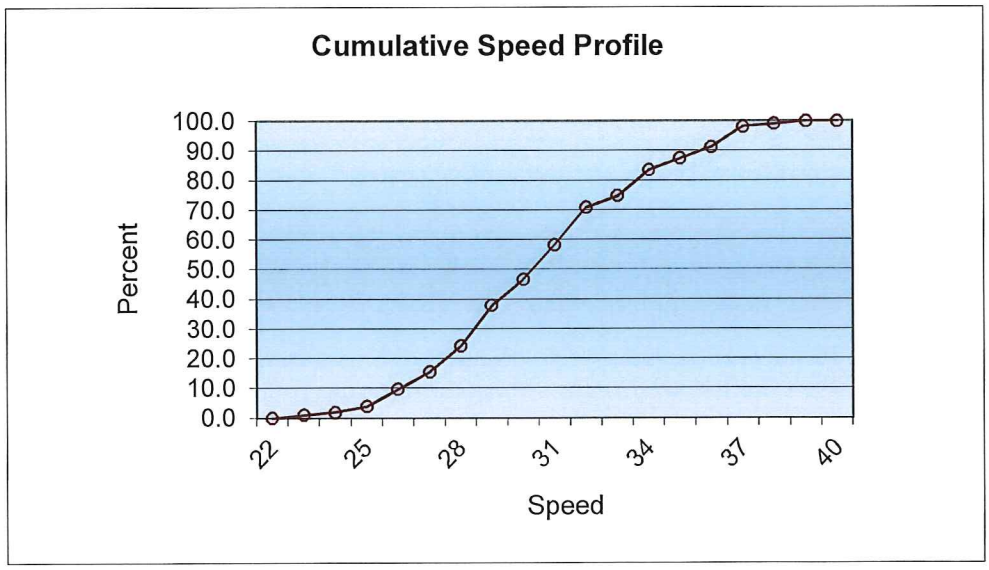
Mary Jo Yung, PE

Damien O'Bid, City Engineer

w-trans

Street: East Cotati Avenue ***From:*** Old Redwood Highway ***To:*** 500 feet west of LaSalle Avenue





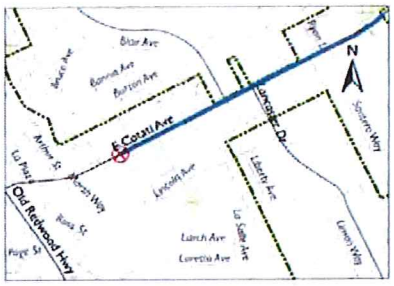
Date Data Collected: June 9, 2011 *Start Time:* 1:25 PM *Weather:* Clear
Day of the Week: Thursday *End Time:* 2:00 PM *Recorder:* HW

City of Cotati
Engineering and Traffic Survey

Street: East Cotati Avenue ***From:*** 500 feet west of LaSalle Avenue ***To:*** City limits-East

Street Conditions

Posted Limit: 30 mph
Width: 74 feet
Lanes: 3
Configuration: 2-way LT lane
Parking: Some restrictions
Bike Lanes: Both sides
Sidewalks: Both sides
Land Use: Mixed
Character: Urban
Terrain: Flat



Legend:
Study Street
Survey Location

Observations and Evaluation

Volume (ADT). 17,200 vpd
Segment Length: 0.72 miles
Collisions: 17 crashes
Evaluation Period: 2 years
Collision Rate: 1.88 c/mvm (collisions per million vehicle miles)
Statewide Average Rate: 2.05 c/mvm

Vehicles Sampled: 109
85th Percentile Speed: 38 mph
Mean (50th Percentile) Speed: 34 mph
Pace: 29 to 39 mph
Percent in Pace: 88.1%

(Additional details provided on the next sheet.)

Conditions Not Readily Apparent to the Driver:
The adjacent speed zones to the east and west are 30 mph and 35 mph, respectively.

Conclusions and Recommendations

This segment of East Cotati Avenue is located between the central business district to the west and regional facilities, including Sonoma State University, to the east. With an 85th percentile speed of 38 mph, the nearest 5 mph increment is 40 mph. In consideration of adjacent speed zoning, it is recommended a speed limit of **35 mph** be posted, which is in accordance with the provisions of Sections 627, 22357, 22358 and 40802 of the *California Vehicle Code*.

35 mph
Recommended Speed Limit

January 5, 2015
Date

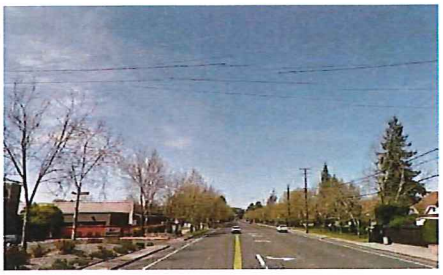
REGISTERED PROFESSIONAL ENGINEER
MARY JO R. YUNG
TR002054
TRAFFIC
STATE OF CALIFORNIA

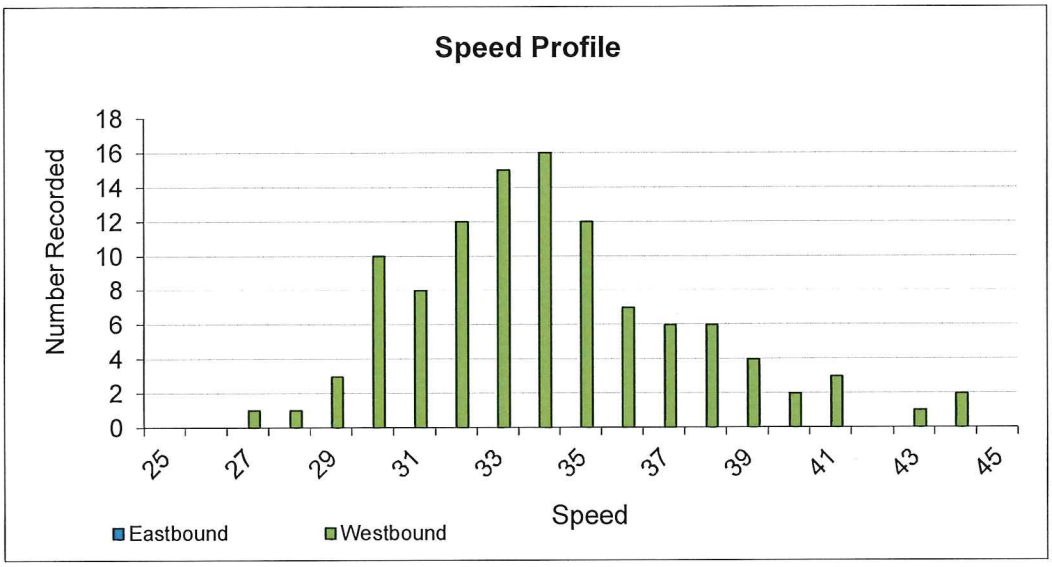
Mary Jo Yung, PE

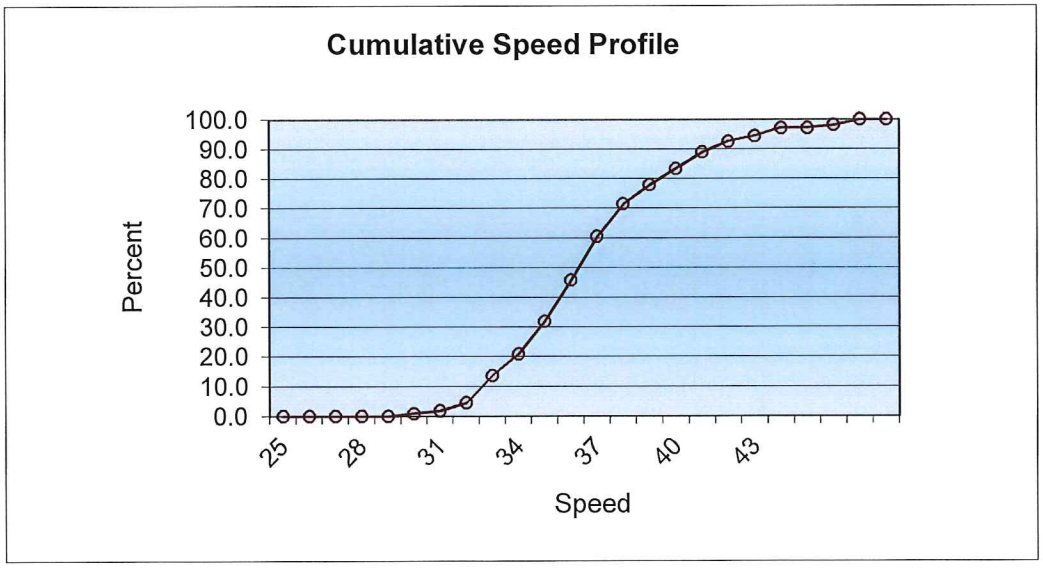
Damien O'Bid, City Engineer

w-trans

Street: East Cotati Avenue ***From:*** 500 feet west of LaSalle Avenue ***To:*** City limits-East







Date Data Collected: June 9, 2011 *Start Time:* 1:25 PM *Weather:* Clear

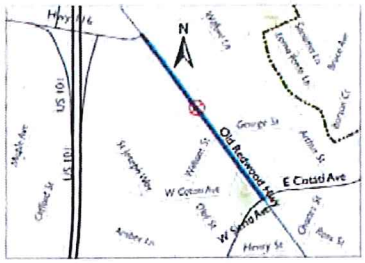
Day of the Week: Thursday *End Time:* 2:00 PM *Recorder:* HW

City of Cotati
Engineering and Traffic Survey

Street: Old Redwood Highway ***From:*** State Route 116 ***To:*** E. Cotati Ave-W.Sierra Ave

Street Conditions

Posted Limit:	30 mph
Width:	62 feet
Lanes:	5
Configuration:	2-way LT lane
Parking:	None
Bike Lanes:	Both sides
Sidewalks:	Both sides
Land Use:	Mixed
Character:	Urban
Terrain:	Flat



Legend:

Study Street

Survey Location

Observations and Evaluation

Volume (ADT):	24,000 vpd	*Vehicles Sampled:*	207
Segment Length:	0.4 miles	*85th Percentile Speed:*	32 mph
Collisions:	11 crashes	*Mean (50th Percentile) Speed:*	28 mph
Evaluation Period:	2 years	*Pace:*	23 to 33 mph
Collision Rate:	1.57 c/mvm (collisions per million vehicle miles)	*Percent in Pace:*	87.4%
Statewide Average Rate:	4.45 c/mvm		

(Additional details provided on the next sheet.)

Conditions Not Readily Apparent to the Driver:

None

Conclusions and Recommendations

The collision rate of 1.57 c/mvm is lower than the statewide average of 4.05 c/mvm for a comparable five-lane facility. With an 85th percentile speed of 32 mph, the nearest 5-mph increment is **30 mph**, which is the recommended speed limit, in accordance with the provisions of Sections 627, 22357, 22358 and 40802 of the *California Vehicle Code*.

30 mph
Recommended Speed Limit

January 5, 2015
Date

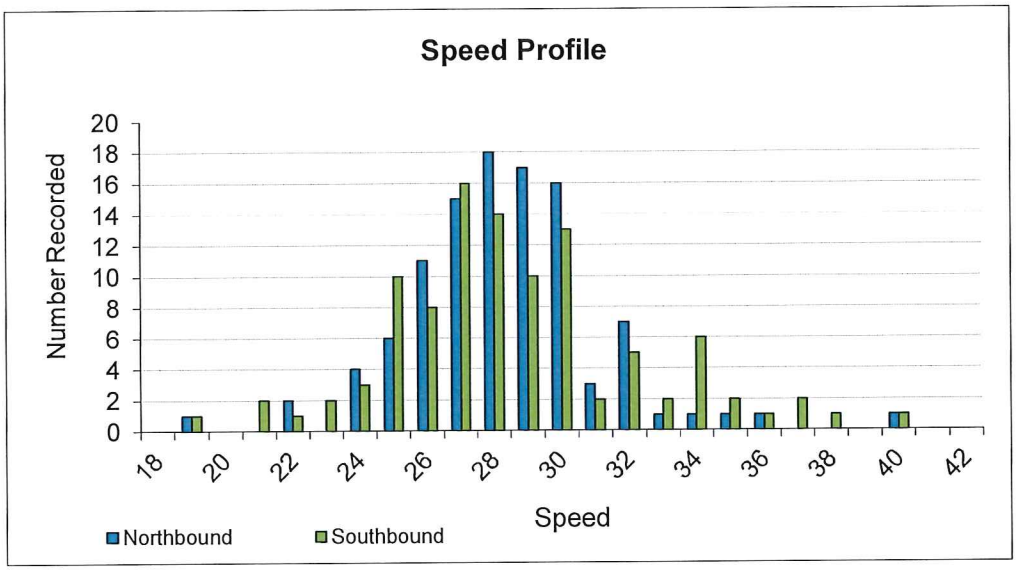
REGISTERED PROFESSIONAL ENGINEER
MARY JO R. YUNG
TR002054
TRAFFIC
STATE OF CALIFORNIA

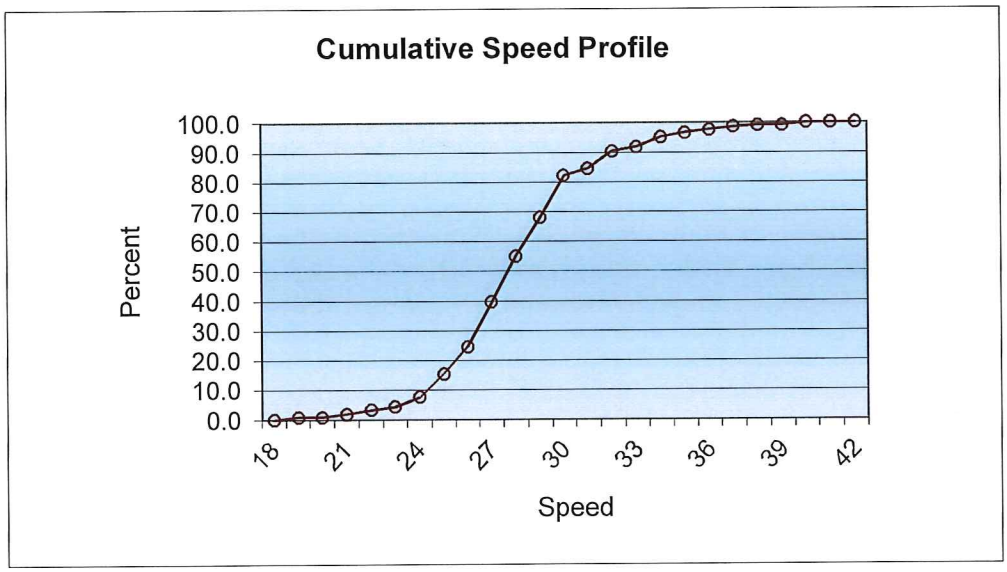
Mary Jo Yung, PE

Damien O'Bid, City Engineer

w-trans

Street: Old Redwood Highway **From:** State Route 116 **To:** E. Cotati Ave-W.Sierra A





Date Data Collected: June 9, 2011 *Start Time:* 10:35 AM *Weather:* Clear
Day of the Week: Thursday *End Time:* 11:15 AM *Recorder:* HW

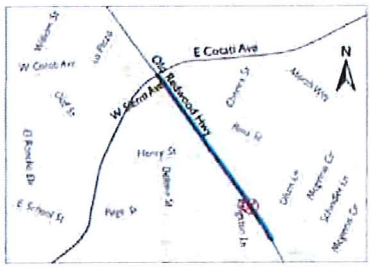
w-trans

City of Cotati
Engineering and Traffic Survey

Street: Old Redwood Highway ***From:*** E.Cotati Ave-W.Sierra Ave ***To:*** McGinnis Circle

Street Conditions

Posted Limit:	25 mph
Width:	54 feet
Lanes:	2
Configuration:	Undivided
Parking:	Some restricti
Bike Lanes:	Both sides
Sidewalks:	Discontinuous
Land Use:	Mixed
Character:	Urban
Terrain:	Flat



Legend:

Study Street

Survey Location

Observations and Evaluation

Volume (ADT):	18,700 vpd	*Vehicles Sampled:*	134
Segment Length:	0.25 miles	*85th Percentile Speed:*	30 mph
Collisions:	9 crashes	*Mean (50th Percentile) Speed:*	26 mph
Evaluation Period:	2 years	*Pace:*	20 to 30 mph
Collision Rate:	2.64 c/mvm (collisions per million vehicle miles)	*Percent in Pace:*	82.8%
Statewide Average Rate:	3.05 c/mvm		

(Additional details provided on the next sheet.)

Conditions Not Readily Apparent to the Driver:
This street segment has a high degree of pedestrian activity and unfamiliar drivers, including many first-year students attending Sonoma State University.

Conclusions and Recommendations

This segment of Old Redwood Highway is the main street in Cotati's central business district, so has significant pedestrian activity to and from the numerous commercial establishments on both sides of the street. Pedestrians are required to walk in the street where there is no sidewalk on the south end of the segment along the west side of the street, and cross the street at a few uncontrolled intersections. This street segment has a high daily traffic volume, including many unfamiliar, inexperienced drivers who are first-year students attending Sonoma State University. With an 85th-percentile speed of 30 mph, the nearest 5 mph increment is 30 mph. A **25 mph** posted speed limit is determined to be reasonable and appropriate for this street segment, in consideration of the combination of inexperienced drivers and high levels of night time pedestrian activity, and in accordance with the provisions of Sections 627, 22357, 22358 and 40802 of the *California Vehicle Code*.

25 mph
Recommended Speed Limit

January 5, 2015
Date

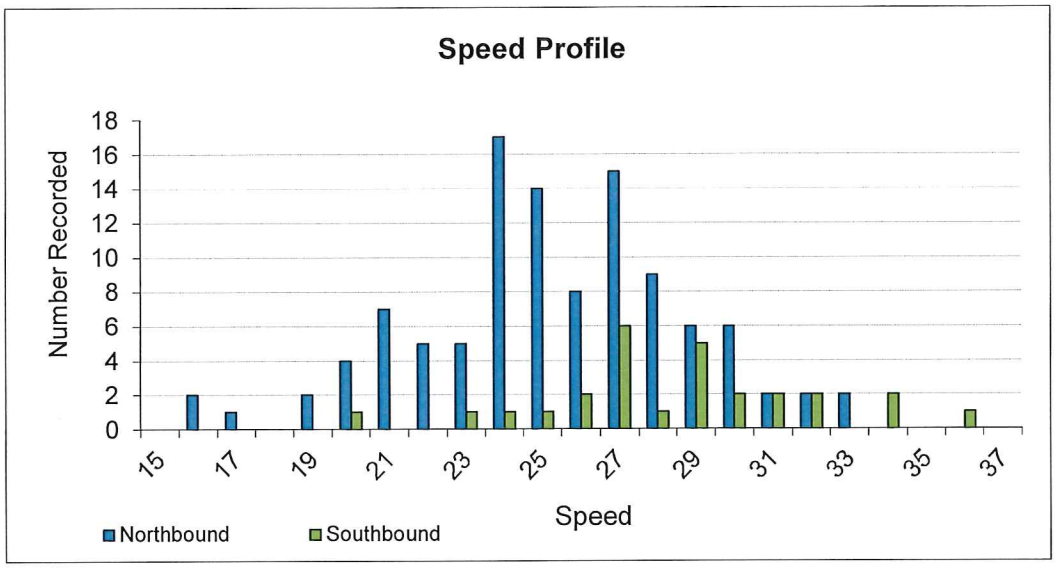
REGISTERED PROFESSIONAL ENGINEER
MARY JO R. YUNG
TR002054
TRAFFIC
STATE OF CALIFORNIA

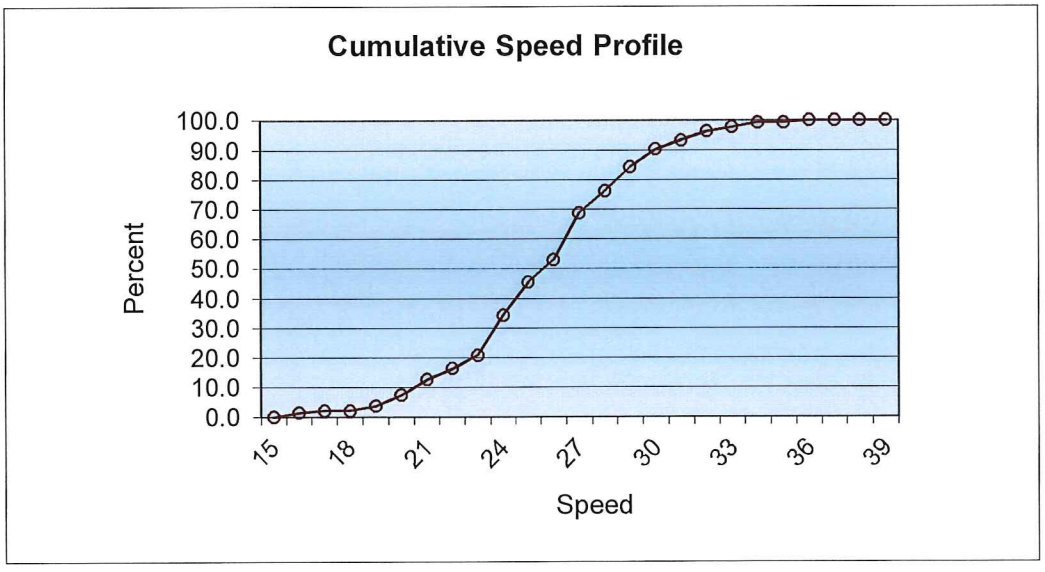
Mary Jo Yung, PE

Damien O'Bid, City Engineer

w-trans

Street: Old Redwood Highway ***From:*** E.Cotati Ave-W.Sierra Av ***To:*** McGinnis Circle





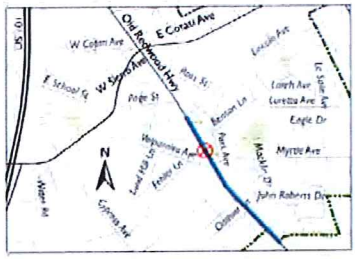
Date Data Collected:	June 13, 2011	*Start Time:*	10:45 AM	*Weather:*	Clear
Day of the Week:	Monday	*End Time:*	11:30 AM	*Recorder:*	HW

City of Cotati
Engineering and Traffic Survey

Street: Old Redwood Highway **From:** McGinnis Circle **To:** City limits-South

Street Conditions

Posted Limit:	35 mph
Width:	54 feet
Lanes:	2
Configuration:	Undivided
Parking:	None
Bike Lanes:	Both sides
Sidewalks:	Discontinuous
Land Use:	Mixed
Character:	Urban
Terrain:	Flat



Legend:

Study Street

Survey Location

Observations and Evaluation

Volume (ADT):	18,700 vpd	*Vehicles Sampled:*	209
Segment Length:	0.5 miles	*85th Percentile Speed:*	37 mph
Collisions:	2 crashes	*Mean (50th Percentile) Speed:*	32 mph
Evaluation Period:	2 years	*Pace:*	27 to 37 mph
Collision Rate:	0.29 c/mvm (collisions per million vehicle miles)	*Percent in Pace:*	79.9%
Statewide Average Rate:	3.05 c/mvm		

(Additional details provided on the next sheet.)

Conditions Not Readily Apparent to the Driver:

None

Conclusions and Recommendations

On the basis of this engineering and traffic investigation, Old Redwood Highway appears to be operating effectively. With an 85th-percentile speed of 37 mph, the nearest 5-mph increment is 35 mph, and in accordance with the provisions of Sections 627, 22357, 22358 and 40802 of the *California Vehicle Code*, a speed limit of **35 mph** is determined to be reasonable and appropriate for the street segment identified above.

35 mph

Recommended Speed Limit

January 5, 2015
Date

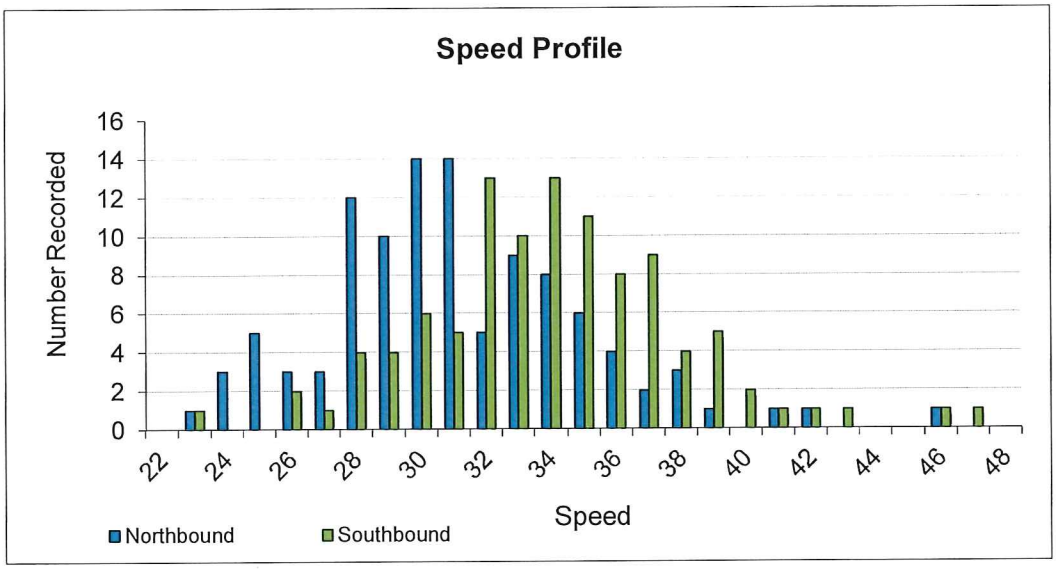
REGISTERED PROFESSIONAL ENGINEER
MARY JO R. YUNG
TR002054
TRAFFIC
STATE OF CALIFORNIA

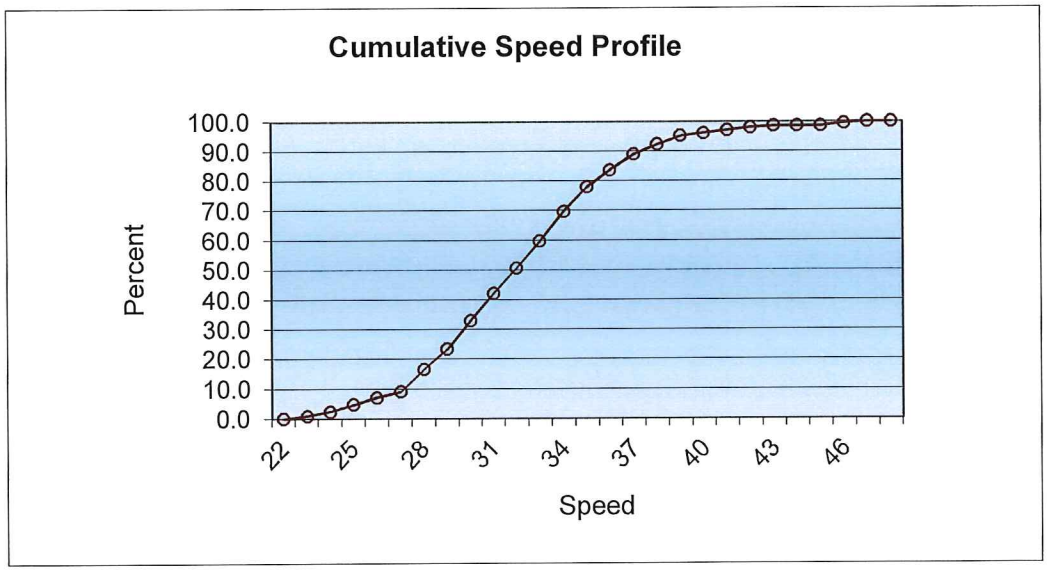
Mary Jo Yung, PE

Damien O'Bid, City Engineer

w-trans

Street: Old Redwood Highway ***From:*** McGinnis Circle ***To:*** City limits-South





Date Data Collected: June 10, 2011 *Start Time:* 10:10 AM *Weather:* Clear

Day of the Week: Friday *End Time:* 11:00 AM *Recorder:* HW

City of Cotati
Engineering and Traffic Survey

Street: Redwood Drive **From:** City Limits-North **To:** State Route 116

Street Conditions

Posted Limit:	35 mph
Width:	33 - 46 feet
Lanes:	2
Configuration:	Undivided
Parking:	None
Bike Lanes:	Both sides
Sidewalks:	Discontinuous
Land Use:	Mixed
Character:	Urban
Terrain:	Flat

Legend:

Study Street

Survey Location

Observations and Evaluation

Volume (ADT):	9,400 vpd	*Vehicles Sampled:*	202
Segment Length:	0.85 miles	*85th Percentile Speed:*	40 mph
Collisions:	1 crash	*Mean (50th Percentile) Speed:*	37 mph
Evaluation Period:	2 years	*Pace:*	31 to 41 mph
Collision Rate:	0.17 c/mvm (collisions per million vehicle miles)	*Percent in Pace:*	86.6%
Statewide Average Rate:	3.05 c/mvm		

(Additional details provided on the next sheet.)

Conditions Not Readily Apparent to the Driver:
The critical speed for this segment is 40 mph so the speed limit would normally be set at 40 mph. However, given the lack of continuous sidewalks on the corridor for use by pedestrians, it is recommended that this segment be posted at 35 mph.

Conclusions and Recommendations

This segment of Redwood Drive includes a major commercial development south of a high density industrial business area, with employee pedestrian activity during normal business hours between the two types of land uses. The critical speed for this segment is 40 mph so the speed limit would normally be set at 40 mph. However, given the lack of continuous sidewalks on the corridor for use by pedestrians, it is recommended that this segment be posted at **35 mph** in consideration of these factors and in accordance with the provisions of Sections 627, 22357, 22358 and 40802 of the *California Vehicle Code*.

35 mph

Recommended Speed Limit

January 5, 2015
Date

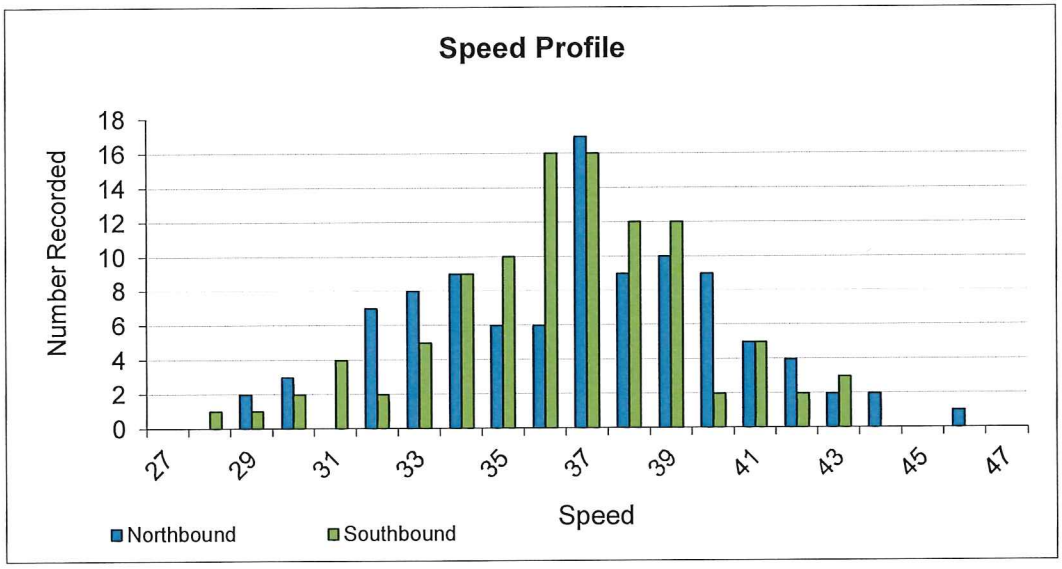
REGISTERED PROFESSIONAL ENGINEER
MARY JO R. YUNG
TR002054
TRAFFIC
STATE OF CALIFORNIA

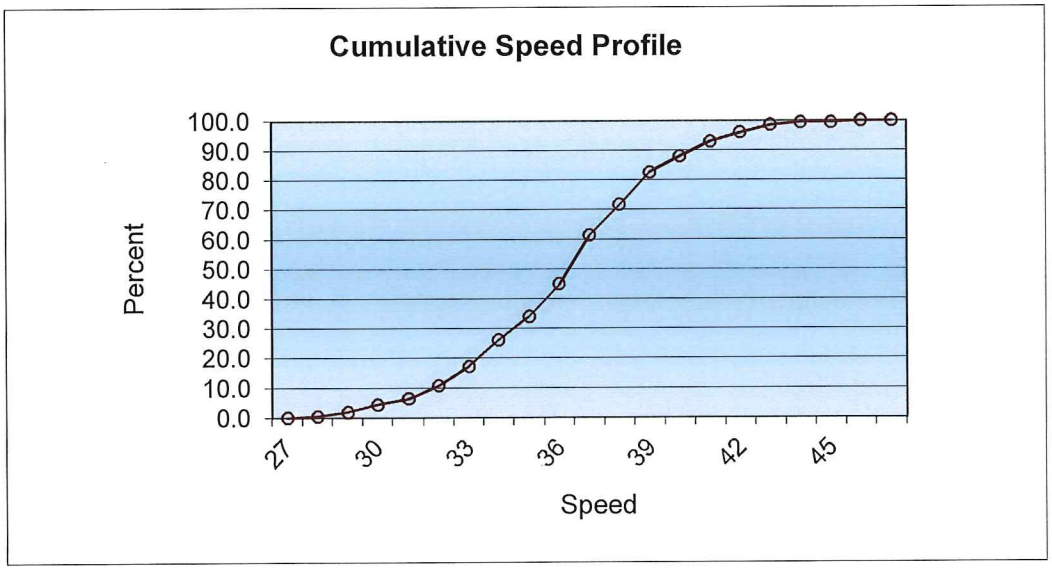
Mary Jo Yung, PE

Damien O'Bid, City Engineer

w-trans

Street: Redwood Drive **From:** City Limits-North **To:** State Route 116





Date Data Collected: June 8, 2011 *Start Time:* 1:40 PM *Weather:* Clear

Day of the Week: Wednesday *End Time:* 2:30 PM *Recorder:* HW

City of Cotati
Engineering and Traffic Survey

Street: Valparaiso Avenue ***From:*** West Sierra Avenue ***To:*** Lund Hill Lane

Street Conditions

Posted Limit:	25	
Width:	23	feet
Lanes:	2	
Configuration:	Undivided	
Parking:	Discontinuous	
Bike Facility:	None	
Sidewalks:	Discontinuous	
Land Use:	Residential	
Character:	Urban	
Terrain:	Flat	

Observations and Evaluation

Volume (ADT):	1,900 vpd	*Vehicles Sampled:*	111
Segment Length:	0.21 miles	*85th Percentile Speed:*	31 mph
Collisions:	0 crashes	*Mean (50th Percentile) Speed:*	27 mph
Evaluation Period:	5 years	*Pace:*	22 to 32 mph
Collision Rate:	0.00 c/mvm (collisions per million vehicle miles)	*Percent in Pace:*	84.7%
Statewide Average Rate:	**2.80** c/mvm		

(Additional details provided on the next sheet.)

Conditions Not Readily Apparent to the Driver:

The lack of sidewalks on both sides of the street for most of the segment requires pedestrians to walk in the street, and drivers may not expect to share the narrow roadway with these pedestrians.

Conclusions and Recommendations

With an 85th percentile speed of 31 mph, the nearest 5 mph increment is 30 but a speed limit of **25 mph** is determined to be reasonable and appropriate in consideration of pedestrian safety and in accordance with the provisions of Sections 627, 22357, 22358 and 40802 of the *California Vehicle Code*.

25 mph

Recommended Speed Limit

January 5, 2015
Date

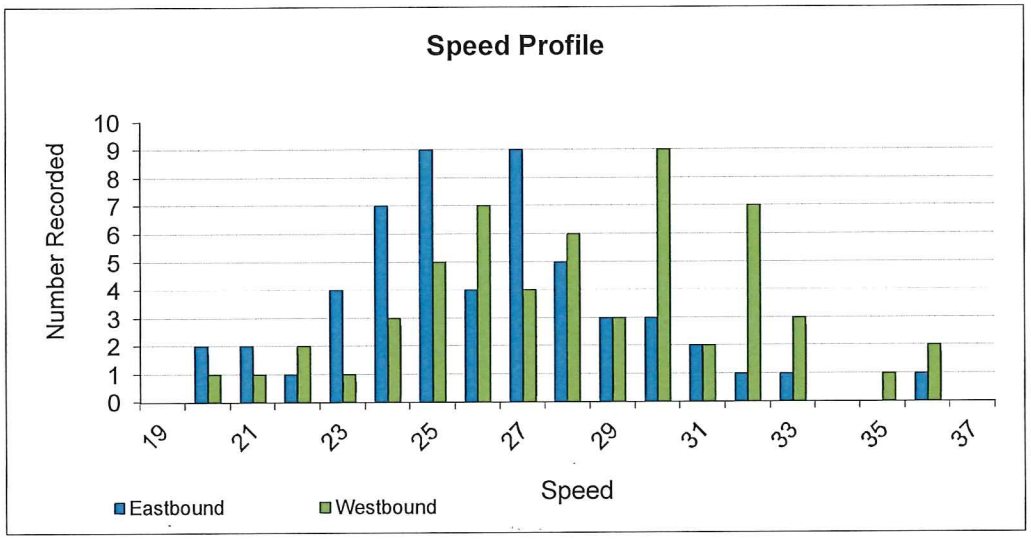
REGISTERED PROFESSIONAL ENGINEER
MARY JO R. YUNG
TR002054
TRAFFIC
STATE OF CALIFORNIA

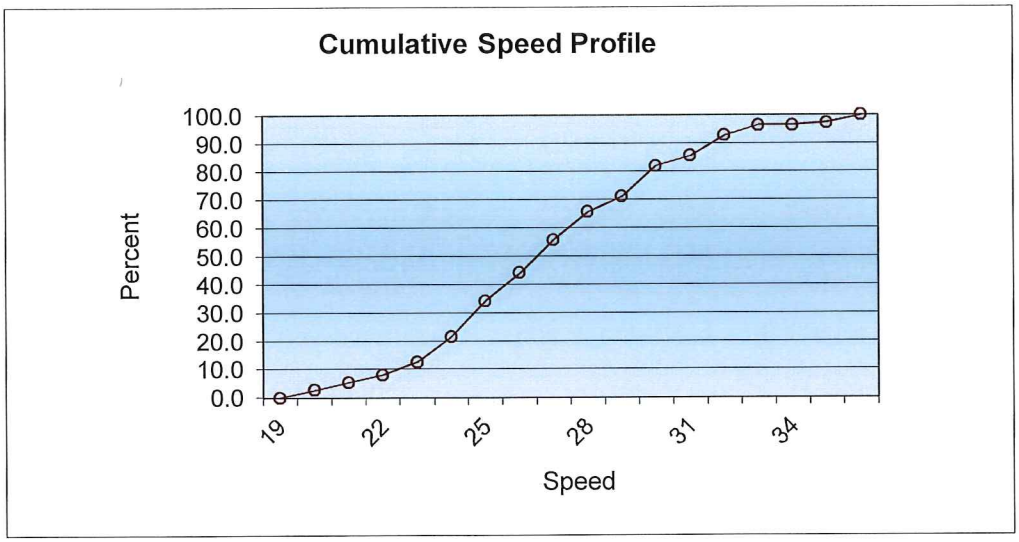
Mary Jo Yung, PE

Damien O'Bid, City Engineer

w-trans

Street: Valparaiso Avenue ***From:*** West Sierra Avenue ***To:*** Lund Hill Lane





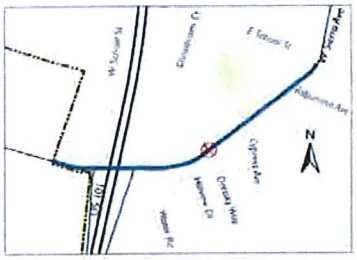
Date Data Collected: December 4, 2013 *Start Time:* 14:00 *Weather:* Clear
Day of the Week: Wednesday *End Time:* 15:00 *Recorder:* KR

City of Cotati
Engineering and Traffic Survey

Street: West Sierra Avenue **From:** City Limits-West **To:** East School Street

Street Conditions

Posted Limit:	25 mph
Width:	40 feet
Lanes:	2
Configuration:	Undivided
Parking:	Some restricti
Bike Lanes:	Both sides
Sidewalks:	Discontinuous
Land Use:	Mixed
Character:	Urban
Terrain:	Flat



Legend:

Study Street

Survey Location

Observations and Evaluation

Volume (ADT):	7,500 vpd	*Vehicles Sampled:*	218
Segment Length:	0.5 miles	*85th Percentile Speed:*	35 mph
Collisions:	3 crashes	*Mean (50th Percentile) Speed:*	30 mph
Evaluation Period:	2 years	*Pace:*	25 to 35 mph
Collision Rate:	1.10 c/mvm (collisions per million vehicle miles)	*Percent in Pace:*	83.0%
Statewide Average Rate:	3.05 c/mvm		

(Additional details provided on the next sheet.)

Conditions Not Readily Apparent to the Driver:
Designated "Proposed Sidewalk Improvement" pedestrian corridor in the 2010 Bicycle & Pedestrian Master Plan.

Conclusions and Recommendations

This segment of West Sierra Avenue provides access to US 101 and regions west of Cotati, with rural characteristics such as no sidewalk and a single narrow travel lane in each direction for portions of the segment. Pedestrian activity is common as it provides a connection from the residential neighborhoods adjoining both sides of the street to the central business district in the east, though pedestrians are required to walk in the street where no sidewalk is provided. With an 85th-percentile speed of 35 mph, the nearest 5 mph increment is 35 mph. A **30 mph** posted speed limit is determined to be reasonable and appropriate for this street segment, in consideration of pedestrian safety and in accordance with the provisions of Sections 627, 22357, 22358 and 40802 of the *California Vehicle Code*.

30 mph

Speed Limit

January 5, 2015
Date

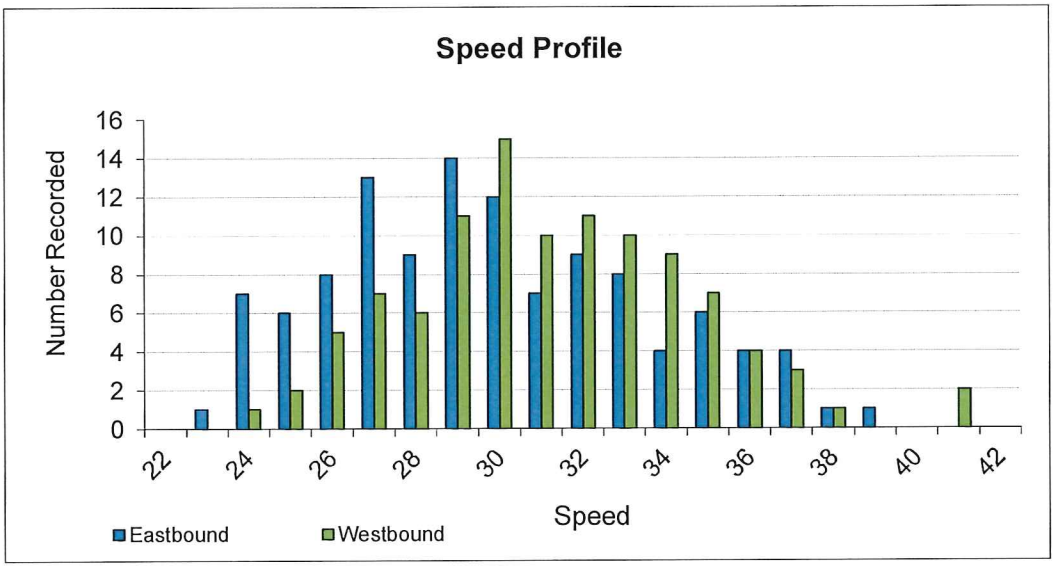
REGISTERED PROFESSIONAL ENGINEER
MARY JO R. YUNG
TR002054
TRAFFIC
STATE OF CALIFORNIA

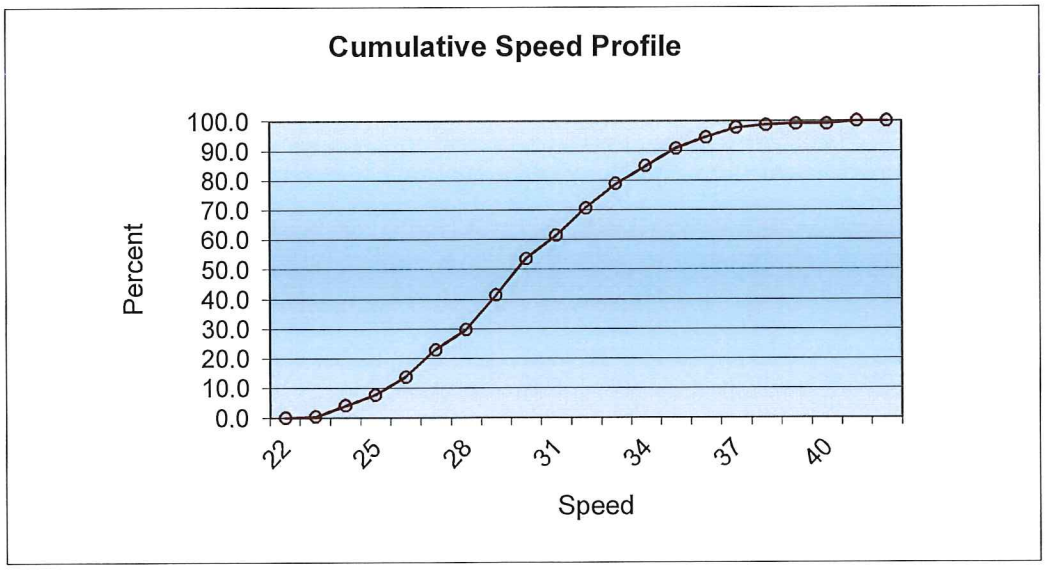
Mary Jo Yung, PE

Damien O'Bid, City Engineer

w-trans

Street: West Sierra Avenue **From:** City Limits-West **To:** East School Street





Date Data Collected: June 13, 2011 *Start Time:* 9:35 AM *Weather:* Clear

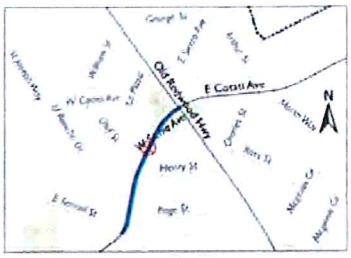
Day of the Week: Monday *End Time:* 10:35 AM *Recorder:* HW

City of Cotati
Engineering and Traffic Survey

Street: West Sierra Avenue ***From:*** East School Street ***To:*** Old Redwood Highway

Street Conditions

Posted Limit:	25 mph
Width:	40 feet
Lanes:	2
Configuration:	Undivided
Parking:	None
Bike Lanes:	Both sides
Sidewalks:	Both sides
Land Use:	Mixed
Character:	Urban
Terrain:	Flat



Legend:

Study Street

Survey Location

Observations and Evaluation

Volume (ADT):	7,500 vpd	*Vehicles Sampled:*	204
Segment Length:	0.25 miles	*85th Percentile Speed:*	33 mph
Collisions:	1 crashes	*Mean (50th Percentile) Speed:*	29 mph
Evaluation Period:	2 years	*Pace:*	24 to 34 mph
Collision Rate:	0.73 c/mvm (collisions per million vehicle miles)	*Percent in Pace:*	83.8%
Statewide Average Rate:	3.05 c/mvm		

(Additional details provided on the next sheet

Conditions Not Readily Apparent to the Driver:

Designated "Proposed Sidewalk Improvement" pedestrian corridor in the 2010 Bicycle & Pedestrian Master Plan.

Conclusions and Recommendations

West Sierra Avenue is located in the central business district and provides direct access to the La Plaza. The plaza street network has an unusual configuration that affects intersection geometrics and pedestrian crossing safety. With an 85th percentile speed of 33 mph, the nearest 5 mph increment is 35. A **30 mph** posted speed limit is determined to be reasonable and appropriate for this segment, in consideration of pedestrian safety and in accordance with the provisions of Sections 627, 22357, 22358, and 40802 of the *California Vehicle Code*.

30 mph
Recommended Speed Limit

January 5, 2015
Date

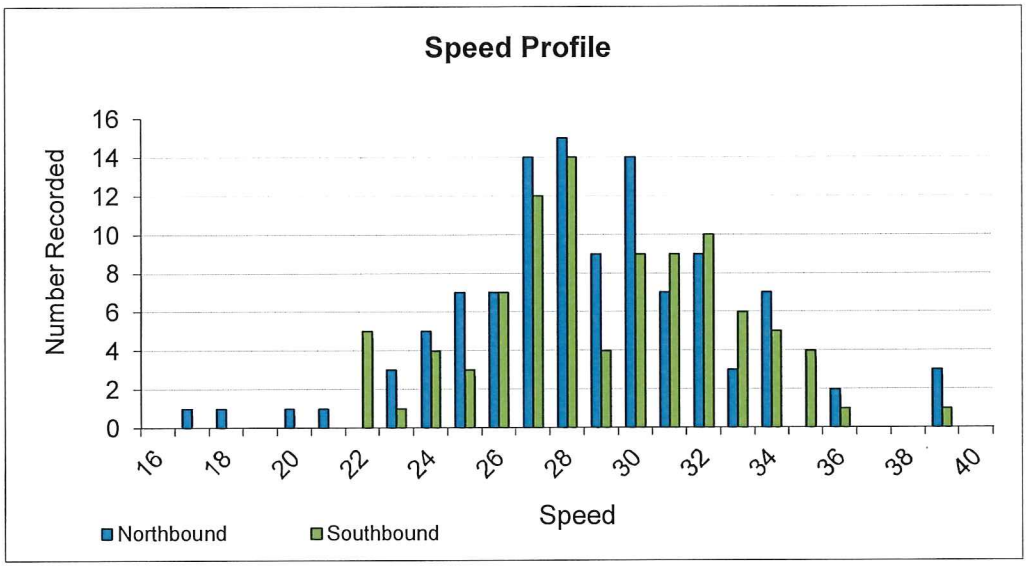
REGISTERED PROFESSIONAL ENGINEER
MARY JO R. YUNG
TR002054
TRAFFIC
STATE OF CALIFORNIA

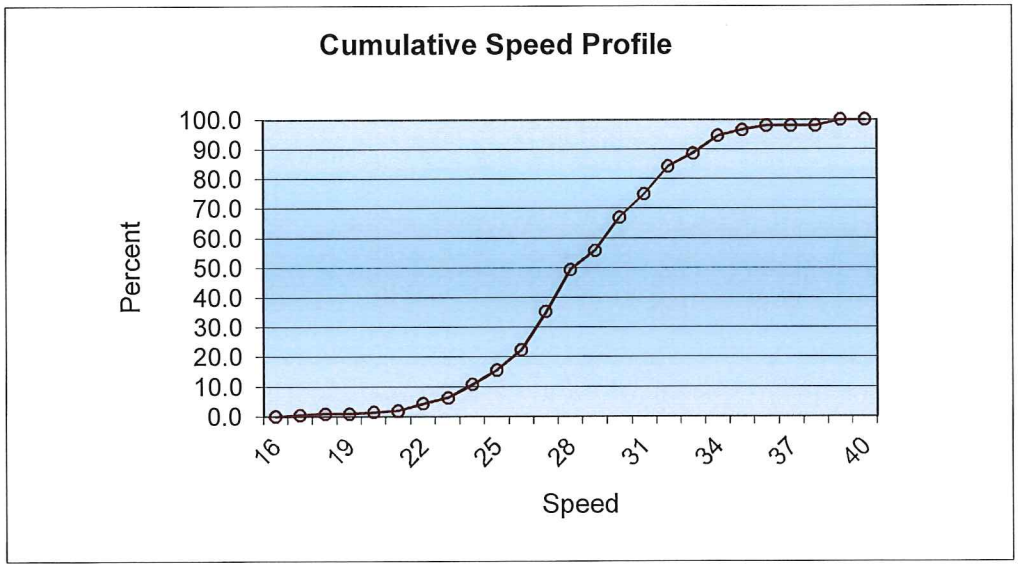
Mary Jo Yung, PE

Damien O'Bid, City Engineer

w-trans

Street: West Sierra Avenue ***From:*** East School Street ***To:*** Old Redwood Highway





Date Data Collected: June 13, 2011 *Start Time:* 1:30 PM *Weather:* Clear

Day of the Week: Monday *End Time:* 2:30 PM *Recorder:* HW