City of Merced
Speed Zone Study

August 02, 2024

AMG ADVANCED MOBILITY GROUP

CITY OF MERCED, CALIFORNIA
INCORPORATED APRIL 1, A.D. 1889

Table of Contents

Redefining Mobility

Cover Letter

August 02, 2024

Richard Maddox
Engineering Department
City of Merced
678 West 18th Street, Second Floor
Merced, CA 95340
maddoxr@cityofmerced.org

Reference: the City of Merced 2024 Speed Zone Survey RFP

Dear Richard and project selection committee,

Advanced Mobility Group (AMG) is excited to submit this proposal to provide professional services to conduct a speed zone survey for the City of Merced. Extensive traffic assessment and analysis experience, relevant traffic engineering experience and history, a readily available team, and existing working relationships with Bay Area cities are a few of the benefits the AMG team brings to the City. While the reputation and capability of our team are important, perhaps the most crucial is the project manager assigned to lead your project.

Our staff has completed similar projects in Santa Clara County, Menlo Park, Palo Alto, Newark, Mountain House, Patterson, Los Gatos, East Palo Alto, Orinda, Livingston, Dublin, San Bruno, San Leandro, Orinda, Perris, San Bruno, Antioch, Cupertino, San Jose, and Pleasant Hill. I will serve as the Project Manager and point of contact for this assignment. With more than 35 years of experience, I will proactively manage your projects, just as I did for more than three decades of various Engineering and Traffic Surveys including in Santa Clara County, Menlo Park, Palo Alto, San Carlos, Newark, Cupertino, Belmont, San Bruno, Patterson, San Jose, and Mountain House. My experience as a City transportation official with the City of Palo Alto (1995 – 2001) has given me the necessary skills to develop and evaluate ETS and work closely with the public. Throughout my career, I have managed various transportation engineering improvement projects involving creative solutions, complex analysis, and presentations to stakeholders.

Joy Bhattacharya, PE, PTOE will be the Quality Assurance / Quality Control (QA/QC) lead for this project. He has over 25 years of experience in transportation engineering and has conducted various similar projects throughout California. Andrea Flores, Vasavi Pannala, P.E., and Chris Higbee, P.E. will be supporting the team in this effort, and they have been involved with various speed and traffic engineering surveys. We will work with traffic data collection firms, NDS, and IDAX for traffic counts and radar data collection work for this project. We have worked together on many similar projects over the past two decades and we are confident of the process as required for the speed zone survey work.

The following are highlights of our proposal and reasons why we think that we are qualified to perform the needed services for the City of Merced:

- I have completed various similar projects throughout California and am well-versed in the process of speed zone surveys.
- We can proactively manage the project and act as an extension of the City staff as needed.

- AMG is highly qualified to conduct speed zone surveys for the City, and we are very familiar with the current California Manual on Uniform Traffic Control Devices (MUTCD) guidelines for setting speed limits.
- AMG staff had been involved as a California Traffic Control Devices Committee (CTCDC) Alternate for the final decision on speed limit procedures.
- We have assembled the best-qualified people to offer the services listed in the RFP.
- Our project engineers have a good understanding of the project requirements.
- The project team will not change without prior consent from the City.

When you work with AMG, you work with people who enjoy what they do. Each of us is skilled in traffic engineering, new technologies, latest MUTCD and CTCDC guidelines. Our professionals enjoy what they do and assist communities in which we live, work, and play. We consider ourselves an extension of your staff in the field and in the office.

Statement of Compliance: AMG complies with all parts of this solicitation without any exceptions.

Certificate of Insurance: AMG is willing and can provide insurance coverage as required by the City of Merced.

Conflict of Interest Requirements: AMG does not have any conflict of interest with the City and AMG will exercise reasonable care and diligence to prevent any actions or conditions that could result in a conflict with the best interest of the City.

As Principal of AMG, I am authorized to negotiate and contractually bind AMG. The terms of this proposal remain form for 120 calendar days. Should you have any questions or require additional information, please do not hesitate to contact me. My contact details are below:

Sincerely,

Advanced Mobility Group

Christopher Thnay, PE, AICP
Project Manager/Principal
925.322.992

FIRM PROFILE

- CONNECTED + AUTONOMOUS VEHICLES
- PROGRAM + PROJECT MANAGEMENT
- INTELLIGENT TRANSPORTATION SYSTEMS
- TRANSPORTATION DEMAND MANAGEMENT
- TRAFFIC ENGINEERING + DESIGN
- EXPRESS LANES + CONGESTION PRICING

Advanced Mobility Group
Walnut Creek Office:
3003 Oak Road, Suite 100
Walnut Creek, CA 94597

Advanced Mobility Group (AMG) is a California Corporation and certified Small Business Enterprise (SBE), established in 2018 to provide specialized innovative transportation services to our clients. Our group assists with disruptive technologies to empower the private and public sectors in the early adoption of proven advanced transportation solutions and intelligent infrastructure.

AMG is staffed by a 25-member team with offices located in Walnut Creek, Oakland, and San Francisco. Our engineering professionals serve public sector clients throughout California and have performed key work on projects across the nation. Work on this contract will be performed from our Walnut Creek office.

Our team of transportation professionals offers a wide range of services that address clients' needs throughout a project's life cycle from planning to operations and maintenance – including permitting assistance, programming, public engagement, conceptual and final design, schedule analysis, technical services, procurement services, project delivery, construction support, dispute/claims resolution, systems integration, revenue generation, and ongoing infrastructure management. As a vested partner in our community, we connect to projects on a personal level to advance the quality of life in communities across the region.

AMG's Traffic Engineering Group provides traffic engineering design and construction support services. AMG is a progressive and innovative firm staying a step ahead of emerging trends in transportation. AMG experts are quick to not only adapt to emerging trends but to guide these trends with people, policy, and smart adoption, shaping our proven strategic approach with rigor and vision.

AMG is familiar with Caltrans specifications, standard plans, and procedures tied to the design and construction of traffic systems and the development of traffic handling plans. AMG is staffed by a 25-member team of engineering professionals who are considered thought-leaders in the industry and have been leading with advanced technologies, connected and smart communities, Connected Autonomous Vehicles (CAV), Intelligent Transportation Systems (ITS), and innovative application solutions within the transportation sector.

AMG staff are experts in assisting with funding the next generation of transportation infrastructure and programs by building a coalition of private and public partnerships.

SUBCONSULTANTS

NDS

Founded in 1989, NDS was established to deliver accurate and cost-effective solutions to our clients' data collection needs. With over 30 years of excellence NDS has earned its clients trust by always delivering Superior Traffic Data in a Cost-Efficient Timely Manner. With a vast range of data collection services NDS consistently exceeds expectations in both data quality and Technological Advancements.

APPROACH

Project Understanding

The City of Merced is seeking professional engineering services to conduct a speed zone study for new streets incorporated since 2017 and for surveys that have expired or will expire soon and are deemed urgent for renewal.

Based on the information provided in the RFP, AMG understands that new surveys are needed for 178 roadway segments. The last speed zone survey conducted was effective September 17th, 2018, for 190 roadway segments. The speed surveys are completed on an individual basis, so they have different expiry times based on the original study date. The survey dates were not provided in the RFP, and hence AMG was not able to make a preliminary determination on the expiry of the speed surveys.

With additional information gathered from the City supplemented with the field data, and Assembly Bill No. 43 considerations, AMG will finalize the list of locations for renewal with the consensus of the City.

Project Approach

AMG's main objective for this study is to complete the following two tasks:

- Prepare and recommend appropriate speed limits consistent with the current laws and practices of the State of California for roadway segments throughout the City of Merced.
- Identify an appropriate posted speed for each of the streets surveyed.

Alternate for the final decision on speed limit procedures.

Assembly Bill No. 43 (**AB 43**), approved on October 8, 2021, implements policy recommendations from the California State Transportation Agency as outlined in the Zero Traffic Fatalities Task Force by providing for more flexibility in setting speed limits based on safety.

The bill is an act to amend certain sections of the California Vehicle Code (CVC) and add additional sections to the CVC relating to traffic safety. In summary, the bill offers the following flexibility to local jurisdictions in setting up the speed limits:

1. Local governments can lower speed limits to 5 mph below a traffic engineer's recommendation on streets identified as "safety corridors" or near places where vulnerable groups such as children, seniors, persons with disabilities, and the unhoused congregate.

2. Speed limits can stay the same or revert to a previous, lower speed on streets where safety upgrades have not been added as part of a previous traffic survey.
3. Cities can set a standard speed limit of 20-25 mph in business activity districts.
4. Law enforcement can enforce speed limits in senior zones or business activity districts without the justification of a traffic survey.
5. The period that an engineering and traffic survey justifies a speed can be extended for seven to 14 years (previous law says seven to 10 years) if a traffic engineer evaluates that section of the street and determines that no significant changes in the roadway or traffic conditions have occurred.
6. Local authorities can expand which streets are eligible for school zone speed limits.

Considering the passage of AB 43, AMG will review the results of the 85th percentile speed and associated traffic and environmental conditions of roadway segments, we will discuss the potential downgrade of speed with City staff before making a final recommended speed to the City. If there are no changes to the land use and roadways, many of the expiring speed zone survey segments could be extended to 14 years which will mean savings for the City. Our approach is based upon our extensive experience with Engineering and Traffic Surveys, as well as the overall field of traffic engineering safety.

Project Management Approach

Project management and quality assurance is the key to the success of any project. The AMG team has been involved in multiple speed zone survey projects in the past two decades and is well-trained in understanding the critical elements of such assignments. The key to the success of these projects is to have a hands-on management style, where the project manager is involved and aware of project detail. AMG has assigned Christopher to this role since he has managed similar assignments for various jurisdictions. AMG has the available resources to do the engineering work associated with the assignment. Work is currently planned to be completed from our local office in Walnut Creek and we guarantee that our quality products will be always delivered on time.

Quality control will play a major role in the successful completion of projects with tasks delivered on time and within budget. AMG will conduct a formal quality assurance review and approval of the final documents for which they are responsible and affix their professional seal and manual signature per the requirements of their licensing authority before issuance.

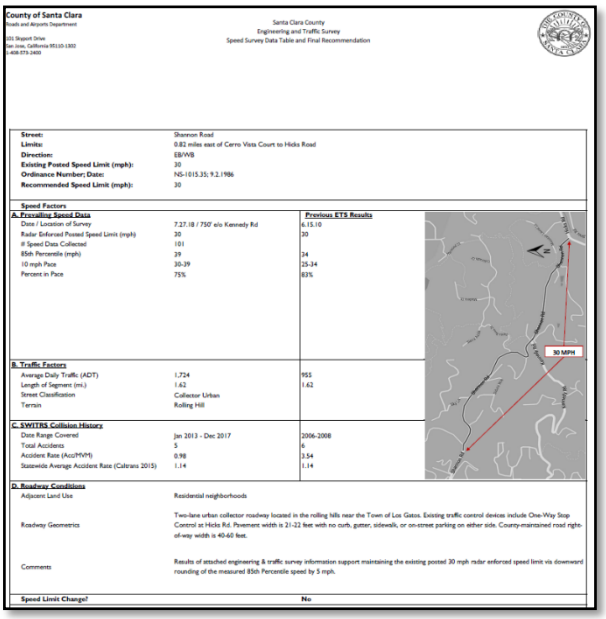
PROJECT EXPERIENCE

2017, 2018, 2019, 2021, 2022 Engineering and Traffic Surveys, County of Santa Clara, CA

AMG recently prepared and recommended appropriate 2018 to 2021 speed limits consistent with the current laws and practices of the State of California for many roadway segments throughout the County of Santa Clara. Collected 48-hour Average Daily Traffic (ADT) Classification counts and radar speed surveys for all roadways.

AMG is currently preparing evaluations for 60 additional segments.

Contact: Clarence Salim, P.E.,
Senior Civil Engineer
County Roads & Airports Department
(408) 494-1338 Clarence.Salim@rda.sccgov.org



County of Santa Clara
Roads and Airports Department
101 Skyport Drive
San Jose, California 95110-1302
1-408-573-2400

Santa Clara County
Engineering and Traffic Survey
Speed Survey Data Table and Final Recommendation

Street:	Shannon Road
Limits:	0.82 miles east of Cerro Vista Court to Hicks Road
Direction:	EB/WB
Existing Posted Speed Limit (mph):	30
Ordinance Number; Date:	NS-1015.35; 9.2.1986
Recommended Speed Limit (mph):	30

Speed Factors

A. Prevailing Speed Data		**Previous ETS Results**
Date / Location of Survey	7.27.18 / 750' e/o Kennedy Rd	6.15.10
Radar Enforced Posted Speed Limit (mph)	30	30
# Speed Data Collected	101	
85th Percentile (mph)	39	34
10 mph Pace	30-39	25-34
Percent in Pace	75%	83%

B. Traffic Factors		
Average Daily Traffic (ADT)	1,724	955
Length of Segment (mi.)	1.62	1.62
Street Classification	Collector Urban	
Terrain	Rolling Hill	

C. SWITRS Collision History		
Date Range Covered	Jan 2013 - Dec 2017	2006-2008
Total Accidents	5	6
Accident Rate (Acc/MVM)	0.98	3.54
Statewide Average Accident Rate (Caltrans 2015)	1.14	1.14

D. Roadway Conditions	
Adjacent Land Use	Residential neighborhoods
Roadway Geometrics	Two-lane urban collector roadway located in the rolling hills near the Town of Los Gatos. Existing traffic control devices include One-Way Stop Control at Hicks Rd. Pavement width is 21-22 feet with no curb, gutter, sidewalk, or on-street parking on either side. County-maintained road right-of-way width is 40-60 feet.
Comments	Results of attached engineering & traffic survey information support maintaining the existing posted 30 mph radar enforced speed limit via downward rounding of the measured 85th Percentile speed by 5 mph.

Speed Limit Change? No

2019 Engineering and Traffic Survey | City of Orinda Completed the Engineering and Traffic Surveys for the City of Orinda as part of their on-call services. The city updates a few corridors every couple of years instead of conducting a citywide study for the entire city every 5 or 7 years. AMG staff recently conducted all speed survey updates for the city as part of the on-call assignment.

Contact: Larry Theis, Director of Public Works and Engineering
City of Orinda
ltheis@cityoforinda.org

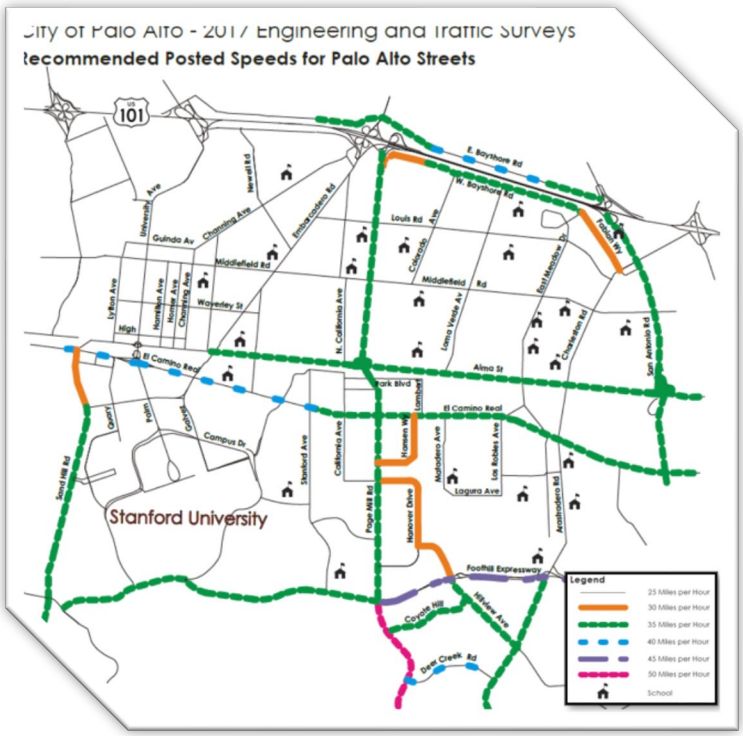
2016-2017 Palo Alto Engineering Traffic Surveys & Identification of Target Speed

The main objective for this project is to complete the following two tasks:

Prepare and recommend appropriate 2016 speed limits consistent with the current laws and practices of the State of California for 65 roadway segments throughout the City of Palo Alto.

Identify an appropriate target speed for applicable streets surveyed

AMG conducted detailed collision data analysis using Collision analysis software software based on 5 years of SWITRS data.

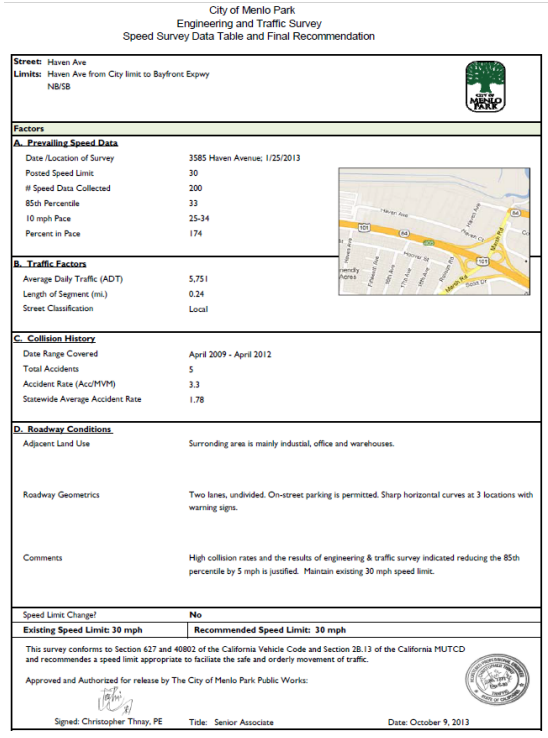


Contact: Ruchika Aggarwal
City of Palo Alto, Transportation Engineer
650-329-2425
Ruchika.Aggarwal@CityofPaloAlto.org

2013 Engineering and Traffic Surveys, City of Menlo Park, CA

AMG staff conducted engineering and traffic surveys for 41 street segments. Data collected showed that the 85th percentile speeds are relatively consistent with prior year surveys. There are no recommended changes to speed limits for any of the study segments. The recommendations were adopted by the City Council. ATD was contracted to conduct Citywide radar surveys and was able to complete the surveys within 2 weeks. The project included 41 radar speed surveys and 41 machine ADT counts.

Contact: Renato C Baile, P.E. (retired)
City of Menlo Park 650-455-4321, Renes322003@yahoo.com



City of Menlo Park
Engineering and Traffic Survey
Speed Survey Data Table and Final Recommendation

Street: Haven Ave
Limits: Haven Ave from City limit to Bayfront Expwy NB/SB

Factors

A. Prevailing Speed Data

Date /Location of Survey	3585 Haven Avenue; 1/25/2013
Posted Speed Limit	30
# Speed Data Collected	200
85th Percentile	33
10 mph Pace	25-34
Percent in Pace	174

B. Traffic Factors

Average Daily Traffic (ADT)	5,751
Length of Segment (mi.)	0.24
Street Classification	Local

C. Collision History

Date Range Covered	April 2009 - April 2012
Total Accidents	5
Accident Rate (Acc/MVM)	3.3
Statewide Average Accident Rate	1.78

D. Roadway Conditions

Adjacent Land Use	Surrounding area is mainly industrial, office and warehouses.
Roadway Geometrics	Two lanes, undivided. On-street parking is permitted. Sharp horizontal curves at 3 locations with warning signs.
Comments	High collision rates and the results of engineering & traffic survey indicated reducing the 85th percentile by 5 mph is justified. Maintain existing 30 mph speed limit.

Speed Limit Change?	No
Existing Speed Limit: 30 mph	**Recommended Speed Limit: 30 mph**

This survey conforms to Section 627 and 40802 of the California Vehicle Code and Section 2B.13 of the California MUTCD and recommendes a speed limit appropriate to faciliate the safe and orderly movement of traffic.

Approved and Authorized for release by The City of Menlo Park Public Works:

Signed: Christopher Thnay, PE Title: Senior Associate Date: October 9, 2013

Several examples of Engineering and Traffic Survey projects are contained in **Appendix B**.

WORK PLAN

TASK 1. PROJECT MANAGEMENT AND COORDINATION

AMG will schedule a kick-off meeting with the City to identify and discuss project objectives, scope, schedule, and budget. This meeting will include establishing points of contact, reviewing critical path items, developing a work plan and schedule, identifying city speed zone survey guidelines, and communicating expectations for the project. AMG will continue to set up and manage the project, attend team meetings, and provide continuous coordination with the City. AMG will perform quality assurance and quality control before each milestone submittal and in conformance with City Standards. AMG's Project Manager will act as the single point of contact to coordinate the project with the City and will provide project updates to the City regularly throughout the entire project duration.

Services under this task will include the following:

- Kick-off Meeting coordination and attendance
- Coordination meetings with the City
- File setup maintenance, management, and sharing
- Supervision of and coordination with sub-consultants
- Quality Assurance and Quality Control reviews before making milestone submittals to the City
- Monitoring the project budget
- Project schedule with key milestones (Microsoft Project & PDF)
- Monthly invoices
- Data Collection by AMG
- Data to be provided by the City

AMG will request the following items from the City before the kick-off meeting to better understand available information, identify needs, and develop a streamlined approach for all tasks involved in the project:

- Collision Data (recent three years)
- Historical Traffic Count Data
- Previous ETS report
- GIS or mapping data of roadway segments

Deliverables: Meeting Agendas and Minutes, QA/QC Reviews, Schedule Updates, Invoices

TASK 2. SITE ANALYSIS AND DATA COLLECTION PLAN

Roadway Segment Characteristics: AMG's staff will conduct a field investigation to collect relevant information to add the perspective of human judgment to set the speed limits. The information collected will include but is not limited to driving each street segment while "floating" with prevailing traffic, geometry, roadway width, alignment, number of lanes, roadside development, parking, signalized intersections, traffic generators, etc.

Data Collection Plan: AMG will submit a data collection plan with a phased approach for the city's consideration and approval. AMG will analyze the renewal requirements of the previously surveyed segments to submit a prioritized list with a renewal timeline for the City's approval. The date of the previous traffic survey, changes in traffic conditions, and AB 43 requirements will be considered to

prepare the priority list for the renewal of speed zone surveys. The identified list of locations confirmed by the city will be surveyed within the scope of this project. A timeline for future speed zone surveys will be recommended for the locations deemed to be renewed later. AMG will submit a detailed data collection plan with locations, and targeted dates for data collection and will identify if the location is a new location for speed zone survey or a location for renewal.

TASK 3. DATA ACQUISITION

Collect Radar Speed and ADT Data

The most crucial component of a speed zone survey is the selection of locations for data collection. The prevailing speed at the data collection point should be representative of the entire speed zone segment and not too close to any traffic control device. The location of the data collection may affect the prevailing 85th percentile speed, and if guidelines are not followed carefully, it may be subjected to scrutiny when a speeding citation is challenged. Our experience in other jurisdictions suggests avoiding locations near curves and short-speed zones.

AMG will work closely with the City and the data collectors to verify that the survey locations are adequate for speed sampling. AMG will mark the locations on a Google Map. AMG will send Google Maps (KMZ map location) for City review and approval before proceeding with data collection. For consistency, AMG will review locations where prior speed survey data were collected. As appropriate, AMG might recommend a change to the location if there is good justification after consultation with the City. Several key guidelines to follow include:

- Radar Speed Surveys are conducted per the Department of Motor Vehicle (DMV) Regulations and the MUTCD.
- Radar Units will be certified and calibrated before use. The data collection firms will periodically check the gun with a tuning fork to ensure that the gun is functioning properly. The calibration certificate for radar guns will be included in the final report. The data collection firm employees that will conduct the speed surveys will be certified radar specialists.
- A representative number of speeds will be obtained by radar and recorded at each location. Speed for a minimum of 100 vehicles per direction will be recorded for up to one hour during non-peak hours. In no case will the data samples be less than 50 vehicles per approach (for very low volumes streets). The radar survey will not be performed during peak hours of 7:00 a.m.-9:00 a.m. and 3:00 p.m.-6:00 p.m.

Review Collision History and Crash Rate Calculations

Collision history is very important in speed limit establishment, and it is vital to be fully aware of collision histories, collision problems, collision distributions, and especially being able to recognize collisions related to speed.

AMG will review the Statewide Integrated Traffic Records System (SWITRS) collision reports or the most recent three-year period that is available either through the CHP or from the City. SWITRS data for the past three years is available through iSWITRS. AMG is an expert in using Collision Magic software (similar to Crossroads) so our collision analysis would be very comprehensive and complete.

AMG will review the crash history, calculate the crash rate, and compare the crash rate with the expected crash rate as established by Caltrans District 10 for various roadway types.

TASK 3. SPEED ZONE SURVEY REPORT

The passage of Assembly Bill 43 in 2021 could mean a great opportunity for the City to revisit some of the roadways for potential consolidation and speed reduction. Based on our review of the street characteristics, land use, and functional area (business district, senior centers, or school zone), AMG will evaluate and determine if streets might qualify for speed limit reduction per Assembly Bill 43. There is a real opportunity for streamlining and cost savings due to the following:

- Extending current ETS to 14 years – for areas where there is essentially no change in traffic characteristics.
- Combine roadways in business activity districts and set a standard speed limit of 20-25 mph.
- Explore and review which streets are eligible for school zone speed limits. This could result in consolidation and reduction of data collection. Many agencies have reduced the school zone to a 20 mph speed limit (AB 321).

AMG will work with City staff to meet with stakeholders for all affected street segments. The outreach meeting will provide a forum for discussions, feedback, and support for any changes to the speed limit.

Having worked on ETS for many agencies in the past several decades, AMG staff have developed a systemic approach to reviewing and comparing existing speed limits of various roadway types and their characteristics and proposing safe speed limits based on those roadway types and characteristics.

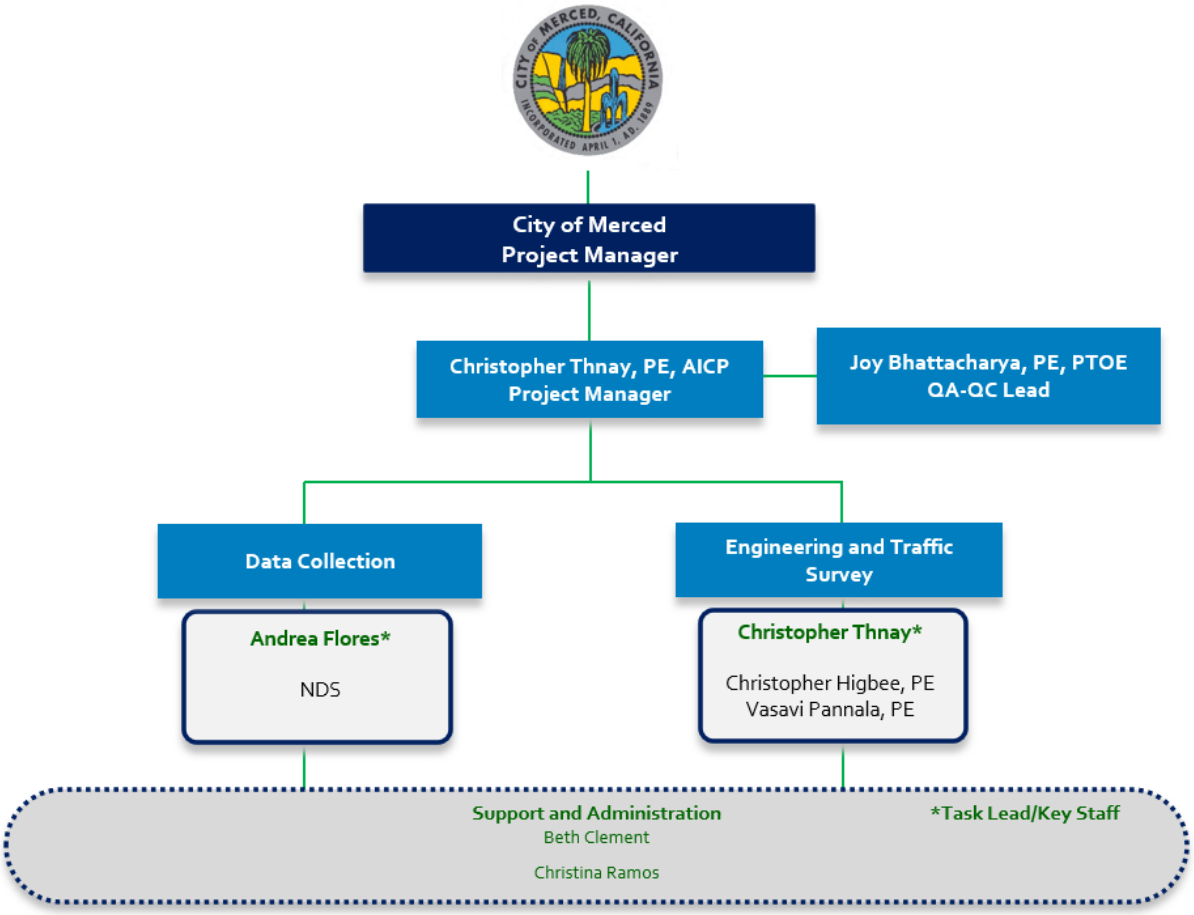
Before preparing the speed zone survey report and summary sheets, AMG will present a template for the report and seek the city's approval.

AMG will compile speed and collision summary tables to be included in the Draft and Final Speed Survey summary sheet. This will include:

- Executive Summary of the study findings
- Tables illustrating the segments analyzed, analysis results, and recommended speed limits.
- Discuss changes to ETS segments due to Assembly Bill 43
- Create an Executive Summary Sheet for City use that will summarize all pertinent information of the speed zone survey. This Executive Summary Sheet will serve in the future as an official City record when requested by the public or other agencies.

AMG will submit a Draft report to the City, including all of our findings and recommendations. We will obtain comments from the City and will incorporate them into our final document. The final report will meet all the requirements of the Engineering and Traffic Survey/Speed Zone Survey and it will be signed and certified by the Project Manager, who is a registered Professional Traffic Engineer along with a signature block for the City Engineer, which will be provided to the City for adoption. The Final report will be approved by the City Engineer.

KEY STAFF



Key staff highlights are listed below. Full resumes are provided in **Appendix A**.

Christopher Thnay PE, AICP
Project Manager
MS, Transportation Planning & Management - Stanford University, California
BS, Civil & Environmental Engineering - University of Wisconsin, Madison, WI
Traffic Engineer #1771, State of California
Certified Planner #10403, AICP

Christopher will serve as the Project Manager and project lead for this project. He has more than 35 years of experience in transportation engineering and has served as project manager for many large planning and operation projects around the San Francisco Bay Area. For seven years, he worked in the City of Palo Alto Transportation Department serving in such key roles as Acting Traffic Engineer, responsible for conducting the City's ET&S. He has completed ET&S projects for many agencies including Santa Clara County, cities of Menlo Park, Palo Alto, Antioch, Cupertino, Newark, Mountain House, Patterson, San Bruno, and Belmont.

Joy Bhattacharya PE, PTOE
Principal-in-Charge
MS, Transportation Engineering/Operations Research – University of Delaware
MS, Transportation Engineering – University of Tokyo, Tokyo, Japan
BS, Civil Engineering – Indian Institute of Technology, Kharagpur, West Bengal, India
PE - #68928, State of California
Professional Traffic Operations Engineer #1103

Joy will be the QA-QC lead for this project. He is a Vice President of AMG's Innovative Transportation Solutions team, with specialization in municipal traffic engineering, freeway operations, arterial system planning, circulation studies, traffic impact studies, traffic operations, and simulation, Intelligent Transportation Systems, Systems Integration, general/specific plans, parking studies, corridor studies, expert witness testimony, transportation planning for major developments, geometric design, safety studies, and oversight of traffic signal system projects. He has completed many ET&S projects for many agencies including Stockton, Pleasant Hill, San Leandro, Alameda, Orinda, Atwater, Merced, and Union City.

Andrea Flores
Data Collection & Analysis
MS, Civil Engineering, California Polytechnic State University, San Luis Obispo
BS, Engineering, California Polytechnic State University, San Luis Obispo

Andrea Flores has more than 4 years of experience in transportation engineering including civil design, traffic calming, and traffic impact studies. She has extensive knowledge of several computer programs: AutoCAD, AutoCAD Civil 3D, Synchro, Google Earth Pro, and Microsoft Office Suite. She has worked on Engineering and Traffic surveys for Santa Clara County, the City of San Jose DOT, and the City of Orinda. She will be the data collection and analysis lead.

Vasavi Pannala, PE
Analysis Support
MS, Civil Engineering, West Virginia University, Morgantown, West Virginia
B.S. Civil Engineering, Andhra University, India
PE - Engineers and Professional Land Surveyors #76410

Vasavi will assist Andrea with the data collection and analysis. Chris will assist with collision analysis and cost estimates. Her experience includes systems engineering, transit operational analysis, traffic signal design, traffic operational analysis, Intelligent Transportation Systems design, traffic control, and lighting design. She has extensive training and experience in the use of software tools including HCS, Synchro, Corsim, TRAFFIX, PARAMICS, VISSIM, Integration, Lumen Micro, and AGI 32.

Chris Higbee, PE
Collision Analysis and Civil Support
B.S. Civil Engineering, California Polytechnic State University, San Luis Obispo, California
PE - Engineers and Professional Land Surveyors

Chris will assist with collision analysis and cost estimates. He has 7 years of experience in the field of transportation engineering, including civil engineering and transportation planning. He routinely completes and supports ET&S, traffic calming safety assessment studies, impact analyses, roundabout design, level of service reports, cost estimates, parking studies, assessment studies, and signal coordination projects throughout the San Francisco Bay Area. Subject Matter Expert in signal coordination, traffic control systems, traffic operational analysis, simulation, and modeling.

LITIGATION

AMG has not had any litigations for the past ten years.

DISCLOSURE

AMG does not have any conflict of interest with the City and AMG will exercise reasonable care and diligence to prevent any actions or conditions that could result in a conflict with the best interest of the City.

CONTRACT

AMG has read the attached sample contract in the RFP. We understand the terms and can execute the standard professional service contract without any exceptions and can provide the required insurance.

COST PROPOSAL

The Cost Proposal will be submitted in a separate sealed envelope per the instructions of the RFP.

PROJECT SCHEDULE

A high-level project schedule is shown below. A detailed project schedule schedule will be provided followed by further discussions with the city during the kick-off meeting.

Schedule

2-Aug

City of Merced 2024 Speed Zone Survey Project

City of Merced 2024 Speed Zone Survey Project												
	AMG											
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Task 1 - Project Management												
Kick-off Meeting and Coordination	Meeting											
Cost Control, QA/QC												
Task 2 - Site Analysis and Data Collection Plan												
Study Roadway Segments/Site Visit			Deliverable									
Data Collection Plan		Deliverable										
Task 3 - Data Acquisition												
ADT Counts (24-hr, 368)												
Speed Radar Surveys (368)												
Collision Analysis												
Task 4 - Speed Zone Survey Report												
Meeting to discuss Segments due to Assembly Bill 43							Meeting					
Draft Summary Report & ETS Summary									Deliverable			
Final Summary Report											Deliverable	

Legend:

Meeting

Deliverable

Appendix A| Resumes

Helping your community redefine mobility.

Christopher Thnay, P.E., AICP

Project Manager/Principal

Christopher has more than 35 years of experience in transportation engineering for large planning and operation projects around the San Francisco Bay Area. He is focused on fostering a healthy balance between land use and transportation needs, and has expertise in corridor studies, safety audits, traffic calming, context sensitive roadway design, traffic impact and parking studies, and general plan roadway policies and programs.

EDUCATION

MS, Transportation Planning & Management - Stanford University, Stanford, CA
BS, Civil & Environmental Engineering - University of Wisconsin, Madison, WI

REGISTRATIONS

Traffic Engineer #1771, State of California
Certified Planner #10403, AICP

TRAFFIC ENGINEERING & PLANNING

- ✓ Traffic Operations Analysis
- ✓ Safety Analysis
- ✓ Planning Model
- ✓ Grant Applications
- ✓ Plan Checking
- ✓ Traffic Impact Fee
- ✓ Engineering Traffic Study
- ✓ Parking Evaluation
- ✓ TDM/Ped/Bike Plan
- ✓ Roads, Signals, Developments & Land Use Data Analysis
- ✓ Scenarios Evaluation Mitigation Measures

Project Experience

Countywide Engineering Traffic Surveys Revalidation, Santa Clara County
ETS revalidation pf more than 250 segments since 2017 - 2022. Conducted 2-weekday vehicular classifications counts and radar surveys. Created new one-page Executive Summary Sheet template to replace previous 5-page summary sheet.

Citywide Engineering Radar Speed Surveys, Menlo Park, CA
Conducted engineering and traffic surveys for 41 street segments. Data collected showed that the 85th percentile speeds are relatively consistent with prior year surveys. There are no recommended changes to speed limits for any of the study segments. The recommendations were adopted by the City Council.

Engineering Traffic Surveys & Identification of Target Speed, Palo Alto, CA
The main objective for this project is to complete and recommend appropriate 2016 speed limits and identify an appropriate target speed for applicable streets surveyed. The process to achieve the target speed involved evaluation, classification and identification of street attributes that support a certain target speed.

Citywide Engineering Radar Speed Surveys, El Cerrito, CA
Performed speed zone surveys of 49 road segments in compliance with California Vehicle Code (CVC) section 40802b. The scope of work included traffic counts, radar checks, speed data and accident analyses, floating car runs, and speed zone recommendations.

Citywide Engineering Radar Speed Surveys, Newark, CA
Conducted speed zone surveys of 66 roadway segments in the City of Newark. The scope of work included traffic counts, radar checks, speed data and accident analyses, floating car runs, and speed zone recommendations.

Citywide Engineering Radar Speed Surveys, Cupertino, CA
Conducted speed zone surveys of 87 roadway segments in the City of Cupertino. The scope of work included traffic counts, radar checks, speed data and accident analyses, floating car runs, and speed zone recommendations.

Citywide Engineering Radar Speed Surveys, Antioch, CA
Conducted speed zone surveys of 60+ roadway segments in the City of Antioch. The scope of work included traffic counts, radar checks, speed data and accident analyses, floating car runs, and speed zone recommendations.

Joy Bhattacharya P.E., PTOE

Principal In Charge

Joy is AMG's Vice President of Innovative Transportation Solutions. He has in-depth experience in the development, design and implementation of various innovative engineering strategies in major metropolitan areas, including Adaptive/Responsive Traffic Signal Systems and Transit Priority Systems; Incident Management Plans; design of automated Electronic Toll Collection systems; preparation of PS&E for field implementation of CCTV, Changeable Message Signs, Highway Advisory Radio, Ramp Metering and ATMS systems; and freeway and arterial operations using micro-simulation.

EDUCATION

M.S. Transportation Engineering/Operations Research, University of Delaware, Newark, Delaware, 2001

M.Eng Transportation Engineering, University of

CA REGISTRATIONS

Professional Engineer #68928, California Board for Professional Engineers, Land Surveyors, and Geologists

Professional Engineer #1103, Professional Traffic Operations Engineer

INTELLIGENT TRANSPORTATION SYSTEMS

- ✓ ITS System Review & Needs Assessment
- ✓ Traffic Management Centers
- ✓ Traffic Operations
- ✓ Knowledge of Existing & Emerging Transportation Technologies
- ✓ Innovative Congestion Management Strategies Stakeholder Coordination

Project Experience

Engineering and Traffic Surveys for the City of Union City, CA
Performed the speed zone surveys of 31 road segments in compliance with California Vehicle Code (CVC) section 40802b. The project's scope of work included traffic counts, radar checks, speed data and accident analyses, floating car runs to gauge driving behaviors, and speed zone recommendations. The final report included an executive summary, description of vehicle code requirements, survey methodology and analysis, speed limit recommendations, and maps and figures showing the existing and proposed speed zone recommendations.

Engineering and Traffic Surveys for the City of San Leandro, CA
conducted the engineering and traffic surveys for 60 street segments for the City of San Leandro. The City's speed limits were kept the same as existing for 51 locations and nine locations required an increase in speed limit by 5 mph. The recommendations were accepted by the City Council.

Engineering and Traffic Surveys for the City of Pleasant Hill, CA
Conducted the 2010 engineering and traffic survey for the City of Pleasant Hill. The study included a summary of radar speed surveys, daily traffic counts, and traffic accidents at 39 locations. The purpose of the survey was to evaluate if the existing speed limits were still appropriate for enforcement purposes. Speed limit recommendations were presented based on the California Vehicle Code (CVC) code requirements and MUTCD. The study findings were presented to the City's Transportation Commission and it was approved by the Commission.

Engineering and Traffic Survey for the City of Orinda, CA
Completed the Engineering and Traffic Surveys for the City of Orinda as part of their on-call services. City updates few corridors every couple of year instead of conducting a citywide study for the entire city every 5 or 7 years. Stantec staff conducted all speed survey updates for the as part of the on-call assignment.

Andrea Flores, EIT

Assistant Engineer

EDUCATION

M.S. Civil Engineering, California Polytechnic State University, San Luis Obispo, CA, 2019
B.S. Engineering, California Polytechnic State University, San Luis Obispo, CA, 2018

REGISTRATIONS

Engineer-In-Training #171508, California Board for Professional Engineers, Land Surveyors, and Geologists

TRAFFIC AND TRANSPORTATION ENGINEERING

- ✓ Engineering Traffic Study
- ✓ Signing and Striping
- ✓ Traffic Control
- ✓ Grant Applications
- ✓ Traffic Calming
- ✓ Traffic Signal Design

Andrea Flores has more than 4 years of experience in transportation engineering including civil design, traffic calming, and traffic impact studies. She has extensive knowledge on several computer programs: AutoCAD, AutoCAD Civil 3D, Synchro, Google Earth Pro, and Microsoft Office Suite.

Project Experience

Countywide Engineering Traffic Surveys Revalidation, Santa Clara County
Worked on collision analysis and one page summary sheets for the project. The project includes ETS revalidation of more than 250 segments from 2017 - 2022.

Local Road Safety Plan, Martinez, CA.
Conducted collisions analysis using data collection from SWITRS and to evaluate trends or patterns. Evaluated. Created collision maps using Crash Magic software for top 10 corridors and top 10 intersections for the report.

Local Road Safety Plan, Union City, CA. Conducted collisions analysis using data collection from SWITRS and to evaluate trends or patterns. Evaluated. Created collision maps using Crash Magic software for top 10 corridors and top 10 intersections for the report.

Other project experience.

- Prepares Traffic Impact Studies for a varying group of projects
- Completes Level of Service and Queuing reports using Synchro 11
- Conducts Trip Generation Studies and Trip Distribution
- Analyzes collision data collected from TIMS and SWITRS
- Assists in the design of traffic calming measures
- Strong skills in Google Earth Pro to assist in project design and impact studies
- Prepares work orders for local agencies using CAMUTCD (California Manual on Uniform Traffic Control Devices
- Research plans, guidelines, and municipal codes of various local agencies to check compatibility of new projects
- Develops surveys for public outreach projects and analyzes results
- Analyzes VMT for Impact Studies and proposes suitable mitigation measures
- Strong Skills in AutoCAD to assist in Traffic Signal Design
- Assists in the preparation of Local Road Safety Plans, Outreach Plans, and Traffic Management Plans

Vasavi Pannala, P.E.

Project Manager

EDUCATION

M.S. Civil /Transportation Engineering, West Virginia University, Morgantown, West Virginia. 2001

B.S. Civil Engineering, Andhra University, Visakhapatnam, India. 1999

CERTIFICATIONS

Professional Engineer #76410, California Board for Professional Engineers, Land Surveyors, and Geologists

TRAFFIC AND TRANSPORTATION ENGINEERING

- ✓ Complete Streets Design
- ✓ Traffic Signal Design
- ✓ Roadway Design
- ✓ Traffic Operations Analysis
- ✓ Traffic Impact Analysis
- ✓ Signing and Striping
- ✓ Traffic Control Plans
- ✓ Lighting Analysis
- ✓ Lighting Design
- ✓ Transportation Management Plan
- ✓ TMC Operator Manuals

EXPRESS LANES/ MANAGED LANES

- ✓ Electrical Design
- ✓ Communication Design
- ✓ Utility Coordination

Vasavi is a Project Manager in AMG's Innovative Transportation Solutions group. She is a licensed Civil Engineer with more than 20 years of experience in engineering and management, leadership and mentoring, team building and supervision, as well as creative problem-solving. As a project manager, she has a proven record of completing projects on time and within budget. Technical experience includes systems engineering, transit operational analysis, traffic signal design, traffic operational analysis, Intelligent Transportation Systems design, traffic control, and lighting design. Her municipal experience includes working as a Senior Transportation Engineer for the City of Hayward. She has extensive training and experience in the use of software tools including HCS, Synchro, Corsim, TRAFFIX, PARAMICS, VISSIM, Integration, Lumen Micro, and AGI 32.

Project Experience

Engineering and Traffic Survey for the City of Orinda, CA Completed the Engineering and Traffic Surveys for the City of Orinda as part of their on-call services. The city updates a few corridors every couple of years instead of conducting a citywide study for the entire city every 5 or 7 years. AMG staff conducted all speed survey updates as part of the on-call assignment.

2020 Citywide Engineering and Traffic Survey for the City of Perris, CA Completed the traffic data Engineering and Traffic Surveys for the City of Perris for approximately 70 segments. Speed limit recommendations were made for the non-prima facie roadway segments using 2014 CA MUTCD guidelines. Justification for reducing speed limits can be based on residential density, pedestrian/bicyclist safety, and other factors not readily apparent to drivers but essential to meet the traffic safety needs of the community.

Mountain House Community Services District, On-Call Projects, Mountain House, CA (Project Engineer). Vasavi is currently assisting in plan checking for new developments: signal design, photometrics, lighting design, joint trench, signing, and striping.

City of Belmont, On-Call Projects, Mountain House, CA (Project Engineer). Vasavi is currently assisting in reviewing Traffic Impact Studies and traffic engineering reports.

Grant Application Assistance, Various, California. Vasavi has assisted numerous agencies in submitting successful grant applications to secure funds for the implementation of projects. Some examples include:

I-80 Integrated Corridor Mobility (ICM) Project, Alameda CTC, CA (Deputy Project Manager). Technical work included a review of PARAMICS traffic simulation modeling results, preparation of various traffic technical reports including Corridor System Management Plan, System Engineering Management Plan (SEMP) and Concept of Operations, Systems Manager, testing and validation, and project closing.

Vasavi@amobility.com | P: 925.360.0505

Chris Higbee, PE

Traffic Engineer

Chris Higbee has 5 years of experience in Complete Streets design and implementation, traffic calming, parking, traffic impact and congestion management. Additionally, he has prepared many transportation policy and planning documents, including development of Pedestrian & Bicycle Master Plans and General Plan Circulation Elements. He has knowledge of several computer programs: AutoCAD, AutoCAD Civil 3D, Synchro, Highway Capacity Software, Google Earth/Maps and Microsoft Office Suite.

EDUCATION

B.S. Engineering, California Polytechnic State University, San Luis Obispo, CA, 2014

REGISTRATIONS

Professional Engineer #88285, California Board for Professional Engineers, Land Surveyors, and Geologists

TRAFFIC AND TRANSPORTATION ENGINEERING

- ✓ Complete Streets Design
- ✓ Traffic Signal Design
- ✓ Roadway Design
- ✓ Rectangular Rapid Flashing Beacons
- ✓ Traffic Operations Analysis
- ✓ Roads, Signals, Developments & Land Use Data Analysis
- ✓ Signing and Striping
- ✓ Traffic Control
- ✓ Engineering Traffic Study

Project Experience

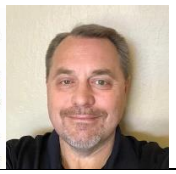
Pedestrian Safety Enhancements for San Mateo Avenue, San Bruno, California (Project Engineer)
The City of San Bruno aimed at improving pedestrian safety along the San Mateo Avenue corridor through downtown San Bruno. The project documented the existing needs and opportunities and recommended treatments and improvements. Chris was responsible for conducting all field work, collision review, safety assessments, and development of initial alternative recommendations. Recommendations included new supplemental signage, rectangular rapid flashing beacon treatments, roadway striping, and general ADA-compliancy updates.

Downtown Traffic Corridor Study and Design, Hollister, CA (Lead Project Engineer). In 2014, the City of Hollister performed a corridor study for San Benito Street, which was observed to have high speeds and cut-through traffic volumes through the downtown area. As lead project engineer, Chris and the team developed two alternative Complete Street designs to implement a road diet. Each was analyzed for operational effectiveness and scored against various selection criteria. Following extensive outreach, the recommended alternative was accepted and approved for phased implementation in February 2015. Chris then developed signing and striping plans for the downtown portion of the corridor, which included reducing the number of travel lanes from four to two with a center median, minimizing lane widths, and implementing Class III bicycle facilities to promote accessibility and comfort.

Avalon Heights Traffic Calming Study, Fremont, CA (Lead Project Engineer). The Avalon Heights HOA retained consultant services in response to ongoing concerns about vehicular speeds and pedestrian safety within the community. The project focused on analyzing traffic conditions along the various streets within the community and developing recommendations to address speeding and safety. To assess level of concern and recommend appropriate improvement measures, Chris was responsible for conducting in-field observations, organizing data collection for vehicle volumes and speeds, and developing alternative traffic calming recommendations. The study resulted in identifying solutions that would enhance vehicular and traffic safety in the community. Cost magnitude was included for the improvements, considering the HOA would pay out-of-pocket.

Steve Sandbank

NORTHERN CALIFORNIA AREA MANAGER



BACKGROUND

Mr. Sandbank is a driven and accomplished leader, leveraging over 20 years of results in the technical service arena, directing returns in operations and project management capacities. He is Six-Sigma trained, with significant experience developing and improving processes and business metrics. Implementation and project management focused, strong financial acumen, great team player with discipline to work autonomously as needed.

PROJECT EXPERIENCE

Dixon Resources – Los Gatos Parking Study

2019

- 4-Month study of Downtown Los Gatos Business, Residential and Civic Center Areas
- Occupancy and Turnover collection of 50+ lots and 46 street segments.
- Weekend and Weekday, 5 sweeps per day; 3 days per month

Dudek – California State University Chico
2018

- 4-hour Origin-Destination Study with complex matching between a matrix of 11 sample points
- 4-hour Turning Movement Counts conducted at 14 intersections
- 4-day volume ADT's at 13 locations

Fehr & Peers – I-680 Express Lanes Project
2019

- 72-hour Classification ADT's at 50 locations
- 72-hour Highway Mainline Volumes collected at 4 locations using Wavetronix
- 4-hour Turning Movement Counts conducted at 18 intersections

City of Sacramento – Master Services Agreement
2018 - Current

- ~200 24-hour volume ADT counts conducted annually
- ~64 4-hour Turning Movement Counts conducted annually
- ~20 specialized camera studies, including pedestrian counts and queue observations conducted annually

EDUCATION

BA, Communication Studies

PROJECT MANAGEMENT EXPERIENCE

17

SCHEDULING MANAGEMENT

7

DATA COLLECTION MANAGEMENT

5

YEARS OF EXPERIENCE

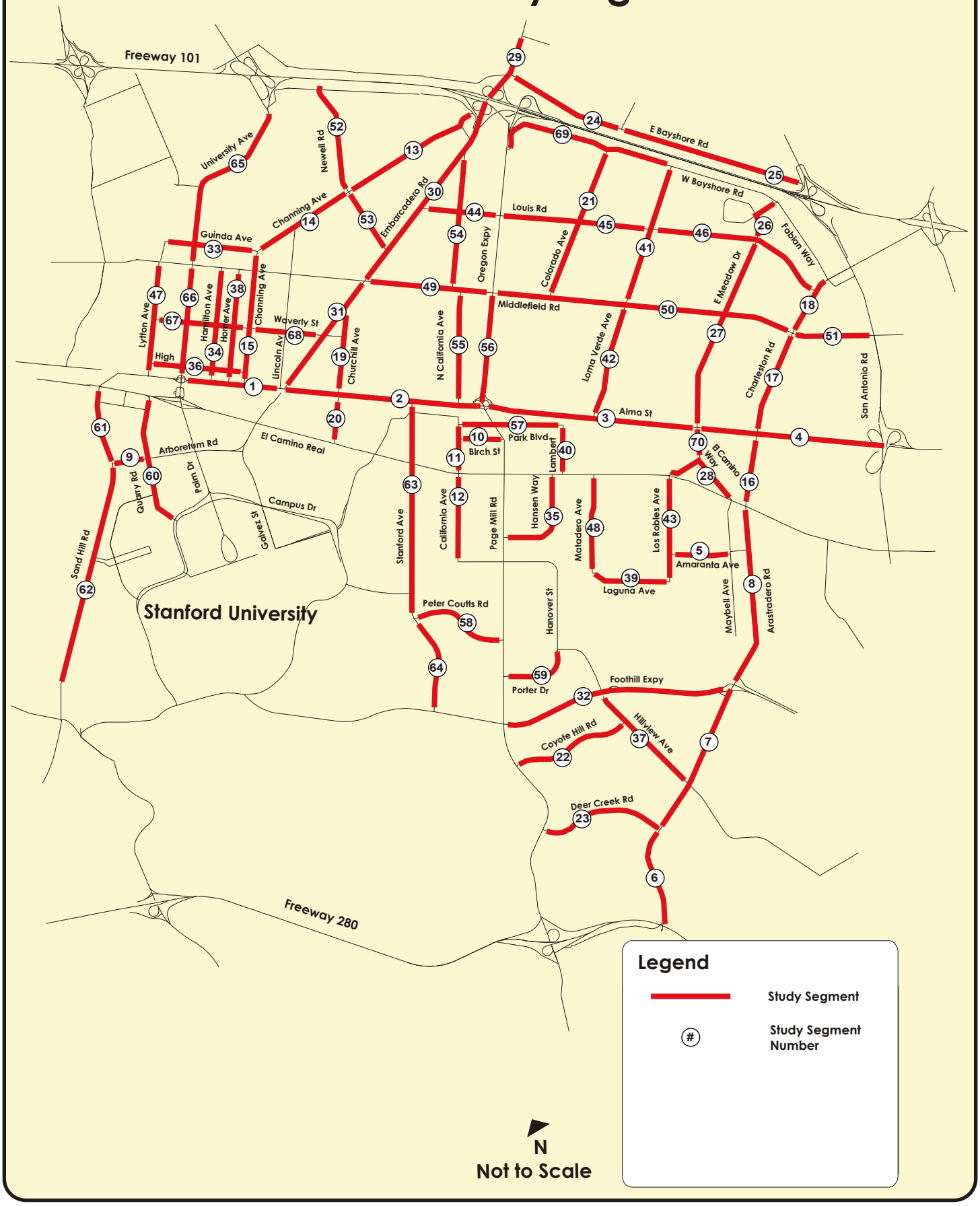
22

PROJECT ROLE

NDS Local Area Manager

Appendix B| Sample Projects

Palo Alto Study Segments

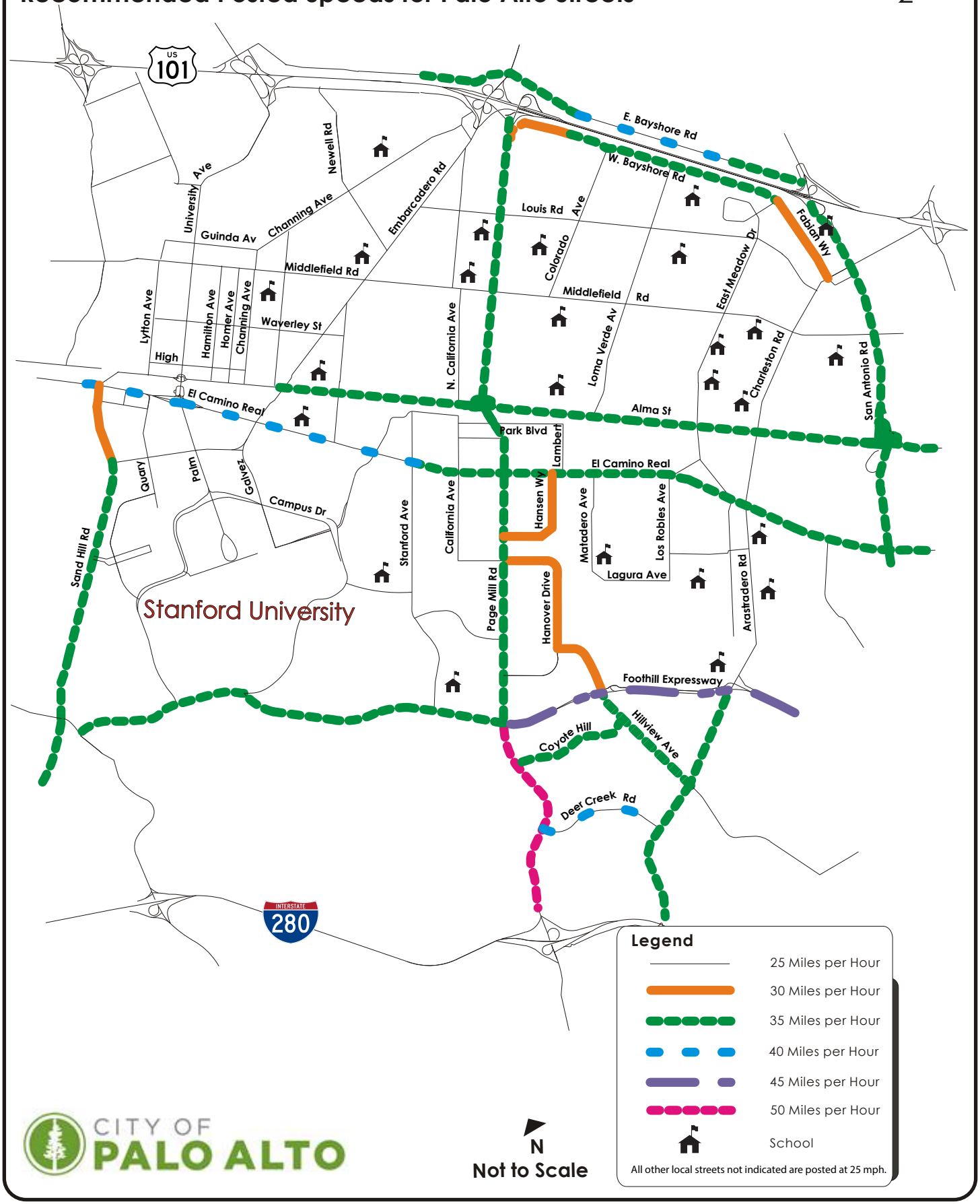


V:\2073\active\2073010790\Figure

City of Palo Alto - 2017 Engineering and Traffic Surveys

Figure 2

Recommended Posted Speeds for Palo Alto Streets



County of Santa Clara
Roads and Airports Department

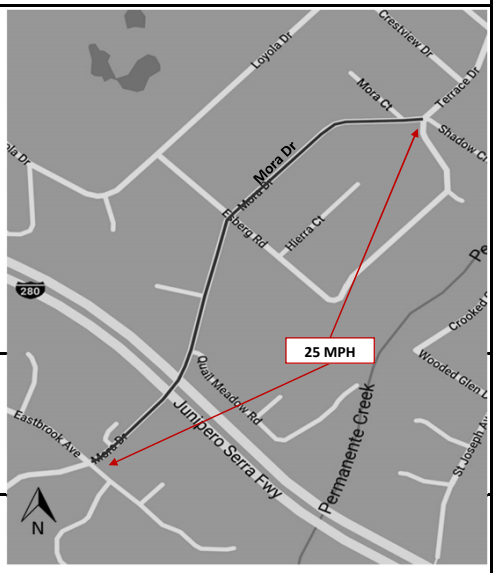
101 Skyport Drive
San Jose, California 95110-1302
1-408-573-2400

Santa Clara County
Engineering and Traffic Survey
Speed Survey Data Table and Final Recommendation

Street:	Mora Drive
Limits:	Eastbrook Avenue to Terrace Drive
Direction:	EB/WB
Existing Posted Speed Limit (mph):	25
Ordinance Number; Date:	NS-1000.45; 6.18.1956
Recommended Speed Limit (mph):	25

Speed Factors

A. Prevailing Speed Data		**Previous ETS Results**
Date / Location of Survey	7.13.18 / 150' s/o Thorsen Ct	12.10.11
Radar Enforced Posted Speed Limit (mph)	25	25
# Speed Data Collected	67	
85th Percentile (mph)	32	34
10 mph Pace	25 - 34	25-35
Percent in Pace	94%	78%
B. Traffic Factors		
Average Daily Traffic (ADT)	1,165	1,420
Length of Segment (mi.)	0.46	0.46
Street Classification	Local Urban	
Terrain	Flat / Rolling Hill / Mountain	
C. SWITRS Collision History		
Date Range Covered	Jan 2013 - Dec 2017	2001-2003
Total Accidents	0	0
Accident Rate (Acc/MVM)	0.00	0.00
Statewide Average Accident Rate (Caltrans 2015)	1.14	1.14



D. Roadway Conditions

Adjacent Land Use	Residential neighborhoods and schools
Roadway Geometrics	Two-lane, local urban roadway located in an unincorporated area of Los Altos. Traffic control devices include All-Way Stop Control at Eastbrook Ave, Esberg Rd and Terrace Dr-Shadow Creek Pl. Pavement width is 20-30 feet with curb, gutter, and sidewalk provided on certain locations of the roadway, and on-street parking on both sides. County-maintained road right-of-way width is 40 feet.
Comments	Results of attached engineering & traffic survey information and CVC Section 515 "Residence District" support maintaining the existing posted 25 mph radar enforced speed via downward rounding of the measured 85th Percentile speed by 5 mph.

Speed Limit Change? **No**

This survey conforms to Section 627 and 40802 of the California Vehicle Code and Section 2B.13 of the California MUTCD and recommends a speed limit appropriate to facilitate the safe and orderly movement of traffic.

Submitted By: Christopher Thnay, PE — Title: Senior Project Manager
Reviewed By: Clarence Salim, PE — Title: Associate Civil Engineer

Approved and Authorized for release by the County of Santa Clara:

Signed By: **Ananth Prasad, PE** **Title: Principal Civil Engineer** **Date:**

#50

(See Attached Speed Study)

Spot Speed Study

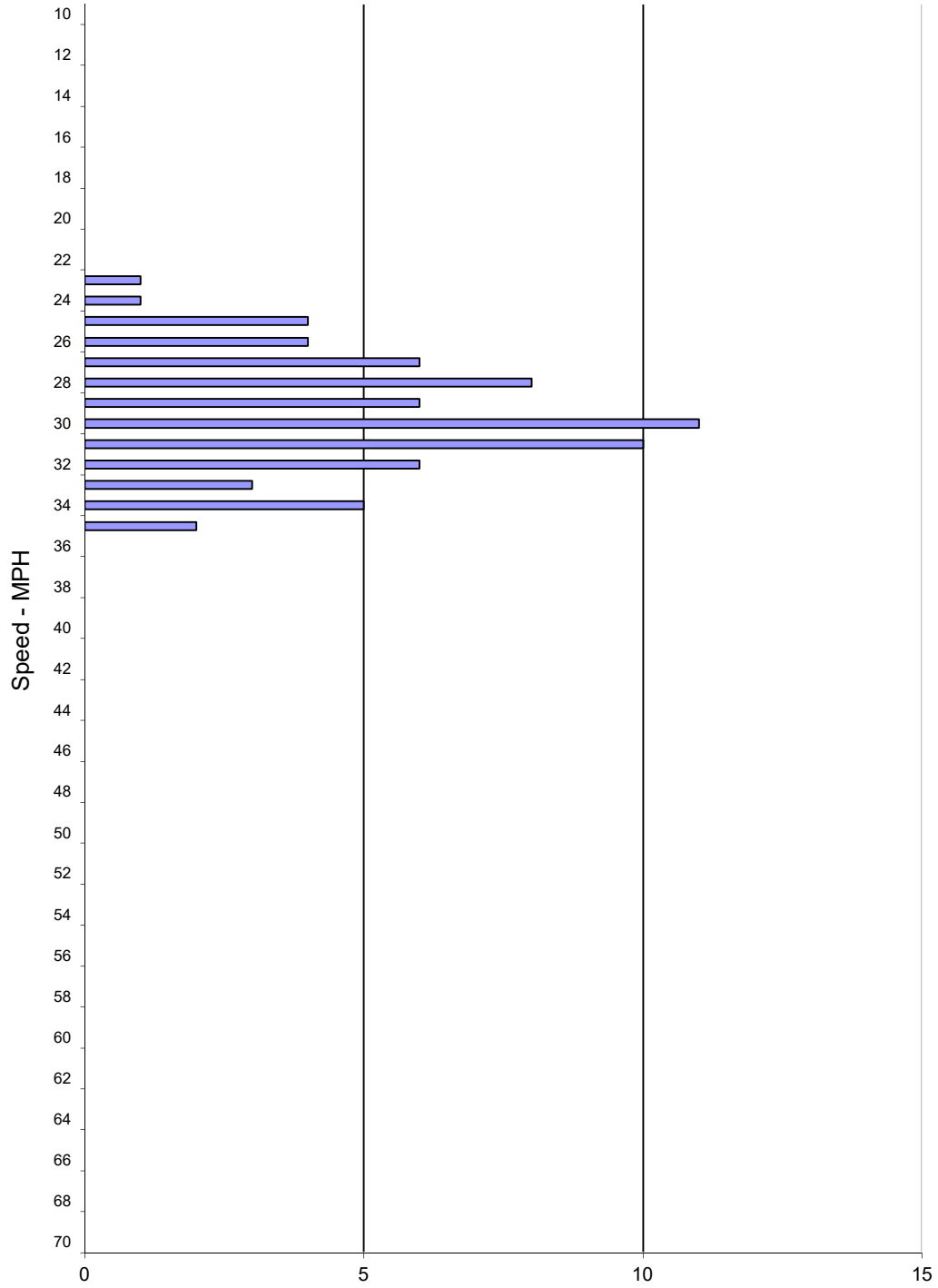
Prepared by: National Data & Surveying Services

City of Los Altos

DATE: 7/13/2018 **Location:** Mora Dr 150' S/O Thorsen Ct
TIME: 9:30-11:03 **Posted Speed:** 25 MPH Clear/Dry **Project #: 18-8364-050**

Northbound & Southbound Spot Speeds

Speed mph	ALL Vehicles
<=10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	1
24	1
25	4
26	4
27	6
28	8
29	6
30	11
31	10
32	6
33	3
34	5
35	2
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
>=70	



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	67	23 - 35	30 mph	32 mph	25 - 34	63	94%	2% / 2	3% / 2

City of Menlo Park
Engineering and Traffic Survey
Speed Survey Data Table and Final Recommendation

Street: Haven Ave
Limits: Haven Ave from City limit to Bayfront Expwy
NB/SB

Factors

A. Prevailing Speed Data

Date /Location of Survey	3585 Haven Avenue; 1/25/2013
Posted Speed Limit	30
# Speed Data Collected	200
85th Percentile	33
10 mph Pace	25-34
Percent in Pace	174

B. Traffic Factors

Average Daily Traffic (ADT)	5,751
Length of Segment (mi.)	0.24
Street Classification	Local

C. Collision History

Date Range Covered	April 2009 - April 2012
Total Accidents	5
Accident Rate (Acc/MVM)	3.3
Statewide Average Accident Rate	1.78

D. Roadway Conditions

Adjacent Land Use	Surronding area is mainly industial, office and warehouses.
Roadway Geometrics	Two lanes, undivided. On-street parking is permitted. Sharp horizontal curves at 3 locations with warning signs.
Comments	High collision rates and the results of engineering & traffic survey indicated reducing the 85th percentile by 5 mph is justified. Maintain existing 30 mph speed limit.

Speed Limit Change?	**No**
Existing Speed Limit: 30 mph	**Recommended Speed Limit: 30 mph**

This survey conforms to Section 627 and 40802 of the California Vehicle Code and Section 2B.13 of the California MUTCD and recommendes a speed limit appropriate to faciliate the safe and orderly movement of traffic.

Approved and Authorized for release by The City of Menlo Park Public Works:

Signed: Christopher Thnay, PE Title: Senior Associate Date: October 9, 2013

Segment # 14

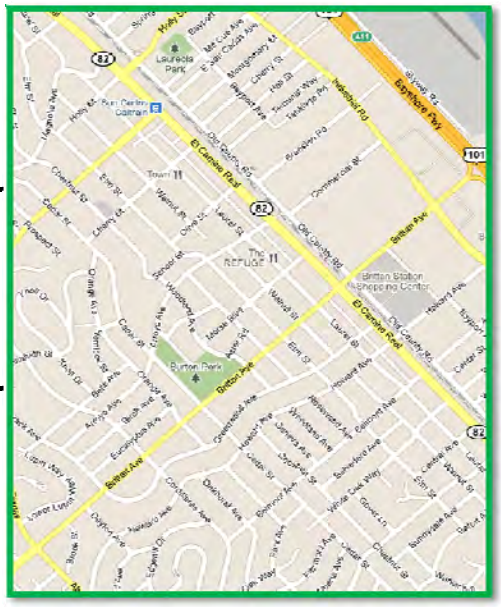
City of San Carlos
Engineering and Traffic Survey

Street: Elm Street
Limits: between Holly Street and Eaton Ave
Direction: NB/SB

Factors

A. Prevailing Speed Data

Date /Location of Survey	11/17/2010; Elm St. North of Greenwood Ave
Posted Speed Limit	25 MPH
# Speed Data Collected	128
85th Percentile	25 MPH
10 mph Pace	19-28
Percent in Pace	99%



B. Traffic Factors

Average Daily Traffic (ADT)	1816 veh
Length of Segment (mi.)	1.90
Street Classification	Residential

C. Collision History

Date Range Covered	2005-2009
Total Accidents	18
Accident Rate (Acc/MVM)	6.47
Statewide Average Accident Rate	1.78

D. Roadway Conditions

Adjacent Land Use

The area is generally residential with many driveways fronting along Elm St.

Roadway Geometrics: 2-lane roadway with on-street parking and Class III bike lane.

Comments

The results of attached engineering & traffic survey support maintaiing the existing 25 mph speed limit.

Speed Limit Change?	**No**
Existing Speed Limit: 25 mph	**Recommended Speed Limit: 25 mph**

This survey conforms to Section 627 and 40802 of the California Vehicle Code and Section 2B.13 of the California MUTCD and recommendes a speed limit appropriate to faciliate the safe and orderly movement of traffic.

Approved and Authorized for release by The City of San Carlos Public Works:

Signed Senior Associate Date: Feb 17, 2011

CITY OF UNION CITY

ENGINEERING AND TRAFFIC SURVEY

Survey Limits:	Whipple Road (Amaral Street to Central Avenue)		
Direction of Travel:	Eastbound/Westbound		
Survey Date:	Tuesday, September 08, 2015		
Survey Time:	12:30-13:05	Segment Number	22

Factors

A. Prevailing Speed Data

# Speed Data Collected:	200		
Critical Speed (85th Percentile):	46 MPH	50th Percentile Speed:	43 MPH
Pace Speed:	38 - 47 MPH		
	% / # Below Pace	In Pace	% / # Above Pace
	4% / 8	88%	8% / 16
Existing Speed Limit:	40 MPH		

B. Traffic Factors

Average Daily Traffic (ADT):	28,680
Length of Segment (In Miles):	1.14

C. Collision History

Collision History Date Range Covered (5 years):		10/13/2010 to 09/11/2015	
Total Collisions:	63	Collision Rate (Acc/MVM):	1.06
Statewide Avg. Collision Rate for Comparable Street (Acc/MVM):	1.83		

D. Roadway Conditions

Roadside Development:
This area is generally commercial & industrial with numerous driveways along Whipple Road.

Roadway Geometrics:

Roadway Type:	Arterial		
Roadway Width:	65 Ft	Number of Lanes:	4

This is a four lane divided roadway providing access to adjacent commercial and residential side streets.

Comments:
Nearest 5 mph increment of the critical speed is 45 mph. Based on the 10 mph pace and results of attached engineering & traffic survey information a downgrading of the 85th percentile speed by 5 mph is justified. Recommend keeping the existing speed limit as 40 mph.

Speed Limit Change?	**NO**		
Existing Speed Limit:	**40 MPH**	**Recommended Speed Limit:**	**40 MPH**

This survey conforms to Section 627 and 22358.5 of the California Vehicle Code and Section 2B.13 of the California MUTCD 2014 and recommends a speed limit appropriate to facilitate the safe and orderly movement of traffic.

Joy Bhattacharya

REGISTERED PROFESSIONAL ENGINEER JOY BHATTACHARYA No. 68828 EXP. 9-30-17 CIVIL STATE OF CALIFORNIA

Signed: Joy Bhattacharya | Title: Principal | Date: October 15, 2015

Approved and Authorized for release by The City of Union City Public Works.

I hereby attest that the foregoing is a true and correct copy of the original document on file at the Public Works Department of the City of Union City.

Signed: | Title: | Date:

(See attached Speed Study)

City of Union City - Engineering and Traffic Studies

Figure 2

Recommended Speed Limit Map

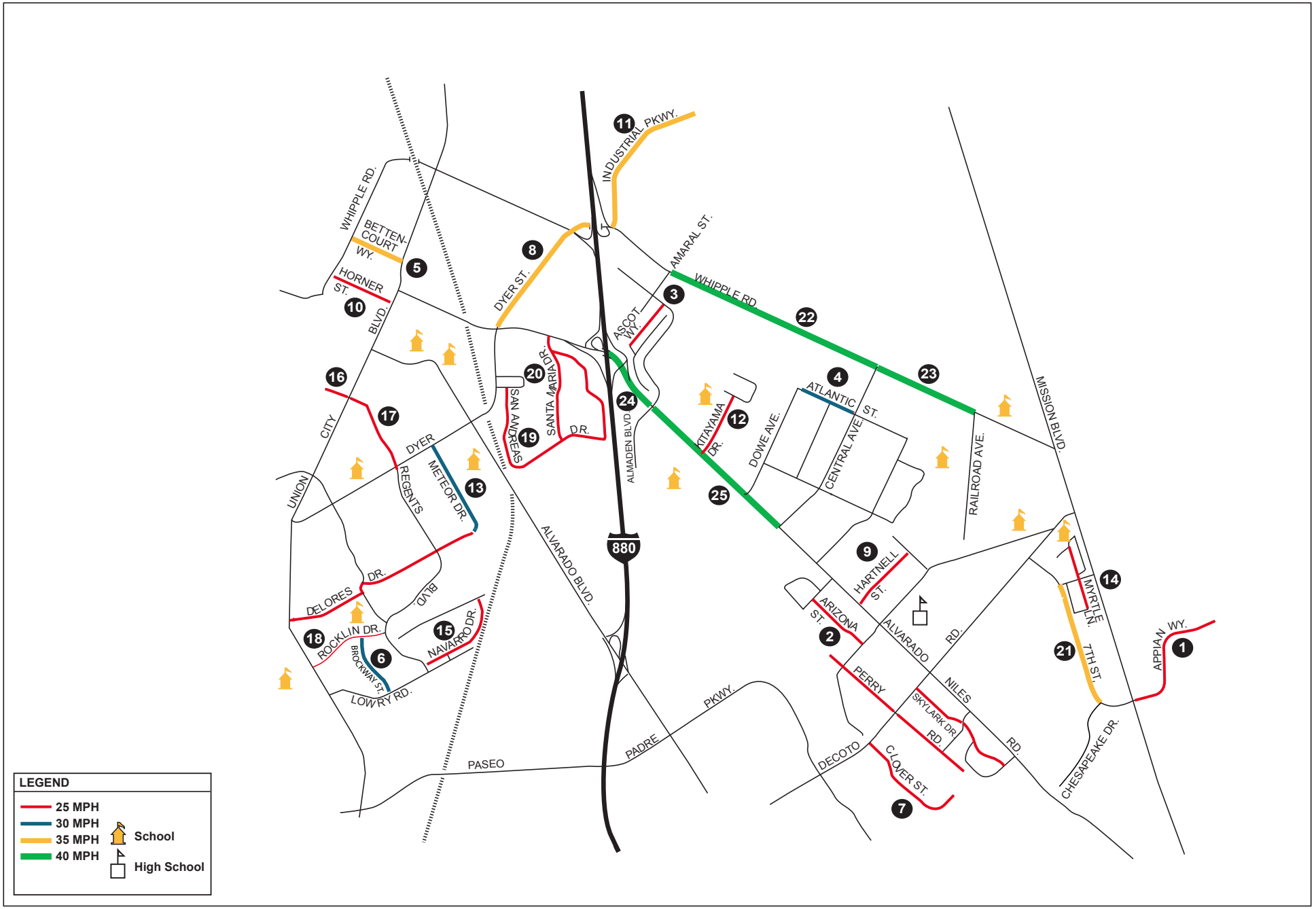


Figure 1: 15 Roadway Segments

Base map: Esri

Rd. No.	Road Section	Boundary
1	Campo Seco Road	Jacksonville Rd. to Lime Kiln Rd.
2	Chicken Ranch Road	Nelson Rd. to Mackey Ranch Rd.
3	Greenley Road	Guzzi Lane to Lyons Bald Mountain Rd.
4	Jamestown Road	SR 108 to Shaws Flat Rd.
5	Lyons Bald Mountain Road	From Lyons St./Greenley Rd. to 4.64 miles from Greenley Rd.
6	Mono Way	Greenley Rd. to SR 108
7	Old Priest Grade	Townsite of Moccasin to Priest Station
8	Parrotts Ferry Road	SR 49 north to one mile south of county line
9	Rawhide Road	SR 49 to SR 108
10	Saratoga Road	Shaws Flat Rd. to Keeley Rd.
11	Standard Road	Tuolumne Rd. to Mono Way
12	Stent Cut Off Road	Jacksonville Rd. to Algerine Rd.
13	Tuolumne Road	Mono Way to Carter Street
14	Twain Harte Drive	Hunts Rd. (~SR 108) to Tiffeni Dr. (~SR 108)
15	Woodham Carne Road	Tuolumne Rd. to Yosemite Rd.

Figure 2: Recommended Speed Limit

County of Tuolumne

Base map: Esri

No.	Road Segment	Boundary
1	Campo Seco Road	Jacksonville Rd. to Lime Kiln Rd.
2	Chicken Ranch Road	Nelson Rd. to Mackey Ranch Rd.
3	Greenley Road	Guzzi Lane to Lyons Bald Mountain Rd.
4	Jamestown Road	SR 108 to Shaws Flat Rd.
5	Lyons Bald Mountain Road	From Lyons St./Greenley Rd. to 4.64 miles from Greenley Rd.
6	Mono Way	Greenley Rd. to SR 108
7	Old Priest Grade	Townsite of Moccasin to Priest Station
8	Parrotts Ferry Road	SR 49 north to one mile south of county line
9	Rawhide Road	SR 49 to SR 108
10	Saratoga Road	Shaws Flat Rd. to Keeley Rd.
11	Standard Road	Tuolumne Rd. to Mono Way
12	Stent Cut Off Road	Jacksonville Rd. to Algerine Rd.
13	Tuolumne Road	Mono Way to Carter Street
14	Twain Harte Drive	Hunts Rd. (~SR 108) to Tiffeni Dr. (~SR 108)
15	Woodham Carne Road	Tuolumne Rd. to Yosemite Rd.

Speed Limits

- 25 mph
- 30 mph
- 35 mph
- 40 mph
- 45 mph
- 50 mph

Tuolumne County Engineering and Traffic Surveys for 15 Roadways

Proposal to Conduct a Speed Zone Survey Update

for the

City of Merced

August 02, 2024

→ **The Power of Commitment**

2300 Clayton Road, Suite 920
Concord, California 94520
United States
www.ghd.com

August 02, 2024

Mr. Richard Maddox
Engineering Department
City of Merced
678 West 18th Street, Second Floor
Merced, CA 94564

Proposal to Conduct a Speed Zone Survey Update for the City of Merced

Dear Mr. Maddox,

Thank you for the opportunity to propose on conducting a Speed Limit Engineering & Traffic Survey (E&TS) study for the City of Merced. This proposal is based on written correspondence with you, our review of the RFP and street segments chosen for analysis, and our previous experience with the 2017 speed zone analyses conducted for the City and other agencies in central and northern California.

Included in this proposal is a detailed scope of services, project understanding, work program, and an overview of speed limit laws. GHD plans to manage this work from our office in Concord and Fresno, which provides us proximity to observe field conditions as well as accommodate any meetings with City staff.

To give you a bit background on GHD, we are a wholly-owned subsidiary established in 1928 - a privately held international engineering firm owned by our people and operating across five continents. We are one of the world's leading professional services companies operating in the global markets of Transportation, Water, Energy & Resources, Environment, and Property & Buildings. GHD has provided a full range of transportation, traffic, and civil engineering services to a number of other central valley cities and this model has been successful, as evidenced by the fact that a majority of our business is repeat business.

GHD has been providing engineering services in the California for over 60 years and completed tens of thousands of projects. As a full service, multi-discipline engineering firm, we have the capability to provide most services for public sector engineering projects in-house. However, we routinely partner with qualified subconsultants to strategically augment the expertise and efficiency of our team to your benefit. Furthermore, GHD only uses prequalified vendors on projects to ensure they are able to deliver quality services in a safe, ethical, and environmentally responsible manner. The pre-qualification also confirms that insurances are current and that the vendor commits to adhering to GHD's Vendor Code of Conduct. In fact, Omni-Means/GHD performed the last City of Merced Speed Zone Study in 2017 using Metro Traffic Data Inc. as our subcontractor for data collection. Should GHD be awarded the contract, we would continue to use Metro Traffic Data Inc. as our subcontractor for consistency and familiarity with City streets and traffic flow.

GHD is aware of and is studying the changes that the State is implementing in regard to setting speed limits in California. We will use that information to evaluate the segments before making final recommendations for speed limits.

Provided herein is the work-scope. Should the City request further analyses beyond the scope of work, we would discuss any additional costs and obtain City approval before commencing on any work requiring additional expenditures. We are pleased to submit this proposal and trust that this responds to the City's request. Please feel free to contact us if you have any additional questions or comments.

Sincerely,

GHD
Byung Lee, PE, TE
GHD
Lead Transportation Engineer

Byung.Lee@ghd.com
(925) 849-1027

Cc: Peter Galloway, Senior Transportation Planner, GHD
Frank Penry, PE, TE, PTOE, Project Director, GHD

2. Approach

Speed zoning, or the application of designated vehicle speed limits on public streets, is regulated by the California Vehicle Code (CVC) and the California Manual on Uniform Traffic Control Devices (MUTCD). Typically, speed zoning is warranted on streets and thoroughfares where there are appreciable amounts of traffic volumes and where speed zones would help contribute to the orderly movement of traffic by increasing driver awareness of a reasonable speed. The basic goal of speed zoning is to prevent motorists from operating at a wide range of speeds along a thoroughfare that could create vehicle conflicts. Speed zoning allows motorists to travel at or near the same speeds.

Speed limits range from absolute to prima facie. Absolute speed limits are usually found on highways and freeways where the maximum speed limit (e.g., 55 mph to 70 mph) can be exceeded. Prima facie speed limits are usually established through speed zoning studies. In some instances, there are automatic prima facie speed limits. These include a 25-mph speed limit on any street, other than a state highway, in any business or residence district unless a different speed is determined by local authority under procedures set forth in the latest CVC and California MUTCD. It is noted that new sections and provisions approved under California Assembly Bill AB43 and AB 1938 allow cities to maintain and/or reduce speed limits in the interest of vehicle, pedestrian, and bicycle safety. Specific street segments under study may lend themselves to further scrutiny under these guidelines.

Prior to conducting any speed zone surveys, GHD would meet with City staff to confirm not only the street segments, but also where along segment to perform the surveys. In GHD's experience of speed zone surveys, subject streets often require more than one survey location to obtain representative surveys samples. Multiple survey locations may be due to the length of the street segment, traffic controls (or lack thereof), or unique physical features of the roadway.

Overview of Speed Limit Laws

AB-43

Assembly Bill AB-43 titled "Traffic Safety" authored by Friedman (D), Chiu (D), Gipson (D), Quirk (D) and Ting (D), et al., was voted upon and passed by California Assembly on September 9, 2021 and approved by Governor and Filed with Secretary of State on October 08, 2021.

AB-43 provides local authorities greater flexibility in setting and reducing speed limits based on recommendations the Zero Traffic Fatality Task Force (Task Force) made in January 2020. In 2018 AB 2363 required the Secretary of the State Transportation Agency to convene a task force to develop policies for reducing traffic fatalities to zero. The task force commissioned research on speed setting from the UC Institute of Transportation Studies (UC ITS) and issued a report on its findings based on that research in January 2020 entitled "CalSTA Report of Findings; AB 2363 Zero Traffic Fatalities Task Force". The report included 27 policy recommendations, and 16 findings recommendations that were broken into four categories: establishing speed limits, engineering, enforcement, and education. AB-43 included 7 of these 27 policy recommendations on establishing speed limits, as outlined in the report.

AB-43 included the following provisions which are being recommended for approval to modify the California Vehicle Code and CA-MUTCD.

- ZTFTF C-S3: Revise traffic survey procedures to require bicycle/pedestrian safety consideration and develop a survey guidance on this safety topic (new CVC 22358.7(b)(2) & revised CVC 627(c)(2) and 40802(a)(2)).
- ZTFTF C-S4: Allow state and local agencies to post speed limits below 25 mph when supported by a traffic survey (new CVC 22358.9 & revised 22354(a) & 22358(a)).
- ZTFTF C-S5: Increase reduction allowance for posted speed limits to allow greater deviations from the 85th percentile speed by including criteria for a statewide definition of High Injury Networks (HIN), criteria for areas adjacent to land uses and types of roadways that have high concentrations of vulnerable road users. Define vulnerable populations and develop criteria to identify eligible streets (new CVC 22358.6, 22358.7 & 22358.8 and deleted 21400(b).

- ZTFTF C-S6: Add business activity district as an additional class of location eligible for a prima facie speed limit and include statewide definition to include urban villages, neighborhood downtowns, and other business-oriented locations. (New CVC 22358.9).
- ZTFTF C-S7: Revise requirements related to posting prima facie speed limits in school zones to allow speed limit as low as 15 mph without requiring a traffic survey (revised CVC 22354(a) & 22358(a)).
- ZTFTF C-S9: Allow for a traffic survey to retain the existing speed limit (or revert to one determined in a prior traffic survey) unless a registered engineer determines that significant design changes have been made to the roadway since completion of the last traffic survey with the specific intent of increasing the safe operating speed (new CVC 22358.8).
- ZTFTF C-S10: Consolidate and clarify statutory sections related to speed setting methodology (deleted CVC 21400(b) and new CVC 22358.6 through 22358.9).

AB-43 amends Sections 627, 21400, 22352, 22354, 22358, and 40802, and adds Sections 22358.6, 22358.7, 22358.8, and 22358.9 to, the Vehicle Code, relating to traffic safety effective January 1, 2022.

Essentially, AB43 addresses just one aspect of the Vision Zero approach—reducing speeds on the road. The new law allows local governments the leeway to lower speed limits on roads, including state highways, in business and residential areas and other stretches identified as “safety corridors” without following the “85th percentile rule” mandated by state law—a rule that has often caused governments to raise speed limits on roads throughout the state.

AB-1938

AB-43 authors-initiated AB-1938 to clarify AB-43 text and intent. Assembly Bill AB-1938 titled “Traffic Safety: speed limits” authored by Friedman (D), Quirk (D) and Ting (D), et al., was introduced in California Assembly on February 10, 2022 (2021-2022 legislative cycle) and was voted upon and passed by California Legislature on August 31, 2022 and approved by Governor and Filed with Secretary of State on September 18, 2022.

AB-1938 makes technical, clarifying changes to existing law (AB-43 provisions) on how speed limits are set. It clarifies the circumstances where and how much a local authority may lower the speed limit below that indicated by an engineering and traffic surveys(E&TS).

AB-1938 clarifies the intent of AB 43 is that it is in addition to, and not replacing pre-AB-43 speed limit policies in CA MUTCD (current CA MUTCD Revision 6 and previous versions as well as Caltrans Traffic Manual prior to May 20, 2004) by codifying and including in CVC Section 22358.6(b) the 5-mph reduction option that is allowed in CA MUTCD Section 2B.13 Paragraph #12a under Option 1. AB-1938 also now includes the limitation on the total reduction in the speed limit to not exceed 12.4 mph from the 85th percentile speed.

California Vehicle Code Requirements

California Vehicle Code (CVC) Section 40802 requires that engineering and traffic surveys (E&TS) for speed limits should be conducted once every five years by governing municipalities. The City does have the option, however, to extend the valid surveys to seven, or even ten years if no significant changes in roadway or traffic conditions have occurred. Streets defined as “local streets and roads” as described in the amended subdivision (b) of Section 40802 “Speed Trap” of the CVC, effective January 1, 1982, are exempted.

The procedures used to formulate recommendations in this report meet the requirements of the CVC (Sections 22348 through 22413; Sections 627 and 40802 and others referenced in this section, the California Manual of Uniform Traffic Control Devices. The CA-MUTCD is the amended version of FHWA MUTCD for use in California. Summarized below are the applicable portions from the CVC:

CVC Section 235 - Business District: An area in which at least 50 percent of the properties are used for business for a minimum distance of 600 feet on one side or 300 feet on both sides of a highway.

CVC Section 515 - Residence District: An area outside of the Business District along a highway that has a minimum of 13 separate dwelling units on one side, or 16 on both sides within a distance of a quarter mile.

CVC Section 22349 - Maximum Speed Limits: Provides that no person shall drive a vehicle upon a highway at a speed greater than 65 mph. An exception to this, as stated in eve Section 22356, is that Caltrans may increase the

speed and these increases can only be made after consultation with the California Highway Patrol (CHP) and on the basis of an engineering and traffic survey.

CVC Section 22350 - Basic Speed Law: Provides that no person shall drive a vehicle upon a highway at a speed greater than is reasonable or prudent, and in no event at a speed that endangers the safety of persons or property. Reasonable is defined in Webster's New World Dictionary as “just, of sound judgment, and not excessive.” Prudent is defined as “exercising sound judgment in practical matters, cautious and discreet in conduct, not rash and managing carefully.”

CVC Section 22351 - Speed Law Violations: States that the speed of any vehicle upon a highway not in excess of the limits specified in Section 22352 of the CVC or established as authorized in the CVC is lawful unless clearly proved to be in violation of the Basic Speed Law. This same section also states that the speed of any vehicle upon a highway in excess of the prima facie speed limits in Section 22352 of the eve or established as authorized in the CVC is unlawful unless the defendant establishes by competent evidence that the speed in excess of said limits did not constitute a violation of the Basic Speed Law at the time, place and under the conditions then existing.

CVC Section 22352 - Prima Facie Speed Limits: Establishes prima facie speed limits for Local Roads and Streets. The literal definition of the phrase "prima facie" is "first appearance". It is also defined as "first view" and "before investigation". Prima facie evidence is evidence sufficient to establish fact, or to raise presumption of fact, unless rebutted. Prima facie speed limits are those that are defined in CVC Section 22352. These speed limits shall be applicable unless changed as authorized in the CVC and, if so changed, only when signs have been erected giving notice thereof.

A speed limit of 15 MPH applies at railroad crossings, at uncontrolled highway intersections with obstructed view, and on alleys. A speed limit of 25 mph applies on any highway other than State highways in any business or residence district, unless a different limit is established by procedures described in the CVC. The 25 mph limit also applies in school zones.

CVC Section 22352b1 revision: extending prima-facie speed limit to be applicable to state highways also.

CVC Section 22354a revision: allowing the lower limit of prima-facie speed limit on the state highway to 20 or 15 (25 was the prior lower limit). Please note there are other unchanged statutes that describe how/when to set those limits.

CVC Sections 22357 (Increase of Local Speed Limits to 65 mph) and 22358 (Decrease of Local Speed Limits): Authorizes local authorities to establish prima facie speed limits on streets and roads under their jurisdiction, on the basis of an E&TS.

CVC Sections 22358.3 (Decrease on Narrow Streets) and 22358.4 (Decrease of Local Limits Near Schools or Senior Centers): Authorizes local agencies to reduce prima facie speed limits to 20 or 15 mph on narrow streets (with roadway width less than 25 feet), school zones, or senior centers on the basis of an E&TS.

CVC Sections 22358.5 (Decrease of 85th Percentile Speed): It is the intent of the Legislature that physical conditions such as width, curvature, grade and surface conditions, or any other condition readily apparent to a driver, in the absence of other factors, would not require special downward speed zoning, as the basic rule of section 22350 is sufficient regulation as to such conditions.

CVC Section 22358a revision: allowing the lower limit of prima-facie speed limit on the non-state highway to 25, 20 or 15 (25 was the prior lower limit). Please note there are other unchanged statutes that describe how/when to set those limits.

Local agencies may additionally lower the speed limits by 5 mph from those calculated using rounding (up or down) per CVC Section 22358.6(b) and 22358.6(c) and 5 mph speed reduction using CVC Section 22358.6(b), if, after completing an E&TS, find that the speed limit is still more than is reasonable or safe, for either of the following reasons:

- The portion of a highway has been designated as a safety corridor.
- The portion of highway is adjacent to any land or facility that generates high concentrations of bicyclists or pedestrians, especially those from vulnerable groups such as children, seniors, persons with disabilities, and the unhoused.

CVC Section 21400 (b) (Round down of 85th Percentile Speed): in cases in which the speed limit needs to be rounded up to the nearest five miles per hour increment of the 85th percentile speed, the Department of Transportation or a local authority may decide to instead round down the speed limit to the lower five miles per hour increment, but then the Department of Transportation or a local authority shall not reduce the speed limit any further for any reason.

CVC Section 40802 (b) - Prima Facie Speed Limits: Provides that prima facie speed limits established under CVC Sections 22352(b)(l), 22354, 22357, 22358, and 22358.3 may not be enforced by radar unless the speed limit has been justified by an E&TS within the last five years. This CVC section does not apply to Local Roads and Streets.

CVC Section 40802a2 revision: adding the new senior zone and business activity districts to the list of prima facie listing within the citation.

CVC Section 40802b3 new: adding definition of senior zone as explicitly defined in the citation.

CVC Section 40802b4 new: adding definition of business activity district as explicitly defined in the citation.

CVC Section 40802c2Bi(II) revision: extends the maximum length of time an engineering and traffic survey may be used from 10 to 14 years.

CVC Section 40802c2Bii revision: add senior zone and business activity district to the list of prima facie listing within the citation.

California Manual of Uniform Traffic Control Devices Requirement

With all the statistics inherent in the speed survey process, there is a great deal of engineering judgment required, and to certain extent, a consistency process applied during the establishment of speed limits. Speed limits should be reasonable and realistic regardless of the results of the field studies.

Reasonable speed limits are those at which responsible motorists would drive without enforcement and/or signage.

The total reduction in the speed limit using the nearest 5 mph increment and rounding (CVC Section 22358.6), 5 mph speed reduction (in compliance with CVC Sections 627 and 22358.5), safety corridor designation (CVC Section 22358.7) or land or facility adjacent to high concentration of pedestrian and bicyclists (CVC Section 22358.7) shall not exceed 12.4 mph from the 85th percentile speed. Refer to CVC Section 22358.6(e).

Justification for reducing speed limits can be based on residential density, pedestrian/bicyclist safety and other factors not readily apparent to drivers but essential to meet the traffic safety needs of the community. The following factors may be considered to adjust and determine the final speed limits:

- Road characteristics, shoulder condition, grade, alignment, and sight distance.
- 10 mph pace speed (a 10-mile range in speeds in which the highest number of data is recorded).
- Roadside development and environment.
- Parking practices and bicycle/pedestrian activity.
- Reported crash experience for at least a 12-month period.

Additionally, the 2014 CA MUTCD recommends that speed zoning with 5 mph increments is preferable in urban areas, and that short speed zones (0.5 miles or less) should be avoided.

Based on the above guidelines, speed limit recommendations for the road segments will be established.

3. Project Experience

We have included references on projects for which we performed work similar to your requirements:

Client: City of Merced
Theron Roschen, Engineering Division
209.385.6898, roschent@cityofmerced.org
Firm Members: Joe Weiland (former), Gary Mills (former), Joe Ramirez-Moreno

Example/Type of Work: Final City of Merced Speed Survey Study, 2017. Working with City Engineers, performed speed zone surveys and E&TS analysis for 190 street segments. Recommended vehicle speed limit based on findings and City staff consultation.

Client: City of Newark
Jayson Imai, Assistant City Engineer, Public Works Department (now working for City of San Leandro)
Diana Cangco, Principal Civil Engineer, City of Newark Public Works Department,
510.578.4225, diana.cangco@newark.org
Firm Members: Peter Galloway, Rob Tuma, Frank Penry, Byung Lee

Example/Type of Work. 2017 Citywide Traffic Speed Survey. Working with City Engineers, performed speed zone surveys and E&TS analysis for 190 street segments. Recommended vehicle speed limit based on findings and City staff consultation. Current TE/TP on-call services contract working on intersection operations, traffic signal design review, and quiet zone analyses.

Client: City of Dublin
Sai Midididii, T.E. Associate Civil Engineer (Traffic), City of Dublin
925.833.6630, sai.midididdi@dublin.ca.gov
Firm Members: Rob Tuma, Peter Galloway

Example/Type of Work: On-going spot radar speed surveys throughout the City of Dublin between 2015-2020 focusing on various neighborhoods and safety issues. E&TS sheets provided review as well as collision analyses.

4. Work Plan & Schedule

The City has asked that El Portal Drive (between Parsons Avenue & McKee Road) and Campus Parkway (between Childs Avenue & Highway 140 Overpass) be included in the speed zone surveys, following up on the E&TS that was completed in 2017. The City indicates that there is a need to conduct speed zone surveys for new streets incorporated since 2017 and for surveys that have expired or will expire soon and are deemed urgent for renewal.

It is our understanding that the City is currently re-evaluating its format of speed surveys and is in the process of updating its policies and procedures related to streaming the completion process of its surveys consistent with the industry best practices. GHD has specific strategies for how we will approach ensuring all renewals will be completed as indicated above and provide a detailed project schedule by phase.

It is noted that the City of Merced reserves the right to change the locations, and the number of study segments, as priorities change, up to the time work begins on a particular location. GHD will notify City of Merced prior to beginning work in earnest on a particular street to confirm that it is still a priority location. The work produced should be on an individual street basis, submitted to City of Merced upon completion of the desired project descriptions and anticipated deliverables outlined below for each street.

Task 1 Project Management & Data Collection

Task 1.1 Project Management

GHD will provide overall project management for the duration of the project. This includes coordination with City staff on scheduling and attending any project meetings (including the kick-off meeting). GHD will coordinate site visits, data acquisition, and reporting on speed spot studies, preliminary study, and final report. Monthly invoice summaries will identify work performed to during the invoice period and will summarize work to be completed in the upcoming month or months.

GHD will review the results of the previous 2017 E&TS study in terms of survey locations, survey results and posted speeds. We will meet with City staff to discuss the survey process and potential changes in survey locations. Such changes could reflect recent land use revision and/or roadway improvements.

Deliverables:

- Conduct kick-off meeting to discuss input with City representatives (City Engineer, Police Representative, City Planner).

Task 1.2 Data Collection

GHD will conduct a field investigation and inspection of the street segments to confirm relevant information. This information is important in the determination of the appropriate speed limit, which may include but is not limited to geometry, roadway width, alignment, number of lanes, roadside development, area land use and circulation, parking, signalized driveways, major traffic generators and other traffic control devices, as necessary.

Based upon results of the kick-off meeting, GHD will work with our Subconsultant to determine specific locations of daily traffic counts as well as speed. Average weekday conditions in favorable weather during a non-holiday week and during normal school hours will be determined. City staff will be notified of planned data collection areas/street segments prior to initiation.

Deliverables:

- Conduct site assessment and prepare field notes for the segments of each street within the defined inventory.
- Conduct traffic counts at various locations along the segment to determine the ADT, and as necessary, coordinate with City representatives to discuss findings and site analysis and data acquisition.

Task 1.3 Spot Speed Studies

Our Subconsultant will conduct spot speed studies along the roadway segment of various locations using calibrated electronic equipment to determine the 85th percentile speed (critical speed). The equipment calibration certificates can be provided to the City. Spot speed studies will be completed in accordance with the CVC and the California MUTCD.

At each location, a minimum of 100 vehicle speed observations will be recorded in 1 mile-per-hour increments. In accordance with standard practice, the survey locations will reflect the following:

- Vehicles not impeded by congestion problems;
- Vehicles in free flow operation;
- Random inclusion of lower and higher speed vehicles; and
- Relative proportion of truck observations.

In addition to recording vehicle speeds, we will note other characteristics (adjacent land uses, alignment, side street traffic, etc.). This road condition data will assist in the final identification of appropriate speed limits. All data collected will be provided to the City in a final report. Speed Spot Study will report vehicles observed, 50th percentile speed, 85th percentile speed, speed range, 10 mph pace speed and number of vehicles observed for each speed in an editable format for the City (see sample data collection sheets—attached).

Deliverables:

- Determine locations to be assessed for speed spot studies based on engineering judgement;
- Provide equipment calibration certificates to City of Merced representatives.

Task 2 Speed Zone Survey Analysis & Reports

Task 2.1 Data Analysis

Each segment's speed survey data will be input to a software program which graphs various percentile speeds (including the 85th percentile the "critical speed") and the 10 mph "pace" speed. The summary sheet also accommodates other relevant information regarding the survey.

For each study location, we will review the 85th percentile or "critical speed". We will also consider the collision history and other data relative to adjacent land uses and unique conditions. From this analysis, we will identify recommended speed limits for each of the study locations. These "draft" recommendations will be discussed with City staff and, if appropriate, adjusted to reflect additional input or re-surveyed to confirm findings (see sample E&TS sheets-attached).

Deliverables:

- Speed Spot Study will report vehicles observed, 50th percentile speed, 85 percentile speed, speed range, 10 mph pace speed and number of vehicles observed for each speed in an editable format for the City, and,
- Discuss input with City representatives and incorporate as needed into Preliminary Report.

Task 2.2 Preliminary Draft Report

The analysis conducted in Tasks 1.2 through 2.1 will summarize the information collected, recommendations, justifications, regulations and requirements that will form the basis of the revised recommendation for speed limits in the corridor. The preliminary draft report will be prepared and submitted to the City for review and comments for discussion at the project meeting. After review by the City, GHD will make any changes as deemed necessary.

Deliverables:

- Prepare preliminary draft report noting recommended speed limit for each segment.
- Surveys and data shall be delivered in an editable format such as Microsoft Excel
- Present report to City staff for review and preliminary approval and revise as necessary based on the input of the City.

Task 2.3 Final Report

In this task, based on City staff review, GHD will develop the Final Report. This will reflect the comments and revisions identified by the City staff. The Final Report will also reflect sound and reasonable engineering judgment and standards to provide safe, enforceable speed zones. The Final Report will be prepared ready for stamp and signature by the professional engineer from GHD and submitted to the City.

Deliverables:

- Submit Final Technical Memorandum with stamp and signature of the professional engineering consultant in responsible charge of the project.

We would expect to complete the study within 6-7 months of obtaining authorization to proceed as shown **Table 1**. If additional services (e.g., supplemental analysis, meetings, additional modifications, etc.) are requested that are not included in this Scope of Work, such services would be subject to additional scope and fee, for which City approval would be obtained prior to commencing. As noted, we would meet with City staff first to consider all street segment locations and potential survey sites. It is quite possible that all 190 street segments would not have to be surveyed based on location, length, function, and control. Therefore, the schedule is a "worst case" timeframe assuming all 190 segments would need to be surveyed. Should specific street segments not require new surveys based on past inquiries or other factors, the schedule (and costs) would be proportionately less. GHD has allowed an optional task to re-survey streets (radar speed) should findings dictate additional investigation for speed recommendations. A preliminary draft report would be expected by the fifth month with a final draft report in months six or seven.

Table 1 Work Schedule & Hours

CITY OF MERCED SPEED ZONE STUDY

Budget Estimate
Job No.
File No. P12647930BUD001.XLSX

Proposal Phase	Accounting Task	Task Description	Schedule[1] Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Class	F. Penry Project Director	B. Lee Project Engineer	P. Galloway Project Manager	R. Tuma Trans. Planner	GIS Specialist	[Metro] Outside Services/	Total Hours
Phase I	**Project Management & Coordination**																
	1.1	Study Initiation/Meeting									4	16	16	8			44
	1.2	Data Acquisition and Site Analysis										4	2	32			38
	1.3	Spot Speed Studies										4	2	24			30
Phase II	**Speed Survey Analysis/Reports**																
	2.1	Data Reduction/Analysis									2		36	80	40		158
	2.2	Draft Report									2	16	24	164			206
	2.3	Final Report									2	8	6	32			48
Phase III	**Optional Spot Speed Re-Survey**																
	3.1	Spot Speed Survey												24			
		Subtotal Hours								***Hours***	**10**	**48**	**86**	**364**	**40**		**524**

[1] *Schedule is flexible to meet needs of time sensitive surveys.*

5. Key Staff

Key Project Team Members

Key project team members assigned to your project have years of experience performing work for speed zone surveys. Your team includes the following:

Frank Penry PE, TE, PTOE will be your Project Director overseeing all staff and coordinating assignments. Frank has over 27 years of experience in both the public and private sectors focusing on design (signal) and traffic engineering, transportation planning-safety projects.

Byung Lee PE, TE will be your Project Engineer overseeing all aspects of the project analyses and main contact for City staff. Byung has 22 years of experience providing traffic operations, traffic engineering design, and Intelligent Transportation System (ITS) engineering design for projects throughout the State. His experience covers a wide range of project types including signal design, lighting design, signing and striping plans, traffic operations, and safety analyses.

Peter Galloway Senior Project Manager will be your Planning Task/Client Manager and one of the main points of contact for City staff. He has over 40 years in the transportation planning and traffic engineering fields and has assisted in speed zone surveys for cities in the Bay Area.

Rob Tuma Senior Transportation Planner/Field Technician will be actively involved in both the data collection effort and data analysis. Rob's responsibilities as a transportation planner include conducting traffic impact assessment and operations analyses of proposed projects in the preparation of environmental impact reports; conducting studies evaluating existing traffic conditions and recommended improvements; as well as data collection management and evaluation.

Please see resumes—attached.

6. Litigation

PRIVILEGED & CONFIDENTIAL

31 July 2024

Re: Request for Disclosure of Litigation

History – GHD Inc. To whom it may concern:

Due to the commercial sensitivity and confidentiality of any litigation in which GHD may have been involved, GHD is not at liberty to disclose the information sought. However, we point out that as a component of its prudent risk management practices, GHD obtains high quality professional liability insurance in the world market, and domestically in the U.S., to provide cover in the industries in which it operates.

As a consequence of engaging in business, there are sometimes claims asserted that may or may not give rise to litigation. The details and progress of any such claims are by necessity commercially sensitive and remain in confidence. We are able to inform you that there have been claims notified in the normal course of business, none of which we believe are material to the services which are the subject of your RFQ. There are however presently no significant ongoing contract failures, no criminal matters, and there have been no judgments against GHD Inc. within the last 10 years.

Below please find a summary of GHD claims that have arisen from litigation within the past five (10) years:

Case Name	Description of Circumstances	Current Status / Outcomes
Bay Cities Paving & Grading v. City of Santa Rosa v. GHD Inc.	Claim from City of Santa Rosa related to a contract for design and construction support services. The city sought indemnity related to excess construction costs.	Settled. GHD dismissed.
Hogan v. County of Humboldt et al.	Claim from Humboldt Waste Management Authority related to personal injury of a third party on a landfill site for which GHD performed professional services. HWMA sought indemnity for damages claimed by injured party.	Settled. GHD dismissed.
City of Healdsburg v. GHD Inc.	Claim from City of Healdsburg related to a contract for design and construction management services. City sought damages for additional construction costs.	Settled. GHD dismissed.
Annapolis Citizens Class Overcharged for Water-Sewer by Loudon Operations LLC v. Stantec et al.	Claim from Annapolis Citizens Class Overcharged for Water-Sewer alleging that GHD's public client overcharged citizens for utilities.	GHD was dismissed at early stage in favor of GHD. There was no merit or basis for the claims, which were asserted by a single resident unhappy with rate increases; no class was ever formed.

Government of Guam v. Black Construction Corporation et al.	Claim from the Government of Guam in relation to issues arising from the closure of the Ordot Dump. GHD disagrees with the assertions against it as stated in the lawsuit.	Pending

For further information regarding GHD's claims history, kindly contact GHD's Counsel, Scott Weiner at 602.216.7222 or scott.weiner@ghd.com to arrange for a confidential disclosure.

Sincerely,

Scott R. Weiner, Esq.
Assistant General Counsel – U.S.

7. Disclosure

None reported through GHD internal inquiries.

8. Contract

31 July 2024

Certification Statement

GHD Inc. hereby certifies that it has thoroughly reviewed and understood the attached standard professional service contract, including all its terms and conditions. We affirm that our organization is fully capable and prepared to execute the responsibilities and obligations outlined therein. However, GHD does have suggested wording/edits under Section 3 (Reserved), 9 (Indemnity) to ensure conformance as follows:

3. Standard of Care. Consultant represents that the services shall be performed in a manner consistent with the level of care and skill ordinarily exercised by members of Consultant's profession practicing in the same discipline and locality under similar circumstances.
9. GHD must be able to select our own counsel as our interests may be different. At the end of the paragraph, GHD would add the following: Notwithstanding the foregoing, to the extent that this Agreement includes design professional services under California Civil Code Section 2782.8, as may be amended from time to time, such duties of Consultant to indemnify shall only be to the full extent permitted by California Civil Code Section 2782.8.

Additionally, we confirm that we have reviewed the required insurance provisions and will comply with them as stipulated in the contract.

Sincerely,

GHD Inc.,

Byung Lee, PE, TE
GHD
Lead Transportation Engineer

Byung.Lee@ghd.com
(925) 849-1027

Attachments:

Staff Resumes

Sample Format Sheets:

- **Radar Speed Survey**
- **ADT Sheet**
- **E&TS Sheet**

Byung Lee PE, TE

Senior Traffic/Transportation Engineer

Location

Concord, CA

Experience

22 years

Qualifications/Accreditations

- MS, Civil & Environmental Engineering, University of California, Berkeley, CA, 1999
- Civil Engineer, CA, #90221
- Traffic Engineer, CA #2908

Key technical skills

- Traffic Engineering Design
- Traffic Signal Design/Intelligent Transportation Systems (ITS)

Memberships

- Institute of Transportation Engineers, Bay Area Section

Relevant experience summary

Byung Lee is registered as both traffic engineer and civil engineer in the state of California. He has 22 years of experience providing traffic operations, traffic engineering design, and Intelligent Transportation System (ITS) engineering design for projects throughout the State. His experience covers a wide range of project types including signal design, lighting design, signing and striping plans, traffic operations, and safety analyses. Byung has extensive hands-on experience in traffic operations/micro simulation models, including Synchro, SimTraffic, and VISSIM. Byung is also adept at preparing documents for changes to existing at-grade crossings, such as General Order 88B required by the CPUC.

California High-Speed Rail Initial Construction Segment 1

Responsible for traffic signal modifications, temporary signals, and new signalized intersection improvements for this project, which includes 70 locations in the City of Fresno, and 19 miles of street lighting for 40 corridors within the project limits. The project also requires planning level signal warrant analysis for another 15 intersections and additional streetlight and signal designs, as required. Byung will also design interim and permanent ITS improvements to fiber optic facilities, wireless broadband radio, Changeable Message Signs (CMS), flashing beacons, intersection safety lighting, and vehicle priority systems within the City of Fresno and Caltrans right of way.

City of Manteca Traffic Signal Coordination and Optimization

Traffic Engineer
City of Manteca | Manteca, CA

Responsible for coordinated timing of traffic signals along Main Street, including five signalized intersections within the City. Existing conditions were modeled using Synchro software and calibrated utilizing data collected. Traffic signal timing and coordination recommendations were developed for optimal initial and actuated settings, time-of-day coordination plans to reduce traffic queuing and improve traffic operations.

River Crossing Marketplace Frontage Improvements

Traffic Engineer
City of Redding | Redding, CA

Responsible for preparation of traffic signal modification at the intersection of Bechelli Lane and Costco entrance as part of project frontage improvements including roadway widening, curb and gutter, sidewalk, curb ramps, driveways and storm drain improvements along Bechelli Lane and South Bonnyview Road adjacent to the River Crossing Marketplace development.

Clement Avenue Complete Street

Project Manager
City of Alameda | Alameda, CA

Responsible for preparing traffic signal modification to include bike signals; rectangular rapid flashing beacons; and PS&E.

Frank Penry PE, TE, PTOE

Senior Traffic Project Manager

Location

Santa Rosa, CA

Experience

26 years

Qualifications/Accreditations

- BS, Civil Engineering, California State University, Chico, CA, 1996
- Civil Engineer, CA #62785, OR #84632, Commonwealth of the Northern Mariana Islands (CNMI) #418
- Traffic Engineer, CA #2304
- Professional Traffic Operations Engineer #1603

Key technical skills

- Traffic Signal Design/Intelligent Transportation Systems (ITS)
- Traffic Engineering Design
- Transit and Rail Design
- Roadway Improvements
- Project Management

Memberships

- Institute of Transportation Engineers (ITE), San Francisco Bay Area Section, Past-President
- American Society of Civil Engineers (ASCE), Redwood Empire Section, Past P-President
- Registered Traffic Engineers of America
- American Public Works Association

Relevant experience summary

Frank Penry has 26 years of experience in transportation planning and traffic engineering design. He has managed numerous transportation studies and design projects over the years, from small development impact studies to major roadway improvements. Frank has served as the City Traffic Engineer for the Cities of Petaluma, Cotati, Sonoma, Windsor, and Fortuna, providing the administration and development of Municipal Traffic Engineering Programs. He is well-versed in a wide range of traffic engineering design standards and encroachment requirements, traffic signals, roundabouts, traffic calming and streetscapes, construction traffic handling, detour, and control plans for a variety of civil engineering projects. His experience includes traffic operations, traffic signal timing and design, ITS, transit signal priority, feasibility studies; environmental studies and documents; roadway and intersection design; signing and striping design; and traffic control plans.

Traffic Engineering

Vintage Ranch Subdivision Public Improvement

Project Manager
City of American Canyon | American Canyon, CA

Responsible for preparation of traffic signal modification, street lighting, and enhanced pedestrian crossing signal designs for the Vintage Ranch Subdivision at the junction of American Canyon Road and Silver Oak Trail. The design was originally intended to include a Rectangular Rapid Flashing Beacon (RRFB), which had recently lost its interim approval by Federal Highways Administration (FHWA) and was changed during construction to include a Light-Emitting Diode (LED) enhanced pedestrian activated signage system.

City of Santa Rosa Farmer's Lane

Senior Traffic Engineer
City of Santa Rosa | Santa Rosa, CA

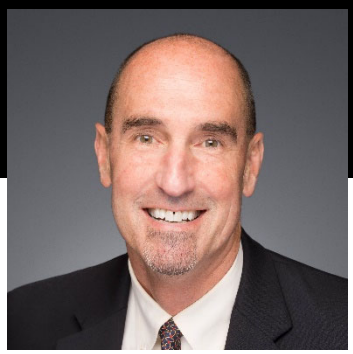
Responsible for final traffic signal design, interconnect, signing and striping for the extension of Farmer's Lane, over two miles in length, from Bennett Valley Road to Petaluma Hill Road. The project consists of a new roadway, bridge, drainage, retaining walls, landscaping, and electrical improvements. The project construction cost is currently estimated at $30 million.

Ukiah Streetscape and Road Diet, Phase 1

Traffic Engineering Lead
City of Ukiah | Ukiah, CA

Peter Galloway

Senior Transportation Planner



Location

Concord, CA

Experience

39 years

Qualifications/Accreditations

– BS, Natural Resource Planning and Interpretation, California State University, Humboldt, CA, 1982

Key technical skills

– Traffic Engineering, Civil Engineering, and Transportation Planning

Memberships

– Institute of Transportation Engineers

Relevant experience summary

Peter Galloway is a project manager with 39 years of experience managing or participating in traffic engineering, civil engineering, and transportation planning projects. He is responsible for quality control, project management, project design, contracts, subconsultant coordination, public meetings, and ensuring project goals are met within budget and on schedule. Peter conducts traffic engineering analyses and prepares technical reports for public agencies and private development; many of these projects have involved multiple alternative scenarios in order to evaluate specific circulation impacts. One of his main focus areas are winery entitlement projects, working with Napa and Sonoma County staff and winery clients to ensure an efficient analysis and review process.

Radar/Speed Study

Bailey Road Curve Advisory Speed Study

Project Manager
City of Concord | Concord, CA

Performed an engineering study to determine the recommended advisory speed to be posted for the curve on Bailey Road located north of the Myrtle Drive intersection. Conducted radar speed surveys on Bailey Road at three locations: within the curve, the straight section just north of the curve, and the straight section just south of the Myrtle Drive intersection.

City of Concord Citywide Radar Surveys/Speed Limits Studies

Project Manager
City of Concord | Concord, CA

Oversaw the speed zone Engineering & Traffic Survey (E&TS) data collection effort for 78 roadway sections, preparation of vehicle speed data sheets, charts displaying vehicle speeds vs. percent of cars, and illustrations maps.

City of Dublin 2009 Citywide Radar Speed Survey Update

Project Manager
City of Dublin | Dublin, CA

Provided all data collection and evaluation of speed limits in the City. Conducted 41 radar speed surveys and evaluated roadway conditions for 34 street segments.

Salvio Street Radar Speed Surveys

Project Manager
City of Concord | Concord, CA

Oversaw the project that included radar speed surveys on Salvio Street both eastbound and westbound between Date Street and Elm Street.

Robert Tuma

Transportation Planner

Location

Concord, CA

Experience

31 years

Qualifications/Accreditations

– BS, Environmental Science, University of California, Berkeley, CA, 1986

Key technical skills

– Traffic Impact & Operations Analysis
– Parking Studies, Speed Limit Studies

Memberships

– Institute of Transportation Engineers

Relevant experience summary

Robert Tuma has over 31 years of experience as a transportation planner. His responsibilities as a transportation planner include conducting traffic impact assessment and operations analyses of proposed projects in the preparation of environmental impact reports; conducting studies evaluating existing traffic conditions and recommended improvements; as well as data collection management and evaluation. In this capacity, Robert has completed traffic operations analyses and studies throughout California with a focus on the northern California area. He has a broad range of experience conducting transportation planning studies incorporating various elements, including analysis of regional impacts on traffic operations, site-specific traffic impact assessment, parking studies, speed limit studies, and citywide data collection management.

Radar/Speed Study

City of American Canyon Citywide Speed Survey Updates

Transportation Planner
City of American Canyon | American Canyon, CA

Conducted speed surveys for over 35 City streets. Analyzed the speed data to determine the 85th percentile speeds for each roadway segment to remain in compliance with the State of California Vehicle Code (CVC) requirements to ensure proper speed limits and radar enforcement. Surveys considered several factors, including roadway characteristics, adjacent land uses, side street traffic, and sight distances to determine the appropriate speed limit.

Bailey Road Curve Advisory Speed Study

Transportation Planner
City of Concord | Concord, CA

Performed an engineering study to determine the recommended advisory speed to be posted for the curve on Bailey Road located north of the Myrtle Drive intersection. Radar speed surveys were conducted on Bailey Road at three locations within the curve, the straight section just north of the curve, and the straight section just south of the Myrtle Drive intersection.

City of Benicia Citywide Speed Limit E&TS and Speed Surveys

Transportation Planner
City of Benicia | Benicia, CA

Conducted a citywide Engineering & Traffic Survey (E&TS) speed limit study to establish appropriate vehicle speed limits consistent with CVC requirements and enforceability by policing agencies. The analysis evaluated over 65 City streets using radar surveys and field observations of street characteristics. Worked closely with City of Benicia police enforcement officers to review and gain input on existing speed limits and measured vehicle speeds.

East Dublin Speed Limits Survey Study

Transportation Planner
City of Dublin | Dublin, CA

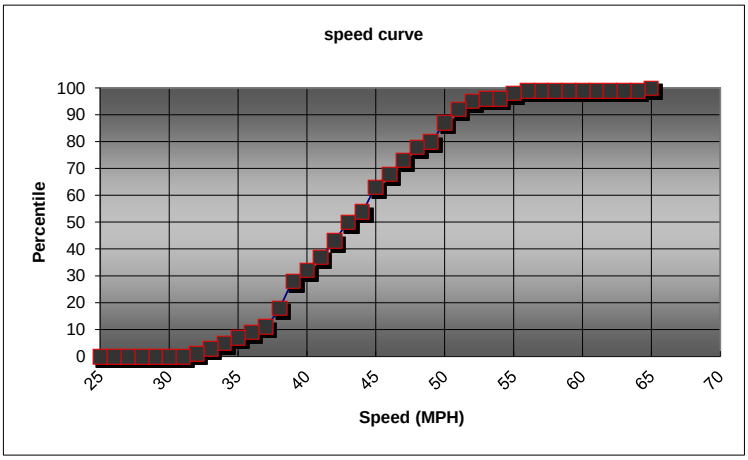
Performed the speed limit and E&TS studies that consisted of radar speed surveys and analyses in order to assist in maintaining and setting appropriate vehicle speed limits. The analysis required 13 radar speed surveys.

Speed Survey

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
City of Clovis
1033 Fifth Street
Clovis, CA 93612



ROAD NAME:	Herndon Ave
LIMITS:	btwn Peach and Willow
LATITUDE:	36.8376182
LONGITUDE:	-119.7268862
DATES/TIMES:	6/12/2024
	14:15 to 14:40
DIRECTION:	Eastbound
85% SPEED	50
10 mph PACE	38 - 47 MPH
AVG. SPEED	44 MPH
POSTED SPEED	50 MPH

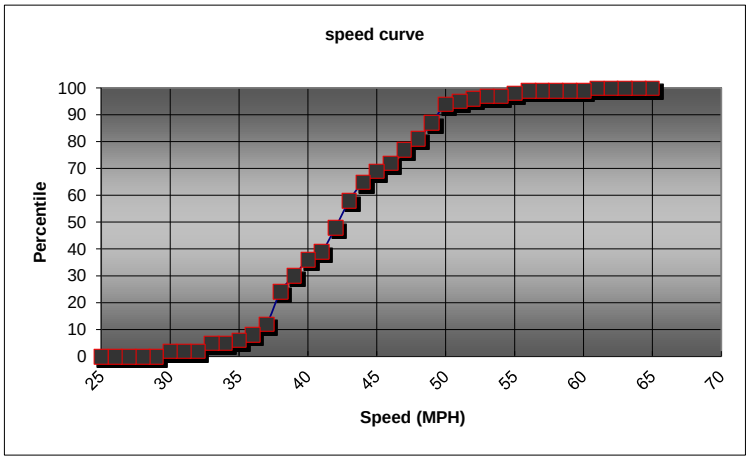
MPH																													
65	X																												1
64																													0
63																													0
62																													0
61																													0
60																													0
59																													0
58																													0
57																													0
56	X																												1
55	X	X																											2
54																													0
53	X																												1
52	X	X	X																										3
51	X	X	X	X	X																								5
50	X	X	X	X	X	X	X																						7
49	X	X																											2
48	X	X	X	X	X																								5
47	X	X	X	X	X																								5
46	X	X	X	X	X																								5
45	X	X	X	X	X	X	X	X	X																				9
44	X	X	X	X																									4
43	X	X	X	X	X	X	X																						7
42	X	X	X	X	X	X																							6
41	X	X	X	X	X																								5
40	X	X	X	X																									4
39	X	X	X	X	X	X	X	X	X	X																			10
38	X	X	X	X	X	X	X																						7
37	X	X																											2
36	X	X																											2
35	X	X																											2
34	X	X																											2
33	X	X																											2
32	X																												1
31																													0
30																													0
29																													0
28																													0
27																													0
26																													0
25																													0
24																													0
23																													0
22																													0
21																													0
20																													0
																												TOTAL:	100

Speed Survey

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
City of Clovis
1033 Fifth Street
Clovis, CA 93612



ROAD NAME:	Herndon Ave
LIMITS:	btwn Peach and Willow
LATITUDE:	36.8376182
LONGITUDE:	-119.7268862
DATES/TIMES:	6/12/2024
	14:15 to 14:40
DIRECTION:	Westbound
85% SPEED	49
10 mph PACE	38 - 47 MPH
AVG. SPEED	43 MPH
POSTED SPEED	50 MPH

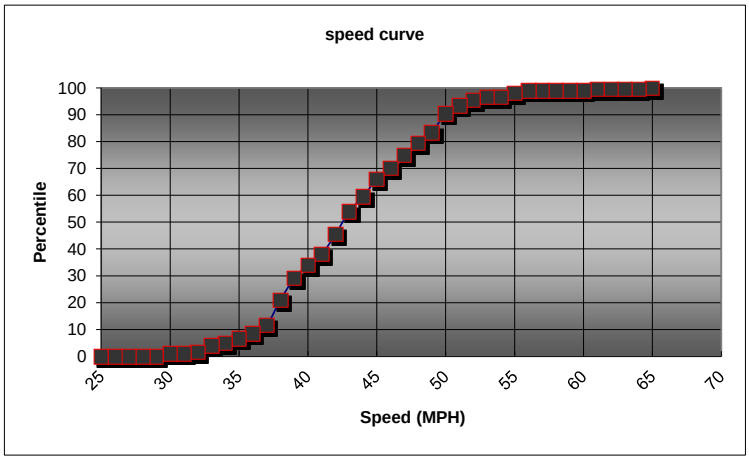
MPH																													
65																													0
64																													0
63																													0
62																													0
61	X																												1
60																													0
59																													0
58																													0
57																													0
56	X																												1
55	X																												1
54																													0
53	X																												1
52	X																												1
51	X																												1
50	X	X	X	X	X	X	X																						7
49	X	X	X	X	X	X																							6
48	X	X	X	X																									4
47	X	X	X	X	X																								5
46	X	X	X																										3
45	X	X	X	X																									4
44	X	X	X	X	X	X	X																						7
43	X	X	X	X	X	X	X	X	X	X																			10
42	X	X	X	X	X	X	X	X	X																				9
41	X	X	X																										3
40	X	X	X	X	X	X																							6
39	X	X	X	X	X	X																							6
38	X	X	X	X	X	X	X	X	X	X	X	X																	12
37	X	X	X	X																									4
36	X	X																											2
35	X																												1
34																													0
33	X	X	X																										3
32																													0
31																													0
30	X	X																											2
29																													0
28																													0
27																													0
26																													0
25																													0
24																													0
23																													0
22																													0
21																													0
20																													0
																												TOTAL:	100

Speed Survey

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Prepared For:
City of Clovis
1033 Fifth Street
Clovis, CA 93612



ROAD NAME:	Herndon Ave
LIMITS:	btwn Peach and Willow
LATITUDE:	36.8376182
LONGITUDE:	-119.7268862
DATES/TIMES:	6/12/2024
	14:15 to 14:40
DIRECTION:	Eastbound + Westbound
85% SPEED	50
10 mph PACE	38 - 47 MPH
AVG. SPEED	43 MPH
POSTED SPEED	50 MPH / 50 MPH

MPH																													
65	X																												1
64																													0
63																													0
62																													0
61	X																												1
60																													0
59																													0
58																													0
57																													0
56	X	X																											2
55	X	X	X																										3
54																													0
53	X	X																											2
52	X	X	X	X																									4
51	X	X	X	X	X	X																							6
50	X	X	X	X	X	X	X	X	X	X	X	X	X																14
49	X	X	X	X	X	X	X	X																					8
48	X	X	X	X	X	X	X	X	X																				9
47	X	X	X	X	X	X	X	X	X	X																			10
46	X	X	X	X	X	X	X	X																					8
45	X	X	X	X	X	X	X	X	X	X	X	X	X																13
44	X	X	X	X	X	X	X	X	X	X	X																		11
43	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X												17
42	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X														15
41	X	X	X	X	X	X	X	X																					8
40	X	X	X	X	X	X	X	X	X	X																			10
39	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X													16
38	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										19
37	X	X	X	X	X	X																							6
36	X	X	X	X																									4
35	X	X	X																										3
34	X	X																											2
33	X	X	X	X	X																								5
32	X																												1
31																													0
30	X	X																											2
29																													0
28																													0
27																													0
26																													0
25																													0
24																													0
23																													0
22																													0
21																													0
20																													0
																												TOTAL:	**200**

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

24 Hour Count Report

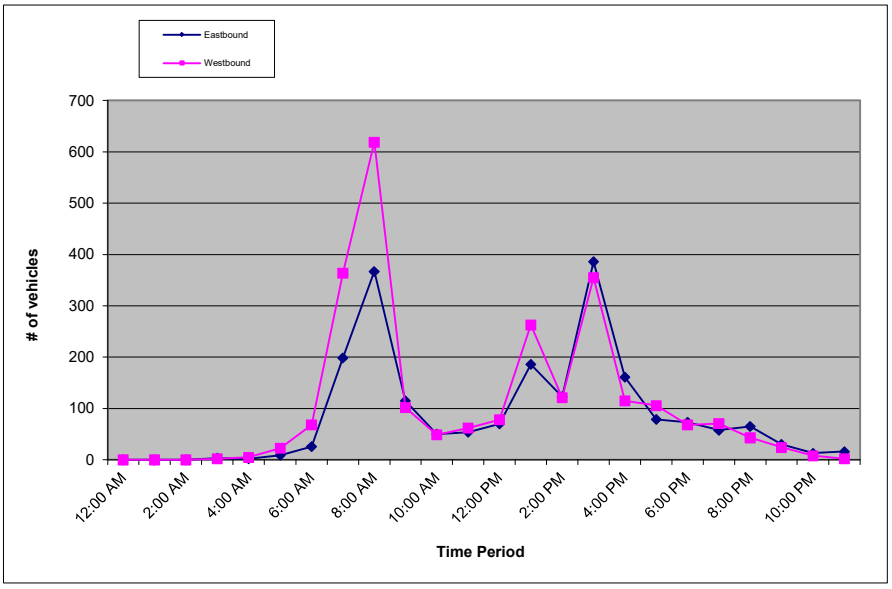
Prepared For: **Peters Engineering Group**
862 Pollasky Ave
Clovis, CA 93612

STREET W Ashlan Ave
SEGMENT West of N Bryan Ave
COLLECTION DATE Wednesday, February 7, 2024
NUMBER OF LANES 3

LATITUDE 36.7936
LONGITUDE -119.9074
WEATHER Clear

	Eastbound					Westbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	0	0	0	0	**0**	0	0	0	0	**0**	**0**
1:00 AM	0	0	0	0	**0**	0	0	0	0	**0**	**0**
2:00 AM	0	0	0	0	**0**	0	0	0	0	**0**	**0**
3:00 AM	0	1	0	2	**3**	1	0	1	0	**2**	**5**
4:00 AM	0	0	0	2	**2**	0	1	1	3	**5**	**7**
5:00 AM	1	1	2	5	**9**	3	9	7	4	**23**	**32**
6:00 AM	1	2	10	13	**26**	16	19	13	20	**68**	**94**
7:00 AM	18	23	56	102	**199**	38	67	104	155	**364**	**563**
8:00 AM	120	64	68	115	**367**	154	95	159	211	**619**	**986**
9:00 AM	60	25	16	14	**115**	45	25	16	16	**102**	**217**
10:00 AM	10	18	14	8	**50**	12	15	12	10	**49**	**99**
11:00 AM	18	12	13	11	**54**	18	17	10	17	**62**	**116**
12:00 PM	14	21	19	16	**70**	16	18	13	31	**78**	**148**
1:00 PM	25	21	44	96	**186**	42	50	91	80	**263**	**449**
2:00 PM	31	12	24	56	**123**	35	29	22	35	**121**	**244**
3:00 PM	25	25	119	217	**386**	55	87	142	71	**355**	**741**
4:00 PM	64	37	37	23	**161**	41	17	22	35	**115**	**276**
5:00 PM	23	14	23	19	**79**	31	24	25	26	**106**	**185**
6:00 PM	19	21	17	16	**73**	29	19	14	6	**68**	**141**
7:00 PM	6	17	21	14	**58**	7	19	21	24	**71**	**129**
8:00 PM	18	10	12	25	**65**	23	7	7	6	**43**	**108**
9:00 PM	13	2	7	8	**30**	9	3	7	5	**24**	**54**
10:00 PM	4	5	0	4	**13**	0	3	1	4	**8**	**21**
11:00 PM	6	5	2	3	**16**	0	0	2	0	**2**	**18**
Total	**45.0%**				**2085**	**55.0%**				**2548**	
	4633										

AM%	**45.7%**	**AM Peak**	**986**	**8:00 am to 9:00 am**	**AM P.H.F.**	**0.76**
PM%	**54.3%**	**PM Peak**	**766**	**3:15 pm to 4:15 pm**	**PM P.H.F.**	**0.66**



City of Merced
Engineering and Traffic Survey
Summary

Street:	2nd Street	**Field Observer:**	Metro Traffic Data Inc.
Limits:	West Avenue to Q Street	**Checked By:**	Joe Weiland, P.E.
Direction:	Eastbound + Westbound	**Date:**	May 1, 2018

FACTORS

A. PREVAILING SPEED DATA

Location of Survey	West Avenue to Q Street	
85th Percentile	34	mph
85th Percentile (rounded)	35	mph
10 mph Pace	25-34	mph
Percent in Pace	0.70	
Posted Speed Limit	30	mph

B. COLLISION HISTORY

	From	*To*	*Duration/Years*
Date Range Covered	1/1/2013	12/31/2016	3
Total Collisions	1		
Collision Rate (ACC/MVM)	1.27		
Expected Collision Rate	2.18		

C. TRAFFIC FACTORS

Average Daily Traffic	1,966	
Length of Segment	0.37	*(miles)*
Lane Configuration	Single Lane Each Direction	
Street Classification	Local	

D. CONDITIONS NOT READILY APPARENT

Conditions	2nd St from West Ave to Q St is a two lane local road. The road segment has multiple residential driveways with curb/gutter and sidewalks on both sides of the roadway. Sidewalks in some areas are adjacent to planter islands.
Roadway Geometrics	Several intersection approaches include TWSC and AWSC intersections along the road segment.
Speed Limit Determination	Based on the 85th percentile speed limit (rounded) and the collision rate factors listed above, it is appropriate to change the speed limit to reflect the 85th percentile (rounded). Changing the posted speed limit is recommended.

E. ADJACENT LAND USE: Residential (single family detached)

Posted Speed Limit	30	mph
Speed Limit Change?	Yes	mph
Revised Speed Limit	35	mph

Approved and Authorized for release by the City of Merced Department of Public Works

Name *Date* *LOC # 1*


GHD

Proposal for

Speed Zone Study

August 2, 2024

50th ANNIVERSARY

TJKM

IN ASSOCIATION WITH

NDS

National Data & Surveying Services

August 2, 2024

Richard Maddox
Engineering Department
City of Merced
678 West 18th Street, Second Floor
Merced, CA 95340

Subject: Proposal for a Speed Zone Study

Dear Mr. Maddox:

TJKM Transportation Consultants (TJKM) is pleased to submit our Proposal for a Speed Zone Study for the City of Merced.

Founded in 1974, TJKM is a transportation planning, traffic operations, and engineering firm providing services throughout California, Florida, and Texas. Our projects range in size from short-term engagements developing meaningful safe mobility solutions to all for a wide range of transportation issues to long-term planning for new developments, communities, and transportation systems. TJKM has been involved in more than 8,000 transportation projects and averages over 240 new projects each year. The TJKM Team brings current knowledge and experience to the City and is ready to "hit the ground running".

TJKM commits to the City a dedicated, multi-disciplinary staff of seasoned transportation experts who have demonstrated capabilities to meet the technical, managerial, and schedule challenges to be encountered. The team offered by TJKM is not only unparalleled in each of these areas, but has demonstrated its creativity to develop innovative design approaches to meet any of your project goals. The TJKM Team is committed to providing all services to the satisfaction of the City.

TJKM has conducted numerous Speed Zone Studies and Engineering and Traffic Surveys for municipal agencies in over 50 jurisdictions throughout California. Each study segment in all of these projects was carefully reviewed to meet the requirements of state law for speed zones/radar enforcement. Our past study recommendations have been adopted by our municipal clients keeping them in compliance with state law and improving traffic safety in their communities. TJKM uses pre-existing software templates and tools to perform technical analysis, which are proven effective on similar projects. We also use a checklist to ensure all procedures and tasks are followed satisfactorily. This practice eliminates repetitive work and increases the efficiency of our personnel. TJKM is ready to quickly move forward with this project with the main objectives of collecting data for the analysis and recommendation of appropriate speed limits consistent with the laws and practices of the State of California on approximately 192 existing street segments within the City of Merced.

To meet the specific needs of the City, we are pleased to propose myself, Mr. Nayan Amin, TE, to be the TJKM Principal-In-Charge and Mr. Seitu Coleman as the Project Manager. I, Nayan Amin, have 34 years of both public and private sector experience in the areas of transportation planning, traffic impact studies, transportation management plans, traffic signal coordination, traffic operations, construction scheduling, construction area signs, signing and striping, transit priority, traffic signal systems, freeway and arterial management studies, and ITS planning, design and construction oversight. I have worked on Engineering and Traffic Surveys for the Cities of Palm Desert, San Bruno, Union City, Martinez, Hollister, Antioch, Folsom, San Bruno, Marina, Pleasant Hill, and Danville.

Mr. Coleman, your Project Manager, joined TJKM after a brief period at Caltrans Headquarters helping to administer discretionary funding programs. At TJKM, Mr. Coleman conducts Speed Zone Studies, Engineering and Traffic Surveys Traffic Impact Studies, and Parking Studies. Also, he provides support on analysis, editing reports and developing maps of project sites and study locations. Additionally, he has worked on Speed Zone Studies and Engineering and Traffic Surveys for the Cities of Martinez, Union City, and San Bruno to name a few.

Statements

TJKM will provide a Certificate of Insurance naming the City of Merced as an additional insured per Attachment A and revising the cancellation clause.

Contact & Commitment

As President of the firm, I, Nayan Amin, am authorized to bind TJKM to a contract and you have my personal assurance that all the resources necessary to address the City's needs will be made available and ready to perform when the opportunity arises. I can be reached at (408) 410-2977 or via email at namin@tjkm.com. During the proposal process, please feel free to contact Mr. Coleman at (669) 230-4632 or via e-mail at scoleman@tjkm.com.

We look forward to the opportunity to answer any questions you may have regarding our Proposal.

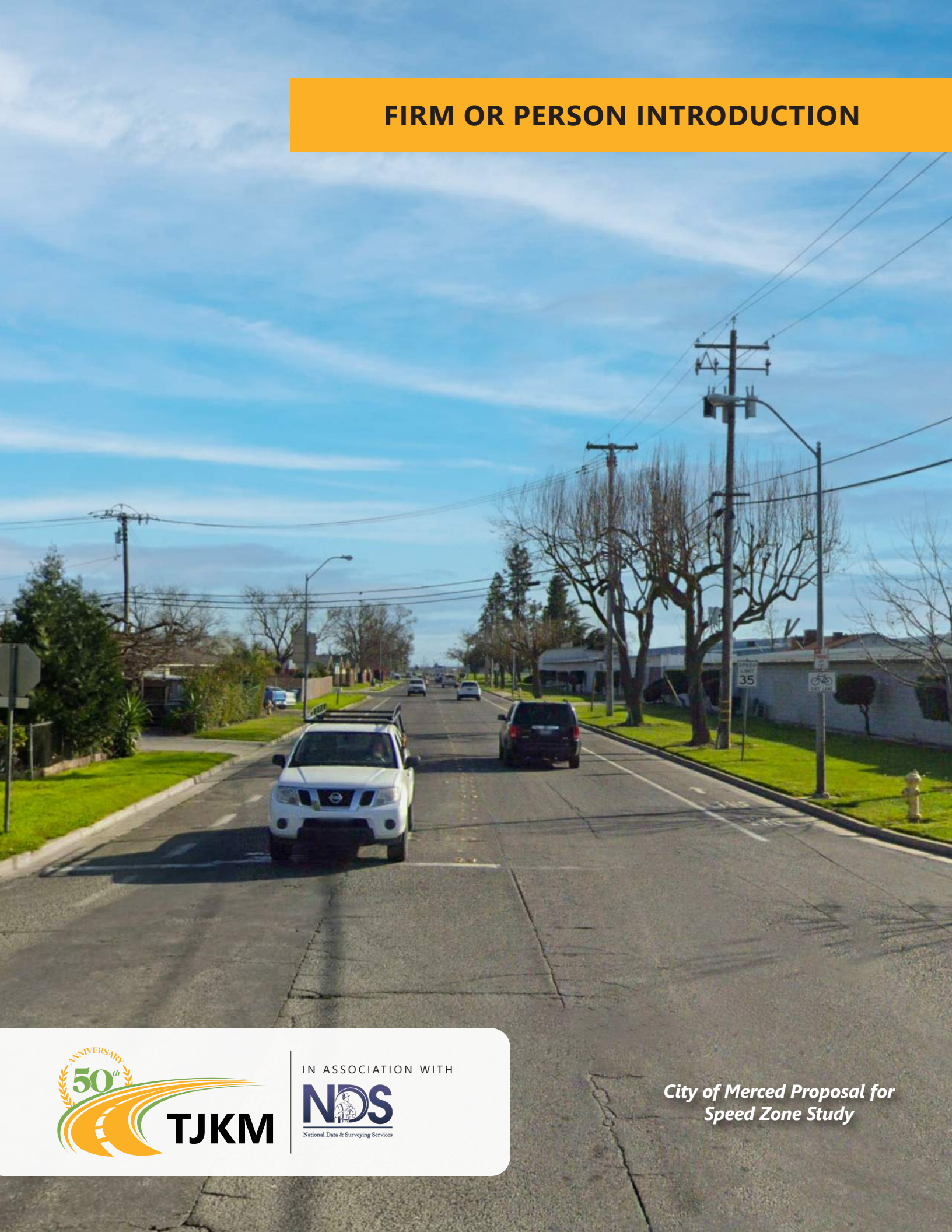
Sincerely,

TJKM Transportation Consultants

Nayan Amin, TE, President

TABLE OF CONTENTS

FIRM OR PERSON INTRODUCTION



50th ANNIVERSARY

TJKM

IN ASSOCIATION WITH

NDS
National Data & Surveying Services

City of Merced Proposal for Speed Zone Study

TJKM Transportation Consultants (TJKM) is pleased to submit our Proposal for a Speed Zone Study for the City of Merced.

FIRM OR PERSON INTRODUCTION

TJKM, founded in 1974, is a traffic engineering, traffic operations, and transportation planning firm that provides professional services throughout California, Texas, and Florida. TJKM currently has a staff of 45 employees with offices in Pleasanton, San Jose, Fresno, Sacramento, and Santa Rosa, CA; Austin, TX; and Tampa, FL. For 50 years, more than 3,500 satisfied clients have entrusted TJKM with their critical work. We serve a full-range of clients, including municipalities, congestion management agencies, metropolitan planning organizations, transportation agencies, private developers, other consulting firms, and attorneys.

TJKM has been involved in more than 8,000 transportation projects throughout California, and averages about 240 new projects each year. TJKM's primary service categories include traffic engineering design (including Plans, Specifications, and Estimates transportation planning, traffic safety, traffic operations, corridor studies, Intelligent Transportation Systems, and multimodal studies. Our motivation comes from satisfying clients' objectives and improving communities. TJKM has a strong roster of both public and private sector clients and continually builds upon this base.

Our planners and engineers have worked on the public side of the desk for years as municipal engineers, developing superior skills in collaborating with the public and city councils and, more importantly, crafting excellent relationships with the right people.

Our managers, engineers, and planners have "hands on" experience and understand the latest requirements, technologies, trends, and standards. Our experience with local agency processes keeps projects moving faster; and know-how from thousands of engagements helps us complete projects on time and within budget to our Clients' satisfaction.

TJKM is a Disadvantaged Business Enterprise (DBE) #40772 and Small Business Enterprise (SBE) #38780.

TJKM will utilize a Data Collection Vendor, **National Data & Surveying Services (NDS)** to assist with this project. TJKM and NDS have completed numerous similar studies in the past, both individually but more frequently as a team.

Founded in 1989, NDS, an S Corporation headquartered in Los Angeles, CA, was established to deliver accurate and cost-effective solutions to their client's traffic, transit, and GIS/GPS data collection needs. NDS is the largest traffic data collection firm in the nation with an outstanding team of well over 100 professional full-time employees. Over their 35-year history, NDS has completed hundreds of thousands of multimodal turning movement counts at various sized intersections/roundabouts requiring a variety of Federal Highway Administration or observation-based classifications using both video and manual collection methodologies and average daily traffic counts requiring volume, speed, and/or classification data using various technologies. Also, NDS has tens of thousands of other studies including spot-speed radar surveys, GIS asset inventory, pedestrians, bicycles, school, non-motorized, micro-mobility, non-intrusive interstate radar, parking studies, vehicle occupancy, gap, queue, intersection delay, saturation flow rate, travel time, compliance, origin-destination with or without Bluetooth, ball-bank horizontal curve studies, drone surveillance, drone orthomosaics, video recording, and video processing. NDS leverages their experience and expertise to deliver accurate and timely data in a professional manner.

Qualifications & Experience

TJKM is experienced in conducting Engineering and Traffic Surveys (E&TS) and has successfully delivered for more than 50 jurisdictions throughout California. For every project, our team carefully reviews each segment to ensure they meet California requirements for speed zones and radar enforcement. Our study recommendations have been implemented by various municipal clients. Our efforts have enabled our clients to maintain compliance with state law while improving traffic safety in their communities.

On similar successful projects, TJKM utilized pre-existing software templates and tools for technical analysis, as well as a checklist to verify all tasks were accurately completed. This approach, which has eliminated repetitive work and increased efficiency of our personnel, will be implemented for the City of Merced.

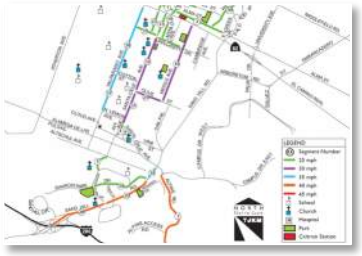
To summarize TJKM's qualifications and strengths in performing E&TS, below is a list of similar projects that we have worked on.

2018 Engineering & Traffic Surveys, Marina

TJKM completed an evaluation of the posted speed limits for 40 segments in the City of Marina to recommend updates and changes for speed limits, in accordance with the State of California regulations and guidelines. The project included two streets designated as expressway, 15 streets designated as arterials, and 23 streets designated as collectors. California Vehicle Code Section 40802 requires that E&TS for speed limits be conducted once every five, seven, or 10 years by governing municipalities in order to use radar or any other electronic device as a means of speed limit enforcement. The guidelines from the 2014 California Manual for Setting Speed Limits published by Caltrans (2014) were used in this study.

Engineering & Traffic Surveys, Menlo Park

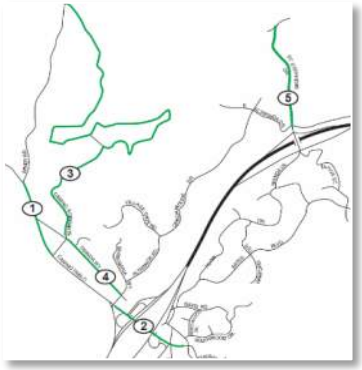
TJKM conducted engineering and traffic surveys for 41 street segments. The data collected showed that the 85th percentile speeds are relatively consistent with the prior year survey information. TJKM recommended that no changes to the speed limits for any of the 41 study segments need to be made. The recommendations provided by TJKM were adopted by the City Council.



Engineering & Traffic Surveys, Orinda

TJKM was retained to provide On-Call Traffic Engineering services. As part of the contract, TJKM performed two Engineering and Traffic Surveys identified below:

- **Engineering and Traffic Surveys at Five Locations:** TJKM performed the E&TS. The work included a summary of radar speed surveys, daily traffic counts, and traffic accidents at five roadway sections. After the analysis, it was determined that no changes to speed limits are recommended for the study roadway segments.
- **Glorietta Boulevard Engineering and Traffic Surveys:** TJKM performed E&TS at two locations on Glorietta Boulevard; 1) Moraga Way to Rheem Boulevard, and 2) Rheem Boulevard to Lafayette City Limit.



Engineering & Traffic Surveys, Newark

TJKM conducted a Citywide Engineering and Traffic Surveys for the City of Newark. The survey includes a summary of radar speed surveys, daily traffic counts, traffic accidents, and an analysis of roadway conditions for 51 identified street segments on 37 arterials, collector, and local streets.

There were no recommended changes to speed limits for any of the study segments. The recommendations were adopted.

2017 Engineering & Traffic Surveys, Rio Vista

TJKM evaluated the posted speed limits for seven segments in the City of Rio Vista to recommend updates and changes for speed limits, in accordance with the State of California regulations and guidelines. The project included three streets designated as arterials and four streets designated as local streets. California Vehicle Code Section 40802 requires that Engineering and Traffic Surveys for speed limits should be conducted once every five, seven, or 10 years by governing municipalities in order to use radar or any other electronic device as a means of speed limit enforcement. The guidelines from the 2014 California Manual for Setting Speed Limits published by Caltrans (2014) were used in this study. TJKM's final recommendations were adopted by the City Council.

2017 Engineering & Traffic Surveys, Hollister

TJKM completed an evaluation of the posted speed limits for 60 segments in the City of Hollister to recommend updates and changes for speed limits, in accordance with the State of California regulations and guidelines. The project included 18 streets designated as arterials, 38 streets designated as collectors and four local streets.

California Vehicle Code Section 40802 requires that Engineering and Traffic Surveys for speed limits should be conducted once every five, seven or 10 years by governing municipalities in order to use radar or any other electronic device as a means of speed limit enforcement. The guidelines from the 2014 California Manual for Setting Speed Limits published by Caltrans (2014) were used in this study.

Mountain House Engineering & Traffic Surveys, San Joaquin County

TJKM conducted Engineering and Traffic Surveys for six street segments in the County. Mountain House is was a relatively new community that had many wide and long streets. The data collected showed that the 85th percentile speeds on the segments were relatively high. It was recommended by us that the speed limit should be increased by five miles per hour for all six segments.

Engineering & Traffic Surveys, Danville

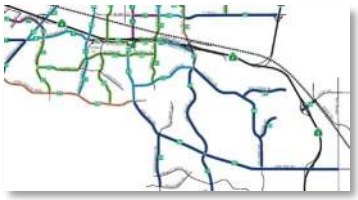
TJKM provided On-Call staffing services to the Town of Danville. One of our recent assignments was to conduct Engineering and Traffic Surveys for 15 segments throughout the Town of Danville. TJKM staff, working on behalf of the Town, coordinated the data collection task, analyzed the five-year collision history, conducted field visits, and made recommendations for the speed limits. The Town adopted these speed surveys at their Town Council meeting.

Engineering & Traffic Survey (Four Roadways), San Carlos

TJKM was contracted with the City to provide On-Call Engineering Services. As part of this agreement, TJKM performed an Engineering and Traffic Surveys which included the study of speed zones with a summary of radar speed surveys, daily traffic counts, and traffic accidents at the following locations: 1) Elm Street between Holly Street and Eaton Avenue; 2) Cedar Street between Belmont City Limits and Eaton Avenue; 3) Saint Francis Way between El Camino Real and Alameda de las Pulgas; and 4) Crestview Drive between Belmont City Limits and Edmonds Drive.

2014 Speed Zone Studies, Antioch

TJKM conducted an Engineering and Traffic Surveys, which included a summary of radar speed surveys, daily traffic counts, traffic accidents, and an analysis of roadway conditions for 68 identified street segments on arterial, collector, and local streets in Antioch. The purpose was to evaluate if the speed limits posted on those segments were still appropriate. Of the 68 identified roadway segments studied, TJKM recommended a change in the speed limit on four segments.



Dublin Boulevard Engineering & Traffic Surveys, Dublin

TJKM conducted the 2012 Engineering and Traffic Surveys for the City of Dublin along three sections of Dublin Boulevard. The study includes a summary of radar speed surveys, daily traffic counts, and traffic accidents at three roadway sections. Recommendations were made for the following three street segments:

- Dublin Boulevard between Dougherty Road and Scarlett Drive
- Dublin Boulevard between Scarlett Drive and Hacienda Drive
- Dublin Boulevard between Hacienda Drive and Hacienda Road

Expertise

SPEED STUDIES

On all of our Engineering and Traffic Studies, we carefully reviewed each study segment to meet the requirements of California state laws for speed zones and radar enforcement. TJKM past study recommendations have been adopted by our municipal clients keeping them in compliance with state law and improving traffic safety in their communities. In order to better conform to the standards established in the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD), and to address some of the widespread disregard of the five miles per hour (mph) special downward speed zoning provision, the California MUTCD

revised the speed zoning section to require rounding the 85th percentile to the nearest five mph increment rather than the lower five mph increment. This specific guideline revision has resulted in raising certain street speed limits and has become a challenge for jurisdictions. TJKM uses pre-existing software templates/tools to perform technical analysis, which are proven effective on similar projects. We also use a checklist to ensure all procedures and tasks are followed satisfactorily. This practice eliminates repetitive work and increases the efficiency of our personnel.

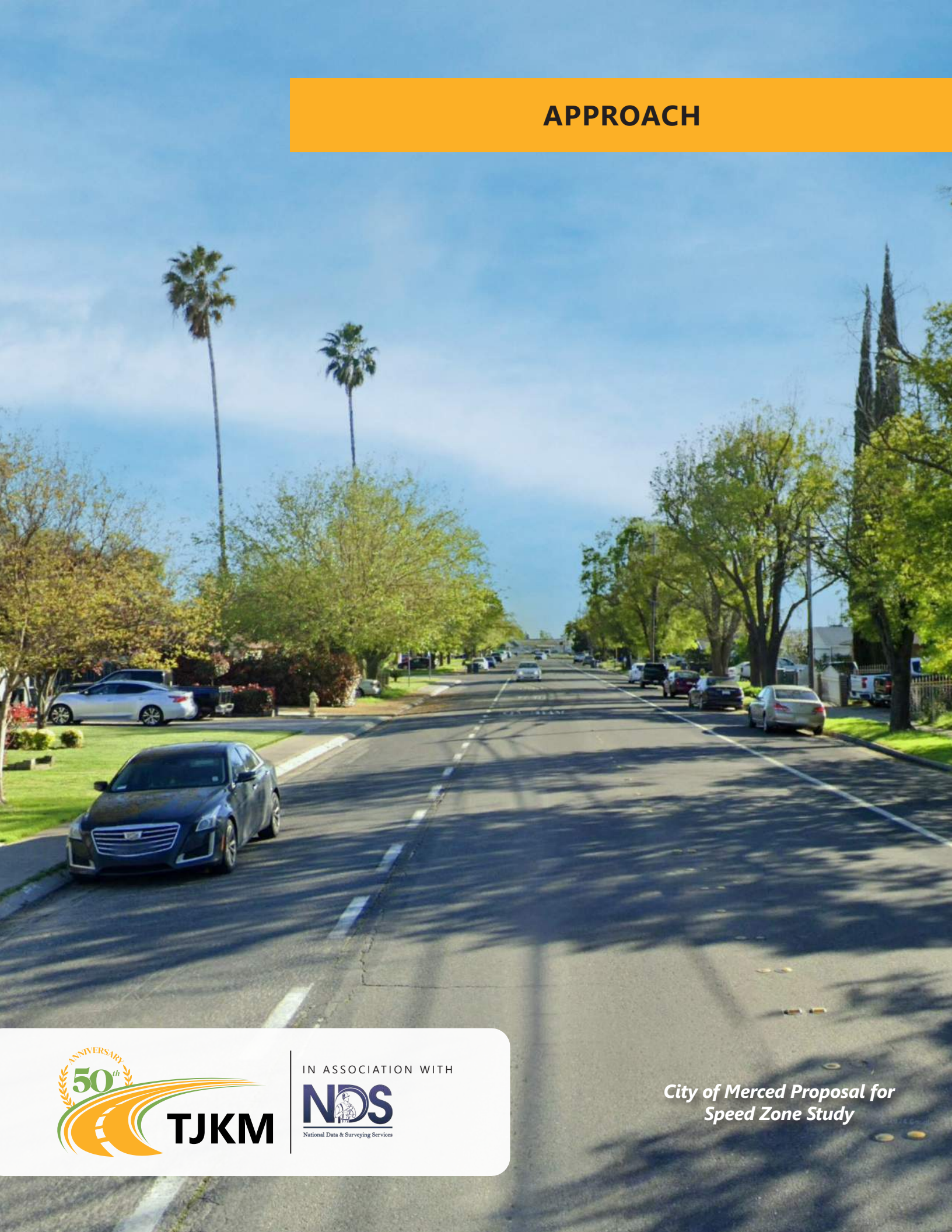
DATA COLLECTION/FIELD INVENTORY

TJKM's services include field data collection that is utilized to augment available databases. Many of our engineers and technicians collect field data, including turning movement and volume counts and reduce the information in a manner necessary. Prior to initiating actual field data collection, TJKM will review each potential inventory item with your agency's staff to ensure there is complete agreement on the usefulness and utility of each component of the inventory. By observing traffic conditions personally, an engineer or manager can then determine some of the more effective strategies that will actually work to improve operations rather than what may sound good on paper. The data collected is then input into a program, such as TRAFFIX, Synchro, or SimTraffic to develop traffic count databases and traffic speed profiles using GPS technology. We analyze the data to determine if the amount of traffic data within the study area is acceptable to your agency's standards. TJKM has years of experience in crafting and implementing neighborhood and circulation plan studies that take into account existing traffic count data in order to develop various short-term and long-term strategies to improve traffic impacts on existing traffic circulation and other multimodal uses.

PROJECT MANAGEMENT/MEETINGS

Frequent and effective communication between the City and the TJKM Team is needed to maintain the schedule and ensure a quality product. TJKM will manage the schedule and budget throughout the duration of the project. After the Notice-To-Proceed, TJKM will facilitate a Kick-Off Meeting with the City's Project Manager and other City representatives. TJKM will prepare meeting materials including an agenda and related handouts. Throughout the project, TJKM expects ongoing emails, conference calls, and monthly meetings with the City's Project Manager to keep the project on track and to meet City's expectations during the creation of the Plan. Meetings can be in person or through virtual conferencing with screen sharing capability (Zoom or similar). TJKM will prepare the schedule in Microsoft Project software format and will perform updates to the schedule at design progress meetings. TJKM will maintain all agendas, meeting notes, and action items through a Google doc, which will be a living document throughout the life of the project and will provide an open and up-to-date communication platform.

APPROACH



TJKM

IN ASSOCIATION WITH

NDS
National Data & Surveying Services

City of Merced Proposal for Speed Zone Study

APPROACH

Management Approach

The TJKM Project Management Plan that will be used on these projects is based on proven management, lessons learned and administrative systems developed to enhance communication among the City, the TJKM Project Manager and team members, and other affected agencies. Each of our offices are fully furnished with the equipment necessary for our staff to provide any items needed from printed items (plans on bond or mylar, handouts, graphics, etc.) to readable PDFs.

This management approach has been used successfully for numerous projects and task orders for over 40 years. The TJKM Project Management Plan has the following elements:

Work Plan

It is a TJKM policy to prepare a Work Plan for all projects, large and small. Upon receipt of a Notice-to-Proceed, we will prepare, in consultation with the City and other local jurisdictions, an overall project Work Plan that includes detailed work elements for each team specialty. Any TJKM Work Plan typically includes: definition of the project purpose; task objectives; scope of services; staffing; coordination requirements; deliverables; budget; schedule; and monitoring and reporting procedures. TJKM staff are familiar with the use of Microsoft products such as (Word, Excel, and PowerPoint) and the Adobe Suite.

Document Control

TJKM will also maintain all agendas, meeting notes, and action items through a Google Doc that will be a living document throughout the life of the project that will provide an open and up-to-date communication platform. This will also assist in overseeing the Plan development and ensure that all measures of the project's scope of services are completed in a timely and professional manner with an emphasis on providing the City with a high-quality product.

Coordination & Communication

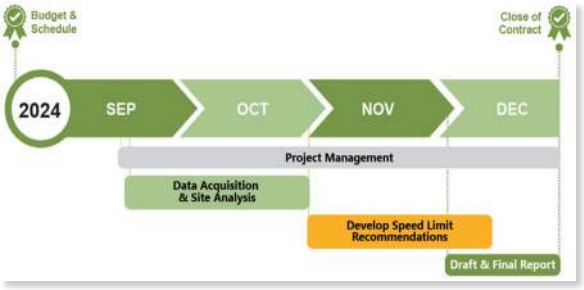
The key to our success is an integrated team approach. Our goal is "no surprises". We will maintain close and regular communication with your Project Manager in person or via telephone, scheduled conference calls, emails, or meetings. Our firm strongly believes in the necessity and benefits of management with scheduled monthly progress meetings to discuss issues, deliverables, status, products, invoicing items, problems encountered that may affect schedule and budget. This will ensure clear communication and that our "no surprises" goal is maintained.

We use email correspondence to document communication between TJKM and our clients, but we also value more personable forms of communication, such as phone calls and in person meetings.

Our Project Manager will available for any in-person events for applicable occasions and the other TJKM Team members can be available with short notice. Virtual availability is also an immediate option for communication and response. We can use any platform acceptable to our clients for virtual meetings. All meetings can be in Zoom, Microsoft Teams, Google Meet, WebEx, GoTo Meeting, or Skype with screen sharing capability.

Schedule Control

Establishing a schedule that meets the project objectives is relatively easy. Maintaining this schedule during changing project priorities, unforeseen conditions, public consensus building, etc., can be a challenge. The project work scope will be broken down by function and separated into defined tasks. Tasks will be linked logically and will be sufficiently detailed to allow for realistic representation of the project. Project progress will also be monitored by percent complete for each task.



Cost Control

Control of project costs will be accomplished by monitoring on a task level basis. This detailed task level will roll up into milestone summaries and a project summary. Our cost accounting system is a "live" database that the Project Manager can access to determine the financial status of the project at any time. Cost control reporting to TJKM's Project Manager will be implemented through the invoicing process. Progress reports will also be included to relay information on project progress and critical issues.

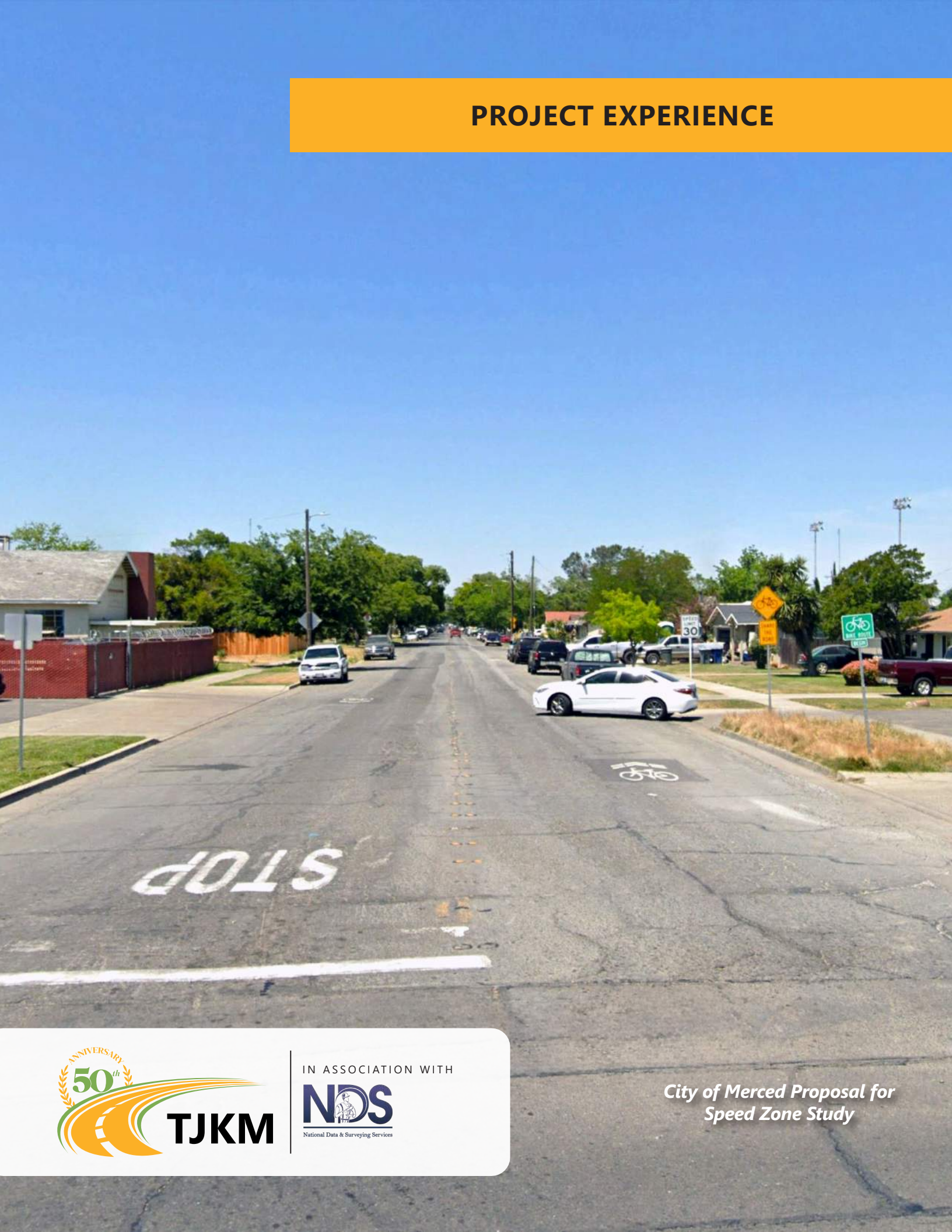
Quality Control

TJKM's Quality Assurance Procedures are implemented throughout the project's duration. Quality Control begins at the proposal and scope definition stage and continues through project completion. To capture and minimize errors, omissions, and ambiguities in submittals and drawings, the appropriate TJKM Team members are assigned the responsibilities for technical review, peer review/coordination checking, and technical audit functions.

TJKM's quality control system extends to the work of our subconsultants and vendors through the use of established procedures and our peer review/independent checking capability augmented with technical audits.

As you can see, TJKM has the capabilities to provide any services needed.

PROJECT EXPERIENCE



TJKM

IN ASSOCIATION WITH

NDS
National Data & Surveying Services

City of Merced Proposal for Speed Zone Study

PROJECT EXPERIENCE

Nearly 85 percent of our clients are repeat clients. Prompt service, attention to details, strict adherence to schedule requirements, and commitment to our clients' goals are among the reasons for this steady client base. Our objective on every assignment is to provide the most cost-effective product that meets the specific needs and criteria of each client within the planned schedule and budget. We encourage the City of Merced to contact our references to learn about our performance. We are confident that you will be pleased with what our clients have to say about us.

Below we have included our similar project experience.

2024 PATTERSON CITYWIDE SPEED SURVEY, PATTERSON | 2024-ONGOING

Reference: Fernando Ulloa, City of Patterson, (559) 804-9988, fulloa@ci.patterson.ca.us

TJKM prepared a Citywide Traffic Speed Survey for the City of Patterson. The main objectives of the project are to collect and analyze data and recommend appropriate speed limits consistent with California Vehicle Code for approximately 16 (and expandable up to 25) existing roadway segments throughout the City of Patterson.

ENGINEERING & TRAFFIC SURVEYS TO ESTABLISH SPEED LIMITS, CUPERTINO | 2023–2024

Reference: Prashanth Dullu, City of Cupertino, (408) 777-3190, prashanthd@cupertino.org

TJKM was tasked by the City of Cupertino to update the recommended speed limits for four (later increased to six) survey segments after the City implemented traffic calming measures on the segments. TJKM was able to recommend lower speed limits for the survey segments Consistent with the latest laws and practices of the State of California. TJKM was responsible for:

- Conducting an E&TS in each speed zone that conforms to Section 627 of the California Vehicle Code and meets the intent of Section 2B.13 of the California MUTCD
- Compiled collision data relevant to speed zoning
- Identified roadway and traffic conditions that may affect speed zones
- Prepared a speed survey map
- Recommend the speed limits for adoption by the City Council

ENGINEERING & TRAFFIC SURVEY, SAN BRUNO | 2023

Reference: Harry Yip, PE, PTOE, City of San Bruno, (650) 616-7052, hyip@sanbruno.ca.gov

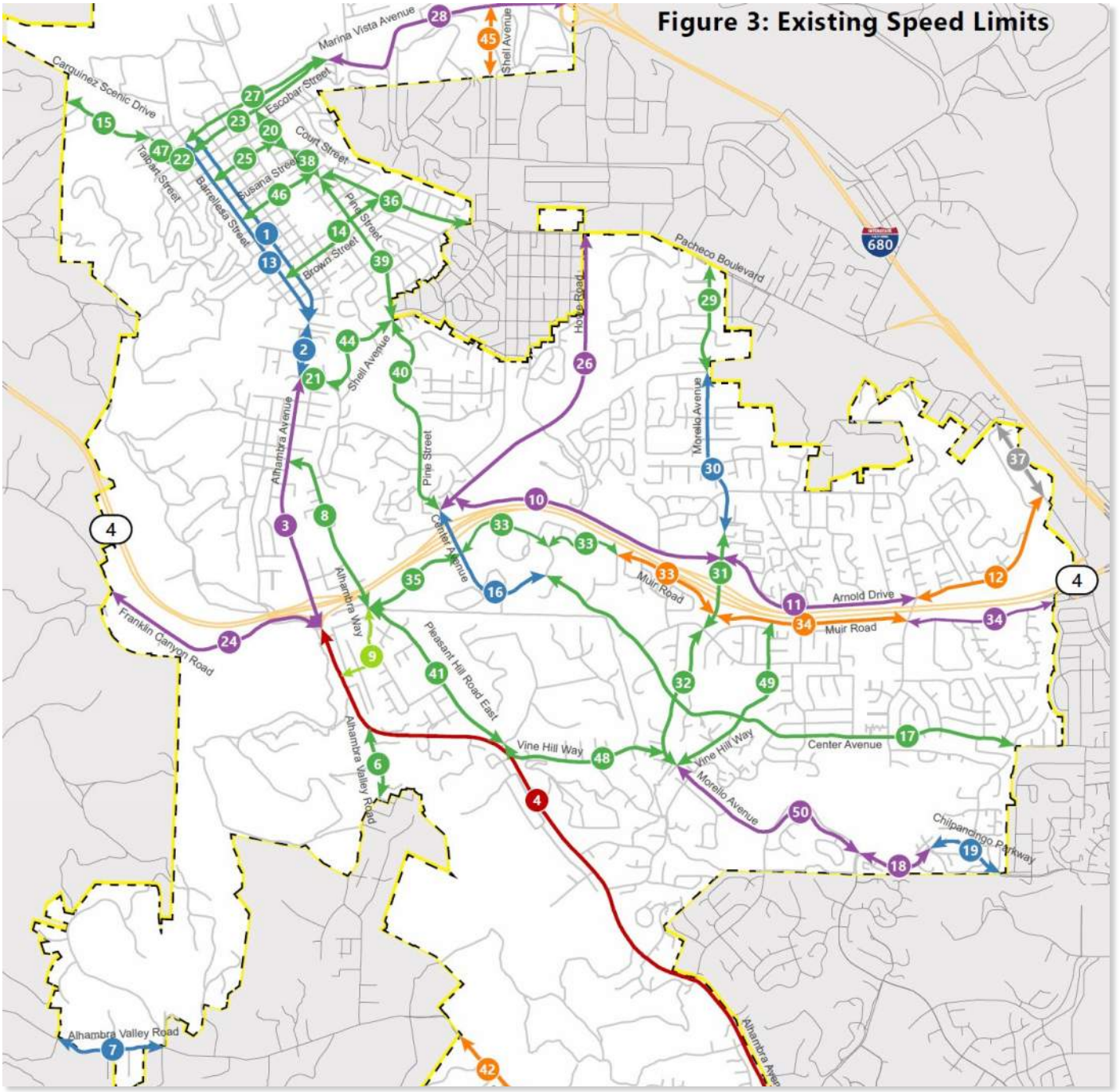
Study Segments

1. Cherry Avenue - San Bruno Ave. to Sneath Ln.
2. College Drive - Skyline College Limits to SR 35/Skyline Dr.
3. College Road - Skyline College Limits to City Limits (N)
4. Herman Street - Tanforan Ave. To Huntington Ave.
5. Huntington Avenue - Forest to City Limits (N)
6. Huntington Avenue - Forest to San Bruno Ave
7. Huntington Avenue - San Bruno Ave. to San Felipe Ave.
8. San Antonio Avenue - San Felipe Ave. to Santa Helena Ave.
9. San Bruno Avenue - SR 35/Skyline Dr. to I-280
10. San Bruno Avenue - I-280 to El Camino Real
11. San Bruno Avenue - El Camino Real to City Limits (E)
12. Sharp Park Road - SR 35/Skyline Dr. to City Limits (W)
13. Shelter Creek Lane - San Bruno Ave. to Whitman Wy.
14. Sneath Lane - SR/35 Skyline Dr. to City Limits (W)
15. Sneath Lane - SR 35/Skyline Dr. to I-280
16. Sneath Lane - I-280 to El Camino Real
17. Sneath Lane - El Camino Real to Huntington Ave.
18. San Mateo Avenue - Tanforan Ave. to San Bruno Ave.
19. Crystal Springs Road - Cunningham Wy. to Crestmoor Dr
20. Oakmont Drive - Muirfield Cir. to St. Cloud Dr
21. Valleywood Drive - Pinecrest Dr. to Fernwood Dr.
22. Cunningham Way - Jenevein Ave to Crystal Springs Rd.

The City San Bruno selected TJKM to conduct its Engineering and Traffic Survey to update speed limits on 22 street segments. TJKM professionally managed the project and answered the City's inquiries each step of the way.

ENGINEERING & TRAFFIC SURVEY, MARTINEZ | 2022

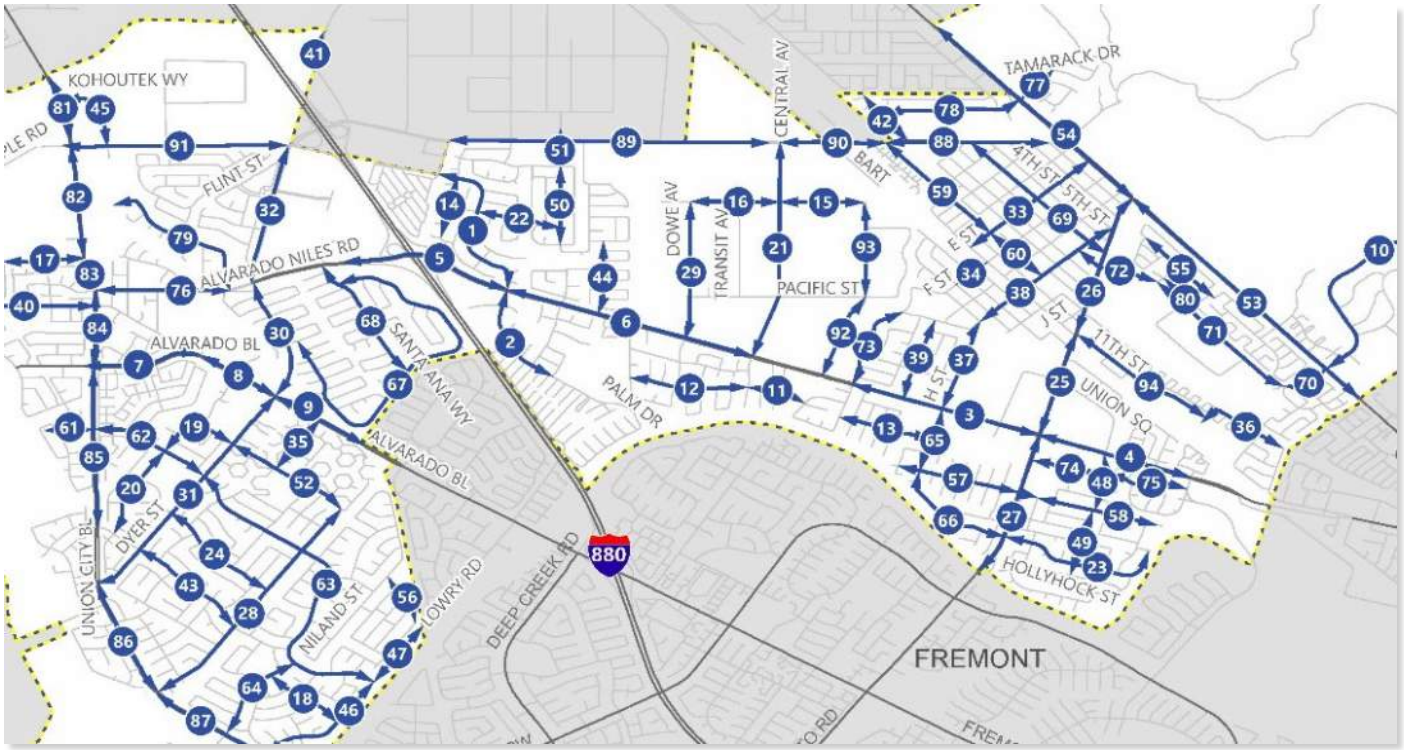
Reference: Lynne Filson, PE, PLS, Haley & Aldrich, (925) 433-5001, lfilson@haleyaldrich.com



TJKM conducted an Engineering and Traffic Survey for 49 street segments in the City of Martinez. The purpose of the Engineering and Traffic Survey was to update the City's speed limits on each of the segments so that they remain enforceable. The Engineering and Traffic Survey involved collecting and analyzing collision data, existing traffic conditions including average daily traffic and speed distributions, and geometrics for each of the 49 street segments.

ENGINEERING & TRAFFIC SURVEY, UNION CITY | 2022-2023

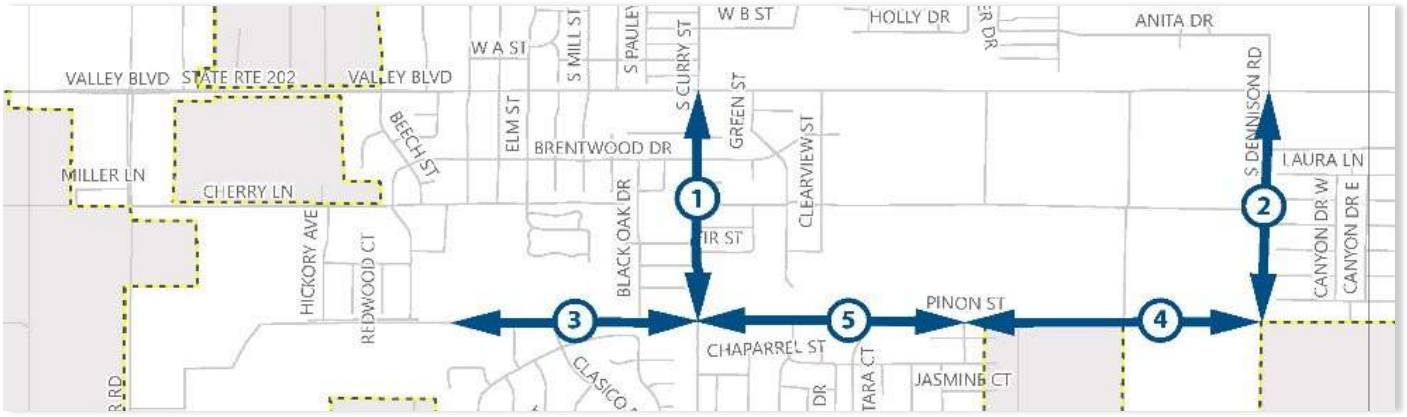
Reference: Trieu Tran, PE, City of Union City, (510) 675-5301, trieut@unioncity.org



TJKM worked with the City to update speed limits on 94 street segments through an Engineering and Traffic Surveys. TJKM worked with NDS to collect prevailing speed distributions and average daily traffic for each segment. Three-year collision data was additionally evaluated. Despite the large number of segments to evaluate, and setbacks related to data collection, and the need for extra evaluation of a survey segment with a reduced school speed limit zone, TJKM maintained great communication and dialog with City personnel to coordinate the project.

ENGINEERING & TRAFFIC SURVEYS FOR SPEED ZONES, TEHACHAPI | 2023-2024

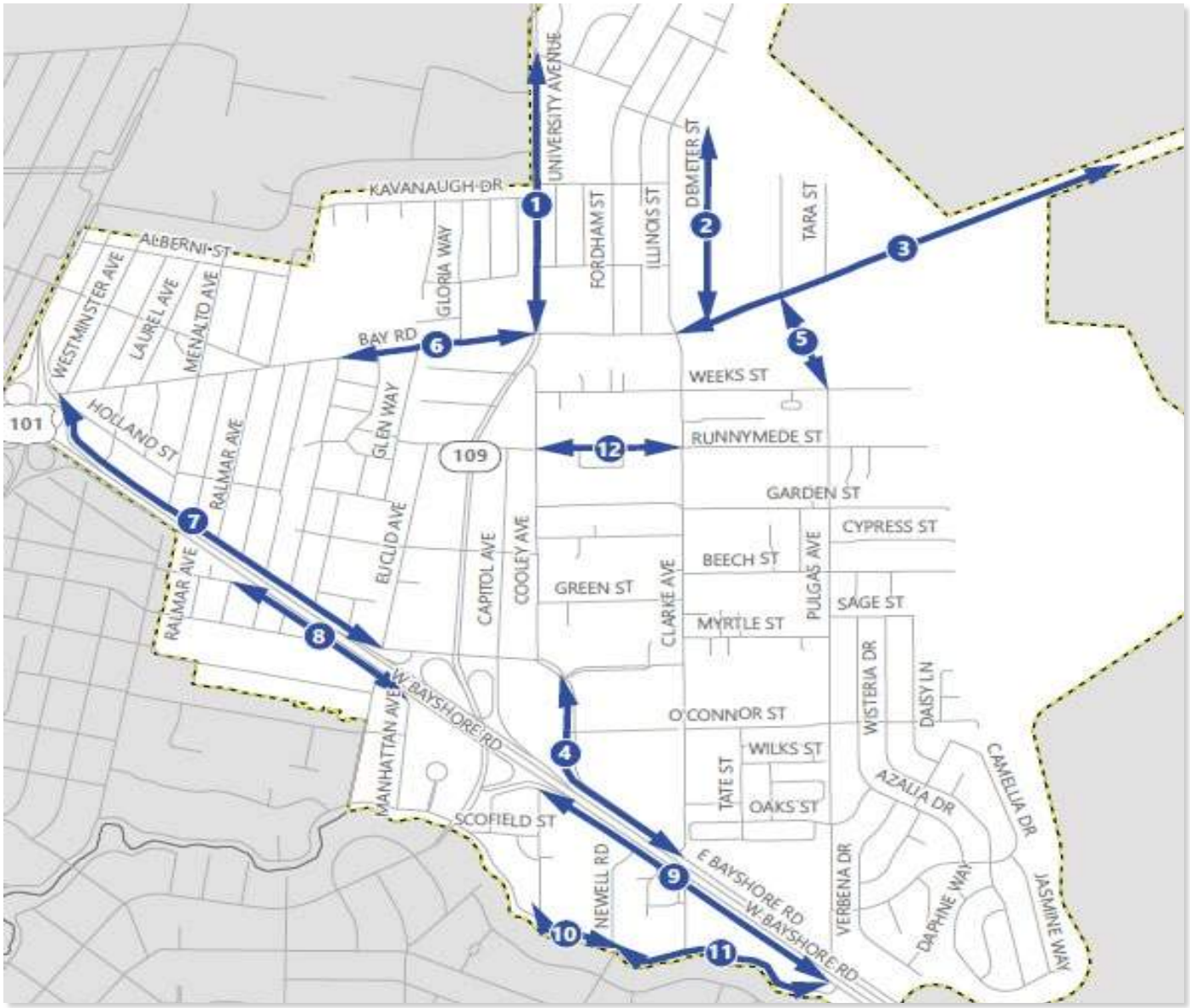
Reference: Don Marsh, City of Tehachapi, (661) 822-2200 ext. 509, dmarsh@tehachapipw.com



TJKM conducted an Engineering and Traffic Survey for the City of Tehachapi to update speed limits on five roadway segments. Upon collecting speed distributions and average daily traffic volumes for each of the roadway segments, TJKM worked with the City to modify segment limits to accommodate changing adjacent land use conditions and added a sixth roadway segment. Following an analysis of prevailing speeds and collision data, TJKM recommended updated speed limits in accordance with the State of California regulations and guidelines.

CITYWIDE ENGINEERING & TRAFFIC SURVEY, EAST PALO ALTO | 2021-2023

Reference: Humza Javed, PE, QSD, City of East Palo Alto, (650) 853-3130, hjaved@cityofepa.org



The City East Palo Alto selected TJKM to perform a system-wide traffic data collection update and speed limit adjustment, as needed, along major arterials and collectors in the City. TJKM collected prevailing speed distributions and average daily traffic volumes on 12 street segments. TJKM worked closely with the City and the data collection vendor to evaluate and recommend speed limits that were acceptable to the City for adoption in an environment politically sensitive to speed limit increases. TJKM professionally managed the project and answered the City's inquiries each step of the way.

TOWNWIDE TRAFFIC SPEED SURVEY, MORAGA | 2021

Reference: Sharon Chan, Town of Moraga, (925) 888-7026, schan@moraga.ca.us

TJKM conducted an Engineering and Traffic Study for the City of Moraga and recommended speed limit updates on city streets in accordance with the State of California regulations and guidelines. The project included 20 roadway segments. The project recommendations were adopted by the Town Council.

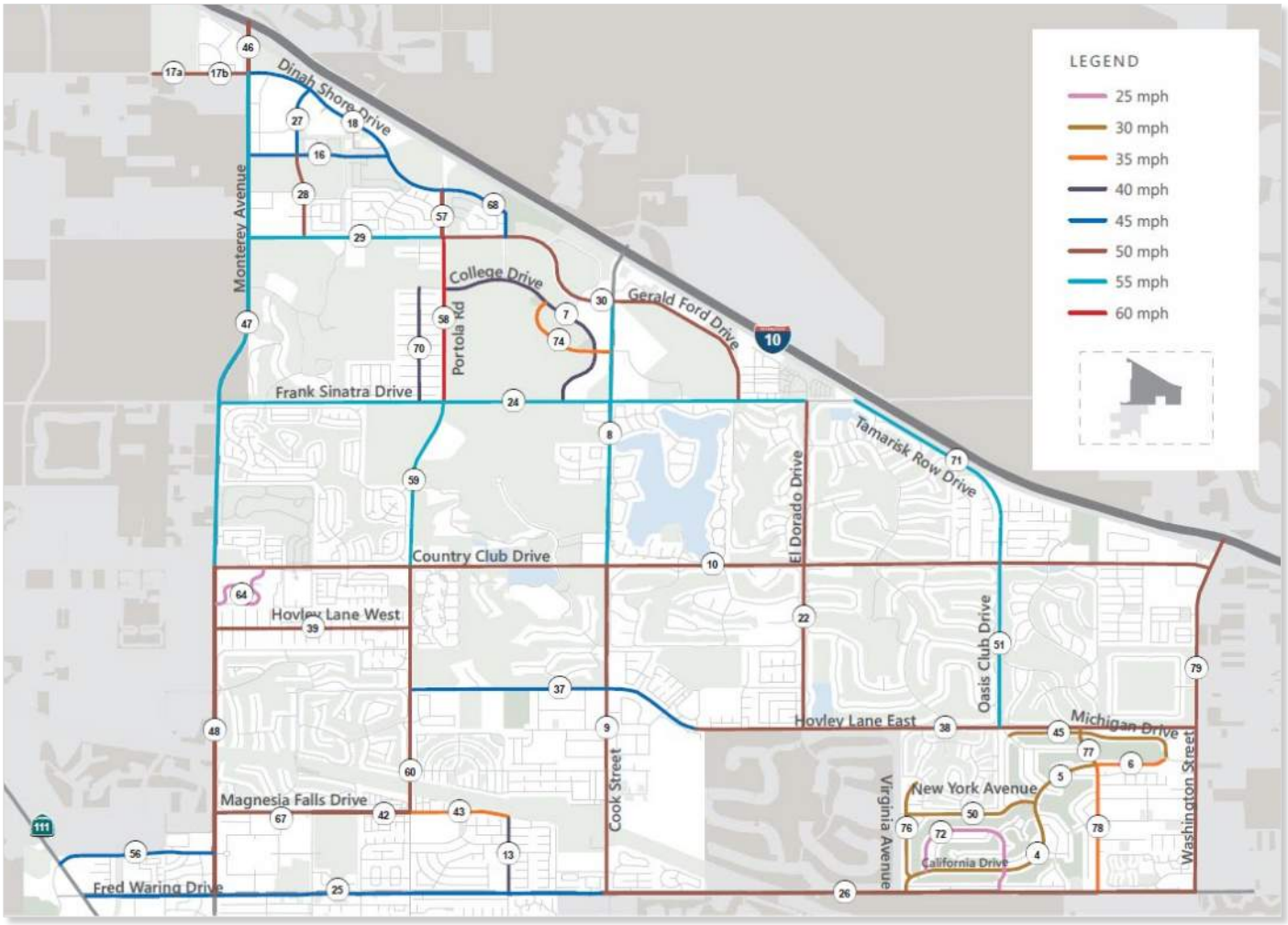
ENGINEERING & TRAFFIC SURVEYS FOR SPEED ZONES, OAKLEY | 2019-2021

Reference: Kevin Rohani, City of Oakley, (925) 625-7003, Rohani@ci.oakley.ca.us

TJKM conducted an Engineering and Traffic Survey for the City of Oakley for recommending potential speed limit update on City streets, in accordance with the State of California regulations and guidelines. The project included 30 roadway segments for a speed limit update evaluation. The project included collecting prevailing speeds and average daily traffic for this rapidly growing City. The TJKM Team attended the Council meeting at which the recommendations were adopted.

ENGINEERING & TRAFFIC SURVEYS FOR SPEED ZONES, PALM DESERT | 2019-2021

Reference: Randy Bowman, City of Palm Desert, (760) 776-6493, rbowman@cityofpalmdesert.org



TJKM conducted an Engineering and Traffic Survey for the City for recommending speed limit updates on City streets in accordance with the California regulations and guidelines. The project included 79 roadway segments for a speed limit update evaluation. The project included collecting prevailing speeds and average daily traffic. TJKM attended the Council meeting at which the recommendations were adopted. The project demonstrated TJKM's ability to work successfully with clients in all parts of California.

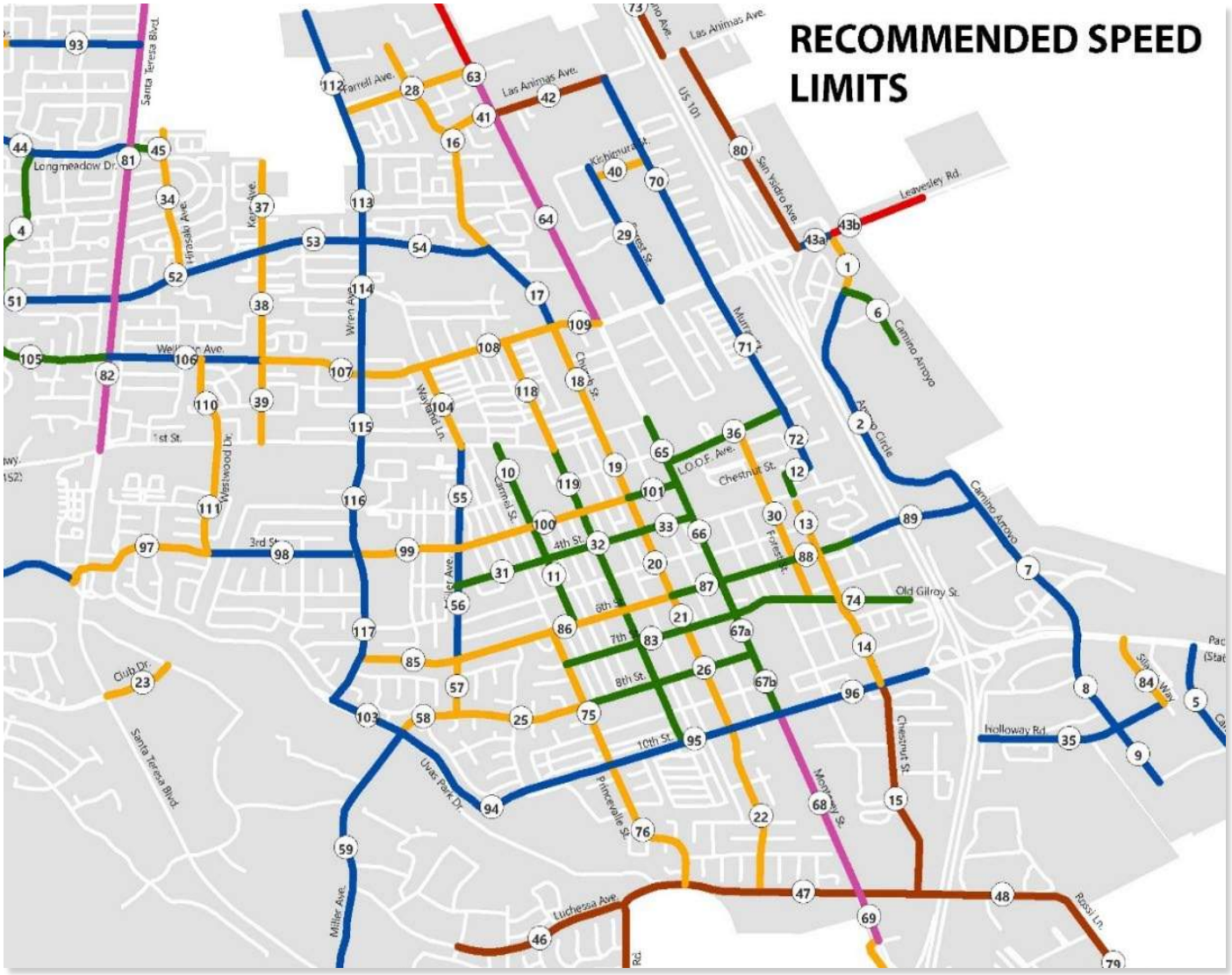
CITYWIDE TRAFFIC SPEED SURVEY UPDATE, PLEASANT HILL | 2019-2020

Reference: Eric Hu, City of Fremont (formerly with City of Pleasant Hill), (510) 284-4000, ehu@fremont.gov

TJKM conducted Engineering and Traffic Survey for 39 street segments in Pleasant Hill. TJKM complied with the California MUTCD guidelines and recommended an increase in speed limit for three locations. TJKM attended the Transportation Commission meeting and responded to questions raised by the Commissioner. The Commission accepted TJKM's recommendations and they were adopted by the City Council.

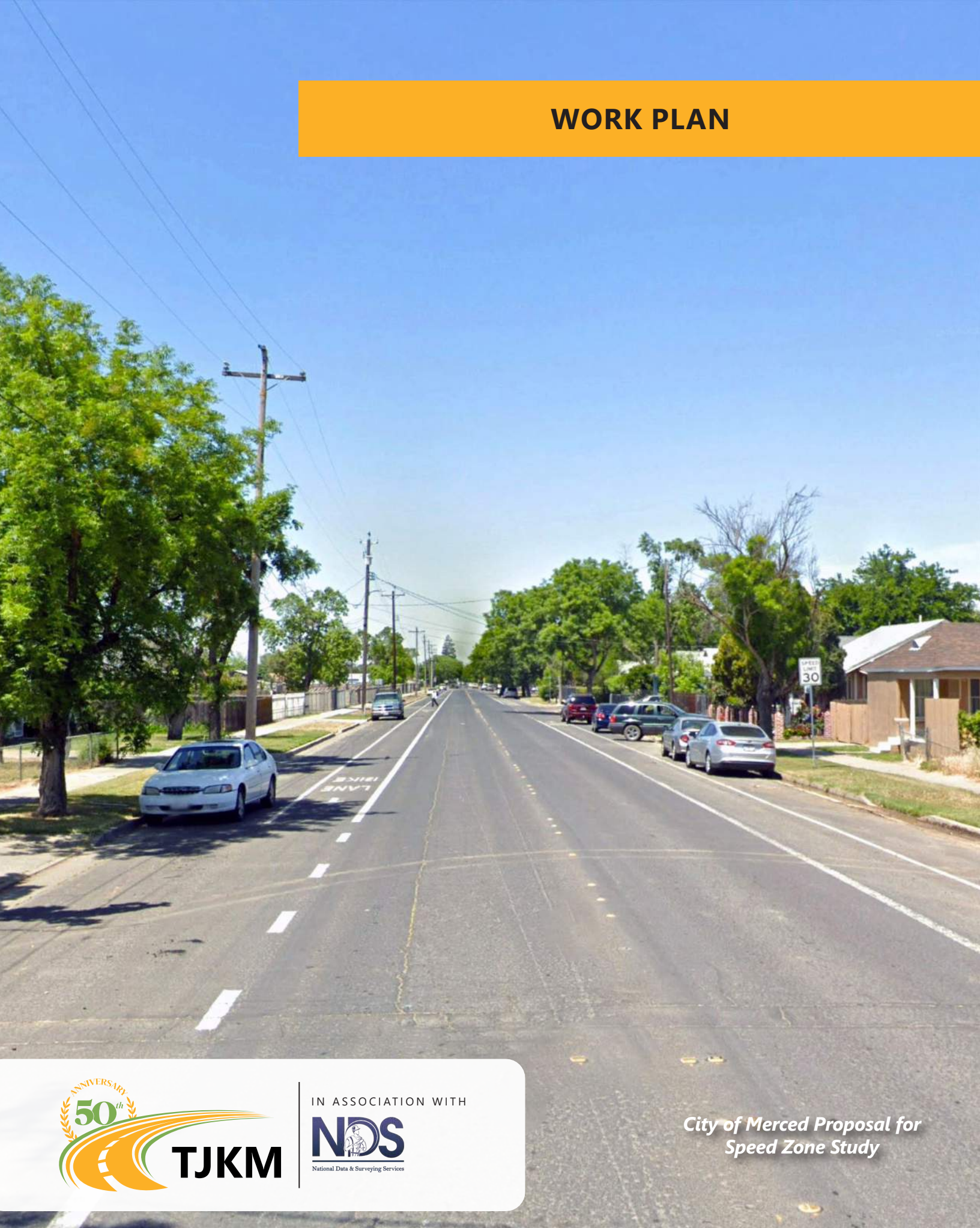
CITYWIDE TRAFFIC SPEED SURVEY UPDATE, GILROY | 2018-2019

Reference: Nirorn Than, City of Los Banos (formerly with City of Gilroy), (209) 827-7056, nirorn.than@losbanos.org



TJKM conducted a comprehensive update of the speed limits in the City of Gilroy. TJKM conducted radar speed surveys, 24-hour counts, collision analysis, and extensive field reviews at 120 locations. The final recommended speed limits were approved by the City Council. The project demonstrated TJKM's ability to evaluate and recommend speed limits for a large volume of street segments.

WORK PLAN



50th ANNIVERSARY

TJKM

IN ASSOCIATION WITH

NDS
National Data & Surveying Services

City of Merced Proposal for Speed Zone Study

WORK PLAN

Project Understanding

The main objectives for this project are to collect data, analyze, and recommend appropriate speed limits consistent with the laws and practices of the State of California for approximately 192 existing street segments within the City of Merced. TJKM will:

- Conduct an E&TS in each speed zone that conforms to Section 627 of California Vehicle Code and meets Section 2B.13 of the MUTCD
- Identify roadway and traffic conditions that may affect speed zones
- Prepare a speed survey map
- Compile collision data relevant to speed zoning
- Recommend the speed limits for adoption by City Council

Speed limits are established primarily for protecting the public from the behavior of reckless, unreliable, or dangerous drivers. Speed limits are generally established at or near the 85th percentile speed. The 85th percentile speed, also referred to as the critical speed, is defined as the speed one standard deviation above the average speed. Speed limits established on this basis conform to what the majority of drivers consider to be reasonable and safe under normal driving conditions. A multitude of factors influences drivers and their perception of the safe speed at which to operate a vehicle. These factors should be considered together as it is impractical to consider each individually. The design and physical characteristics of the roadway place limitations on the safe operating speeds of vehicles. These characteristics include:

- Roadway geometrics, shoulder condition, grade, alignment, sight distance, roadside development, zoning, and environment
- Parking practices, bicycle, and pedestrian activity
- Driveway density
- Signalized or stop-controlled intersections
- Rural, residential, or developed areas

ASSEMBLY BILL 43

An overriding issue on this project is the impact that Assembly Bill (AB) 43 will have on the conduct of E&TS in California, including in the City of Merced. AB 43 introduced significant changes to the speed zoning process in California that, because it was enacted into law in late 2021, were recently translated into standardized practices. AB 43 makes changes to the California Vehicle Code that requires modifications to the California MUTCD, which are developed by the California Traffic Control Devices Committee and the Caltrans. Additionally, AB 1938, which is intended to clarify the provisions of AB 43, was signed into law on September 18, 2022.

Prior to AB 43, field-measured 85th percentile speeds were rounded to the nearest five mph increment; as a result of the new law, they may first be rounded to the next lower five mph increment and then be reduced by an additional five mph increment if roadway conditions satisfy certain requirements. This seems like a minor change, but in TJKM's experience, this is a major change. Other changes allow continuation of previous speed limits under certain circumstances, and the potential for speed limits to be recertified and enforceable for up to 14 years instead of 10. It appears the net effect of AB 43 could be to allow for lower speed limits and/or to have a longer life before additional engineering studies are required.

TJKM is prepared to work with the City of Merced in implementing the local procedures. We are confident that with these changes, we have more flexibility in maintaining existing speed limits, where desired. Most cities will appreciate the ability to select more appropriate speed limits.

Project Work Plan

TJKM proposes the following Work Plan on this project. It is not our intention to avoid any of the items described in the RFP Scope of Work.

TASK 1: PROJECT MANAGEMENT & COORDINATION

TJKM will schedule and attend a Kick-Off Meeting with City staff to allow for a complete understanding of the project goals and the City's expectations. We will prepare and circulate an agenda in advance of the meeting as well as prepare a list of data needs to be discussed at the meeting. At the meeting, we will discuss contact arrangements, scheduling and reporting details on site visits, data acquisition, and reporting on speed spot studies, along with communicating and invoicing protocols.

TJKM will promptly prepare and circulate the minutes of the meeting. In addition, we have budgeted two additional meetings with City staff. We can attend additional meetings to present findings, justifications, and recommendations presented in the final report, if requested. Additionally, TJKM can attend a City Council meeting to present our findings and recommendations, if needed.

- ✓ ***Task 1 Deliverables:*** Kick-off agenda, meeting, and minutes; telephone check in with City Project Manager at two-week intervals. Attendance at two additional meetings with staff.

TASK 2: DATA COLLECTION & SITE ANALYSIS

Selecting Locations

A crucial component of a speed zone study is the selection of locations for data collection. The prevailing speed at the data collection point should be representative of the entire speed zone segment and not too close to any traffic control device. Our experience in other jurisdictions suggests the following:

- Locations should be situated beyond the influence of stops, dips, curves, parked vehicles, and any other condition that may affect the normal rate of travel
- The site should allow for the collection of data to occur without drawing the attention of drivers
- Short speed zone sections and locations near curves should be avoided

TJKM will present a map of all proposed survey locations to City staff for review.

Speed surveys will be performed with a calibrated handheld radar gun provided there is space for a technician. Data will be collected from an unmarked vehicle parked in an inconspicuous location on the roadside. The calibrated radar gun will be checked periodically with a tuning fork.

Only free-flowing vehicles in the traffic stream will be included in the survey to establish normal speed conditions. Radar data collected in the field will be used to calculate the 50th (the median speed) and 85th (critical speed) percentile speeds, the 10 mph pace speed (10 mph increment range), the percent of vehicles observed within the 10 mph pace speed, and the range of speeds observed.

Speed Data Analysis

TJKM proposes to use the following measures to collect reliable data:

- A representative number of speeds will be obtained by radar and recorded at each of the 192 locations. Speed for a minimum of 100 vehicles per direction at each location will be recorded up to two hours during non-peak weekday hours. In no case will the data samples be less than 50 vehicles per approach. Free-flowing vehicle speeds will be recorded. If several vehicles are in a platoon, only the speed of the first vehicle will be recorded.
- TJKM will coordinate with City staff regarding location and prevailing conditions prior to beginning of the data collection activities.
- The speed survey will not be conducted in a construction area, with or without traffic control devices, or in an area with abnormal topography, visibility concerns, or hazards and inclement weather.
- Other field data will include reference of cross streets, weather conditions, survey time periods, etc. Special events, or conditions that could influence speeds, will be noted.
- A contingency in the budget will be included to allow for the resurveying of locations at no additional cost to the City in the case that the speed survey data appears unusually high or low.

24-Hour Volumes

TJKM will supply 24-hour counts for all study locations. These will be used primarily to calculate collision rates.

Collision history is an important aspect of speed limit establishment, and it is vital to become fully aware of collision details, problems, and distributions. TJKM will review collision history for each roadway segment for the last five years. The required collision information can be obtained from the collision logs of the California Statewide Integrated Traffic Records System (SWITRS) or directly from the City.

TJKM has access to the SWITRS data for the past 10 years and will be able to use data for this study efficiently. This will ensure that the collision analysis is comprehensive, effective, and cost effective. The accident data will be used to prepare a collision rate per million vehicle miles travelled based on Average Daily Traffic (ADT). The calculated rates will be compared to average expected collision rates for similar roadway segments as summarized in the Caltrans Accident Data on California State Highways.

✓ ***Task 2 Deliverables:*** Results of speed surveys and 24 hour volumes at all locations and collision history and calculated collision rates for all survey locations.

TASK 3: DETAILED FIELD AUDIT

A field check will involve a professional traffic engineer driving each street while "floating" with prevailing traffic to determine the speed of traffic from the driver's viewpoint. The engineer will evaluate the appropriateness of the 85th percentile and will add the perspective of human judgment to set the appropriate speed limit. The final recommended limit will be determined by factors not readily apparent to the average motorist.

This would justify reduction or increase of the proposed speed limit(s) to the maximum permitted under the latest requirements of the State of California and the California Vehicle Code such as:

- Prevailing speeds and volumes
- Number and location of driveways
- Areas frequented by pedestrians
- Horizontal and vertical alignment of the roadway
- Super elevation Intersection spacing
- Visibility and control
- Roadside development
- Schools and playgrounds
- Landscaping
- Parked vehicles
- Emergency shoulder areas
- Collision history

The field check will be scheduled to occur during the school year and will produce a summary sheet to be provided to City staff.

✓ ***Task 3 Deliverables:*** Field review summary sheet for traffic factors, roadway factors, and adjacent land uses.

TASK 4: SPEED LIMIT DETERMINATION & SUMMARY OF RECOMMENDATIONS

TJKM will compile all data including speed and volume information, collision information and the results of the field observations into a draft Recommended Speed Limits Summary Table and submit it to City staff for review. The draft summary table will include roadway geometric information, 85th percentile speeds, pace speeds, collision rates, and existing speed limits. Additionally, the table will also provide recommendations, justifications, regulations, and requirements that will form the basis of the revised speed limits within the City of Merced. Recommendations on posted speed limits for each roadway segments will be based on the statistical results of the speed surveys, collision analysis, and the field review of roadside conditions and characteristics.

Upon receipt of comments from City staff, a revised Recommended Speed Limits Summary Table will be developed incorporating the comments received. The revised Recommended Speed Limits Summary Table will be submitted to the City for review and approval.

As a value added task, TJKM will collect existing GIS layer of the roadway network from the City of Merced and update with the speed limits along with the data collected as part of this project. Upon updating the GIS layer, we will deliver to the City of Merced to integrate the speed limit layer into the City's GIS database.

✓ ***Task 4 Deliverables:*** Data collection results for speeds and volumes in Excel format, summary of collision data analysis results; Citywide 24-hour volumes summary map; map showing all locations of radar observations preliminary and final Speed Limits Summary Table on speed recommendations.

TASK 5: DRAFT & FINAL REPORT PREPARATION

TJKM will create a Study presenting the complete results of the speed zone survey, including:

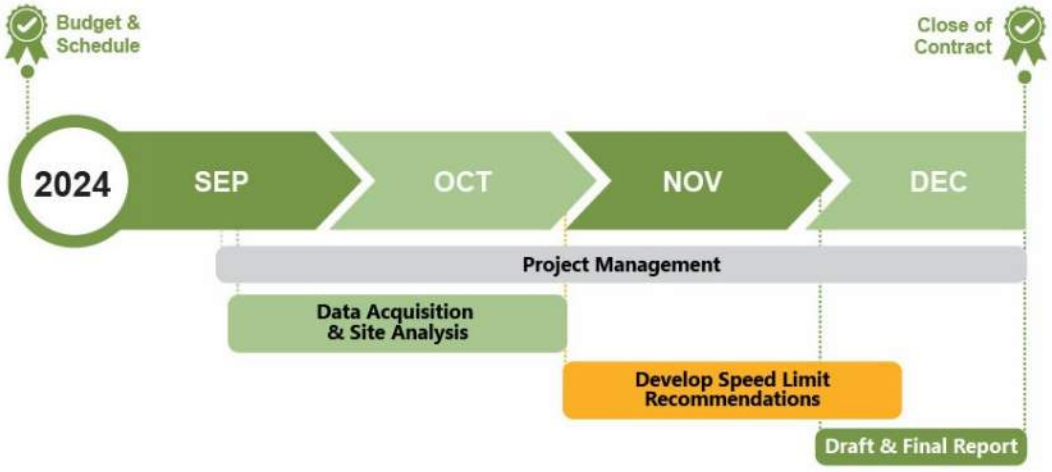
- A description of current law as it relates to speed zone establishment and enforcement
- A discussion of the procedures used in the Study, including data collection and statistical analysis methodology, definitions of key terminology, and general philosophy and purpose in establishing speed limit recommendations
- A written statement for each roadway segment explaining the reasons to establish a speed limit
- Speed limit certification sheets suitable for submittal to the municipal court system along with speed data and subsequent analysis of the 85th percentile speeds will be included in an Appendix
- All other material discussed in this Proposal, including all requirements specified in the Request for Proposal

TJKM will submit a Draft (or "preliminary") Study to the City, including all of our findings and recommendations. We will obtain comments from the City and will incorporate them into our Final Study. TJKM will provide a version of the Final Study as a PDF copy that can be reproduced. The Study will be signed and certified by Ruta Jariwala. If requested, TJKM will present the Final Study and recommendations at a City Council meeting and respond to all questions and comments.

✓ ***Task 5 Deliverables:*** Draft Report of Engineering and Traffic Study, illustrations of traffic volumes, speed survey locations, and final recommended speeds. A Final Report and associated documents as described above.

Project Schedule

Our proposed team is an experienced team with specific strengths in each of the areas required to deliver this project on schedule and within budget to the satisfaction of the City of Merced. Our proposed team has a proven track record of successful similar projects and is dedicated to providing high-quality products. With our available resources and experience, TJKM is equipped to provide the level of responsiveness required by the City, all while providing professional and quality services. We have developed an individualized approach for each task that combined with an active project management and team-oriented approach will ensure the delivery of timely, high-quality services. Our proposed staff has the availability to accept and complete this key project on schedule and within budget. TJKM will complete this project in accordance with the schedule shown below.



Project Cost

TJKM has included our cost proposal in a separate sealed envelope at the same time as submittal of the technical proposal.

KEY STAFF

50th ANNIVERSARY

TJKM

IN ASSOCIATION WITH

NDS
National Data & Surveying Services

City of Merced Proposal for Speed Zone Study

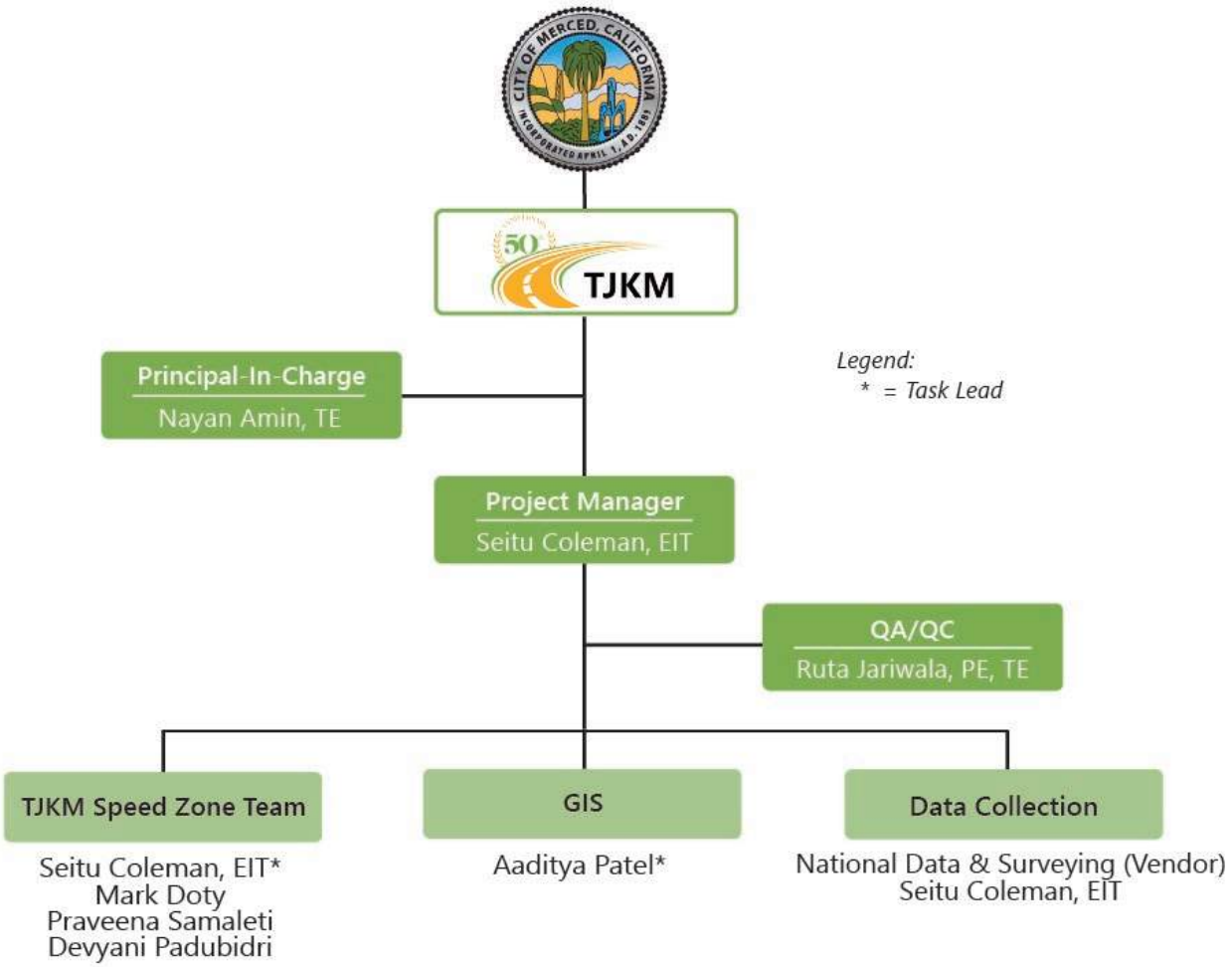
KEY STAFF

Organization Chart

Our Team Organization Chart illustrates our proven "chain of command" for performance on similar projects. The proposed organization is a fully integrated team under the direction of Mr. Nayan Amin, TE, Principal-In-Charge and Mr. Seitu Coleman, Project Manager. He will be responsible for overall coordination on this contract, maintaining the effectiveness and efficiency of the work, schedule, and ensuring the work products are to the satisfaction of the City and stakeholders. He anticipates working closely with City staff to ensure understanding of the project objectives from start to project completion. Mr. Coleman will be responsible for day-to-day coordination and activities and will be the point of contact. He has successfully delivered more than 10 similar projects to client satisfaction on schedule and within budget.

We can confidently state that our key staff will be available for your projects from beginning to end. In addition, we have a vast base of highly qualified technical members who will be made fully available to you as required based on the project needs. TJKM will not substitute any of our key personnel without prior written approval by the City.

Below is our Organization Chart that lists the Principal-In-Charge, QA/QC, Project Manager, key staff, and support staff for this project.



Key Staff Resumes

The proposed individuals for the TJKM Team are the most qualified professionals in their respective areas of specialization. The TJKM Team has been carefully crafted to provide the City with the full range of expertise. Key staff resumes are provided below.

NAYAN AMIN, TE | PRINCIPAL-IN-CHARGE

Registration: CA TE 2290

Education: M.S., Civil Engineering, San Jose State University, San Jose, CA | B.S., Civil Engineering, Saurashtra University, Rajkot, Gujarat, India

Mr. Amin has 34 years of both public and private sector experience in the areas of transportation planning, traffic impact studies, transportation management plans, construction scheduling, construction area signs, signing and striping, traffic signal coordination, traffic operations, transit priority, traffic signal systems, freeway and arterial management studies, and Intelligent Transportation Systems (ITS) planning, design and construction oversight. He specializes in macro and microscopic model development and application for analysis of impacts across all modes of transportation.

His projects include planning, design, and construction oversight for ITS. Studies also include multimodal operations, light-rail, bus rapid transit, pedestrian, bicyclists and traffic safety and operations.

Relevant Projects:

- **Engineering & Traffic Survey, San Bruno, CA, 2023:** Principal-In-Charge. The team evaluated the posted speed limits for 22 street segments in the City of San Bruno and recommended speed limit changes in accordance with the State of California regulations and guidelines.
- **Engineering & Traffic Survey, Union City, CA, 2022-2023:** Principal-In-Charge. The team worked with the City of Union City to update speed limits on 94 street segments through an Engineering and Traffic Survey. TJKM maintained great communication and dialog with City personnel to coordinate the project.
- **Engineering & Traffic Survey, Martinez, CA, 2022:** Principal-In-Charge. The team evaluated the posted speed limits for 49 street segments in the City of Martinez and recommended speed limit changes in accordance with the State of California regulations and guidelines. The purpose of the Engineering and Traffic Survey was to update the City's speed limits on each of the segments so that they remain enforceable. The Engineering and Traffic Survey involved collecting and analyzing collision data, existing traffic conditions including average daily traffic and speed distributions, and geometrics for each of the 49 street segments.
- **Engineering & Traffic Surveys for Speed Zones, Palm Desert, CA, 2019-2020:** QA/QC on team. Conducted an Engineering and Traffic Survey for the City of Palm Desert for recommending potential speed limit update on City streets, in accordance with the State of California regulations and guidelines. The project included 79 roadway segments for a speed limit update evaluation.
- **Engineering & Traffic Surveys, Pleasant Hill, CA, 2019-2020:** Principal-In-Charge who oversaw the Team who conducted Engineering and Traffic Surveys for 38 street segments in City of Pleasant Hill. He complied with MUTCD guidelines and recommended an increase in speed limits for three locations. He assisted with the Transportation Commission meeting and responded to questions raised by the Commissioner. The Commission accepted his recommendations, which were adopted by the City Council.

NAYAN AMIN CONTINUED

- **Engineering & Traffic Surveys, Folsom, CA, 2018-2019:** Principal-In-Charge. The team conducted an Engineering and Traffic Survey for the City of Folsom for recommending potential speed limit update on City streets, in accordance with the State of California regulations and guidelines. The project includes 87 roadway segments for a speed limit update evaluation.
- **2018 Engineering & Traffic Surveys, Marina, CA, 2018:** Principal-In-Charge and QA/QC on Team that completed an evaluation of the posted speed limits for 40 segments in the City of Marina to recommend updates and changes for speed limits, in accordance with the State of California regulations and guidelines. The project included two streets designated as expressway, 15 streets designated as arterials, and 23 streets designated as collectors.
- **Engineering & Traffic Surveys for Speed Zones, Tehachapi, CA, 2023-2024:** Principal-In-Charge. Conducted an Engineering and Traffic Survey for the City of Tehachapi to update speed limits on five roadway segments. Upon collecting speed distributions and average daily traffic volumes for each of the roadway segments, TJKM worked with the City to modify segment limits to accommodate changing adjacent land use conditions and added a sixth roadway segment. Following an analysis of prevailing speeds and collision data, recommended updated speed limits in accordance with the State of California regulations and guidelines.
- **Citywide Engineering & Traffic Survey, East Palo Alto, CA, 2021-2023:** Principal-In-Charge. The team was selected to perform a system-wide traffic data collection update and speed limit adjustment, as needed, along major arterials and collectors in the City. Collected prevailing speed distributions and average daily traffic volumes on 12 street segments. Evaluated and recommended speed limits that were acceptable to the City for adoption in an environment politically sensitive to speed limit increases. Professionally managed the project and answered the City's inquiries each step of the way.
- **Townwide Traffic Speed Survey, Moraga, CA, 2021:** Principal-In-Charge. Conducted an Engineering and Traffic Study for the City of Moraga and recommended speed limit updates on City streets in accordance with the State of California regulations and guidelines. The project included 20 roadway segments. The project recommendations were adopted by the Town Council.
- **Citywide Traffic Speed Survey Update, Gilroy, CA, 2018-2019:** Principal-In-Charge. Conducted a comprehensive update of the speed limits in the City of Gilroy as well as conducted radar speed surveys, 24 hour counts, collision analysis, and extensive field reviews at 120 locations. The final recommended speed limits were approved by the City Council.

SEITU COLEMAN, PROJECT MANAGER

Registration: N/A

Education: M.S., Mechanical Engineering, Boston University, Boston, MA | M.S., Engineering with Emphasis in Transportation Planning, California Polytechnic State University, San Luis Obispo, San Luis Obispo, CA | M.C.R.P., City and Regional Planning, California Polytechnic State University, San Luis Obispo, San Luis Obispo, CA | B.S., City and Regional Planning, California Polytechnic State University, San Luis Obispo, San Luis Obispo, CA

Mr. Coleman joined TJKM after a period at Caltrans Headquarters helping to administer discretionary funding programs. At TJKM, Mr. Coleman works on engineering, reports and creating maps of project sites and study locations. He also conducts Traffic Impact Studies, Parking Studies, and Engineering and Traffic Surveys.

Relevant Projects:

- **Engineering & Traffic Survey, San Bruno, CA, 2023:** Task Lead assisted with evaluation of the posted speed limits for 22 street segments in the City of San Bruno and recommended speed limit changes in accordance with the State of California regulations and guidelines.
- **2024 Patterson Citywide Speed Survey, Patterson, CA, 2024-Ongoing:** Deputy Project Manager responsible for preparing a Citywide Traffic Speed Survey for the City of Patterson. The main objectives of the project are to collect and analyze data and recommend appropriate speed limits consistent with California Vehicle Code for approximately 16 (and expandable up to 25) existing roadway segments throughout the City.
- **Engineering & Traffic Surveys for Speed Zones, Tehachapi, CA, 2023-2024:** Task Lead. Conducted Engineering and Traffic Survey to update speed limits on five roadway segments. Upon collecting speed distributions and average daily traffic volumes for each of the roadway segments, modified segment limits to accommodate changing adjacent land use conditions and added a sixth roadway segment. After analysis of prevailing speeds and collision data, recommended updated speed limits in accordance with the California regulations and guidelines.
- **Engineering & Traffic Surveys to Establish Speed Limits, Cupertino, CA, 2023-2024:** Task Lead. Updated the recommended speed limits for four (later increased to six) survey segments after the City implemented traffic calming measures. TJKM was able to recommend lower speed limits for the survey segments. TJKM was responsible for conducting an Engineering and Traffic Survey in each speed zone, compiling collision data relevant to speed zoning; identifying roadway and traffic conditions that may affect speed zones; prepared a speed survey map; and recommended the speed limits for adoption by the City Council.
- **2022 Citywide Engineering & Traffic Survey, Martinez, CA, 2022:** Task Lead that assisted with conducting an Engineering and Traffic Survey for recommending potential speed limit updates on City of Martinez streets, in accordance with the California regulations and guidelines. The project included 48 roadway segments for a speed limit update evaluation.
- **2022 Citywide Engineering & Traffic Survey, Union City, CA, 2022-2023:** Task Lead. Assisted on the Engineering and Traffic Survey for recommending potential speed limit updates on City of Union City streets, in accordance with the California regulations and guidelines. The project included 94 roadway segments for a speed limit update evaluation.
- **Citywide Engineering & Traffic Survey, East Palo Alto, CA, 2021-2023:** Support Staff. Selected to perform a system-wide traffic data collection update and speed limit adjustment, as needed, along major arterials and collectors in the City. Collected prevailing speed distributions and average daily traffic volumes on 12 street segments. Evaluated and recommended speed limits that were acceptable to the City for adoption in an environment politically sensitive to speed limit increases. Managed the project and answered the City's inquiries each step of the way.

RUTA JARIWALA, PE, TE | QA/QC

Registration: CA CE 73840 | CA TE 2465 | TX CE 135281

Education: M.S., Civil Engineering, San Jose State University, San Jose, CA | B.S., Civil Engineering, Bombay University, Mumbai, Maharashtra, India

Ms. Jariwala has 24 years of professional experience in the areas of traffic operations, transportation planning, freeway and arterial management studies, signal coordination, traffic signal systems, traffic impact studies/environmental impact reports and Intelligent Transportation Systems planning, design and construction oversight. She has extensive experience in macro and microscopic model development and application for analysis of traffic operations for express lane studies as well as multimodal operations, pedestrian, bicyclists, and traffic safety studies.

Relevant Projects:

- **2015 Engineering & Traffic Survey, San Bruno, CA, 2015-2016:** Task Lead on project that evaluated the posted speed limits for 36 segments in City of San Bruno and recommended speed limit changes, if any, in accordance with the State of California regulations and guidelines. The project included six streets designated as 'Arterial', 24 streets designated as 'Collector' and six streets are designated as 'Local.' The guidelines from the 2014 California Manual for Setting Speed Limits published by Caltrans (2014) are used in this study, which helped in establishing speed limits that are uniform throughout the state and avoid influence from political pressure or emotional perceptions.
- **2014 Speed Zone Studies, Antioch, CA, 2014-2015:** Task Lead. She conducted an Engineering and Traffic Survey including a summary of radar speed surveys, daily traffic counts, traffic accidents, and an analysis of roadway conditions for 68 identified street segments on arterial, collector, and local streets in the City of Antioch. The survey's purpose was to evaluate if the speed limits currently posted on those segments are still appropriate. Of the 68 identified roadway segments studied, she recommended a change in the speed limit on four segments.
- **Engineering & Traffic Surveys for Speed Zones, Tehachapi, CA, 2023-2024:** QA/QC. Conducted an Engineering and Traffic Survey for the City of Tehachapi to update speed limits on five roadway segments. Upon collecting speed distributions and average daily traffic volumes for each of the roadway segments, TJKM worked with the City to modify segment limits to accommodate changing adjacent land use conditions and added a sixth roadway segment. Following an analysis of prevailing speeds and collision data, recommended updated speed limits in accordance with the State of California regulations and guidelines.
- **Citywide Engineering & Traffic Survey, East Palo Alto, CA, 2021-2023:** The TJKM Team was selected to perform a system-wide traffic data collection update and speed limit adjustment, as needed, along major arterials and collectors in the City of East Palo Alto. Collected prevailing speed distributions and average daily traffic volumes on 12 street segments. Evaluated and recommended speed limits that were acceptable to the City for adoption in an environment politically sensitive to speed limit increases. Professionally managed the project and answered the City's inquiries each step of the way.
- **Engineering & Traffic Surveys for Speed Zones, Oakley, CA, 2019-2021:** QA/QC and Principal in Charge. Conducted an Engineering and Traffic Survey for the City of Oakley for recommending potential speed limit update on City streets, in accordance with the State of California regulations and guidelines. The project included 30 roadway segments for a speed limit update evaluation. The project included collecting prevailing speeds and average daily traffic for this rapidly growing City.

RUTA JARIWALA CONTINUED

- **Vision Zero Plan, Livermore, CA, 2023:** Project Manager. Assisted the City to develop Vision Zero Plan to enhance safety and operations for all modes of transportation of all ages. The overarching goal is to provide for a safe and secure transportation system for all users while eliminating traffic fatalities from the transportation infrastructure within the city. The Vision Zero Plan includes: assessment of existing policies, programs, and practices; formation of a Stakeholder Advisory Group; communicating data and information to the public on social media and on the city's website; providing project recommendations after collecting information from community engagement and stakeholder workgroups; collection of collision data and analysis, implementable and equitable solutions and performance measures; developing educational material for transportation system users of all ages; coordinating with the city to identify most at-risk population and working with local police and Emergency Medical Services (EMS) departments; and creating a Final Vision Zero Plan to be presented to the Council for Adoption.
- **Vision Zero & Action Plan, Cupertino, CA, 2022-Ongoing:** Project Manager. Assisting City of Cupertino to develop a Vision Zero Action Plan to enhance safety and operations for all modes of transportation of all ages. The overarching goal of a Vision Zero Plan is to provide for a safe and secure transportation system for all users while eliminating traffic fatalities from the transportation infrastructure within the city. The scope of work includes: development of a Vision Zero policy, formation of Stakeholder Advisory Group; public outreach; collision data collection and analysis; identification of Vision Zero countermeasures; development of policies and programs; development of a Capital Improvement List for the Action Plan and Action Plan Strategy; development of educational and enforcement programs; proposed text for a General Plan update; and a draft and final Vision Zero Action Plan.
- **As-Needed Traffic & Transportation Engineering Services, Millbrae, CA, 2017-Ongoing:** Project Manager. Providing the City of Millbrae On-Call professional support and expertise in engineering and surveying services to complete a variety of projects. Recent tasks include Citywide Neighborhood Traffic Calming Program, Local Roadway Safety Plan Grant Application, ATP Cycle 5 Grant Application for Millbrae Avenue, Visibility and Safety Improvements for Meadows Elementary School, Magnolia and Richmond Bicycle and Pedestrian Improvements, 2017 Measure A Pedestrian and Bicycle Program grant applications for San Mateo County Transportation Agency, 1301 Broadway mixed-use development Traffic Study, Millbrae Avenue Automated Red Light Enforcement, Skyline Boulevard Bicycle and Pedestrian Improvements Transportation Development Act Grant Application, Helen Tioga Quick Build Project, and Millbrae Avenue Cycle Track Project. The contract was renewed and includes the Transportation Development Act Grant Application, Neighborhood Community Outreach Meeting, Multi-Way Stop Sign Warrant Analysis at Park Boulevard and Cypress Avenue, and Tier 2 and 3 Design Traffic Calming improvements along Park Boulevard between Santa Teresa Way and Juanita.

AADITYA PATEL | TJKM GIS TASK LEAD

Registration: N/A

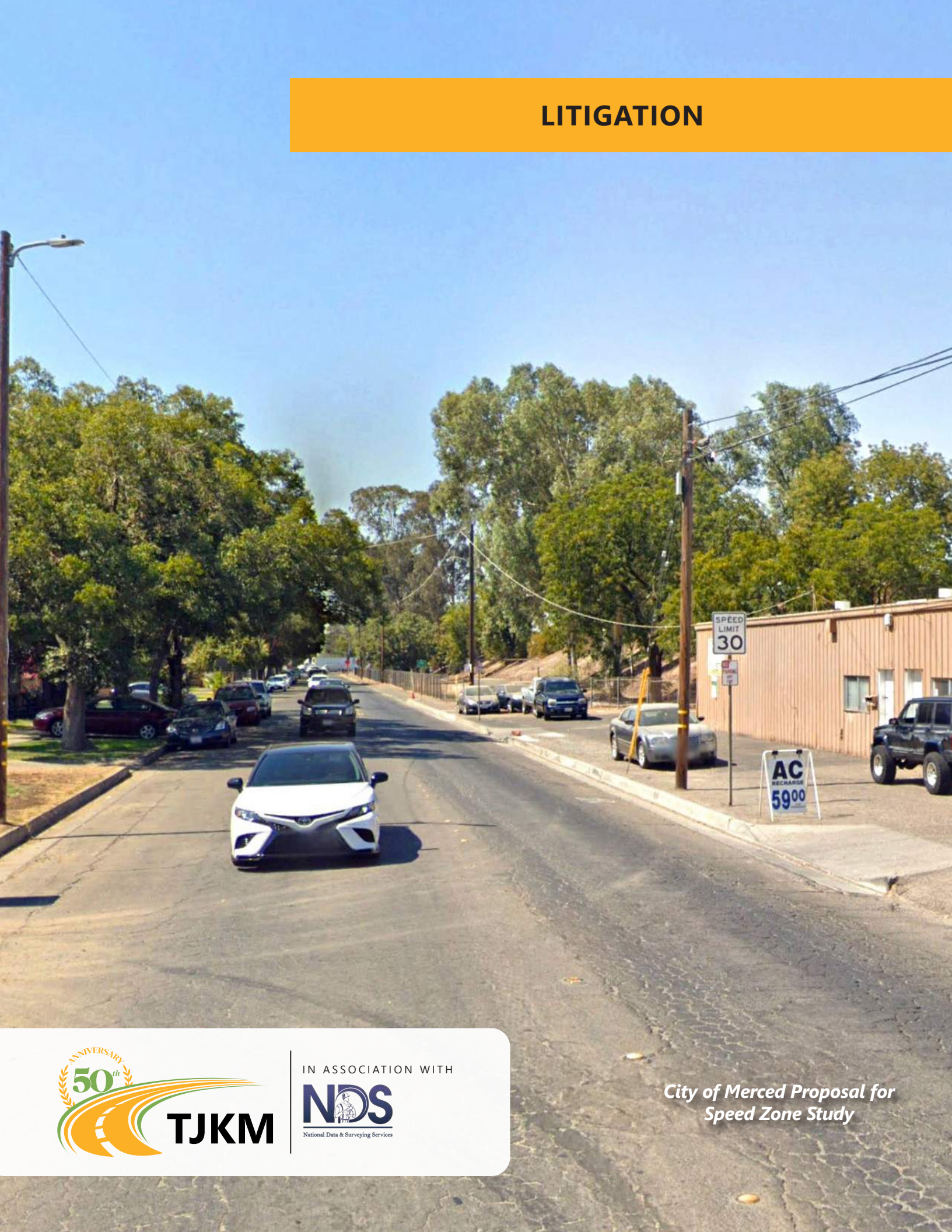
Education: Master of Science, Geoinformatics, Sardar Patel University, VVN, India | B.E., Civil Engineering, Gujarat State University, Gujarat, India

Mr. Patel has over four years of experience in geographic information system analysts and cartographic support for transportation planning, urban planning, topographic survey, hydrological survey, and project management. Mr. Patel has spent most of his career in private sector working on major infrastructure and geographic information system mapping projects.

Relevant Projects:

- **Local Roadway Safety Plan, Santa Clara, CA, 2021-2022:** Geographic Information System Analyst. Worked on developing the County of Santa Clara's first Local Roadway Safety Plan. Identified and provided recommendations for addressing the roadway safety needs within the County. Providing recommendations to reduce the number of fatal and severe injury collisions on the roadways within the County of Santa Clara. The goal is to ultimately increase the safety for all roadway users.
- **Local Roadway Safety Plan, Orinda, CA, 2022:** Geographic Information System Analyst assisted with identifying the existing situation/conditions and providing countermeasures at high risk locations within the City. The City of Orinda prepared its first LRSP. Tasks included document review, collision analysis, emphasis area identification, countermeasure selection, traffic calming toolkit, and safety project development. The project included grant ready materials for the HSIP Cycle 11 call for projects.
- **Local Roadway Safety Plan, Livermore, CA, 2022-2023:** Geographic Information System Analyst assisted with the identification of the existing situation/issues of the countermeasures at high risk locations. Tasks included document review, collision analysis, emphasis area identification, traffic calming toolkit, and safety project development.
- **Local Roadway Safety Plan, Oakley, CA, 2022-2023:** Geographic Information System Analyst assisted with identification and existing situation of the countermeasures at high risk locations. Tasks included document review, collision analysis, emphasis area identification, traffic calming toolkit, and safety project development.
- **Regional Plan & Outline Development Plan for Diu, Daman & Dadra & Nagar Haveli, India, 2020-2022:** Geographic Information System Analyst. Per the Indian government act every city needs to update the next 20 years of rules and development plan. Role was to develop and maintain all Geographic Information System Dataset for the city scale.
- **Irugur-Devanganthi Pipeline, Coimbatore, India, 2019-2021:** Project Manager. The Bharat Petroleum Corporation is planning to construct a pipeline between Irugur to Devanganthi Villages in Coimbatore. For this project, prepared the report soil testing, cadastral mapping, and environment impact studies.
- **Ahmedabad Heritage Walled City, Ahmedabad, India, 2021-2022:** Project Manager. The Ahmedabad Municipal Corporation intends to develop the Ahmedabad walled city Heritage Street as a monument and memorial. Work on the project included the mapping of the streets and structures, and making a three dimensional model for the city.
- **Dholera-Ahmedabad Expressway Corridor, Gujarat, India, 2019-2020:** Project Manager. The Village of Dholera is a Village developed by the Gujarat Special Investment Region, which is a Greenfield industrial planned city. To provide a connection between these two metropolitan cities the Gujarat government wanted to develop the expressway corridor. Task for this project included mapping and to prepare the Cadastral topographic data.

LITIGATION



50th ANNIVERSARY

TJKM

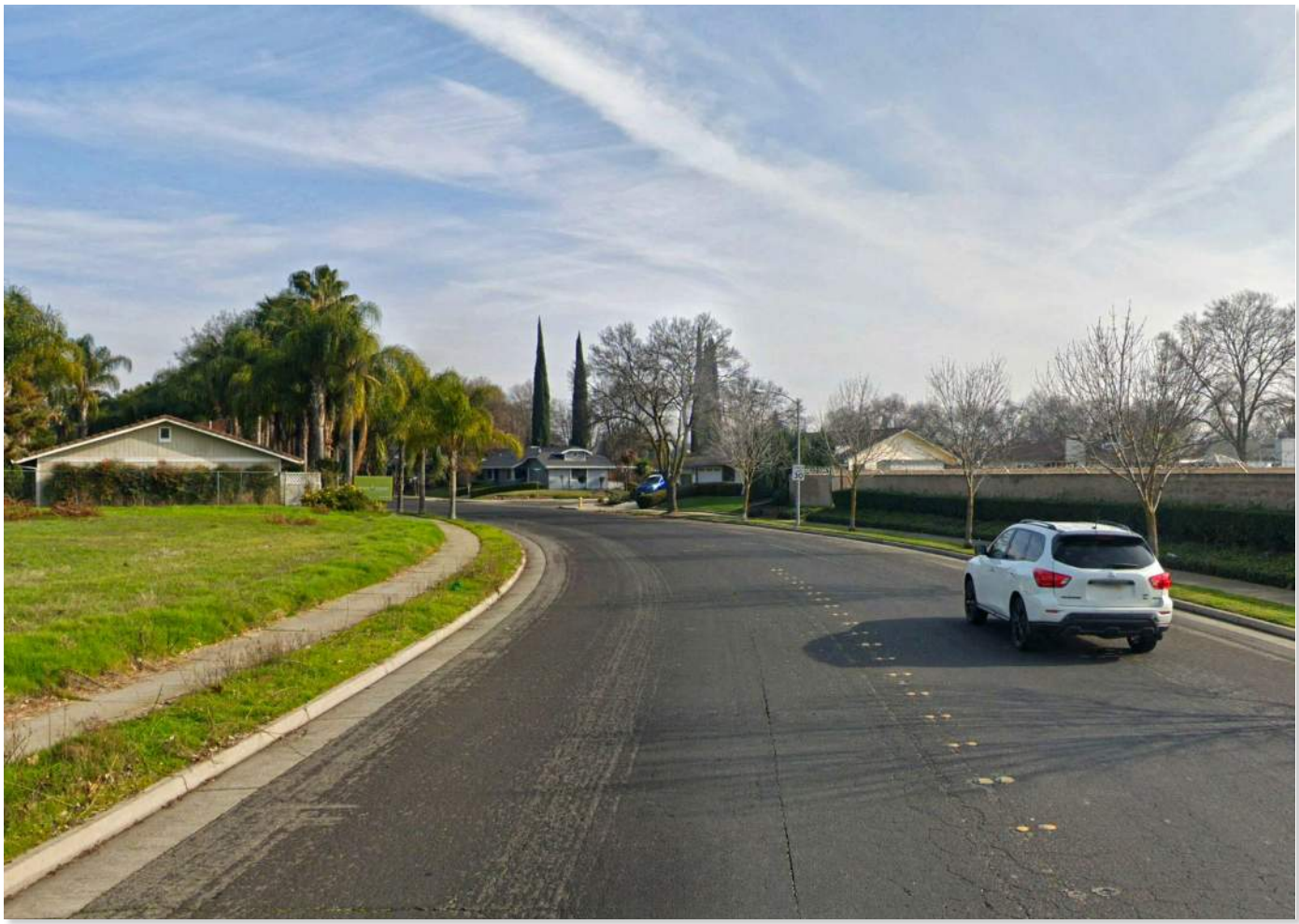
IN ASSOCIATION WITH

NDS
National Data & Surveying Services

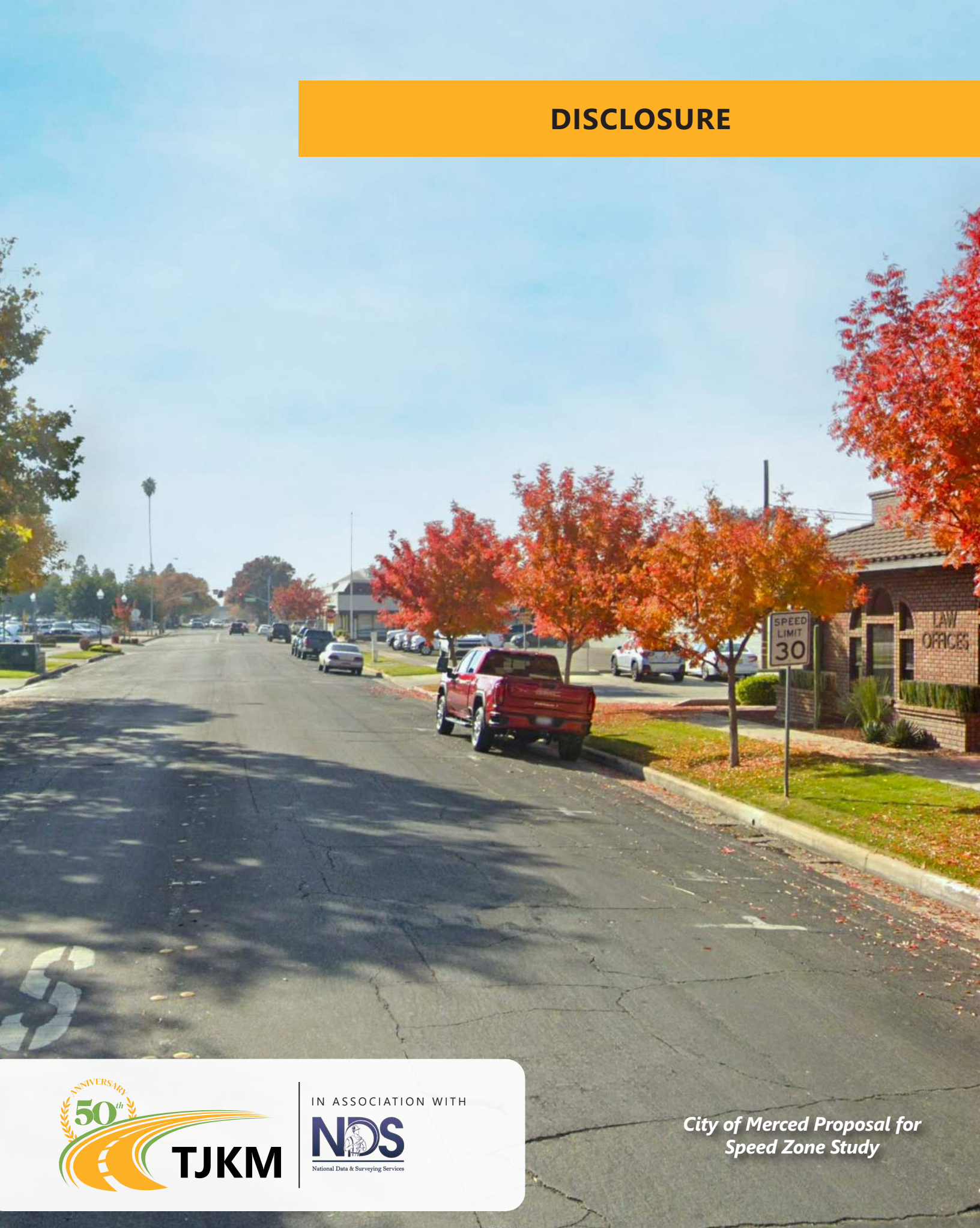
City of Merced Proposal for Speed Zone Study

LITIGATION

TJKM has not had any lawsuits or litigations within the last 10 years.



DISCLOSURE



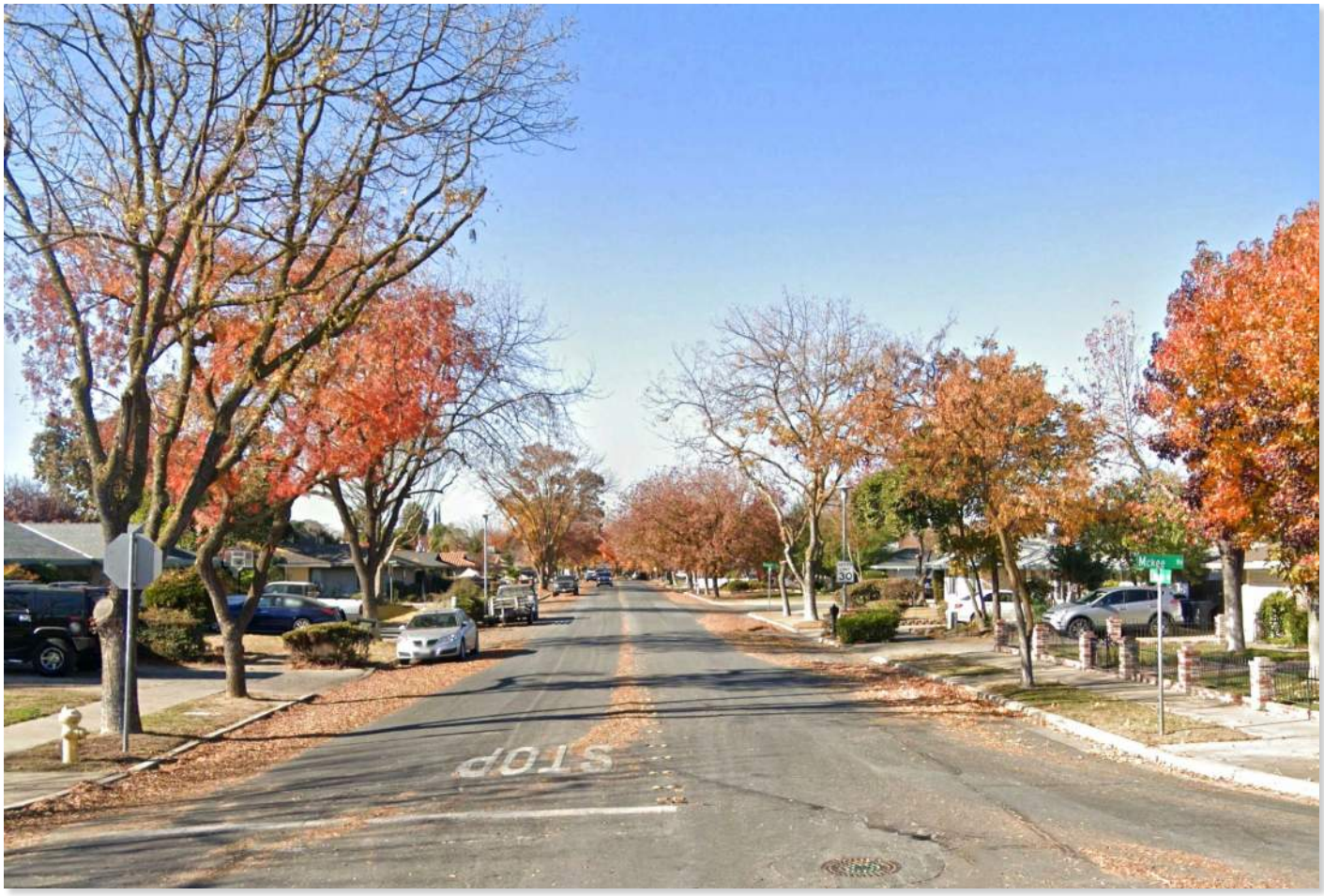
50th ANNIVERSARY TJKM

IN ASSOCIATION WITH NDS National Data & Surveying Services

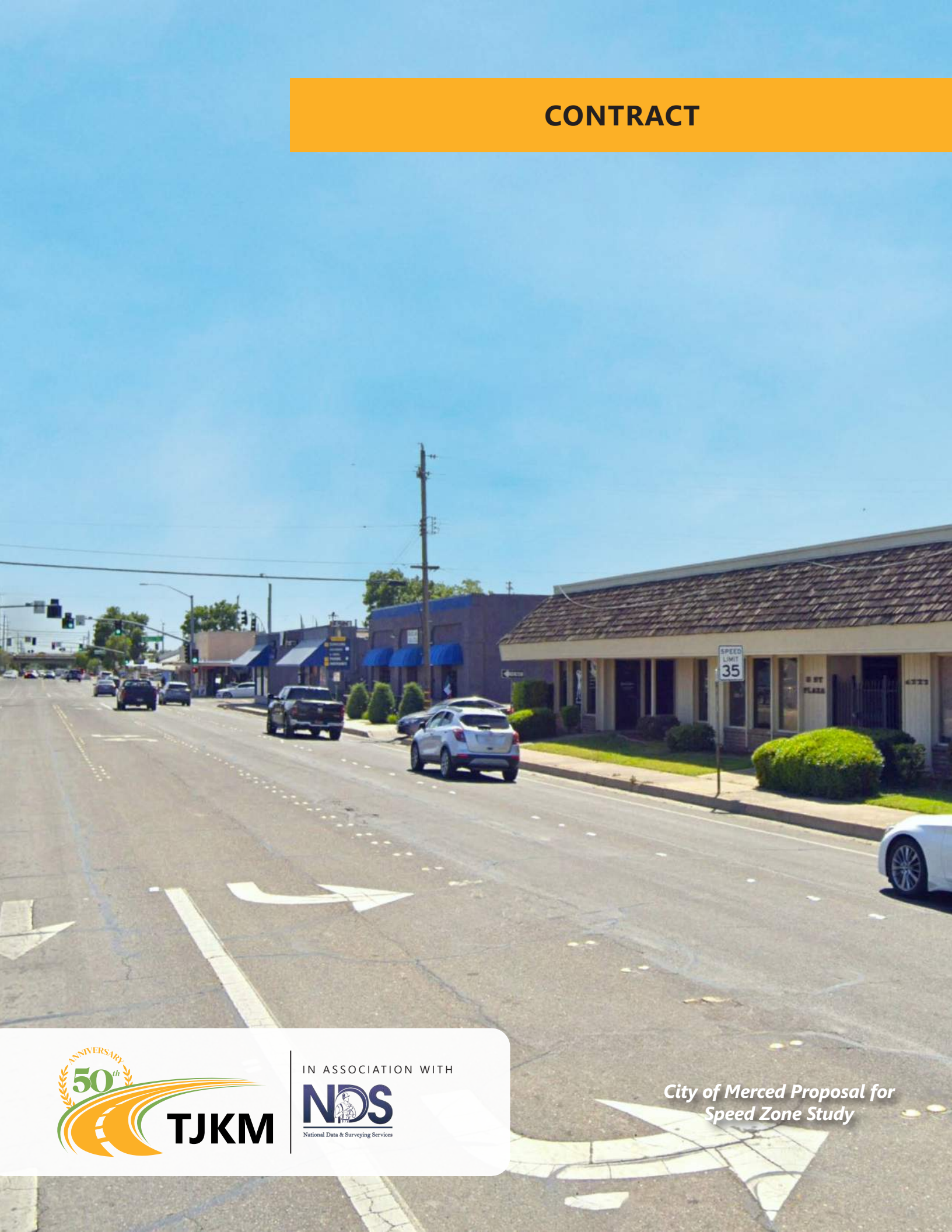
City of Merced Proposal for Speed Zone Study

DISCLOSURE

TJKM is not aware of any financial, business, or other relationship with the City or any member of the City staff that would have an impact on the outcome of this project. Furthermore, we are not aware that any of our clients, nor our subconsultants clients have a financial interest in the outcome of this project.



CONTRACT



50th ANNIVERSARY

TJKM

IN ASSOCIATION WITH

NDS
National Data & Surveying Services

City of Merced Proposal for Speed Zone Study

CONTRACT

TJKM has reviewed the standard professional service contract and insurance requirements attached to the Request for Proposal and is willing to accept the terms and conditions set forth in the agreement.

CALIFORNIA | FLORIDA | TEXAS
Corporate Office 4305 Hacienda Drive, Suite 550, Pleasanton, CA 94588
925.463.0611 | www.TJKM.com

Proposal to Prepare a Citywide Speed Zone Study

Prepared for the City of Merced

Submitted by
W-Trans

July 9, 2024

July 9, 2024

Mr. Mike Wegley
Engineering Department, City of Merced
678 West 18th Street, Second Floor
Merced, CA 95340

Proposal to Prepare a Citywide Speed Zone Study

Dear Mr. Wegley;

W-Trans is pleased to present the enclosed proposal to prepare Engineering and Traffic Surveys (ET&S) for the City of Merced in response to the City's Request for Proposals dated June 14, 2024. We are excited about this opportunity to provide services to the City, and believe that our work experience, philosophy and personal service are a good fit for the City's needs.

Experienced Project Manager

Kenny Jeong will be your contact for these services. He is a licensed traffic engineer who has worked extensively with other communities preparing similar analyses for more than 300 roadway segments and is very familiar with analysis methodologies and reporting requirements. I have managed and prepared numerous E&TS's as a consultant and will provide Quality Control for the project, including data input and review.

W-Trans Experience with Engineering and Traffic Surveys

W-Trans brings tremendous expertise to this project. We have completed dozens of E&TS projects, including surveys for hundreds of street segments. Recently we completed similar projects for the cities of San Leandro, San Carlos, Walnut Creek, El Cerrito, Dublin, San Rafael and Novato. Through these projects W-Trans staff has gained specific knowledge regarding the applicable State statutes, including those enacted in 2023, as well as the requirements for such surveys per the California *Manual on Uniform Traffic Control Devices*.

We have developed a form specifically for use in preparing Engineering and Traffic Surveys that helps us present all the pertinent factors and provide all of the information staff and policymakers need so that they can understand our recommendations. A copy of our form is included in the proposal. We understand how difficult it is to get public support for changes to speed limits, so we will work closely with your staff so that our work has the benefit of not only our engineering judgment, but City staff's insights.

W-Trans pledges to supply the highest level of professional services to the City. This includes not only ensuring the technical integrity of all products and services, but also completing all work on schedule and within budget, and meeting or exceeding your expectations.

This proposal will remain a firm offer for 120 days from the date above. I am qualified to negotiate a contract with the City. Any correspondence or inquiries regarding this submittal should be directed to me.

Sincerely,

Dalene J. Whitlock, PE (Civil, Traffic), PTOE
Senior Principal
dwhitlock@w-trans.com
Tel No. (707) 284-7738

DJW/kbj/MER004.P1

Enclosures: Sample E&TS, Staff Resumes and Project Schedule

About Us

W-Trans provides traffic engineering and transportation planning services that emphasize mobility within available resources and help transform streets to serve all potential users. We are particularly skilled in retrofitting streets and roads to make walking, bicycling and transit use safer and more convenient while also appropriately managing vehicle traffic.

Our strength and focus are on balancing the technical needs and functionality of traffic with the desire of communities to create more livable streets and sustainable transportation systems.

Our staff have applied their skills to a variety of projects ranging from traffic operation analyses, traffic collision reduction programs, transportation facilities design including traffic signal and roundabout design to downtown revitalization, streetscape planning efforts and complete street projects. We take a holistic approach to traffic engineering, realizing that solutions cannot be developed in a vacuum or strictly follow the standards of the past. Traffic analysis and design must be sensitive to the context of the surrounding land use and community goals to be successful.

W-Trans service areas include:

- Bicycle Facilities
- Complete Streets
- Municipal Staff Services
- Parking
- Pedestrian Safety and Design
- Roundabouts
- Safe Routes to School
- Traffic Calming
- Traffic Engineering Design
- Traffic Impacts
- Traffic Operations
- Traffic Safety
- Transportation Demand Management
- Trip Generation Rate Development
- VMT Impact

Firm History

W-Trans was established in 1995 by Dalene Whitlock and Steve Weinberger. W-Trans opened its Oakland office in 2011 with Mark Spencer as the Branch Manager. W-Trans is an employee-owned company, with almost 80 percent of the 26 current employees having ownership.

Disadvantaged Business Enterprise (DBE)

W-Trans is certified as a woman-owned business (DBE) by the California Department of Transportation. A copy of our certification can be provided upon request.

Contact Information

Whitlock & Weinberger Transportation, Inc.

www.w-trans.com

490 Mendocino Avenue
Suite 201
Santa Rosa, CA 95401
(707) 542-9500

414 13th Street
5th Floor
Oakland, CA 94612
(510) 444-2600

Project Approach

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 desire. 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 be aware of the lawful limit. Additionally, the constant attention to the need to change vehicular speed may distract from the attention needed for other aspects of driving. For these reasons, recommendations are typically made that provide consistency of limits and discourage unsafe speeds

Project Experience

The following are examples of W-Trans' recent work experience completing Engineering & Traffic Surveys in the Bay Area along with references. These references will attest to our ability to provide a qualified team who can perform the work accurately.

Engineering & Traffic Surveys - City of San Leandro

To allow continued radar enforcement of speed limits in the City of San Leandro, W-Trans prepared Engineering and Traffic Surveys for 52 segments throughout the City. As part of this process several streets were identified that are local streets and therefore do not require a survey for radar enforcement; these streets were eliminated from further study, translating to cost savings for the City. For the remaining segments, the speed limits were either confirmed or changes recommended based on the speed data, collision analysis, and field conditions.

Contact: Nicole Noronha Castelino, Senior Engineer, (510) 577-3429, NNoronha@sanleandro.org

Engineering & Traffic Surveys - City of Dublin

W-Trans updated the Engineering & Traffic Surveys for the City of Dublin. This work included a review of roadway conditions and determining radar-enforceable speed limits for nine roadway segments within the City and in accordance with the procedures described in the California edition of the MUTCD and California Vehicle Code.

Contact: Oliver Castillo, Assistant Civil Engineer, (925) 833-6630, oliver.castillo@dublin.ca.gov

Engineering & Traffic Survey Update - City of San Carlos

To retain the ability to radar-enforce speed limits in the City of San Carlos, W-Trans prepared new Engineering & Traffic Surveys for 23 street segments. Radar-enforceable speed limits were established for each roadway segment based on current roadway conditions, which included consideration of traffic volumes, prevailing speeds and crash history along each segment.

Contact: Hanieh Houshmandi, Senior Traffic Engineer, (650) 802-4349, hhoushmandi@cityofsancarlos.org

Engineering & Traffic Surveys - City of Walnut Creek

W-Trans updated the Engineering & Traffic Surveys for the City of Walnut Creek using extensive data collection and field investigation. Included with this work was a review of previous E&TS reports, determining whether updates were necessary, and consolidating roadway segments where appropriate. We coordinated with City Staff to review prevailing speeds, collision history records, daily traffic volumes and physical roadway characteristics to develop recommended speed limits for over 100 roadway segments within the City.

Contact: Smadar Boardman, Traffic Engineer, (925) 943-5899 ext. 2223, boardman@walnut-creek.org

Project Understanding

We understand that the City of Merced is seeking to establish radar-enforceable speed limits for 368 roadway segments. Of these, an Engineering and Traffic Survey was previously prepared in 2017 for 190 segments. These segments are now due for extension or re-certification according to the requirements described in the *California Vehicle Code*. An additional 178 roadway segments have been constructed in Merced since 2017 and are now in need of evaluation.

Our team has reviewed the list of roadway segments and has determined that preparing an Engineering and Traffic Survey for all 368 segments may not be necessary since many of the segments appear to satisfy the criteria to be classified as either a local street or are located within a special district such as a Business Activity District where *prima facie* speed limits can be radar enforced. As a cost saving measure, we recommend that all of the segments be evaluated to determine and those that can be covered other than by an E&TS documented as such. Further cost savings may be achieved by combining adjacent segments where appropriate.

Based upon a review of the list of segments and application of our experience completing similar assignments for other Cities, our team estimates that as much as 40 percent of these segments (or 148 segments) may be designated as local streets according to the definition contained in the *California Vehicle Code* and would not require an Engineering and Traffic Survey. It was therefore assumed for cost-estimating purposes that an Engineering and Traffic Survey would only be required for the remaining 220 segments. If W-Trans is selected, our engineers will review each of the 368 segments and determine the exact number of segments for which an Engineering & Traffic Survey is necessary and provide documentation of the reason why a survey is not needed for the remaining segments.

Work Plan

1.0 Project Initiation

1.1 The list of study segments will be reviewed in detail to determine the classification of each street segment. For those segments that are classified as local streets or that are within a Business Activity District, the ability to radar enforce the *prima facie* speed limit will be evaluated based on the requirements of the *California Vehicle Code*. A technical memorandum will be prepared describing the process followed and the resulting list of segments that do not require an E&TS along with forms for each segment that has previously been surveyed and no longer needs to be. This memorandum will be provided to City staff in advance of the kick-off call.

1.2 The project manager will host a video conference call with City staff to review the most recent surveys and discuss the project schedule, any changes in traffic patterns, road geometrics or other conditions which might affect the new surveys, as well as any future plans to modify roadway characteristics. Staff input on the list of roadway segments that do not require the preparation of an Engineering and Traffic Survey will be obtained.

1.3 Any roadway segment that has not undergone significant changes since the last evaluation may be eligible for a 7-year extension of the certified Engineering and Traffic Survey (not three years as noted in the RFP). Previous Engineering and Traffic Surveys will be reviewed and a list of roadway segments eligible for extension will be developed in accordance with the criteria described in Section 40802 of the *California Vehicle Code*. Documentation formally extending the current surveys will be prepared and provided for the City's files.

1.4 Based on the reviews performed for Task 1.1 and 1.3 a final list of the study segments will be developed and provided to staff for concurrence.

1.5 The project engineer (a registered engineer) will drive all the road segments to look for those elements that might affect the safe and reasonable speed for the roadway but that might not be obvious to the casual observer. During the field visit roadway characteristics such as lane configuration, existence or lack of a sidewalk, parking conditions, bicycle facilities and behavior will be confirmed; adjacent land uses, terrain, general adequacy of stopping sight distance, driveway characteristics, intersection spacing and offsets, etc. can be reviewed and documented by support staff using on-line photography.

2.0 Data Collection

2.1 Locations for conducting the speed surveys will be chosen such that the prevailing speeds should be representative of the entire speed zone and have minimal impact from traffic signals or stop signs. Prior to the data collection effort, City staff will be asked to review and approve locations for each radar survey and machine count.

2.2 For planning purposes, it was assumed that bi-directional daily traffic counts will be obtained for a period of 24 hours at 220 locations. These volumes will be collected on weekdays while local schools are in session, avoiding holidays and construction activity or local special events.

2.3 Bi-directional radar speed surveys will be performed using fully calibrated hand-held radar guns during off-peak periods, avoiding the morning (7:00 a.m. to 9:00 a.m.) and afternoon/evening (4:00 p.m. to 6:00 p.m.) traffic peaks. A minimum of 100 vehicles will be sampled for each roadway segment using standard data collection techniques; for lower volume streets (if there are any) a 3-hour survey is proposed with the total number surveyed to be at least 50 vehicles. The radar speed surveys shall include only free-flowing vehicles in the traffic stream. Radar speed surveys will be collected from an unmarked vehicle located in an inconspicuous place along the roadway. Radar or other qualified electronic speed measuring devices will be used to measure the unimpeded speed of free-flowing vehicles. While taking the speed measurements, traffic speeds will not be altered by law enforcement, the surveyor and equipment, or any other means. Equipment calibration certification will be provided along with the data for the City's files.

2.4 All machine counts, radar speed surveys and field observations are tentatively scheduled to occur during the Fall of 2024.

2.5 Raw crash records for each roadway segment for at least the most recent 2-year period will be provided by the City though their Crossroads (or similar) database.

3.0 Evaluation and Documentation

3.1 All pertinent information will be entered in a Microsoft Excel spreadsheet form. W-Trans has developed a form that provides detailed information regarding all the data that is utilized in determining appropriate speed limits, including all the information required per the guidelines in the most recent edition of the *California Manual on Uniform Traffic Control Devices* (CA-MUTCD), as well as other relevant information such as adjacent speed limits (if different), sight distance issues, and other conditions "not readily apparent" to drivers. An example form for the City of Merced is enclosed.

3.2 In accordance with the CVC and CA-MUTCD, speed limit recommendations will be based on speed survey data and calculated required parameters such as average speed, critical speed, and pace speed. Recommended speed limits will be established at the nearest 5-mph increment of the 85th percentile speed of free-flowing traffic, except as indicated in the three options below:

a. 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.

b. 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, if no further reduction is used. Refer to CVC Section 21400(b).

c. The speed limits may be reduced by an additional 5 mph for roadway segments within a qualified Safety Corridor as stipulated in CVC 22358.7.

3.3 Once initial recommendations have been developed, a video conference call will be initiated to discuss any recommended changes from the existing speed limits and to obtain local insight which might affect the recommendations. It would be at this point that segments would be re-surveyed, if desired, and the new survey data inserted in the appropriate forms.

3.4 Summary sheets showing bi-directional machine traffic volume data, radar speed survey data and speed limit recommendations will be provided to City staff for review and approval. Sheets containing the raw count and speed survey data will also be provided showing speed profile histograms and cumulative speed profile curves for each speed survey zone.

3.5 Comments from staff will be addressed and final speed survey forms with the seal and signature of a registered engineer prepared. These forms contain space for the City Engineer to sign and their seal can be used, if desired.

4.0 Project Administration and Meetings

4.1 The Project Manager will be responsible for coordinating with City staff on a routine basis, providing updates on progress, adherence to schedule and budget, and any issues that arise during the course of the project. They will provide a brief summary of the work completed each month along with a detailed invoice of the hours spent. They will also coordinate with other W-Trans and oversee the preparation of the surveys and quality control reviews.

4.2 Up to three formal virtual meetings are included in this scope of work. This includes meeting with City staff for the initial kick-off, to discuss preliminary findings and recommendations and to discuss final recommendations. W-Trans participation in a public hearing would be considered additional work and could be arranged through a contract amendment.

Key Staff

Dalene J. Whitlock, PE, PTOE – *Principal in Charge*

Senior Principal Dalene Whitlock is one of the firm's founding Principals and the Vice President of the company. She specializes in operational analyses of effects of development-added traffic as well as potential changes to physical facilities and is responsible for quality control of all W-Trans products. She is registered as both a Civil and Traffic Engineer by the State of California and also as a Professional Traffic Operations Engineer.

Dalene first applied her 1981 B.S. in Civil Engineering from San Diego State University to the field of traffic engineering as an Assistant Engineer for the County of Marin. She continued her public sector employment with the City of Santa Rosa before joining the private sector in 1992 and becoming a founding partner of W-Trans in 1995.

Through her many years in traffic engineering, Dalene has gained experience in a wide array of areas from safety, capacity, and operational analyses to transportation system design and public involvement. Her communication skills provide a bridge between stakeholders of various backgrounds and opinions, including policymakers, agency staff, applicants, other consultants, W-Trans staff, and the public, thus allowing diverse opinions to be heard and addressed. Attention to detail is a hallmark of Dalene's work, making Dalene an excellent project manager as well as the firm's quality control officer responsible for review of all W-Trans products.

Dalene is very active in the Institute of Transportation Engineers (ITE); she has held elected office at the Section, District and International levels and served as the Finance Chair for the 2010 San Francisco and 2014 Rapid City Western District Annual Meetings. She served as the Chair of the Transportation Forensics and Risk Management Council (previously known as the Expert Witness Council) from 2015 to 2017. She is currently the District Administrator for the Western District, and at the international level, she is the Secretary of the Student Traffic Bowl Committee.

Dalene will serve as the Principal in Charge, providing support to the Project Manager and performing the quality control reviews of all surveys.

Kenny Jeong, PE – *Project Manager*

Senior Traffic Engineer Kenny Jeong manages traffic engineering studies and provides technical support for transportation improvement projects. He is registered in California as a Traffic Engineer.

Kenny received his B.S. in Civil and Environmental Engineering from San Jose State University in 2001. The San Leandro native began his consulting career immediately following graduation from SJSU contributing on Plans, Specifications and Estimates for roadway improvement projects and traffic analyses for development projects across the Bay Area. Kenny has a broad range of experience including multi-jurisdictional projects with evaluations of traffic operations using micro-simulation, roundabout analysis, and planning, conducting traffic impact studies, CEQA analysis, Engineering and Traffic Surveys and reviewing school circulation issues. Kenny also supplements staff serving as the consulting City Traffic Engineer for the City of Novato.

Kenny will be the Project Manager and the City's primary contact. He will oversee day-to-day progress, ensure compliance with the schedule and budget, and direct the work of other staff as well as the data collection subconsultant.

Nathan Sharafian, EIT – *Project Engineer*

Assistant Engineer Nathan Sharafian provides support on traffic engineering design, transportation impact analyses, safety analyses and operational studies.

Nathan Sharafian graduated from the University of California, Los Angeles in 2022 with a B.S. in Civil Engineering summa cum laude. Before coming to W-Trans, he volunteered three years to leadership of the UCLA chapter of the Institute of Transportation Engineers, and he worked as an assistant at the Institute of Transportation Studies at UCLA. Nathan studied intelligent transportation systems, travel behavior modeling, and urban form at a graduate level. Nathan is an advocate for increasing safety on our roads, and he enjoys minimizing car use by walking and taking transit. Nathan will assist Kenny and input the data to create the survey forms.

Resumes for key staff are enclosed.

Required Statements

Litigation

W-Trans has not been involved in a lawsuit or litigation within the last ten years.

Disclosure

W-Trans does not have any real or perceived conflicts of interest that may arise through work performed under this contract.

Contract

W-Trans has reviewed the sample agreement and is prepared to sign the agreement as proposed.

Project Schedule

The enclosed preliminary schedule illustrates the estimated time required for each task. W-Trans is prepared to begin work on these Engineering & Traffic Surveys immediately after receiving written authorization to proceed. The schedule indicates the estimated time of completion for each major task and deliverable.

Cost Proposal

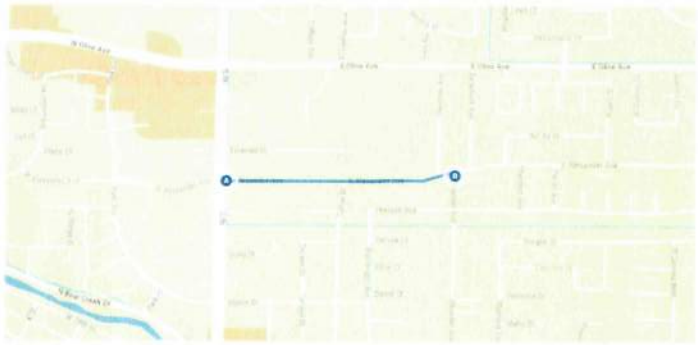
Our cost proposal has been provided in a separate, sealed envelope, according to RFP instructions.

City of San Leandro
Engineering and Traffic Survey

Street: Alexander Avenue ***From:*** G Street ***To:*** Oleander Avenue

Street Conditions

Posted Limit:	30 mph
Width:	40 feet
Lanes:	2
Configuration:	Undivided
Parking:	Both Sides
Bike Facility:	Bike route both sides
Sidewalks:	Both Sides
Land Use:	Residential
Classificaiton:	Major Collector
Character:	Suburban
Terrain:	Flat



Observations and Evaluation

Volume (ADT):	4,600 vpd	*Vehicles Sampled:*	191
Segment Length:	0.7 miles	*85th Percentile Speed:*	34 mph
Collisions:	0 crashes	*Mean (50th Percentile) Speed:*	30 mph
Evaluation Period:	2 years	*Pace:*	26-35 mph
Collision Rate:	0.00 c/mvm (collisions per million vehicle miles)	*Percent in Pace:*	79.0%
Statewide Average Rate:*	**1.07** c/mvm		

(Additional details provided on the next sheet.)

Conditions Not Readily Apparent to the Driver:
Luther Burbank Elementary School is located on this segment and generate high concentrations of bicyclists and pedestrians including vulnerable groups such as children.

Conclusions and Recommendations

Alexander Avenue has a calculated 85th percentile speed of 34 mph, with the nearest 5-mph increment being 35 mph. On the basis of an engineering and traffic investigation and considering the conditions not readily apparent to the driver, it is recommended that a posted speed limit of 30 mph be established in accordance with the provisions of Section 627, 22357, 22358 and 40802 of the California Vehicle Code.

30 mph

Recommended Speed Limit

Date

PE STAMP

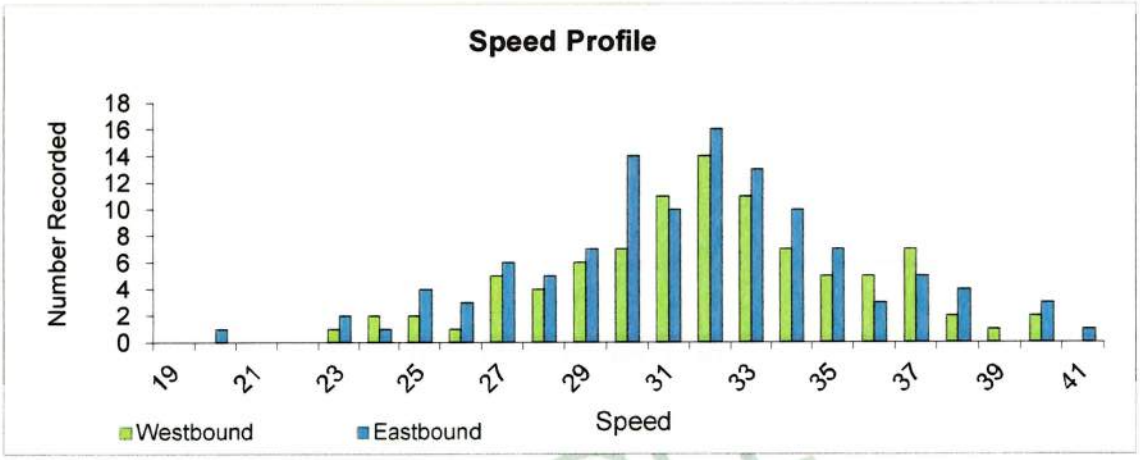
Kenneth Jeong, P.E. (TE # 2787)

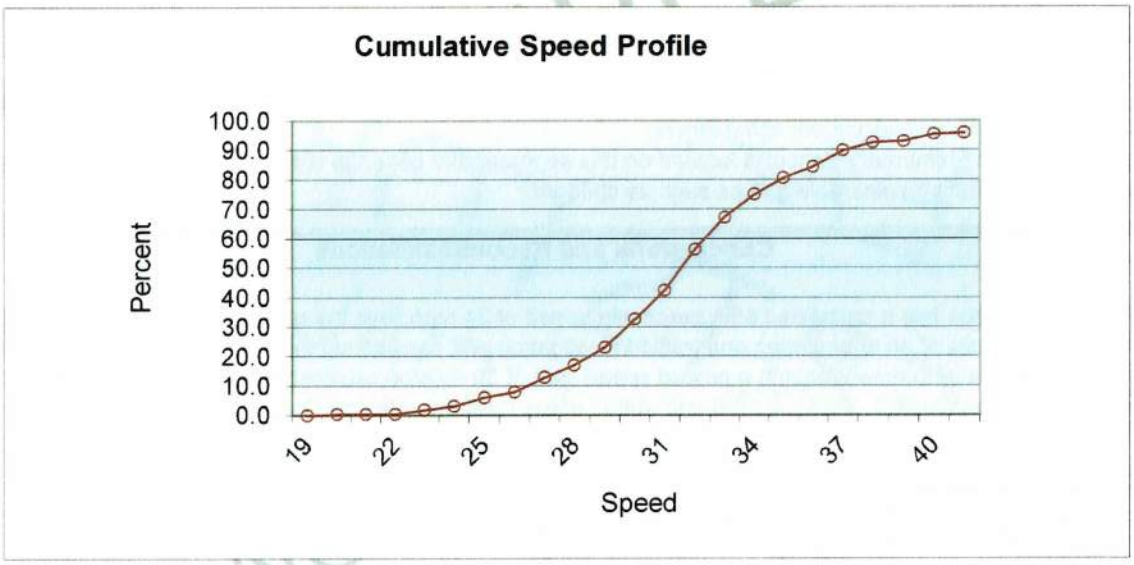
** Source: 2021 Crash Data on California State Highways, Caltrans*

Street: Alexander Avenue **From:** G Street **To:** Oleander Avenue

Eastbound

Westbound





Date Data Collected:	11/9/2016	*Start Time:*	9:00	*Weather:*	Clear
Day of the Week:	Wednesday	*End Time:*	10:00	*Recorder:*	NDS

Education

BS in Civil Engineering
San Diego State University, 1981

BA in Physical Science
Westmont College, Santa Barbara, 1981

Affiliations/Activities

Institute of Transportation Engineers (ITE)
Fellow
Transportation Forensics & Risk Management Council Chair, 2015-2017
Student Traffic Bowl Committee Secretary 2015-Present
Western District Administrator 2015-Present
International Director 2010-2012
Western District President 2006-2007
San Francisco Bay Area Section President 2002-2003

ITE North Bay Transportation Forum
Past Chairman

Traffic Engineer Registration Testing
Test Preparation Participant

Awards

Lifetime Achievement Award, ITE Western District, 2021
Honorary Member, ITE International, 2024

Registration

Civil Engineer #38942 (CA)
Traffic Engineer #1552 (CA)
Professional Traffic Operations Engineer #343

Professional History

1995-Present
W-Trans (Principal/Owner)

1992-1994
TJKM Transportation Consultants

1987-1992
City of Santa Rosa

1986-1987
County of Marin

Dalene J. Whitlock, PE, PTOE
Senior Principal

Dalene Whitlock is one of the founding Principals, is the Vice President of the company, specializes in traffic impact analysis, and is responsible for quality control for all of W-Trans' services. She is registered as both a Civil and Traffic Engineer by the State of California and also as a Professional Traffic Operations Engineer.

Dalene first applied her 1981 B.S. in Civil Engineering from San Diego State University to the field of traffic engineering as an Assistant Engineer for the County of Marin. She continued her public sector employment with the City of Santa Rosa before joining the private sector in 1992 and becoming a founding partner of W-Trans in 1995.

Through her many years in traffic engineering, Dalene has gained experience in a wide array of areas from safety, capacity, and operational analyses to transportation system design and public involvement. Her communication skills provide a bridge between stakeholders of various backgrounds and opinions, including policymakers, agency staff, applicants, other consultants, W-Trans staff, and the public, thus allowing diverse opinions to be heard and addressed. Attention to detail is a hallmark of Dalene's work, making Dalene an excellent project manager as well as the firm's quality control officer responsible for review of all W-Trans products.

Dalene is very active in the Institute of Transportation Engineers (ITE); she has held elected office at the Section, District and International levels. She served as the Chair of and remains active in the Transportation Forensics and Risk Management Council (previously known as the Expert Witness Council) from 2015-2017. She is currently the District Administrator for the Western District and received the District's Lifetime Achievement Award in 2021. At the International level, she is the Secretary of the Student Traffic Bowl Committee.

Representative Projects

Areawide Planning Studies and EIRs
Healdsburg – *North East Area Plan EIR*
Lakeport – *11th Avenue Corridor Study*
Mill Valley – *Blithedale Terrace EIR*
Petaluma – *Caulfield Lane Bridge Traffic Analysis*
Sonoma – *Chateau Sonoma EIR*
Sonoma County – *Nunes Farm and Winery at Saralee's Vineyard EIR*

School Studies
Marin County – *College of Marin Facilities Master Plan EIR*
Napa County – *Napa Valley Junior College Student Housing Initial Study*
Ross – *Branson School Transportation Demand Management Peer Review*
Santa Rosa – *Santa Rosa Junior College Student Housing Traffic Impact Study*

Impact Mitigation Fee Studies
Clearlake – *Traffic Impact Fee Study*
Cotati – *Traffic Impact Fee Development*
Rohnert Park – *Regional Traffic Impact Fee*

Traffic Operation and Safety
Cotati – *W. Sierra/W. School Stop Sign Warrant Analysis*
El Cerrito – *Stop Sign Warrant Analysis*

Dalene J. Whitlock
(continued)

Healdsburg, Petaluma, San Rafael, and Walnut Creek – *Engineering & Traffic Surveys*
Rohnert Park – *Protected/Permitted Left-turn Analysis*
Rohnert Park – *Golf Course Drive Safety Evaluation*
Sonoma – *Systemic Safety Analysis Report*

Traffic Engineering Design

Cloverdale – *Cloverdale Boulevard/Treadway Drive Signal Design*
Healdsburg – *Dry Creek Road/Grove Street Signal Modification*
Napa – *1st Street/Freeway Drive Signal Modification*
Napa County – *SR 121/Syar Driveway Signal Design*
Rohnert Park – *East Cotati Avenue/Camino Colegio Signal Modification*

Traffic Impact Studies

Fortuna – *Package Delivery Facility Traffic Impact Study*
Marin County – *Oak Hill Housing Development Traffic Impact Study*
Napa County – *Domaine Carneros Winery Traffic Impact Study*
Petaluma – *Creekwood Traffic Impact Study*
Sacramento County – *8700 La Riveria Traffic Impact Study*
Santa Rosa – *3575 Mendocino Avenue Project Traffic Impact Study*
Sonoma – *Traffic Impact Study for Annexation of 20455 5th Street East*
Sonoma County – *Cyrus Restaurant Traffic Impact Study*
Sonoma County – *3750 No. Laughlin Road Traffic Impact Study*
Williams – *Valley Ranch Subdivision Traffic Impact Study*

Trip Generation Derivation

Fairfax – *Dispensary Trip Generation Analysis*
Marin County – *Cascade Canyon Trail Improvements Traffic Study*
Sonoma County – *LOE Firehouse Dispensary Traffic Study*
Sonoma County – *Victory Station Trip Generation Study*
Sonoma County – *4040 Santa Rosa Avenue Traffic Study*

Parking

Healdsburg – *Mill District Traffic Impact Study*
Napa – *Embassy Suites Expansion Project Traffic Impact Study*
San Rafael – *The Neighborhood at Los Gamos Traffic Impact Study*
Santa Rosa – *Lago Fresca Traffic Impact Study*

Design Development

American Canyon – *Napa Cove Access Evaluation*
Healdsburg – *US 101/Dry Creek Interchange Feasibility Study Report*
Saint Helena – *Spring Street Bike Facilities*
Santa Rosa – *Elliott Avenue Closure Feasibility Study*
Santa Rosa – *CEQA Initial Study for Fire Station #5*
Santa Rosa – *SCOE Workforce Housing Traffic Impact Study*
Sonoma County – *Monte Rio Bridge Realignment Feasibility Study*

Education

BS in Civil Engineering
San Jose State University,
San Jose, 2001

Affiliations/Activities

Institute of Transportation Engineers (ITE)
Member

Registration

Traffic Engineer #2787 (CA)

Professional History

2017-Present
W-Trans

2001-2017
DKS Associates

Kenneth Jeong, PE
Senior Traffic Engineer

Kenny Jeong is a Senior Traffic Engineer who manages traffic engineering studies and provides technical support for transportation improvement projects. He is registered in California as a Traffic Engineer.

Kenny received his B.S. in Civil and Environmental Engineering from San Jose State University in 2001. The Bay Area native began his consulting career immediately following graduation from SJSU contributing on Plans, Specifications and Estimates for roadway improvement projects and traffic analyses for development projects all across the Bay Area. Kenny has a broad range of experience including multi-jurisdictional projects with evaluations of traffic operations using micro-simulation, roundabout analysis and planning, conducting traffic impact studies and reviewing neighborhood and school circulation issues.

Representative Projects

Traffic Impact Studies/CEQA

Campbell – *In-N-Out Burger, Chick-fil-A, 1700 Dell Avenue Office, Franciscan Apartments, Winchester Townhomes and City Sports Club*
Contra Costa County – *197 Midhill Road Homes and Windhover Apartments*
Dublin – *Hexcel Development and BASIS School*
Fremont – *Ardenwood IV Office and Osgood II Residential*
Milpitas – *General Plan EIR and Milpitas Metro Specific Plan*
Napa County – *Giovannoni Logistics Center*
Oakland – *Vista Crest Townhomes, Residential Developments at 820 W. MacArthur Boulevard, 685 9th Street and 220 Alice Street*
Palo Alto – *Castilleja School EIR, 200 Portage Road, 2850 West Bayshore Road and 3001 El Camino Real*
Richmond – *100 38th Street, Brickyard Cove Residential, Power Plant Cultivation Facility, Country Club Homes and UPS Expansion EIR, Marina Way South Residential Development*
San Carlos – *Alexandria Center for Life Sciences, Hotel Indigo, 888 Bransten Street, 1021 Howard Avenue and 789 Old County Road*
San Leandro – *Town Hall Square and 14341 Bancroft Avenue*

Municipal Staff Services

Alameda – *On-Call Traffic Engineering Services*
Novato – *Consulting City Traffic Engineer*
San Carlos – *On-Call Transportation/Traffic Engineering Services*

Vehicle Miles Traveled (VMT) Assessment

Berkeley – *San Pablo Avenue Affordable Housing*
Contra Costa County – *Moraga Road Self-Storage, Chelsey Avenue Self-Storage and Senior Homes at 375 El Pintado Road*
Los Gatos – *405 Alberto Way Residential Development*
Newark– *Timber Street Townhomes*
San Mateo County – *Quarry Park EIR*
Vallejo – *Admiral Callaghan Self-Storage*
Watsonville – *Crockers Lockers Self-Storage*

Site Planning and Circulation

Alameda County – *Safe Routes to School Site Assessments*
Campbell – *School of Innovation Access Study and Delta Car Wash Circulation Study*
Castro Valley – *Canyon Middle School Traffic Circulation Study*
Gilroy – *South Valley Middle School Access Study*
Oakland – *Bentley and Head Royce School Traffic Monitoring and Kaiser Permanente COVID-19 Testing Efficiency Study*
Pittsburg – *Blue Wave Car Wash Queuing Study*
San Carlos –*Downtown Circulation Study*

Kenneth Jeong
(continued)

Neighborhood Engineering
Alamo – *Iron Horse School Crossing Guard Study*
Ashland – *Lewelling Boulevard Left Turn Evaluation*
Danville – *Borel Park Feasibility Study*
Dublin, El Cerrito, San Carlos, San Leandro, Novato, and Walnut Creek – *Engineering & Traffic Surveys*
Richmond – *Barrett Avenue Median Study*
San Carlos – *All-Way Stop-Control and Traffic Calming Studies*
San Pablo – *Lake Street Traffic Calming Study*
Santa Clara – *Pepper Tree Traffic Calming and Parking Study*

Traffic Signal Evaluation
Castro Valley – *Strobridge-Norbridge Avenue Circulation Study*
Las Vegas – *Maryland Boulevard Traffic Signal Priority Study*
San Francisco – *Geary Boulevard BRT Operations Modeling*
San Leandro – *West Davis Street Signal Study, Doolittle Drive/Davis Street Traffic Operations Study*
San Jose and Sunnyvale – *SCATS Before and After Evaluation*
San Ramon – *Adaptive Signals Before and After Evaluation*

Street Design and Highway Operations
Fremont – *Traffic Impact Fee Update*
Half Moon Bay – *SR 1 Permit Engineering Evaluation Report*
Oakland – *San Pablo Avenue Median*
San Bruno – *El Camino Real/Sneath Lane Widening*
San Leandro – *MacArthur Boulevard/Superior Avenue Roundabout Study*

Education

BS in Civil Engineering
University of California, Los Angeles,
Los Angeles, 2022

Professional History

2022-Present
W-Trans

Nathan Sharafian, EIT

Assistant Engineer

Nathan Sharafian is an Assistant Engineer who provides support on transportation impact analyses, safety analyses and operational studies.

Nathan Sharafian graduated from the University of California, Los Angeles in 2022 with a B.S. in Civil Engineering summa cum laude. Before coming to W-Trans, he volunteered three years to leadership of the UCLA chapter of the Institute of Transportation Engineers, and he worked as an assistant at the Institute of Transportation Studies at UCLA. Nathan studied intelligent transportation systems, travel behavior modeling, and urban form at a graduate level. Nathan is an advocate for increasing safety on our roads, and he enjoys minimizing car use by walking and taking transit.

Representative Projects

Transportation Impacts

Alameda County – *Transportation Impact Study for the Arroyo Lago Residential Project*
Los Gatos – *Traffic Analysis for the 405 Alberto Way Project*
Mendocino County – *Transportation Impact Study for a Gas Station at 9621 North State Street*
Napa County – *Transportation Impact Study for the Wright Corner Project*
Redding – *Transportation Impact Study for the Brentwood Village Project*
San Leandro – *Focused Transportation Impact Analysis for the Town Hall Square Project*
Santa Rosa – *Transportation Impact Study for the Heritage Commerce Center*
Sonoma County – *Transportation Impact Study for the Ektimo Winery Tasting Room*
Yuba City – *Transportation Impact Study for the Harter Parkway Career Technical Building*

Traffic Engineering

Berkeley – *Traffic Signal Operations Analysis for University Avenue/California Street*
Napa – *All-Way Stop Control Warrants for Five Locations*
Orinda – *Analysis of Stop Sign Controls for Five Locations*
Rohnert Park – *Engineering and Traffic Survey and Crosswalk Warrant Study for Labath Avenue*
San Carlos – *Analysis of Cut-Through Traffic and Need for Traffic Calming along Carmelita Drive*
San Leandro – *Traffic Analysis for Doolittle Drive/Davis Street*
Sonoma County – *Warrant Study for East Napa Street/8th Street East*
Yountville – *Summary of Parking Inventory and Traffic Counts at The Estate*

Traffic Engineering Design

Alameda County – *Oakland Segment of the East Bay Greenway Project Traffic Signals*
Davis – *2023 Speed Hump Installation Project*
Novato – *Citywide Crosswalk Enhancements and Pedestrian Improvements*
Richmond – *Pavement Delineation and Sign Plans at 41st Street/Bissell Avenue*
Rohnert Park – *Citywide Traffic Signal Safety Improvements*
Rohnert Park – *Striping Plans for Santa Alicia Drive and Arlen Drive*
Stockton – *Central Stockton Road Diet and Striping Project*
Windsor – *2023 to 2025 Annual Pavement Markings Project*

Parking and Transportation Demand Management (TDM)

Los Altos – *Downtown Los Altos Parking Strategy*
Rancho Cucamonga – *Parking and TDM Plan for the Rancho Cucamonga City Center*
Redwood City – *TDM Plan for 609 Price Avenue*
San Rafael – *Parking Services Financial Assessment*

Nathan Sharafian
(continued)

Safe Routes to School
Alameda County – *School Safety Assessments*
Concord – *Flashing Stop Sign Evaluations at 20 Schools*
Walnut Creek – *School Access Evaluations*

Temporary Traffic Control
San Leandro – *Temporary Traffic Control Design for Lake Chabot Road*

Staff Services
Rocklin – *On-Call Staff Services Evaluating Resident Requests*

Traffic Signal Coordination
Alameda County – *Countywide Traffic Signal Modifications*

Citywide Speed Zone Study
W-Trans Schedule

Task	Month 1				Month 2				Month 3				Month 4				Month 5			
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	Week 20
1. Project Initiation																				
2. Data Collection																				
3. Evaluation and Documentation														◊			◊			
4. Meetings and Administration	*										*						*			

LEGEND: * = meeting ◊ = deliverable