APPLICATION FORM FOR

CYCLE 9 HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

LAPG 9-A (REV 11/2017)

Application ID 06-Fresno County-1

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APPLICATION SUMMARY

This summary page is filled out automatically once the application is completed.

After the application is finalized, please save this PDF form using the exact "Application ID" (shown below) as the file name. Application ID | 06-Fresno County-1 Important: Review and follow the Application Form Instructions step-by-step as you complete the application. Completing an application without referencing the instructions will likely result in an incomplete application or an application with fatal flaws that will be disqualified from the ranking and selection process. Submitted By (Agency) Fresno County **Application Category** Common BCR Application **Caltrans District Application Number** Out of 06 1 1 **Project Location** The intersection of Ashlan Ave. & Palm Ave. in Fresno. **Project Description** Upgrade existing 2-phase fixed timed traffic signal to 8-phase to include, but not limited to, left-turn phasing, larger vehicle heads, and new 2070 controller. **Total Project Cost HSIP Funds Requested** \$956,000 \$956,000 Countermeasure No. 1 S2: Improve signal hardware: lenses, back-plates, mounting, size, and number Countermeasure No. 2 S6: Provide protected left turn phase (left turn lane already exists) Countermeasure No. 3

Project Benefit \$7,674,919

Benefit Cost Ratio (BCR)

8.03

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Warrant Studies Check if the project includes new installation of certain traffic control devices (e.g., traffic signals, pedestrian signals, etc.). If yes, Traffic Signal Warrant 4, 5 and/or 7 must be met (CA MUTCD Chapter 4C). Please provide the warrants as Attachment #8 in Section V. **Additional Information** 1. Is the project focused primarily on "spot location(s)" or "systemic" improvements? [Spot location(s) 2. Which of the California's Strategic Highway Safety Plan (SHSP) Challenge Areas does the project address primarily? (For more information on the SHSP and its Challenge Areas, see: http://www.dot.ca.gov/SHSP/) 2: Intersections, Interchanges, and Other Roadway Access 3. How were the safety needs and potential countermeasures for this project first identified? Spot-location Safety Analysis/Road Safety Assessment 4. California established Systemic Safety Analysis Report Program (SSARP) in 2016. Was this project identified through the SSARP program? No 5. What is the primary mode of travel intended to be benefited by this project? Motorized users 6. Approximate percentage of project cost going to improvements related to motorized travel: 90 Approximate percentage of project cost going to improvements related to non-motorized travel: 10 8. Provide the number of intersections and the length of roadways included in the project (enter 0 if not applicable):

10. Annual Average Daily Traffic (See Application Form Instructions)

Number of Intersections: 1

9. Posted Speed Limit (mph): 40

AADT (Major Road)	AADT (Minor Road)	Year Collected/Estimated
17,300	15,600	2003

Miles of Roadway: 0

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II. Narrative Questions (See Application Form Instructions)

These narrative questions are intended to provide additional project details for the application reviewers and project files. The reviewers will use the information in their "fatal flaw" assessment of the applications. Please make sure that:

- 1) The project scope is eligible for HSIP funding;
- 2) The countermeasures used in the Benefit Cost Ratio (BCR) calculation are appropriately applied based on the scope of the project;
- 3) The crash data used in the BCR calculation is appropriately applied based on the scope of the project and countermeasures used; and
- 4) The application data and attachments are reasonable and meet generally accepted traffic engineering and transportation safety principles.

If significant inconsistencies or errors are found in the application information, the reviewers may conclude that the application includes "fatal flaws" and the application will be dropped from further funding considerations. The applicant will not be notified of findings until after the selection process is complete.

1. Overall Identification of Need

Describe how the agency identified the project as one of its top safety priorities. Was a data-driven safety evaluation of their entire roadway network completed? Do the proposed project locations represent some of the agency's highest crash concentrations? (Limited to 5,000 characters)

Needs were based on public and constituent complaints regarding the high number of accidents at this location. The County has received requests to improve the intersection, more specifically left-turn phasing to address the crashes involving through versus left-turn movement crashes. Ashlan Avenue and Palm Avenue ranks #1 out of 10 county locations for the most intersection-related collisions for the time period between August 2013 and July 2018.

2. Potential for Proposed Improvements to Address the Safety Issues

Describe the primary causes of the collisions that have occurred within the project limits. Are there patterns in the crash types? Clearly demonstrate the connection between the problem and the proposed countermeasures utilized in the BCR calculations. Depending on the nature of the project, explain why the agency chooses to pursue "Spot location(s)" or "Systemic" improvements. (Limited to 5,000 characters)

Note: Safety improvements that do not have countermeasures and crash reduction factors identified in the HSIP Analyzer can be included in the project scope and cost estimate as "Other Safety-Related" improvement; they just won't be added to the project's BCR shown in the application.

Twenty-five collisions were left-turn versus through movement related, which accounted for 40% of all collisions within the influence area of the project limit. Countermeasure "S6: Provide protected left turn phase (left turn lane already exists)" was appropriately assigned to these collision types. Of these collisions, over three-quarters are on Palm Avenue. The primary cause factor (PCF) were primarily due to right-of-way violation. The higher number of collisions on Palm Avenue versus Ashlan Avenue is attributable to the posted speed limit and number of lanes. Palm is posted for 40 MPH with 4 lanes and Ashlan is posted for 35 MPH with two lanes of traffic, one in each direction of travel. The remaining 37 collisions were assigned to Countermeasure "S2: Improve signal hardware: lenses, back-plates, mounting, size, and number". Both countermeasures will significantly improve traffic safety at this location.

3. Crash Data Evaluation

What is the source of the crash data? For each countermeasure, describe how the influence areas and the limits of the crash data were established to ensure only appropriate crashes were included in the Collision Diagrams, Collision Lists and used in the BCR calculation. (Limited to 5,000 characters)

Note: If the project includes multiple locations and multiple countermeasures, group the locations so that within each group, the same countermeasures apply to all locations and their crash data. Describe the location groups. These location groups must be consistent with the grouping in using the HSIP Analyzer.

The source of the data is from SWITRS, provided by the local CHP office. Intersection-related collisions for through versus left-turn movements were assigned Countermeasure S6, and all other collisions were assigned Countermeasure S2, as mentioned in Question #2.

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4. Prior Attempts to Address the Safety Issue

List all other projects/countermeasures that have been (or are being) deployed at this location. Applicants must identify all federal funds that have been used or approved within or directly adjacent to the proposed project limits within the last 5 years. (HSIP funding cannot be used to construct the same general type of countermeasures within the same limits within 5 years to ensure agencies do not apply the same Crash Reduction Factors to the same crashes)

For projects proposing high cost improvements/countermeasures such as shoulder widening and horizontal/vertical realignments, applicants must document that they have installed and monitored low-cost improvements which have not adequately addressed the safety issue ("incremental approach"). (Limited to 5,000 characters)

None.	
Other Comments Explain here if this	s project requests any exceptions to the rules (such as "PE no more than 25%", "ROW no more than 10%" and "CE no
more than 15%" ri	ules), or if you have any other comments. (Limited to 5,000 characters)
more than 15%" ru —————— None.	ules), or if you have any other comments. (Limited to 5,000 characters)
more than 15%" ru	ules), or if you have any other comments. (Limited to 5,000 characters)
more than 15%" ru	ules), or if you have any other comments. (Limited to 5,000 characters)

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III. Project Cost, Safety Countermeasures and Benefit Cost Ratio (BCR)

Please transfer the below from the HSIP Analyzer. Please make sure you have reviewed the HSIP Analyzer instructions and completed the HSIP Analyzer correctly.

For some funding set-asides, only the pro-	oject cost information is required.	Please review the Application For	m Instructions for details.
	Total Proje	ect Cost	
	\$956,	000	
	HSIP Funds F	Requested	
	\$956,0	000	
	Project's Maximum Federa (e.g. enter 90		:
100%			
	Counterme	easures	
Number of Countermeasures Utilized (M	ax 3): 2		
Countermeasure No. 1 S2: Improve s	ignal hardware: lenses, back-pla	tes, mounting, size, and number	
Countermeasure No. 2 S6: Provide p	otected left turn phase (left turn	lane already exists)	
Project Be	nefit	Benefit Cost R	Ratio (BCR)
\$7,674,9	19	8.03	

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IV. Implementation Schedule (See Application Form Instructions)

The local agency is expected to deliver the project per Caltrans Local Assistance <u>Safety Program Delivery requirements</u>. In order for the milestones to be calculated correctly, all fields need to be filled in. For steps that are not applicable, enter "0".

•	
Target Date for the Project's Amendment into the FTIP:	01/01/2019
Time for agency to internally staff project and request PE authorization:	3 Month(s)
Typical time for Caltrans and FHWA to process and approve PE authorization:	2 Month(s)
Proposed PE Authorization Date:	06/01/2019 (PE Authorization Delivery Milestone)
Will external consultants be required to complete the PE phase of this project?	No
Time to prepare environmental studies request:	1 Month(s)
Time to complete CEQA/NEPA studies/approvals:	4 Month(s)
See PES Form in the LAPM for Typical studies and permits	
Time to complete the Right of Way Acquisition (federal process):	18 Month(s)
Plan on 18 months minimum for federal process including a condemnation	
Time to complete final PS&E documentation:	8 Month(s)
Other:	0 Month(s)
Expected Completion Date for the PE Phase:	01/01/2022
Time for agency to request CON authorization:	2 Month(s)
Typical time for Caltrans and FHWA to process and approve CON authorization:	3 Month(s)
Proposed CON Authorization Date:	06/01/2022 (CON Authorization Delivery Milestone)
Time included for the agency's workload-leveling or construction-window needs:	2 Month(s)
Time to award contract with CON contractor (following the federal process, including Board/Council approval, advertise, award, execute and mobilize):	3 Month(s)
Time to complete construction:	6 Month(s)
Time included for closing the CON contract:	3 Month(s)
Other:	0 Month(s)
Expected Completion Date for the CON Phase:	08/01/2023
Time to complete the project close-out process:	3 Month(s)
Typical time for Caltrans and FHWA to process and approve project close-out:	3 Month(s)
Expected Completion Date for the project Close-Out:	02/01/2024 (Close-Out Delivery Milestone)

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V. Application Attachments (See Application Form Instructions)

Please attach all files as needed. Note: files may not be attachable if file is open. Close before attach.

Engineer's Checklist (Required for all projects) Engineers Checklist.pdf
Vicinity map/Location map (Required for all projects) Vicinity map Location map.pdf
Project maps/plans showing existing and proposed conditions (Required for all projects) Project maps plans showing existing and proposed conditions.pdf
Pictures of Existing Condition (Required for all projects) Pictures of Existing Condition.pdf
5. HSIP Analyzer (Required for all projects) 06-Fresno County-01Calc.pdf
Collision diagram(s) (Not required for this project) Collision diagrams.pdf
7. Collision List(s) (Not required for this project) 7 Collision Lists.pdf
8. Warrant Studies (Not required for this project) 8 Warrant Studies not required.pdf
9. Letter/email of Support from Caltrans (No SHS involved - not required for this project)
10. Additional narration, documentation, letters of support, etc. (Optional)

HSIP Cycle 9 Application – Engineer's Checklist (For applications that BCR is required)

This application checklist is to be used by the engineer in "responsible charge" of the preparation of this HSIP application, based on the final application and application attachments as submitted to Caltrans. The engineer's initials and stamp should not be placed until the application has been finalized.

The purpose of this checklist is to ensure all of the primary elements of the application are included and the application is free of errors, allowing the application to be accurately ranked in the statewide selection process. Applications with errors in the supporting data will not be considered in the project selection process.

Special Considerations for Engineers before signing and stamping this document attesting to the accuracy of the application:

Chapter 7; Article 3; Section 6735 of the Professional Engineer's Act of the State of California requires engineering calculations or reports be either prepared by or under the responsible charge of a licensed civil engineer. Since the corresponding HSIP application defines the scope of work of a future civil construction project and requires complex engineering principles and calculations which are based on the best data available at the time of the application, the application must be signed and stamped by a licensed civil engineer. By signing and stamping this document, the engineer is attesting to this application's technical information and engineering data upon which local agency's recommendations, conclusions, and decisions are made. This action is governed by the Professional Engineer's Act and the corresponding Code of Professional Conduct, under Sections 6775 and 6735.

1.	Vicinity	map /	Location	mar
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Engineer's Initials: MHA

- a. The project limits must be clearly depicted in relation to the overall agency boundary
- 2. Project layout-plan showing existing and proposed conditions must:

Engineer's Iritials: MHA

- a. Be to a scale which allows the visual verification of the overall project limits and the construction limits of each safety countermeasure (CM) included in the application's BCR
- b. Show the full scope of the proposed project, including any non-safety construction items
- c. Show the "Influence Area" for each safety CM included in the application's BCR
- d. Show all changes to existing lanes and shoulder widths. Label the proposed widths
- e. Show limits of all roadway excavation/demolition
- f. Show agency's right of way (ROW) lines. (Also show ROW of the State, Railroad, and all other government agencies)
- 3. **Project cross-section** showing existing and proposed conditions.

(Only required for projects with roadway excavation, cut/fill slopes, and changes to lane widths)

Check if not applicable (no initials required when not applicable)

Engineer's Iritials MHA

a. Show dimension, changes, ROW lines, safety CMs, etc.

4. Countermeasure Selection:

Engineer's Initials: MAA

 The CMs used are appropriate and reasonable based on the HSIP guidelines and application instructions, including Appendix B of the Local Roadway Safety Manual.

5. **Crash Data** used in the Benefit Cost Ratio (BCR) calculations:

Engineer's Initials: MHA

- a. Must be from a reliable and well documented source
- Must be within influence area of CMs and must be applied to CMs using generally accepted traffic
 engineering principles
 (Example: If the CM only addresses the northbound lanes of a divided roadway, then southbound crashes should be excluded.)
- c. Must be accurately shown in collision diagrams and collision lists attached to this application
- d. Must be presented in terms of the number of crashes (**not** the number of injuries and fatalities)
- e. Must be based on the most recent data available and must have a minimum 3 years and maximum 5 years of data
- 6. Collision Diagrams (Shown separately or combined)

Engineer's Initials: MHA

- a. Should be to scale with crash locations accurately plotted
- b. Reveal collision patterns necessary to justify CMs
- c. The influence area for each CM is shown separately on the diagrams (unless the areas are identical)
- d. All crashes, included in the BCR Calculation, must be clearly shown within the influence area of that CM
- e. Totals for each Location and/or CM are shown with crashes segregated based on Crash Severity
- f. The totals shown match the data in the Collision Lists and the crash data tables in the HSIP Analyzer
- 7. Collision Lists (Shown separately or combined)

Engineer's Initials: MAA

- a. Totals for each Location and/or CM are shown with crashes segregated based on Crash Severity
- b. If the Lists includes crashes that were not appropriate to include in the BCR calculations, these crashes must be crossed through or removed and not included in the totals
- c. The totals shown match the data in the Collision Diagrams and the crash data tables in the HSIP Analyzer
- d. Each crash is only counted as one, even if there were multiple victims and/or vehicles involved
- 8. Detailed Engineer's Estimate and Project Cost Estimate (HSIP Analyzer Sections I & II)

Engineer's Initials: MHA

- All likely construction costs associated with the project are identified and included in Section I (Construction Cost Estimate and Cost Breakdown)
- b. Each of the main project elements are broken out into separate construction items. The costs for the construction items are based on calculated quantities and appropriate corresponding unit costs
- c. Costs for the construction items are distributed among the CMs using a logical method to fairly calculate each CM's cost
- d. "Other Safety-Related" and "Non-Safety-Related" components are properly identified and accounted for
- e. Each CM included in the BCR calculation must represent a minimum of 15% of the construction costs unless an exception is being requested (automatic in the HSIP Analyzer)
- f. The Total Construction Cost in Section I must match the "Construction Items Total Cost" in Section II (Project Cost Estimate) (automatic in the HSIP Analyzer)
- g. The project costs of all phases must be properly accounted for in Section II

9. Benefit and BCR Calculation (HSIP Analyzer – Sections III & IV)

Engineer's Initials: MAA

- a. Project locations are grouped appropriately per Manual for HSIP Analyzer
- b. For each of location groups, the CMs applied are selected properly based on the proposed work for safety improvements;
- c. For each of the location groups, the crash data time period must be a minimum of 3 years and a maximum of 5 years and the most recent available crash data must be used.
- d. For each of the location groups, the data in the crash data tables for each location must include only the crashes for the specified crash types and must match those in the Collision Diagrams and the Collison Lists.
- e. The totals for each Location match the totals shown in the Collision Diagrams and Collision Lists
- f. The total project cost in the BCR calculation must match the total project cost in Section II (automatic in the HSIP Analyzer)
- g. The data transferred to Section III of the application form must match the data in the HSIP Analyzer

10. Warrant studies/guidance (Check if n	t applicabl	e)
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Check if not applicable (no initials required when not applicable)

Engineer's Initials:	
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a. Traffic Signal Warrants – Warrant 4, 5 or 7 met (CA MUTCD): Signal warrants must be documented as having been met based on the CA MUTCD.

11. Additional narration, documentation, letters of support:

Engineer's Initials: MAA

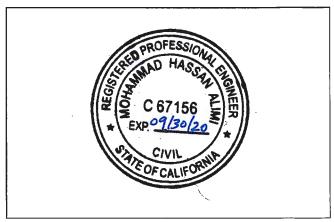
- a. The answers to the "Narrative Questions" in the application form are consistent with and support the engineering logic and the calculations in the development of the application's BCR
- b. When needed, clarify non-standard application of countermeasures, crashes and/or costs; appropriate documentation is attached to the application to document the engineering decisions and calculations.

Signature and Stamp Page

Licensed Engineer:



Engineer's Stamp:

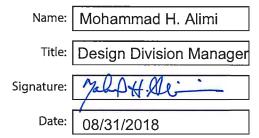


To ensure the application's quality and the agency's commitment to deliver the safety project in an expedited manner, the application must be signed by the Agency's Transportation/Traffic Engineering Manager.

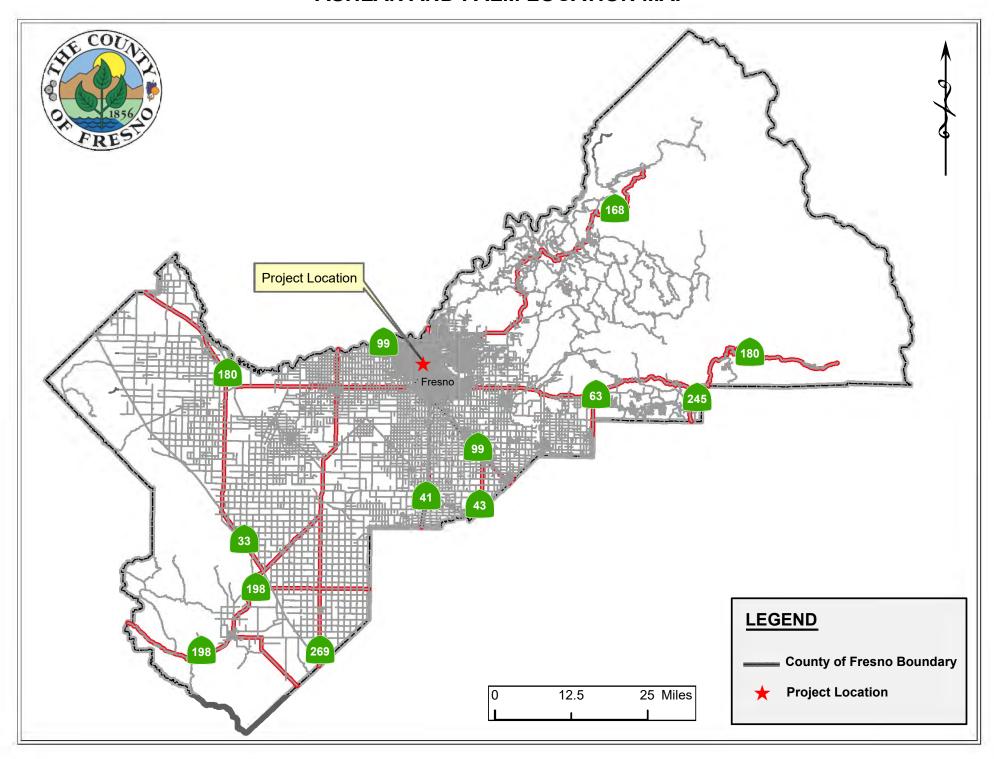
By signing this application, the manager is attesting to:

- 1. All data in the application is accurate and represents the total scope of the planned project;
- 2. The agency understands the Project Delivery Requirements for the HSIP Program and is prepared to deliver the project per these requirements; and
- 3. The agency understands if Caltrans staff determine that any of the above requirements are not met, or data is inaccurate, or the application fails to meet the program guidelines and application instructions, the application will be rejected and will not be eligible to receive federal safety funding. Due to time constraints in the evaluation process, applicants will not be notified until after the selection process is complete. Refer to Application Form Instructions for more information.

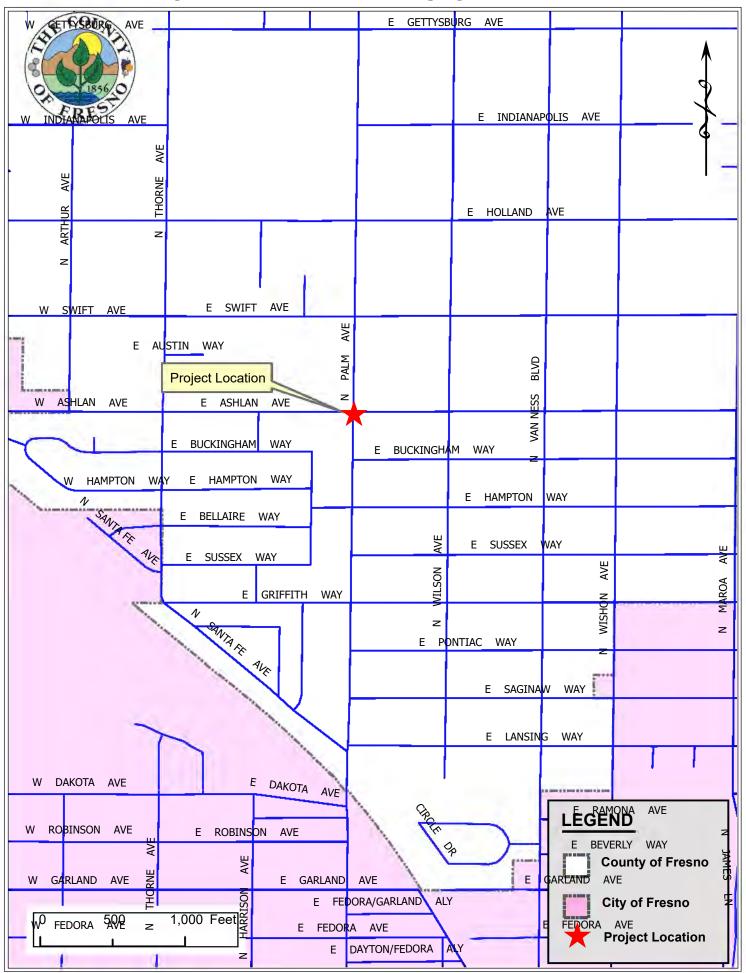
Transportation Manager:



ASHLAN AND PALM LOCATION MAP



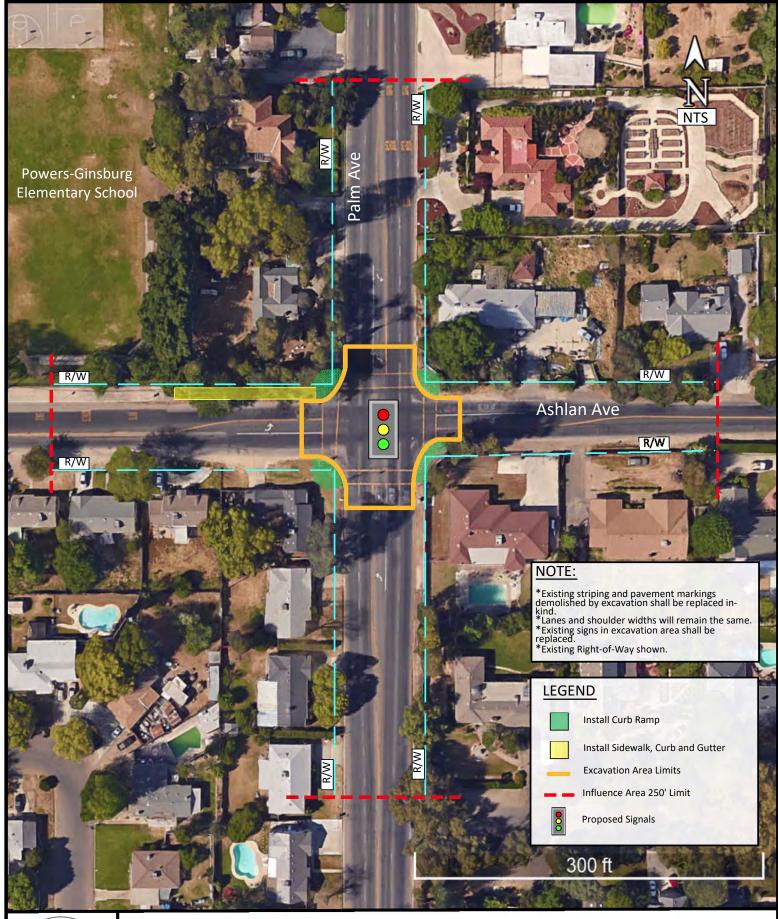
ASHLAN AND PALM AVENUES VICINITY MAP





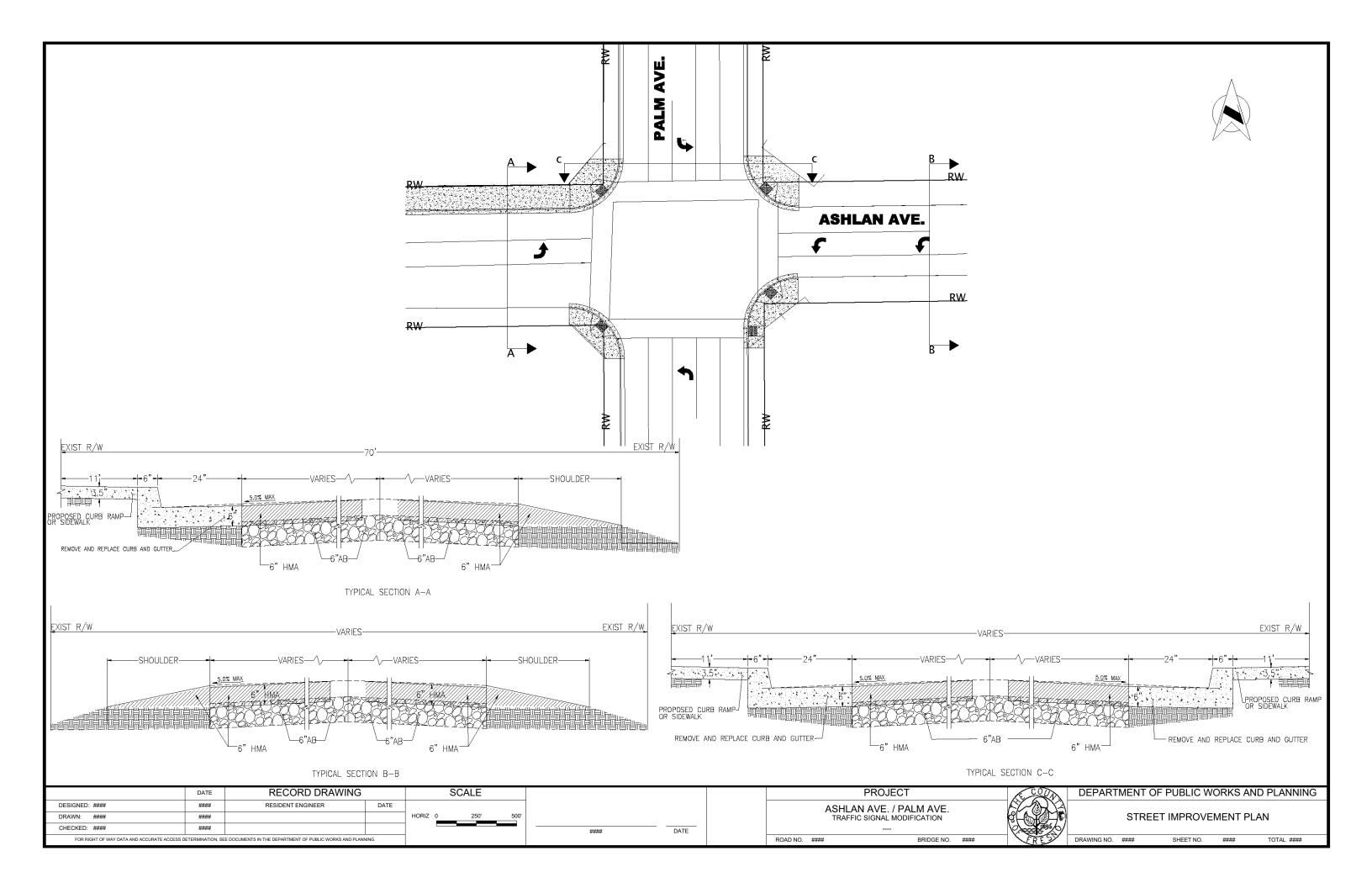


Ashlan and Palm Avenues Existing Conditions
HSIP Cycle 9





Ashlan and Palm Avenues Proposed Conditions
HSIP Cycle 9



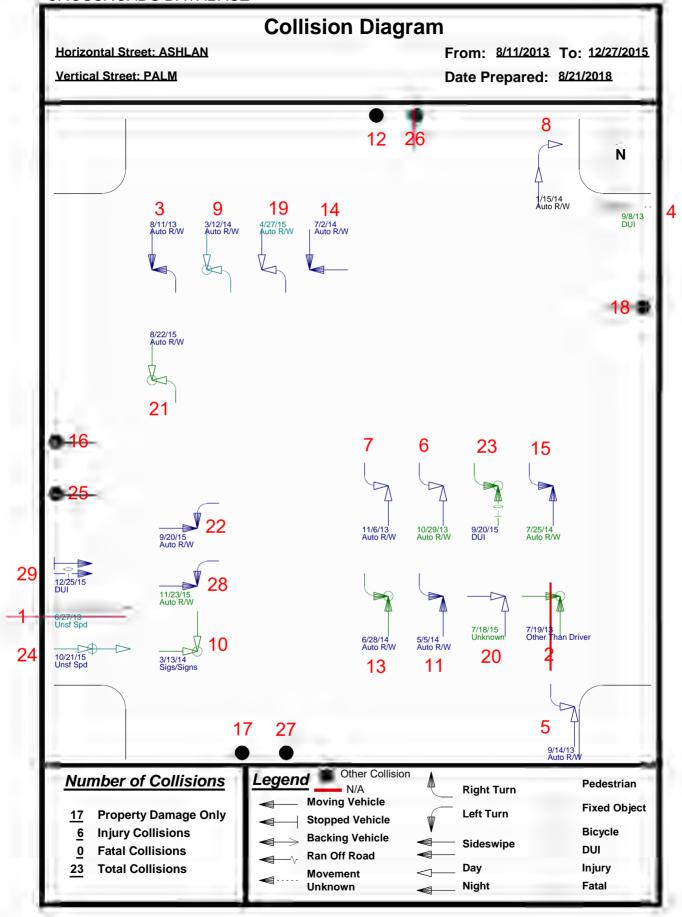












Color Legend - Highest Degree of Injury

Maroon = Fatal

Purple = Severe Injury

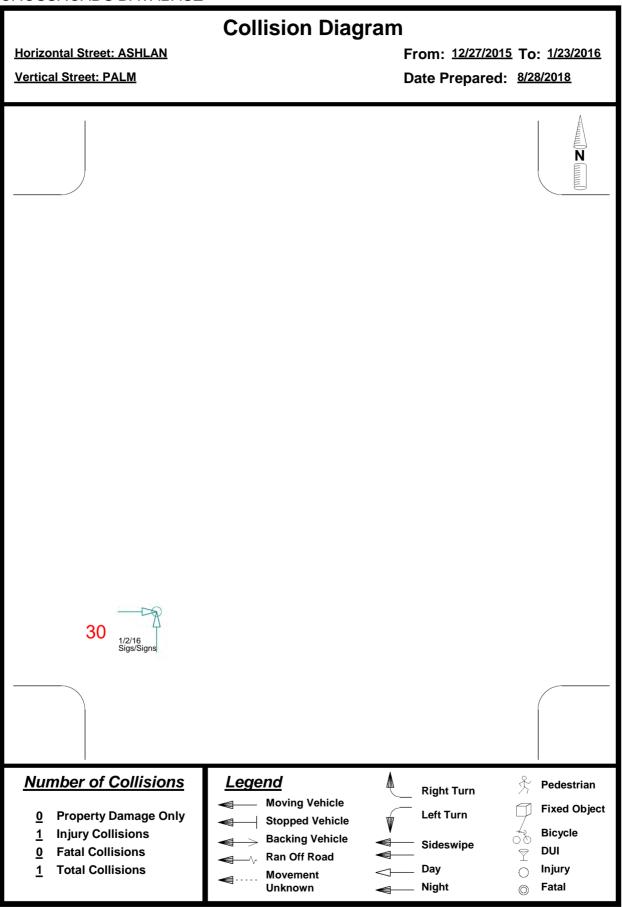
Green = Other Visible Injury

Teal = Complaint of Pain

Dark Blue = Property Damage Only

Settings Used For Query

<u>Parameter</u>	Setting	
Street Name	ASHLAN	
Cross Street	PALM	
Starting Date	8/11/2013	
Ending Date	12/27/2015	
Intersection	Intersection Related	



Color Legend - Highest Degree of Injury

Maroon = Fatal

Purple = Severe Injury

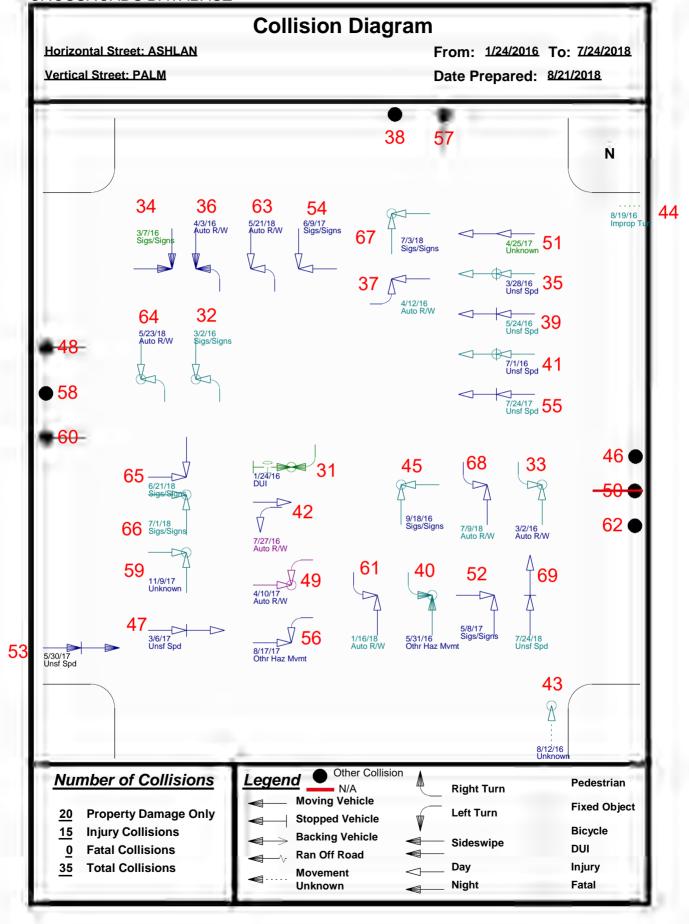
Green = Other Visible Injury

Teal = Complaint of Pain

Dark Blue = Property Damage Only

Settings Used For Query

<u>Parameter</u>	Setting	
Street Name	ASHLAN	
Cross Street	PALM	
Starting Date	12/27/2015	
Ending Date	1/23/2016	
Intersection	Intersection Related	



Color Legend - Highest Degree of Injury

Maroon = Fatal

Purple = Severe Injury

Green = Other Visible Injury

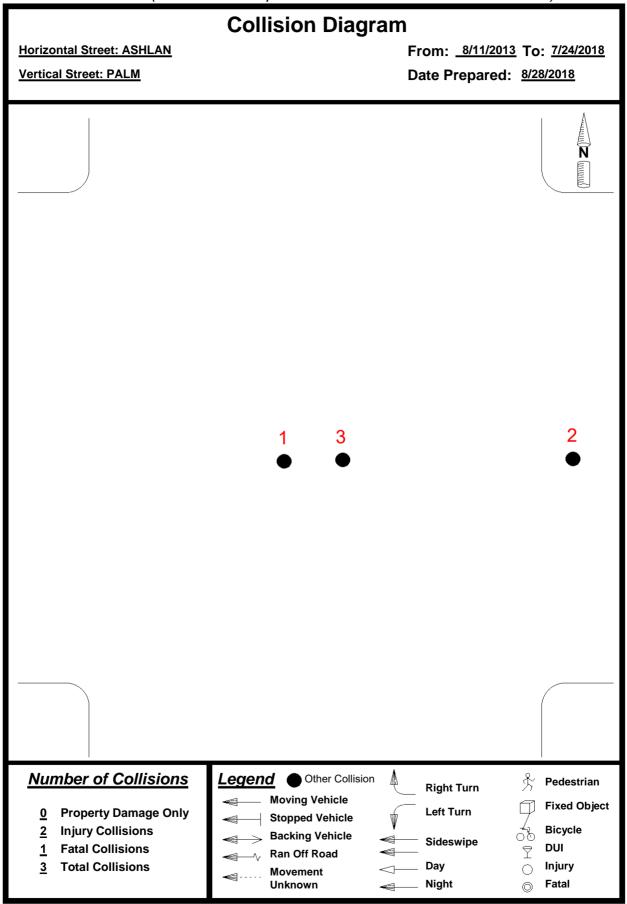
Teal = Complaint of Pain

Dark Blue = Property Damage Only

Settings Used For Query

<u>Parameter</u>	Setting
Street Name	ASHLAN
Cross Street	PALM
Starting Date	1/24/2016
Ending Date	7/24/2018
Intersection	Intersection Related

TIMS DATABASE (collisions not reported in Crossroads Collision database)



County of Fresno Maintenance and Operations Division

Data from: CROSSROADS DATABASE

Date of Report: 8/21/2018
Location Reported: Ashlan & Palm

Date Range Reported: 8/11/2013 - 7/24/2018

Total Collisions: 59
Total Injured: 39
Total Killed: 0

Total Killed: 0 N/A Collisions

Distance from Intersection: <= 250 ft

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Collision Report Summary

#	Report#	Date	Time	Location	Dist.	Dir.	Type of Collision	Motor Veh. Involved With	Dir. of	Movement Prec. Coll. 1 Movement Prec. Coll. 2	PCF	Severity / Extent	Lighting	lnj.	n	Counter- neasure (CM)
	20130603	6/27/13	04:38	Ashlan at Palm	10	West	Rear-End	Other Motor		Proceeding Straight	Unsafe Speed	Property	Daylight	0	0	, ,
1	06	0/21/10	PM	Administrative and	10	WOOL	TOUT ETIC	Vehicle		Stopped In Road	Chicaro Opeca	Damage Only	Daylight	U	U	-S2
2	20130702	7/19/13	09:35 PM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle	North	Proceeding Straight	Other Than Driver	Other Visible Injury	Dark - Street Lights	2	0	- S2
	O7		I IVI			Stateu		Verlicie	East	Proceeding Straight		injury	Ligitis			
3	20130801 60	8/11/13	11:40 PM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle	North	Making Left Turn	Auto R/W Violation	Property Damage Only	Dark - Street Lights	0	0	S6
									South	Proceeding Straight		,	Ü			
4	20130900 71	9/8/13	03:21 AM	Ashlan at Palm	10	East	Hit Object	Fixed Object	West	Other Unsafe Turning	Driving Under Influence	Property Damage Only	Dark - Street Lights	0	0	S2
5	20130901	9/14/13	08:30	Palm at Ashlan	0	Not	Head-On	Other Motor	South	Making Left Turn	Auto R/W Violation	Property	Daylight	0	0	S6
3	43		AM			Stated		Vehicle	North	Proceeding Straight		Damage Only				30
6	20131003	10/29/13	09:05	Palm at Ashlan	0	Not	Broadside	Other Motor	South	Making Left Turn	Auto R/W Violation	Property	Daylight	0	0	S6
-	41		AM			Stated		Vehicle	North	Proceeding Straight		Damage Only				

Date of Report: 8/21/2018 Location Reported: Ashlan & Palm

8/11/2013 - 7/24/2018

Date Range Reported:
Total Collisions:
Total Injured:
Total Killed: 59 39 0

	Distance fr	om Interse	ection: <	<= 250 ft									Page 2 c	of 10		
7	20131100 63	11/6/13	09:05 AM	Ashlan at Palm	0	Not Stated	Broadside	Other Motor Vehicle		Making Left Turn Proceeding Straight	Auto R/W Violation	Property Damage Only	Daylight	0	0	S6
8	20140101 27	1/15/14	03:40 PM	Ashlan at Palm	2	North	Rear-End	Other Motor Vehicle		Making Right Turn Proceeding Straight	Auto R/W Violation	Property Damage Only	Daylight	0	0	S2
9	20140301 17	3/12/14	05:45 PM	Ashlan at Palm	0	Not Stated	Broadside	Other Motor Vehicle		Making Left Turn Proceeding Straight	Auto R/W Violation	Complaint of Pain	Daylight	1	0	S6
10	20140301 27	3/13/14	11:33 AM	Ashlan at Palm	0	Not Stated	Broadside	Other Motor Vehicle		Proceeding Straight Proceeding Straight	Traffic Signals and Signs	Other Visible Injury	Daylight	2	0	S2
11	20140500 50	5/5/14	08:55 PM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle	South North	Making Left Turn Proceeding Straight	Auto R/W Violation	Property Damage Only	Dark - Street Lights	t 0	0	S6
12	20140503 33	5/29/14	02:55 PM	Palm at Ashlan	75	North	Sideswipe	Other Motor Vehicle		Changing Lanes Proceeding Straight	Unsafe Lane Change	Property Damage Only	Daylight	0	0	S2
13	20140603 36	6/28/14	11:35 PM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle		Making Left Turn Proceeding Straight	Auto R/W Violation	Other Visible Injury	Dark - No Street Lights	4	0	S6
14	20140700 24	7/2/14	09:10 PM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle		Proceeding Straight Proceeding Straight	Auto R/W Violation	Property Damage Only	Dark - No Street Lights	0	0	S2
15	20140703 17	7/25/14	10:50 PM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle		Making Left Turn Proceeding Straight	Auto R/W Violation	Property Damage Only	Dark - No Street Lights	0	0	S6

Date of Report: 8/21/2018
Location Reported: Ashlan & Palm

Date Range Reported: 8/11/2013 - 7/24/2018

Total Collisions: 59
Total Injured: 39
Total Killed: 0

N/A Collisions

Distance from Intersection: <= 250 ft

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													•	•		
16	20141203	12/23/14	03:05 PM	Ashlan at Palm	300	West	Rear-End	Other Motor Vehicle	East	Proceeding Straight	Unsafe Speed	Property	Daylight	0	0	<u>\$2</u>
- 10	10		PIVI					venicie	East	Proceeding Straight		Damage Only				0_
17	20150101 07	1/12/15	10:48 AM	Palm at Ashlan	60	South	Hit Object	Fixed Object	North	Other Unsafe Turning	Improper Turning	Property Damage Only	Daylight	0	0	S2
	2015-03-	3/8/15	12:06	Ashlan at Palm	300	East	Rear-End	Other Motor	West	Proceeding Straight	Unsafe Speed	Property	Dark - No	0	0	S2
18	0800		AM					Vehicle	West	Slowing/Stopping		Damage Only	Street Lights			32
19	20150403 34	4/27/15	03:31 PM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle	North	Making Left Turn	Auto R/W Violation	Property Damage Only	Daylight	0	0	S6
	34		I IVI			Stated		Vernicie	South	Proceeding Straight		Damage Only				
20	20150701 81	7/18/15	05:00 PM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle	North	Proceeding Straight	Unknown	Property Damage Only	Daylight	0	0	S2
	01		FIVI			Stateu		veriicie	East	Proceeding Straight		Damage Only				
21	94352015 0172	8/22/15	10:15 AM	Palm at Ashlan	0	Not Stated	Head-On	Other Motor Vehicle	North	Making Left Turn	Auto R/W Violation	Other Visible Injury	Daylight	2	0	S6
	0172		AIVI			Stated		verlicie	South	Proceeding Straight		пјиту				
22	94352015 0601	9/20/15	01:54 AM	Ashlan at Palm	0	Not Stated	Broadside	Other Motor Vehicle	West	Making Left Turn	Auto R/W Violation	Property Damage Only	Dark - Street Lights	0	0	S6
	0001		AIVI			Stateu		veriicie	East	Proceeding Straight		Damage Only	Lights			
23	94352015 0605	9/20/15	08:14 PM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle	South	Making Left Turn	Driving Under Influence	Other Visible	Dark - Street	6	0	S6
	0000		I IVI			Stateu		VEHICIE	North	Proceeding Straight	milucitue	Injury	Lights			
24	94352015 1020	10/21/15	07:55 AM	Ashlan at Palm	90	West	Rear-End	Other Motor Vehicle	East	Stopped In Road	Unsafe Speed	Complaint of Pain	Daylight	1	0	S2
	1020		Alvi					v GI IICIE	East	Proceeding Straight		i alli				-

Date of Report: 8/21/2018
Location Reported: Ashlan & Palm

Date Range Reported: 8/11/2013 - 7/24/2018

Total Collisions: 59
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N/A Collisions

Distance from Intersection: <= 250 ft

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25	94352015 1228	11/4/15	10:20 AM	Ashlan at Palm	528	West	Rear-End	Other Motor Vehicle	East East	Proceeding Straight Stopped In Road	Unsafe Speed	Property Damage Only	Daylight	0	0	<u>S2</u>
-26	94352015 1319	11/5/15	02:15 AM	Palm at Ashlan	400	North	Hit Object	Fixed Object	North	Other Unsafe Turning	Other Than Driver	Property Damage Only	Dark - No Street Lights	0	0	- S2 -
27	94352015 1299	11/8/15	03:40 AM	Palm at Ashlan	250	South	Sideswipe	Parked Motor Vehicle		Other Unsafe Turning Parked	Driving Under Influence	Property Damage Only	Dark - No Street Lights	0	0	S2
28	94352015 1525	11/23/15	07:38 PM	Ashlan at Palm	0	Not Stated	Broadside	Other Motor Vehicle	West East	Making Left Turn Proceeding Straight	Auto R/W Violation	Property Damage Only	Dark - Street Lights	0	0	S6
29	94352015 2022	12/25/15	11:55 PM	Ashlan at Palm	30	West	Sideswipe	Other Motor Vehicle	East East	Proceeding Straight Parked	Driving Under Influence	Property Damage Only	Dark - Street Lights	0	0	S2
30	94352016 0013	1/2/16	07:05 AM	Ashlan at Palm	0	Not Stated	Broadside	Other Motor Vehicle	East North	Proceeding Straight Proceeding Straight	Traffic Signals and Signs	Complaint of Pain	Daylight	1	0	S2
31	94352016 2373	1/24/16	01:30 AM	Ashlan at Palm	8	West	Sideswipe	Other Motor Vehicle	South East	Making Right Turn Stopped In Road	Driving Under Influence	Other Visible Injury	Dark - Street Lights	3	0	S2
32	94352016 2978	3/2/16	08:17 AM	Palm at Ashlan	0	Not Stated	Hit Object	Other Motor Vehicle		Making Left Turn Proceeding Straight	Traffic Signals and Signs	Complaint of Pain	Daylight	1	0	S6
33	94352016 2821	3/2/16	08:59 AM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle		Making Left Turn Proceeding Straight	Auto R/W Violation	Complaint of Pain	Daylight	1	0	S6

Date of Report: 8/21/2018
Location Reported: Ashlan & Palm

Date Range Reported: 8/11/2013 - 7/24/2018

Total Collisions: 59
Total Injured: 39
Total Killed: 0

Distance from Intersection: <= 250 ft

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													·	_		
34	94352016 2905	3/7/16	01:00 AM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle	South East	Slowing/Stopping Proceeding Straight	Traffic Signals and Signs	Property Damage Only	Dark - Street Lights	0	0	S2
35	94352016 3205	3/28/16	05:29 PM	Ashlan at Palm	120	East	Rear-End	Other Motor Vehicle		Proceeding Straight Stopped In Road	Unsafe Speed	Complaint of Pain	Daylight	1	0	S2
36	94352016 3282	4/3/16	09:20 PM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle		Making Left Turn Proceeding Straight	Auto R/W Violation	Property Damage Only	Dark - Street Lights	0	0	S6
37	94352016 3498	4/12/16	10:56 AM	Ashlan at Palm	0	Not Stated	Head-On	Other Motor Vehicle		Making Left Turn Proceeding Straight	Auto R/W Violation	Property Damage Only	Daylight	0	0	S6
38	94352016 3561	4/22/16	05:30 PM	Palm at Ashlan	88	North	Hit Object	Other Object	North	Other Unsafe Turning	Improper Turning	Property Damage Only	Daylight	0	0	S2
39	94352016 4041	5/24/16	05:30 PM	Ashlan at Palm	100	East	Rear-End	Other Motor Vehicle		Proceeding Straight Stopped In Road	Unsafe Speed	Property Damage Only	Daylight	0	0	S2
40	94352016 4159	5/31/16	09:45 PM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle		Making Left Turn Proceeding Straight	Other Hazardous Movement	Complaint of Pain	Dark - Street Lights	1	0	S6
41	94352016 4543	7/1/16	05:10 PM	Ashlan at Palm	100	East	Rear-End	Other Motor Vehicle		Proceeding Straight Stopped In Road	Unsafe Speed	Complaint of Pain	Daylight	1	0	S2
42	94352016 4888	7/27/16	03:50 PM	Ashlan at Palm	0	Not Stated	Sideswipe	Other Motor Vehicle		Making Left Turn Proceeding Straight	Auto R/W Violation	Property Damage Only	Daylight	0	0	S6

Date of Report: 8/21/2018 Location Reported: Ashlan & Palm

8/11/2013 - 7/24/2018

Date Range Reported:
Total Collisions: 59 Total Injured: 39 Total Killed: 0

N/A Collisions

	Distance fr	om Interse	ection:	<= 250 ft										Page 6	of 10	
43	94352016 8598	8/12/16	06:57 AM	Palm at Ashlan	20	South	Other	Other Object	North	Other	Unknown	Complaint of Pain	Daylight	3	0	S2
44	94352016 8639	8/19/16	07:30 AM	Ashlan at Palm	21	East	Hit Object	Fixed Object	West	Other Unsafe Turning	Improper Turning	Other Visible Injury	Daylight	1	0	S2
45	94352016 9084	9/18/16	08:40 AM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle	North West	Proceeding Straight Proceeding Straight	Traffic Signals and Signs	Complaint of Pain	Daylight	3	0	S2
46	94352016 10272	12/1/16	03:10 PM	Ashlan at Palm	105	East	Rear-End	Other Motor Vehicle	East East	Proceeding Straight Stopped In Road	Unsafe Speed	Property Damage Only	Daylight	0	0	S2
47	94352017 11560	3/6/17	05:15 PM	Ashlan at Palm	150	West	Rear-End	Other Motor Vehicle	East East	Slowing/Stopping Stopped In Road	Unsafe Speed	Property Damage Only	Daylight	0	0	S2
_10	94352017	3/15/17	05:45	Ashlan at Palm	420	West	Rear-End	Other Motor	East	Proceeding Straight	Unsafe Speed	Complaint of	Daylight	1	0	CO
40	11820		PM					Vehicle	East	Stopped In Road		Pain				32
49	94352017 12091	4/10/17	05:04 PM	Ashlan at Palm	0	Not Stated	Head-On	Other Motor Vehicle	West East	Making Left Turn Proceeding Straight	Auto R/W Violation	Severe Injury	Daylight	1	0	S6
-50	94352017	4/23/17	06:25	Ashlan at Palm	307	East	Rear-End	Other Motor	West	Proceeding Straight	Unsafe Speed		Daylight	3	0	co_
- 30	12295		PM					Vehicle	West	Stopped In Road		Pain				32 -
51	94352017 12438	4/25/17	04:35 PM	Ashlan at Palm	10	East	Rear-End	Other Motor Vehicle		Proceeding Straight Proceeding Straight	Unknown	Property Damage Only	Daylight	0	0	S2

Date of Report: 8/21/2018
Location Reported: Ashlan & Palm

Date Range Reported: 8/11/2013 - 7/24/2018

Total Collisions: 59
Total Injured: 39
Total Killed: 0

N/A Collisions

	Distance fr			= 250 ft			— IV/A Coms	10113					F	Page 7 o	of 10	
52	94352017 12506	5/8/17	07:50 AM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle		Proceeding Straight	Traffic Signals and Signs	Property Damage Only	Daylight	0	0	S2
53	94352017 12832	5/30/17	11:55 PM	Ashlan at Palm	75	West	Rear-End	Other Motor Vehicle	East	Proceeding Straight Proceeding Straight	Unsafe Speed	Property Damage Only	Dark - Street Lights	0	0	S2
	0.40500.47	0/0/47	10.10			N	5			Stopped In Road	T (" 0')	D	D 11.1.			
54	94352017 13000	6/9/17	12:10 PM	Ashlan at Palm	0	Not Stated	Broadside	Other Motor Vehicle		Proceeding Straight Proceeding Straight	Traffic Signals and Signs	Property Damage Only	Daylight	0	0	S2
55	94352017 13571	7/24/17	08:15 AM	Ashlan at Palm	50	East	Rear-End	Other Motor Vehicle	West	Proceeding Straight	Unsafe Speed	Property Damage Only	Daylight	0	0	S2
	94352017	8/17/17	09:30	Ashlan at Palm	0	Not	Broadside	Other Motor		Stopped In Road Making Left Turn	Other Hazardous	Property	Daylight	0	0	
56	13928	0/11/11	AM	Asiliali at Fallii	U	Stated	bioausiue	Vehicle		Proceeding Straight	Movement	Damage Only	Daylight	U	U	S6
-57	94352017 14487	9/19/17	03:10 PM	Palm at Ashlan	275	North	Rear-End	Other Motor Vehicle	South	Proceeding Straight	Unsafe Speed	Property Damage Only	Daylight	0	0	S2
	94352017	10/6/17	03:20	Ashlan at Palm	200	West	Rear-End	Other Motor	South	Stopped In Road Proceeding Straight	Unsafe Speed	Other Visible	Daylight	1	0	
58	14727	10/0/17	PM	Ashlan at Falm	200	West	real-End	Vehicle		Stopped In Road	Onsaic Opecu	Injury	Daylight	,	Ü	S2
59	94352017 15237	11/9/17	03:55 PM	Ashlan at Palm	0	Not Stated	Broadside	Other Motor Vehicle	East	Proceeding Straight	Unknown	Complaint of Pain	Daylight	1	0	S2
	04252047	12/20/17	00.00	Ashlan at Palm	202	West	Hit Ohioct	Fixed Object		Proceeding Straight Other Unsafe Turning	Improper Turning	Droporty	Doulight	0	0	
60	94352017 16037	12/30/17	09:00 AM	Ashian at Paim	292	vvest	nit Object	rixea Object	East	Other Unsare Turning	improper Furning	Property Damage Only	Daylight	0	0	S2

Date of Report: 8/21/2018
Location Reported: Ashlan & Palm

Date Range Reported: 8/11/2013 - 7/24/2018

Total Collisions:59Total Injured:39Total Killed:0

Distance from Intersection: <= 250 ft

	Distance fr	om Interse	ection: •	<= 250 ft									Page 8 o	of 10	
61	94352018 00209	1/16/18	08:12 AM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle	Making Left Turn Proceeding Straight	Auto R/W Violation	Property Damage Only	Daylight	0	0	S6
62	94352018 01916	5/12/18	01:50 PM	Ashlan at Palm	240	East	Rear-End	Other Motor Vehicle	Proceeding Straight Stopped In Road	Unsafe Speed	Property Damage Only	Daylight	0	0	S2
63	94352018 02030	5/21/18	05:35 PM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle	Making Left Turn Proceeding Straight	Auto R/W Violation	Property Damage Only	Daylight	0	0	S6
64	94352018 02066	5/23/18	07:29 PM	Palm at Ashlan	0	Not Stated	Head-On	Other Motor Vehicle	Making Left Turn Proceeding Straight	Auto R/W Violation	Complaint of Pain	Daylight	1	0	S6
65	94352018 02486	6/21/18	09:25 AM	Ashlan at Palm	0	Not Stated	Broadside	Other Motor Vehicle	Proceeding Straight Proceeding Straight	Traffic Signals and Signs	Property Damage Only	Daylight	0	0	S2
66	94352018 02625	7/1/18	06:05 AM	Ashlan at Palm	0	Not Stated	Broadside	Other Motor Vehicle	Proceeding Straight Proceeding Straight	Traffic Signals and Signs	Complaint of Pain	Daylight	2	0	S2
67	94352018 02653	7/3/18	10:08 AM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle	Proceeding Straight Proceeding Straight	Traffic Signals and Signs	Complaint of Pain	Daylight	1	0	S2
68	94352018 02732	7/9/18	11:42 AM	Palm at Ashlan	0	Not Stated	Broadside	Other Motor Vehicle	Making Left Turn Proceeding Straight	Auto R/W Violation	Property Damage Only	Daylight	0	0	S6
69	94352018 02938	7/24/18	07:07 AM	Palm at Ashlan	32	South	Rear-End	Other Motor Vehicle	Proceeding Straight Stopped In Road	Unsafe Speed	Property Damage Only	Dusk - Dawn	0	0	S2

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Date of Report: 8/21/2018
Location Reported: Ashlan & Palm

Date Range Reported: 8/11/2013 - 7/24/2018

Total Collisions:59Total Injured:39Total Killed:0

Distance from Intersection: <= 250 ft

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Collisions by Severity / Type / PCF / Lighting

Collision Type)			
	Broadside		30	
	Head-On		5	
	Hit Object		5	
	Other		1	
	Rear-End		13	
	Sideswipe		5	
		Total:	59	
Day / Night				
	Dark - No Street Lights		4	
	Dark - Street Lights		12	
	Daylight		42	
	Dusk - Dawn		1	
		Total:	59	
Highest Degre	ee of Injury (severity / exter	nt):		
	Complaint of Pain		14	
	Other Visible Injury		7	
	Property Damage Only		37	
	Severe Injury		1	
		Total:	59	

Highest Degree of Injury (severity / extent):

Date of Report: 8/21/2018
Location Reported: Ashlan & Palm

Date Range Reported: 8/11/2013 - 7/24/2018

Total Collisions: 59
Total Injured: 39
Total Killed: 0

Distance from Intersection: <= 250 ft

Total:	59	
Unsafe Speed	11	
Unsafe Lane Change	1	
Unknown	4	
Traffic Signals and Signs	10	
Other Than Driver	0	
Other Hazardous Movement	2	
Improper Turning	3	
Driving Under Influence	5	
Auto R/W Violation	23	

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County of Fresno Maintenance and Operations Division

Data from: TIMS DATABASE (collisions not reported in Crossroads Collision database)

Date of Report: 8/21/2018
Location Reported: Ashlan & Palm

Date Range Reported: 8/11/2013 - 7/24/2018

Total Collisions: 3
Total Injured: 4
Total Killed: 1

Distance from Intersection: <= 250 ft

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Counter-

Collision Report Summary

#	Case ID	Date	Time	Location	Dist.	Dir.	Type of Collision	Motor Veh. Involved With Par			Movement Prec. Coll.	PCF	Severity / Extent	Lighting	lnj.		neasure (CM)
1	90167445	3/27/16	203	ASHLAN AVE & PALM AVE	0		Broadside	Other Motor Vehicle	1 <u>2</u>		Proceeding Straight Proceeding Straight	Driving or Bicycling Under the Influence of Alcohol or Drug	Fatal	Dark - Street Lights	2	1	S2
2	90320030	11/9/16	1313	ASHLAN AVE & PALM AVE	100	E	Rear End	Other Motor Vehicle	1 <u>2</u>		Proceeding Straight Slowing/Stopping	Unsafe Speed	Injury (Complaint of Pain)	Daylight	1	0	S2
3	90617318	12/10/17	1050	PALM AVENUE & ASHLAN AVENUE	0		Broadside	Other Motor Vehicle	1	S E	Proceeding Straight Proceeding Straight	Traffic Signals and Signs	Injury (Complaint of Pain)	Daylight	1	0	S2

Data from: TIMS DATABASE (collisions not reported in Crossroads Collision database)

Date of Report: 8/21/2018
Location Reported: Ashlan & Palm

Date Range Reported: 8/11/2013 - 7/24/2018

Total Collisions: 3
Total Injured: 4
Total Killed: 1

Distance from Intersection: <= 250 ft

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Collisions by Severity / Type / PCF / Lighting

Collision Type Broadside 2 Rear End 1 Total: 3 Day / Night Dark - Street Lights 1 Daylight 2 3 Total: **Highest Degree of Injury (severity / extent):** Fatal 1 Injury (Complaint of Pain) 2 3 Total: **Highest Degree of Injury (severity / extent):** Driving or Bicycling Under the 1 Influence of Alcohol or Drug Traffic Signals and Signs 1 **Unsafe Speed** 1 3 Total:

Supporting documentation for countermeasure (CM) S6 for protected left turn phase. See blue highlighted below, where Guidance condition #1 exists for this project application.

California MUTCD 2014 Edition

(FHWA's MUTCD 2009 Edition, including Revisions 1 & 2, as amended for use in California)

Support:

- 05 The most likely possibilities are:
- 1. Prohibition of left turns. This can be done only if there are convenient alternate means of making the movement. Typical alternate means are:
 - a. A series of right and/or left turns around a block to permit getting to the desired destination; or
 - b. Making the left turn at an adjacent unsignalized intersection during gaps in the opposing through traffic.
- 2. Geometric changes to eliminate the left turn. An effective change would be a complete separation or a complete or partial "clover leaf" at grade. Any of these, while eliminating left turns, requires additional cost and right of way.
- 3. Provide protected-permissive or permissive-protected left turn operation. The protected left turn interval may be prohibited during certain periods of the day to allow only permissive intervals for left turn movement in order to increase the green time available for other phases. Refer to Section 4D.20 for the requirements of protected-permissive or permissive-protected left turn operation.

Guidance.

- 66 Protected left turn phases should be considered where such alternatives couldn't be utilized, and one or more of the following conditions exist:
- 1. Collisions Five or more left turn collisions for a particular left turn movement during a recent 12-month period.
- 2. Delay Left-turn delay of one or more vehicles, which were waiting at the beginning of the green interval and are still remaining in the left turn lane after at least 80% of the total number of cycles for one hour.
- 3. Volume At new intersections where only estimated volumes are available, the following criteria may be used. For pretimed signal or a background-cycle-controlled actuated signal, a left turn volume of more than two vehicles per approach per cycle for a peak hour; or for a traffic-actuated signal, 50 or more left turning vehicles per hour in one direction with the product of the turning and conflicting through traffic during the peak hour of 100,000 or more.
- 4. Miscellaneous. Other factors that might be considered include but are not limited to: impaired sight distance due to horizontal or vertical curvature, or where there are a large percentage of buses and trucks.

Section 4D.20 <u>Signal Indications for Protected/Permissive Mode Left-Turn Movements</u> Standard:

- 01 If a shared signal face is provided for a protected/permissive mode left turn, it shall meet the following requirements (see Figure 4D-11):
 - A. It shall be capable of displaying the following signal indications: steady CIRCULAR RED, steady CIRCULAR YELLOW, CIRCULAR green, steady left-turn YELLOW ARROW, and left-turn GREEN ARROW. Only one of the three circular indications shall be displayed at any given time. Only one of the two arrow indications shall be displayed at any given time. If the left-turn GREEN ARROW signal indication and the CIRCULAR GREEN signal indication(s) for the adjacent through movement are always terminated together, the steady left-turn YELLOW ARROW signal indication shall not be required.
 - B. During the protected left-turn movement, the shared signal face shall simultaneously display a left-turn GREEN ARROW signal indication and a circular signal indication that is the same color as the signal indication for the adjacent through lane on the same approach as the protected left turn.
 - C. A steady left-turn YELLOW ARROW signal indication shall be displayed following the left-turn GREEN ARROW signal indication, unless the left-turn GREEN ARROW signal indication and the CIRCULAR GREEN signal indication(s) for the adjacent through movement are being terminated together. When the left-turn GREEN ARROW and CIRCULAR GREEN signal indications are being terminated together, the required display following the left-turn GREEN ARROW signal indication shall be either the display of a CIRCULAR YELLOW signal indication alone or the simultaneous display of the CIRCULAR YELLOW and left-turn YELLOW ARROW signal indications.
 - D. During the permissive left-turn movement, the shared signal face shall display only a CIRCULAR GREEN signal indication.
 - E. A protected/permissive shared signal face, regardless of where it is positioned and regardless of how many adjacent through signal faces are provided, shall always simultaneously display the same color of circular indication that the adjacent through signal face or faces display.

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