Planning & Transportation Commission
Staff Report

From: Planning and Development Services Director
Lead Department: Planning and Development Services

Meeting Date: February 28, 2024
Report #: 2402-2630

TITLE
Safe Streets for All (SS4A) Action Plan Collision Analysis

RECOMMENDATION
Receive Report on the Collision Analysis of the Safe Streets for All Action Plan. No action requested.

EXECUTIVE SUMMARY
This report shares the collision data analysis for the ongoing development of the City's Safe Streets for All (SS4A) Safety Action Plan. Collision data from 2018 through 2022 was analyzed by crash severity and other factors to determine collision profiles and a High Injury Network that will be used to prioritize future roadway projects and institutionalize the Safe System Approach into the City's existing policies and guidelines.

BACKGROUND
In late 2023, the City of Palo Alto and Fehr & Peers began the Safe Streets and Road for All Comprehensive Safety Action Plan. City staff introduced the Action Plan and the Safe System Approach to the Planning and Transportation Commission on October 11, 2023.[1]
This Plan will meet the Federal Highway Administration (FHWA)'s SS4A requirements for a safety action plan that can be found here[2]. The primary goal of this planning effort is to identify proactive, citywide opportunities across the Safe System elements (safe users, safe speeds, safe roads, safe vehicles, and post-crash care) to improve safety for all road users in support of the Vision Zero goal of reducing roadway fatalities and serious injuries by 2030.

ANALYSIS
The Safe System Approach leverages crash data and contextual information about the built environment to identify traffic safety hot spots, analyze crash patterns, develop citywide

[1] October 11, 2023 PTC Staff Report
[2] US Department of Transportation, SS4A Action Plan Components

insights from these patterns, and identify safety improvements that focus on eliminating fatal and serious injury crash risk.

The Comprehensive Safety Action Plan includes the review of Citywide collision data from 2018 through 2022 available through the Transportation Injury Mapping System (TIMS). TIMS reports injury collisions from the Statewide Integrated Traffic Records System (SWITRS) but excludes collisions that cause property damage only and no injuries. Figure 1 shows the yearly collision numbers for the 2018 through 2022 period. For this timeframe in Palo Alto, there were a total of 1,132 collisions, of which 47 were a collision in which someone was killed or severely injured (KSI).

Figure 1: All Collisions and Killed or Severe Injury (KSI) Collisions, 2018-2022

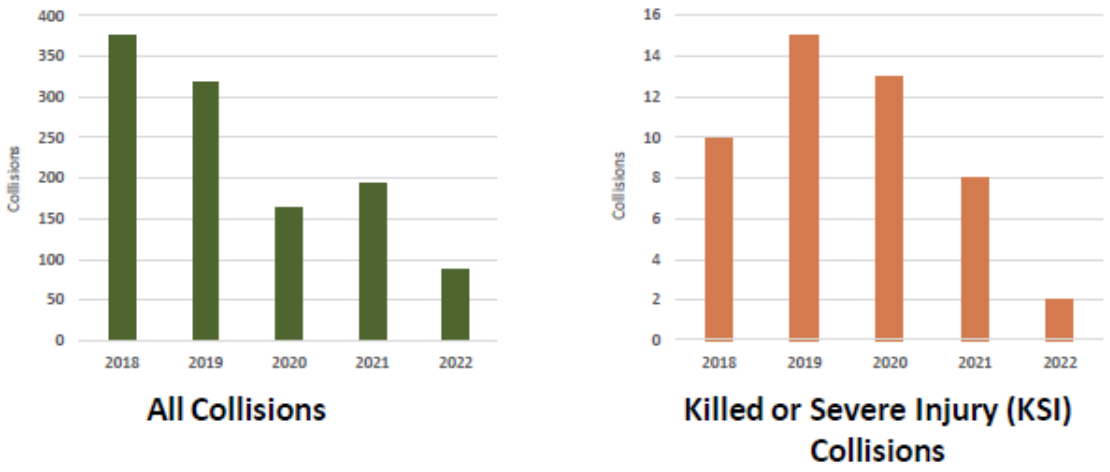
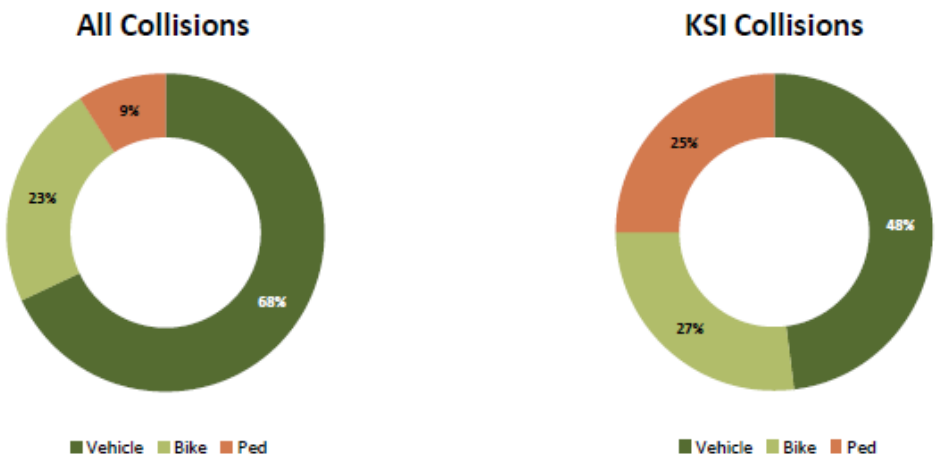


Figure 2 shows the mode of travel involved in all collisions and KSI collisions. People walking or bicycling are particularly vulnerable, with pedestrian and bicycle collisions making up 52% of KSI collisions even though they only represented 32% of the total injury collisions.

Figure 2: All Collisions and KSI Collisions by Modes Involved, 2018-2022



Youth and senior citizens can also be vulnerable to collisions. In Palo Alto, youth collisions (under 18 years old) make up 12% of all collisions and 9% of all KSIs. Youth bicyclists are involved in a quarter (25%) of all bicycle-involved collisions. However, given Palo Alto's high youth biking population, the crash rate for youth bicyclists is very low (about 2%). Senior citizens (65 years old and above) make up 16% of all collisions and 17% of all KSI collisions.

Primary collision factors, or PCFs, are cited by the responding officer and based on their judgement of what contributed to the collisions. PCFs do not include contextual information related to the design of the location that could have been a primary or secondary contributor to the crash. Figure 3 shows all collisions and KSI collisions in the study period sorted by PCF. The most common PCFs in Palo Alto for all collisions are unsafe speed, improper turning, and vehicle right of right of way violation, while the most common PCFs for KSIs are improper turning, DUIs, and pedestrian-related collisions.

Figure 3: All Collisions and KSI Collisions by Primary Collision Factor (PCF), 2018-2022

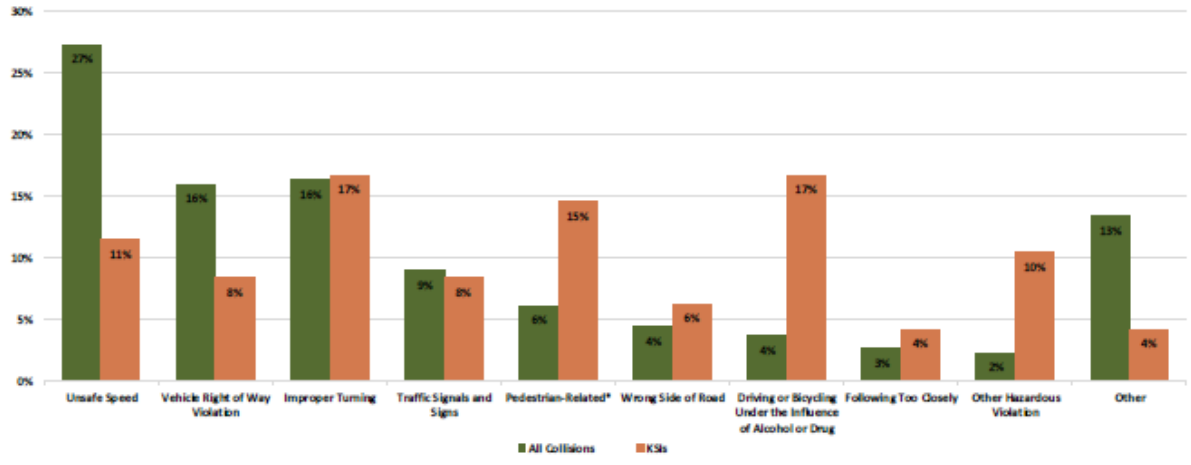
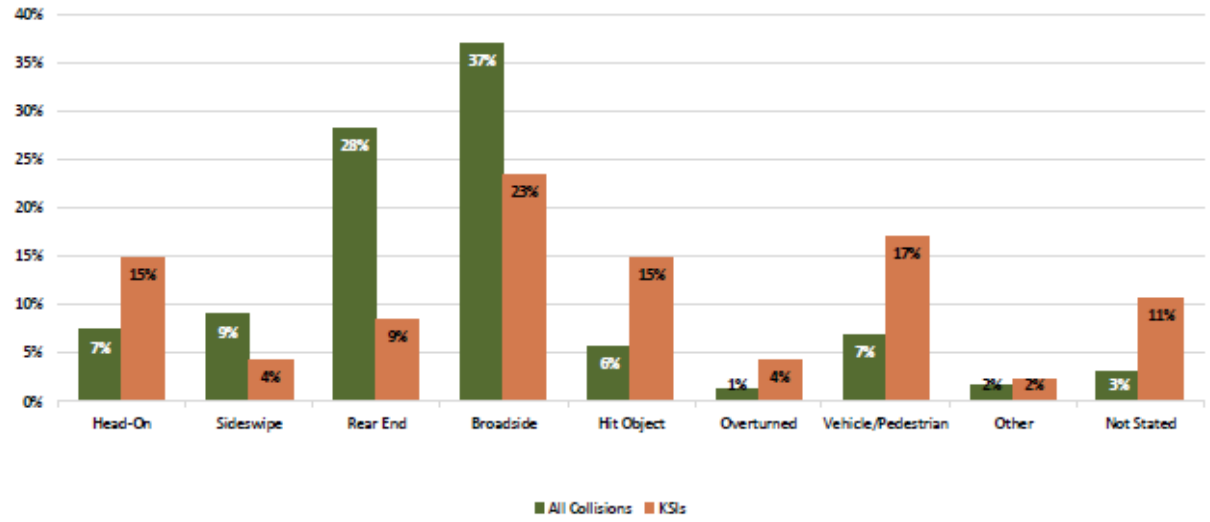


Figure 4 shows all collisions and KSI sorted by the types of collisions reported by officers. Broadside (90-degree angle) collisions and head-on collisions had two of the highest percentages of KSI collisions, and most collisions occurred on weekdays and in the afternoon and evening (3 PM to 9 PM).

Figure 4: All Collisions and KSI Collisions by Collision Type, 2018-2022



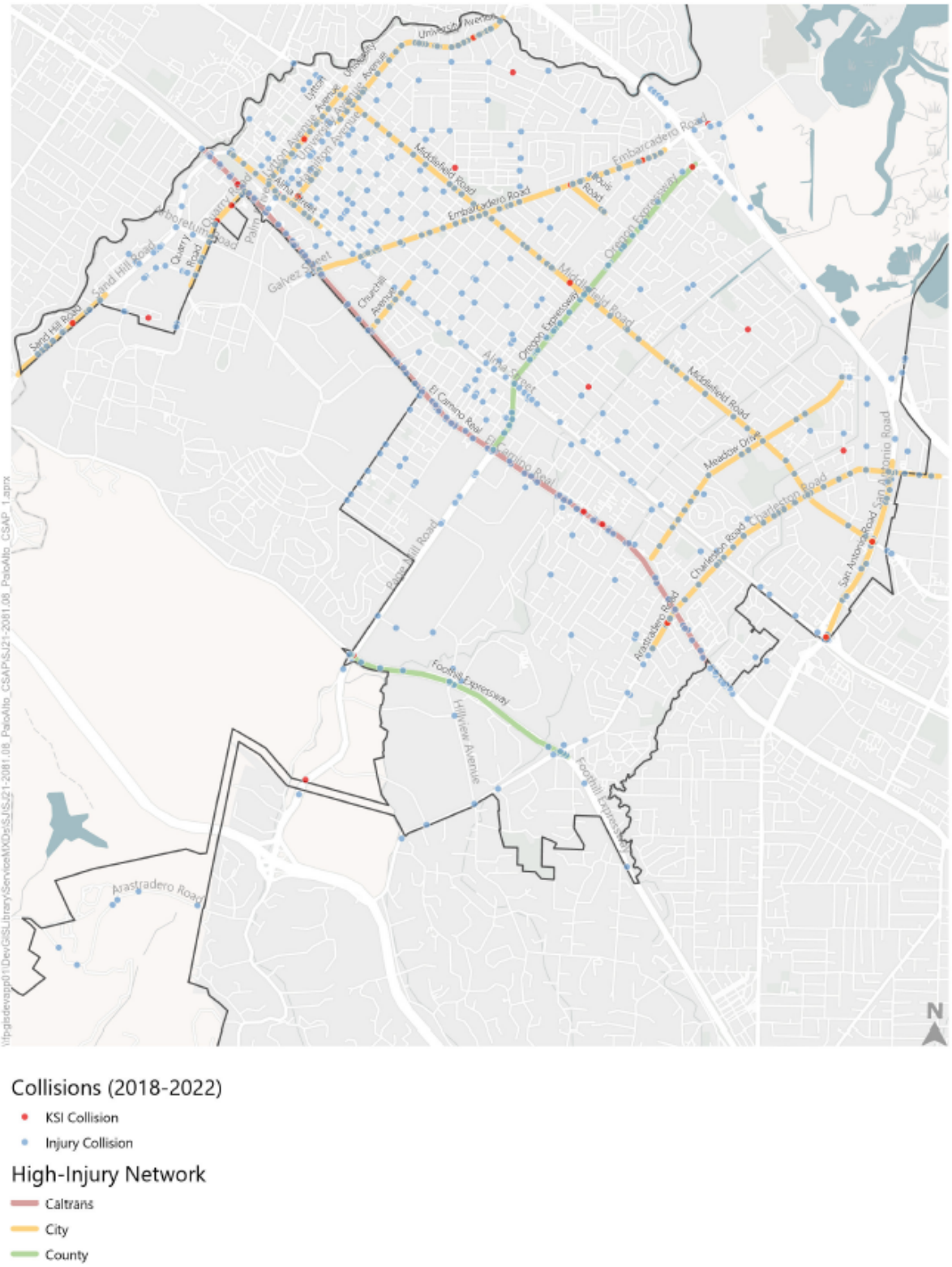
Identifying Trends

To assess corridors experiencing a disproportionate share of collisions, a High Injury Network (HIN) was identified that shows that 62% of injury collisions occurred on 4% of Palo Alto's streets. Within the City's roadway network, roadways are owned by the City, County, and Caltrans. The HIN shown in Figure 5 incorporates and color-codes the roadways owned by each entity. Key roadways on the HIN include higher speed arterials, as well as expressways and a few collectors.

Note that the City and Caltrans have identified or initiated safety projects on portions of the High Injury Network in Palo Alto. The City's Charleston/Arastradero Corridor Project is in its final phase of construction this spring. City staff are also pursuing funding for a striping trial of the South Palo Alto Bikeways Project and will engage the community to review the concept plans that Council endorsed in 2021 for E. Meadow Drive, Fabian Way, and the Waverley Path. Based on its review of collision data, Caltrans is currently proposing to repurpose on-street parking for bicycle lanes as part of its Route 82 (El Camino Real) Pavement Rehabilitation and ADA Improvements project. A series of community engagement meetings to provide feedback on this Caltrans plan has been scheduled for March and April of this year.[3]

[3] See City Issues Letter to Caltrans State Route 82 El Camino Real Bikeway Project webpage.

Figure 5: City of Palo Alto High Injury Network



Seven collision profiles were also developed to summarize key collision and associated roadway contextual conditions in Palo Alto. Each collision profile represents up to 6-15% of all KSI collisions in Palo Alto. These profiles include:

1. Residential Arterials
2. Alcohol Involved
3. Pedestrians On Arterials at Night
4. Pedestrians On Major Downtown Streets
5. 90 Degree Angle Collisions with Bicyclists
6. Walk and Roll Routes on Higher Stress (higher speed/volume) Streets
7. Children Riding Bicycles

These collision profiles will be used to determine roadway safety projects, programs (including adult and youth safety education), policies, and practices the City can pursue to institutionalize safety in Palo Alto and achieve the goal of zero fatalities and serious injuries.

Next Steps

Having completed an existing conditions assessment of current safety policies, programs, and practices as well as quantitative and qualitative safety data, the project is moving into the recommendations phase with the development of an action plan and implementation strategy.

Another community engagement event is planned for May Fete. This community engagement event is the last opportunity to engage community members before preparing the Draft Comprehensive Safety Action Plan and will focus on prioritizing projects and institutionalizing the Safe System Approach into the City's existing policies and guidelines. The Draft Plan will include a project list based on existing plans, supplemented with projects to cover the entirety of the HIN; identification of where the City's existing policies and guidance could use an update to align with the Safe System Approach; and an Action Plan to identify the ways in which the City can implement actions aligned with the goal of zero fatalities and serious injuries by 2030.

STAKEHOLDER ENGAGEMENT

Alongside the collision data, community input that came through the forms of a survey, interactive maps, and emails to the Office of Transportation was reviewed to provide a qualitative understanding of safety concerns in the City.

The online survey was open from October through December 2023 and was focused on high level attitudes on trade-off decisions. The attitudinal survey, completed by 766 respondents, focused on trade-off decisions that community members were willing to accept to create a safer network for all road users.

A majority (66%) of respondents strongly agreed to prioritize safety over on-street parking and 85% strongly supported eliminating traffic fatalities and serious injuries in Palo Alto. When asked broadly whether the street design should prioritize safety over motor vehicle delays, 68% of respondents strongly agreed. However, when asked more specifically whether roadway changes that reduce lanes or parking should be prioritized to enhance safety for pedestrians or

bicyclists, only 57% strongly agreed. Regardless, a majority (84%) agreed or strongly agreed to prioritize pedestrian and bicycle safety over vehicle lanes or parking. Downtown and along commercial corridors, more respondents strongly agreed (65%) that space for people to walk, bike, and cross the street safely should be prioritized over on-street parking for cars.

Comments received through the Office of Transportation and the interactive webmap hosted by the Bicycle and Pedestrian Transportation Plan Update project focused on improving the bicycle connections to downtown, improving safety along Walk and Roll Routes, the desire for road diets citywide, increasing education around safer behavior for all road users, and preparing policies and promoting education around electric bicycles.

In addition to the planned May Fete engagement activity, this project incorporates ongoing updates and study sessions with PTC, the Pedestrian and Bicycle Advisory Committee, the City/School Transportation Safety Committee, and the City Council. Tentatively targeted for May, the next round of standing committee meetings will review the draft project list and Safe System Toolbox.

FISCAL/RESOURCE IMPACT

On June 19, 2023, Council approved (CMR 2305-1525) the funding agreement with FHWA and the related budget amendment to the Fiscal Year 2024 Adopted Capital Budget for the Transportation and Parking Improvements Project (PL-12000) to increase the revenue and expense appropriation by $160,000 to reflect the grant revenue and project cost, respectively.[4] The additional $40,000 in project cost, which is the 20% City match portion required in the funding agreement, will be absorbed from the same project (PL-12000), as a part of the FY2024 Adopted Capital Budget. No additional budgetary action is required for the City match obligation.

ENVIRONMENTAL REVIEW

This study session is not a project as defined by CEQA because it does not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment. CEQA Guidelines section 15378(b)(4).

AUTHOR/TITLE:

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[4] June 19, 2023 Staff Report, CMR 2305-1525