



Grand Street's Designation as a High Injury Corridor: Methodology and Data

City of Alameda memo, June 5, 2023

High Injury Corridor Methodology

Per the [Vision Zero Action Plan](#) adopted in December 2021, the City of Alameda (City) aims to eliminate traffic fatalities and severe injuries by 2035, and we use High Injury Corridor maps to prioritize efforts towards achieving this goal. These maps show the stretches of road with the highest density of crashes from 2009-2018, weighted by severity. The analysis looks at crashes involving all modes: automobile, motorcycle, bicyclist, and pedestrian. It includes crashes causing moderate or severe injuries as well as fatal crashes but excludes crashes causing minor injuries or only property damage. The maps are available on the Vision Zero webpage: www.alamedaca.gov/visionzero#section-4

The High Injury Corridor maps utilize 2009-2018 crash data from California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS), accessed via the Transportation Injury Mapping System (TIMS), augmented by fatality data from Alameda Police. SWITRS data for Alameda originates with the Alameda Police Department's collision reports. The City's High Injury Corridor maps were developed by Toole Design and reflect best practices. The methodology for the High Injury Corridors can be found in the Vision Zero Action Plan [Appendix F: Detailed Crash Data Analysis](#), p. 44-54.

Safety improvements are most effective when they are implemented systematically across a corridor, as addressing a problem in one location does not address system needs. For example, speeds may increase if changes are not implemented consistently. The High Injury Corridor methodology utilized for Alameda ensures that the maps show stretches of problematic roadways rather than a series of hotspots. Page 44 of the Detailed Crash Analysis states:

The HIC development process involves developing crash density estimates along street corridors throughout the city, weighted by crash severity, and then identifying the highest crash-density sections for each mode individually. HIC corridors are identified by applying a one-mile moving window aggregation to the street network in Alameda... In this approach, a virtual "window" is moved along each street, counting the number of crashes by severity and mode that occurred within each successive one-mile segment. Both intersection and segment crashes were included in this evaluation, as the focus is on overall corridor conditions.

The City will update High Injury Corridor maps when it updates the Vision Zero Action Plan, to be completed in winter 2026. Because Alameda is a smaller city, many years of data are needed for High

Injury Corridor maps to be meaningful. The existing maps have proven to be relevant in the ensuing years after map development: 76% of crashes resulting in death or severe injury from 2019-2021 took place on High Injury Corridors, per an analysis in the [Rapid Response After Fatal Crashes program development memo](#).

Collisions on Grand Street 2009-2018

The collisions underlying Grand Street's designation as a High Injury Corridor is below.

Due to crashes on the full Grand St corridor from 2009-2018...

- 2 people died (1 pedestrian and 1 bicyclist)
- 6 people were severely injured (4 pedestrians and 2 bicyclists)
- 25 people suffered moderate injuries (12 bicyclists, 6 pedestrians, 4 people in motor vehicles, and 3 motorcyclists)
- *Not included in High Injury Corridor analysis: 78 people had minor injuries*

Due to crashes on Grand St from Encinal to Shore Line from 2009-2018 (a subset of above)...

- 2 people died (1 pedestrian and 1 bicyclist)
- 3 people were severely injured (all pedestrians)
- 9 people suffered moderate injuries (5 bicyclists and 4 pedestrians)
- *Not included in High Injury Corridor analysis: 41 people had minor injuries*

Details on fatal and severe injury crashes on the full Grand St corridor from 2009-2018:

- Fatalities
 - 2014 Grand/Otis pedestrian struck by bus
 - 2016 Grand/Clinton solo bicyclist crash
- Severe injuries
 - 2009 Grand/Alameda Ave pedestrian struck by car
 - 2012 Grand/Otis pedestrians struck by car (*2 pedestrians hit – severely injured adult counted in the severe injuries; moderately injured youth included in moderate injury summary number*)
 - 2014 Grand/Shore Line pedestrian struck by car
 - 2015 Grand/Buena Vista bicyclist struck by car
 - 2017 Grand/Otis pedestrian struck by car
 - 2017 Grand/Santa Clara bicyclist struck by car

Grand Street on Regional High Injury Network Maps

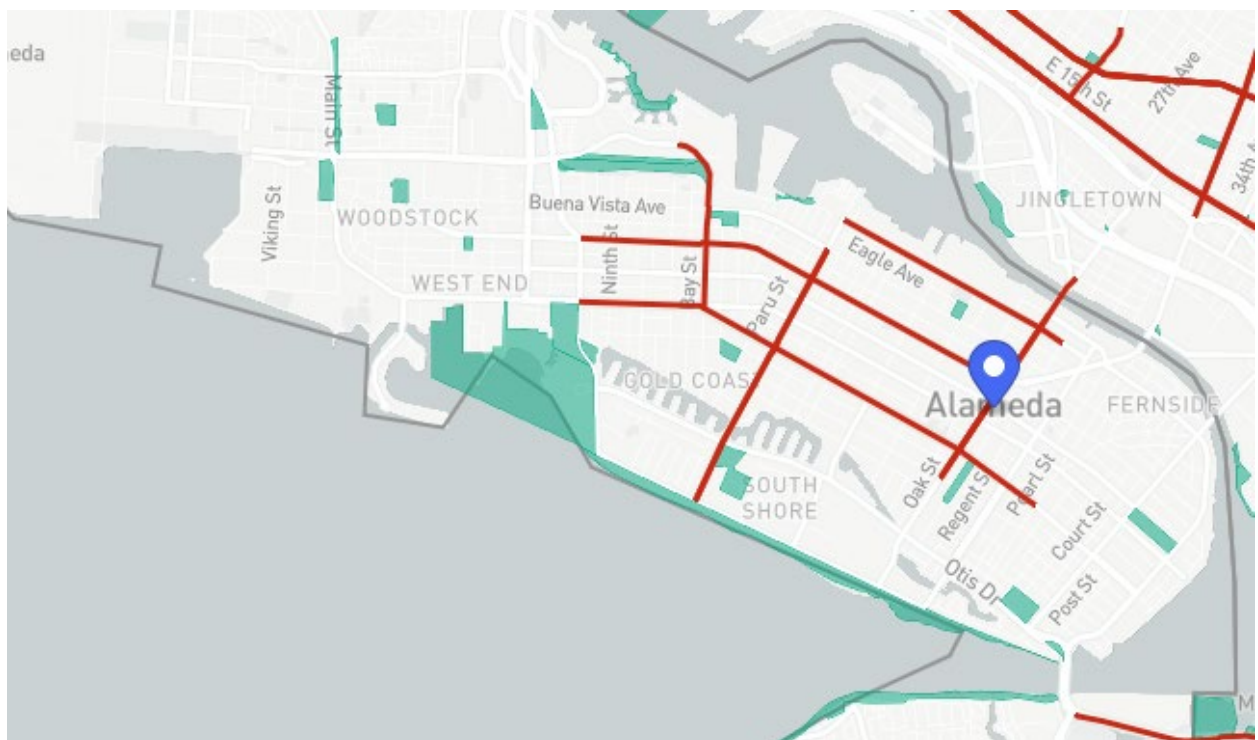
Grand Street shows up on regional High Injury Network maps as well as the City of Alameda's High Injury Corridor map. The Metropolitan Transportation Commission (MTC), the Alameda County Transportation Commission (Alameda CTC), and the City of Alameda each use different spans of years and slightly different methodologies, but Grand Street's inclusion is consistent across all three.

Please see the figures and links on the following pages.



Grand Street on the City of Alameda All-Modes High Injury Corridor map

URL: www.alamedaca.gov/visionzero#section-4



Grand Street on the MTC All-Modes High Injury Network Map

URL: <https://bayviz.mysidewalk.com/> (Scroll to map and click the boxes under “Regional High Injury Network. You do not need to request a dashboard)



Grand Street on the Alameda CTC Bicycle High Injury Network

URL: https://www.alamedactc.org/wp-content/uploads/2019/06/RPT_CATP_Book-2_20190625.pdf (p. 49)