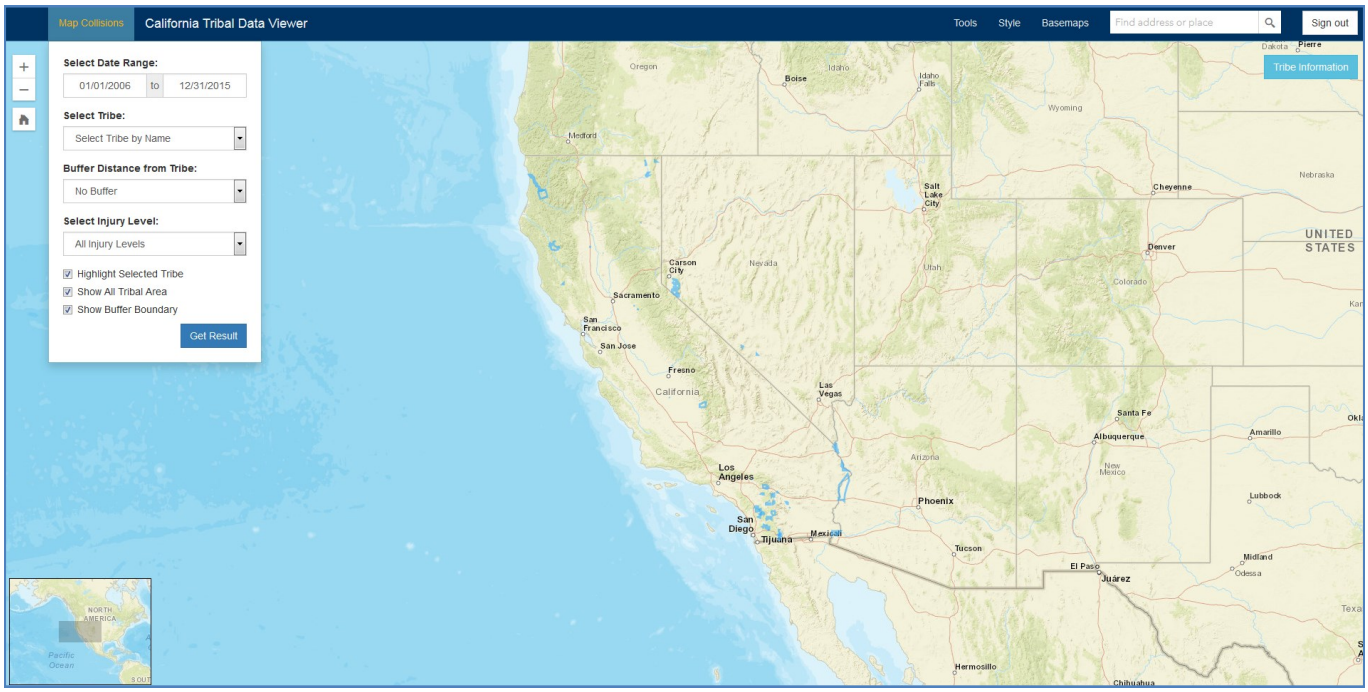
Tribal Crash Data Online Tool

Training Manual



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Training Goals and Objectives

The goals of this training session are (1) to familiarize the participant with the Tribal Crash Data Online Tool, and (2) to encourage the participant to use the online tool in their transportation planning or other transportation related projects.

Introduction to SafeTREC, NIJC, the Tribal Crash Data Project and the Online Tool

Safe Transportation Research and Education Center (SafeTREC) was founded in 2000. SafeTREC is part of the University of California, Berkeley, and is affiliated with the School of Public Health and the Institute of Transportation Studies.

SafeTREC has three emphasis research areas:

- Data Analysis and Data Tools
- Technology for Road Safety
- Policy Analysis and Community Outreach

SafeTREC's mission is the reduction of transportation-related injuries and fatalities through research, education, outreach, and community service. Motor vehicle crashes are the number one cause of death for people aged 1 to 34 in the U.S.—and a major cause of minor and debilitating injuries for all age groups.

National Indian Justice Center (NIJC) administers the Western Tribal Transportation Training and Technical Assistance Program (WTTAP) which serves tribes in California and Nevada. NIJC is working with SafeTREC on this important tribal crash data project. The goals of the project are to:

- Reduce the number of persons killed in traffic collisions.
- Reduce the number of persons injured in traffic collisions.
- Improve traffic safety on tribal lands in California by improving quality, access, and utilization of traffic safety data.

This project employs an advisory committee comprised of tribal and state agency representatives. The project includes this training program on how to use this tool for tribal transportation crash data analysis, conducting three (3) regional training sessions on how to use the online tool, survey and evaluate the training participants to measure the effectiveness of the training and develop a Tribal Transportation Safety Data Center.

Source of the Data in the Online Tool

The online tool can be used to access, map and analyze tribal traffic crash data. The data consists of tribal shape files obtained from the Bureau of Indian Affairs layered over crash data obtained from the Statewide Integrated Traffic Records System (SWITRS).

SWITRS is a database that serves as a means to collect and process data gathered from a collision scene. SWITRS may be accessed online at https://www.chp.ca.gov/programs-services/services-information/switrs-internet-statewide-integrated-traffic-records-system.

Public users may access the data online by creating a user account.

Currently, SWITRS does not have specific data fields that allow for accessing traffic crash data specific

to tribal lands. This online tool was created using data from SWITRS layered over 2016 BIA shapefiles obtained from the Bureau of Indian Affairs Pacific Region website: https://www.bia.gov/WhoWeAre/RegionalOffices/Pacific/index.htm.

Importance of Collecting and Analyzing Tribal Crash Data

Motor vehicle crashes are a leading cause of death and injury in tribal communities.

The Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Web-Based Injury Statistics Query and Reporting System (WISQARS, online, Nov. 3, 2016) reports that:

1. Injuries are the leading cause of death for American Indian and Alaska Native (AI/AN) ages 1 to 54 and the third leading cause of death overall.
2. Motor vehicle crashes are a leading cause of unintentional injury for AI/AN ages 1 to 44.
3. Adult motor vehicle-related death rates for AI/AN are 1.5 times more than that of whites and that of blacks.
4. Among AI/AN 19 years and younger, motor vehicle crashes are the leading cause of unintentional injury-related death, followed by drowning and poisoning.

Among infants less than one year of age, AI/AN have 8 times the rate of motor-vehicle traffic deaths than that of non-Hispanic whites. (Murphy T, Pokhrel P, Worthington A, Billie H, Sewell M, Bill N. Unintentional Injury Mortality Among American Indians and Alaska Natives in the United States, 1990-2009. AJPH 2014:104-S3:S470-S480.)

To address the causes of motor vehicle crashes in tribal communities, we need complete and reliable crash data to:

- Identify and correct safety problems;
- Substantiate transportation safety funding proposals;
- Develop tribal transportation safety plans and long range transportation plans; and
- Ultimately, Save Lives!

This project provides a starting point for California tribes to access and analyze tribal crash data from existing sources. In the long term, as tribes collect their own crash data, this online tool may be modified to incorporate tribal data.

NCHRP 17-49 Guide for Effective Tribal Crash Reporting provides suggestions for tribes on developing a tribal crash reporting process as well as success stories. http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_788.pdf

Using the Tool (Hands on exercises)

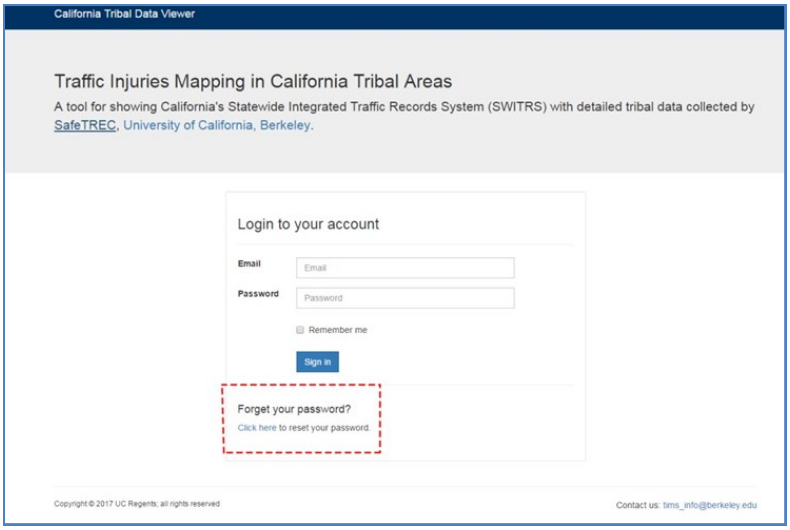
Obtaining a Username and Password to sign in to the Tribal Crash Data Online Tool

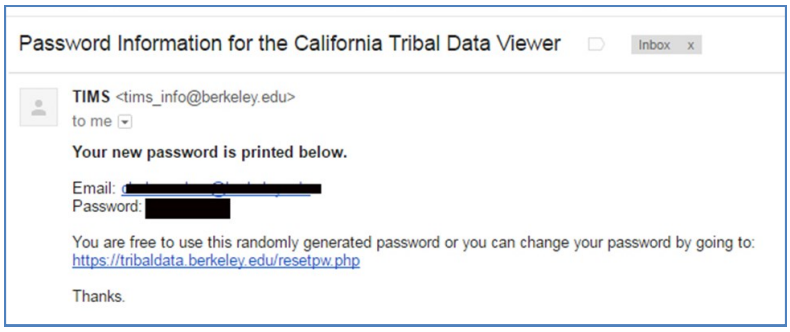
The Tribal Crash Data Online Tool is a password-protected online tool due to the confidential nature of data. Usernames and Passwords are granted to users upon request.

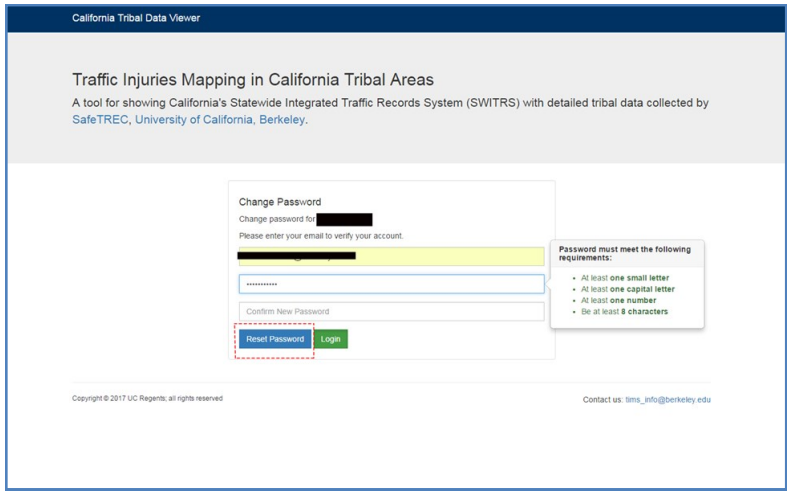
Email TRSP@nijc.org and request access to the Online Tool. Or go to http://eepurl.com/cXcqu5 and supply the requested information.

Your email address will be added to the list of Online Tool users. Once your email address is confirmed, you can go to https://tribaldata.berkeley.edu/ where you will enter your email address, then click the Click here to reset your password. A random password will be generated and emailed to you. You will receive instructions on how to change that random password in the email.

Once you have your password, go back to https://tribaldata.berkeley.edu/ and enter your email and password. Click Sign In.



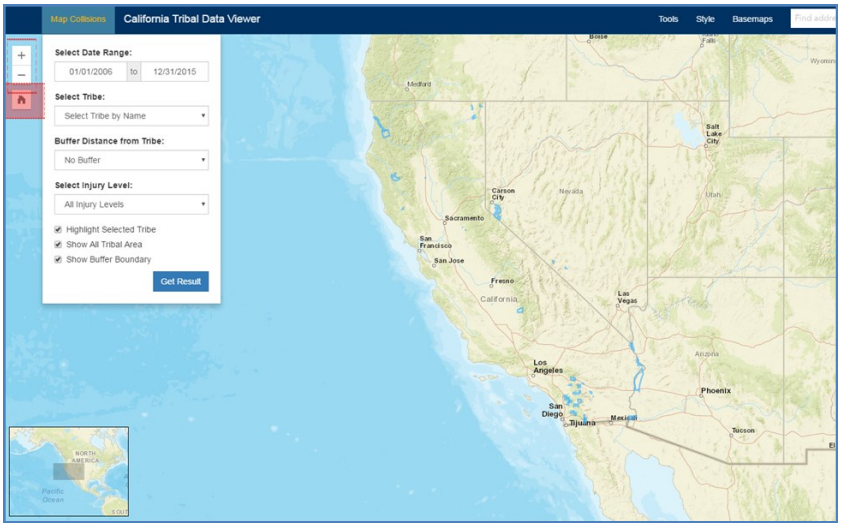




Getting to know the Online Tool Dashboard

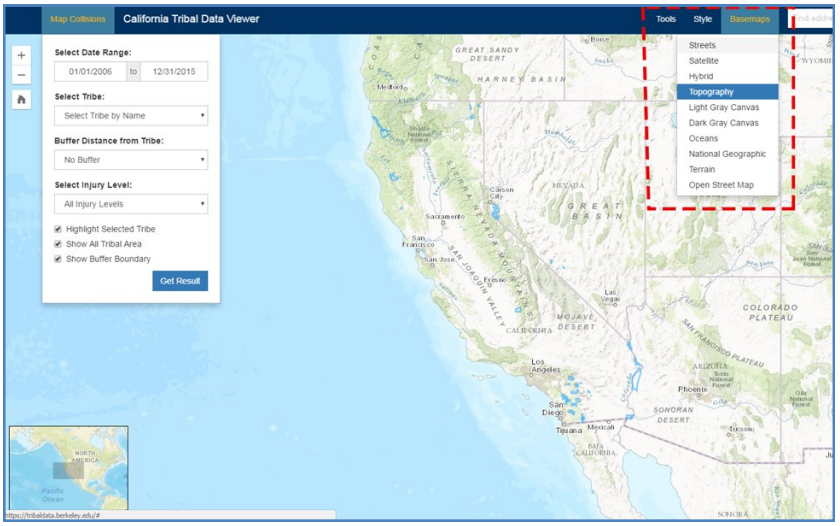
Changing the Zoom Level

The default screen is pictured here with a map showing California and surrounding states. There are two ways to zoom in and out: 1) hit the plus and minus sign on the left side of the screen, or 2) use your mouse dial (if any) to zoom in (forward) and out (reverse). Mac Tip: hold two fingers on the Trackpad and swipe up or down to adjust zoom. When you are zoomed in and wanting to go back, click on the Home button to go back to the original zoom level and map extent.



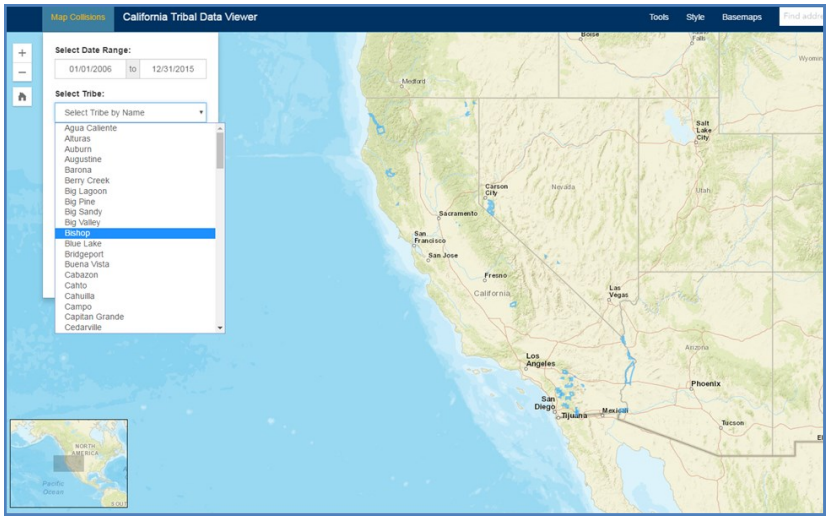
Change the Base Map

Click on 'Basemaps' (upper right of the screen) and try out one of the ten different base map options that fits your mapping needs. For example, 'Topography' and 'Terrain' options focus on the geographic features whereas the 'Open Street Map' option focuses on road networks.



View/Download Crash Data for Your Tribe

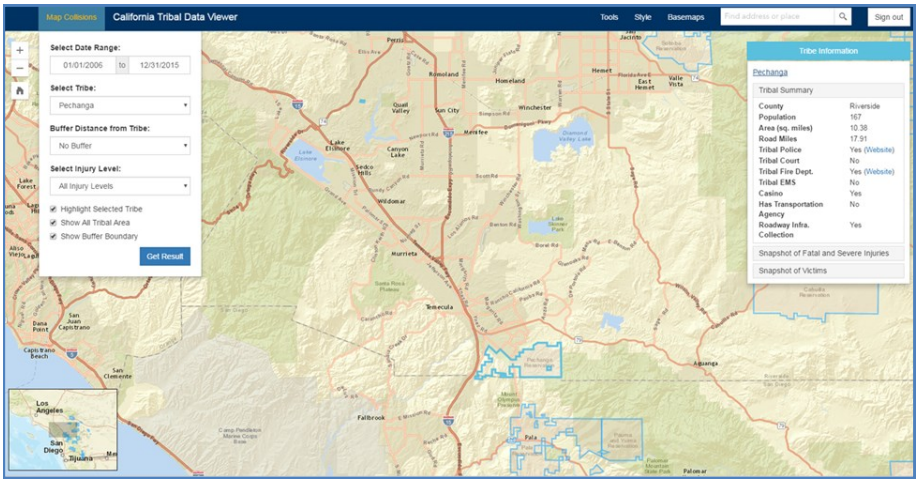
Click on Map Collisions in the upper left of the screen to view the Select Date Range and Select Tribe dialogue boxes.



Select the Date Range by entering the beginning and end dates of the date range. The data viewer contains 10 years of crash data, from 01/01/2006 to12/31/ 2015. Click on the data to set the appropriate range to map collisions.

Select your Tribe by clicking on the drop down arrow and scrolling to the name of your tribe.

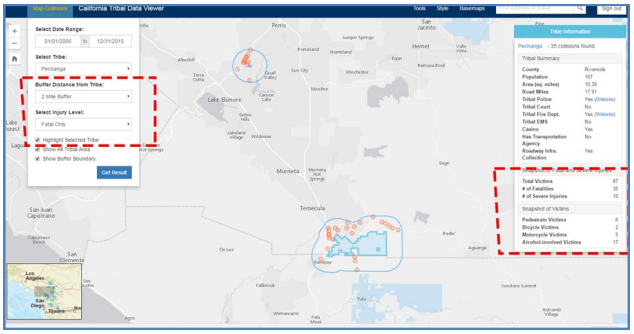
Once you click on the name of your tribe, the map will zoom and focus on your tribal lands. An **Inset Map** appears in the bottom left of your screen to show a Zoomed Out view of where the selected tribal lands are located within California.



A **Tribe Information box** appears on the right side of the screen showing a Tribal Summary, with links to the Snapshot of Fatal and Severe Injuries and Snapshot of Victims. In the example shown, the 'Tribe information' menu on the right displays county, population, area, road miles etc., about the Pechanga tribe selected for this example. Where available, hyperlinks have been included in the Tribe Information. For this example, the links go to the Pechanga police and fire department websites. Note: the Tribe Information box changes based upon the parameters selected such as the date range, buffer distance and injury level.

Display Information about Crashes On and Near the Lands of the Selected Tribe

In the Map Collisions dialogue box, you can select a **Buffer Distance from Tribe** of: 1, 2, 3, 4, and 5 miles from tribal lands. This will show the crash data for collisions occurring near tribal lands.



Users can also select from ***Injury Level*** dropdown menu that allows displaying 'all injury levels', 'fatal only crashes' or 'fatal and severe injury crashes.'

Click ***Get Result*** and notice that a buffer boundary is created with a light blue line, and crashes of selected injury level are mapped in red circles. Also notice that the information menu on the right updates with information of mapped crashes. Please note, as in the example, that the reservation boundary may also be a light blue line

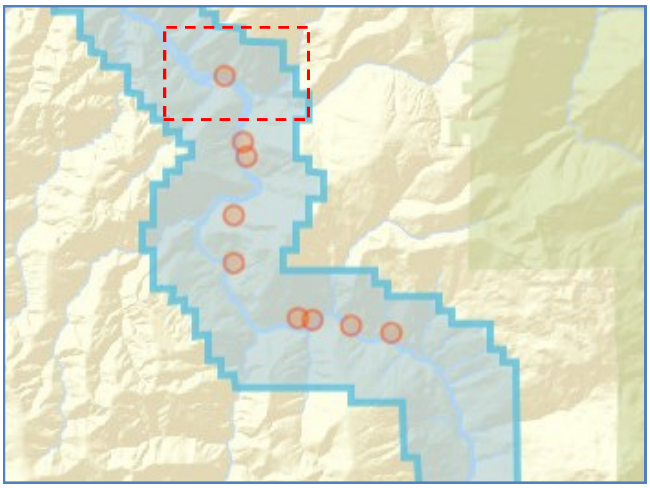
Click **Style** to change the Collision Symbol Size and Symbol Transparency. You can also change Collisions Symbolized by the default setting to Collision Severity which will change the colors of the collision symbol to correspond with the severity of the injury.

If you want to map all the crashes over several years, choose either 'fatal only crashes' or 'fatal and severe injury crashes' because the number of crashes to be mapped may overwhelm the server and be unreadable on the map. Also, visually, only mapping fatal and severe injury crashes is more informative and makes it easier to see patterns.

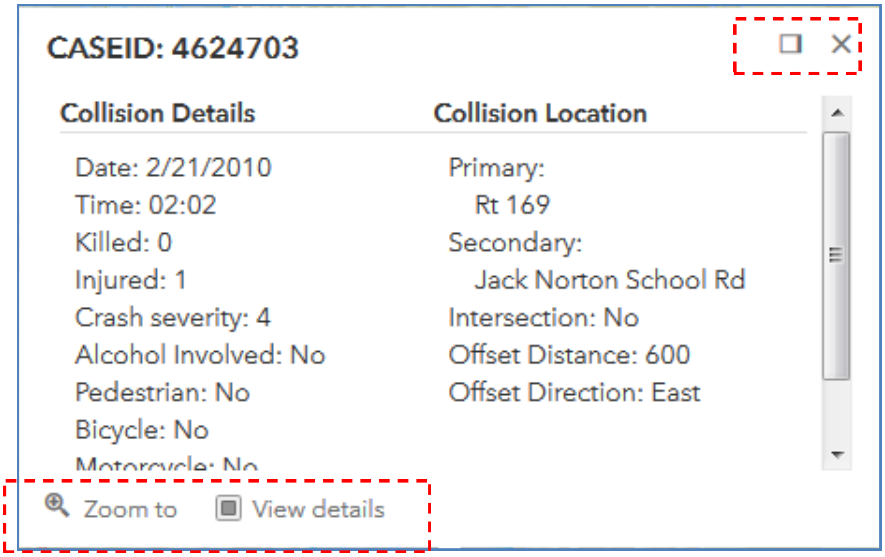
You can change the **Base Map** option at any point during the selection of the parameters.

Be patient, the more years of data requested, the more time it takes to map. If the request does not appear, sign out and sign in again.

Collision Detail

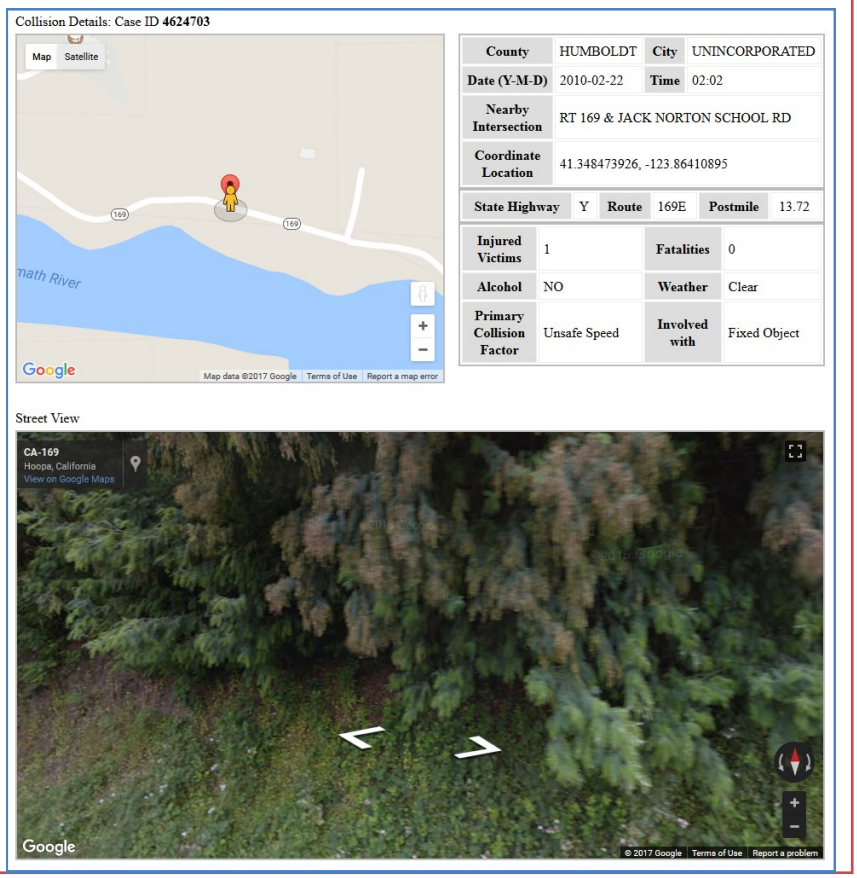


Collisions contained in the tribal crash database are represented by individual circles on the base map of the online tool. You can click on an individual collision / circle to view the collision details and location. The collision details include date, time, fatality and injury status, crash severity, alcohol involvement, pedestrian, bicycle, motorcycle and truck involvement. The collision location detail includes primary and secondary locations, whether the location involved an intersection, and offset distance and direction.

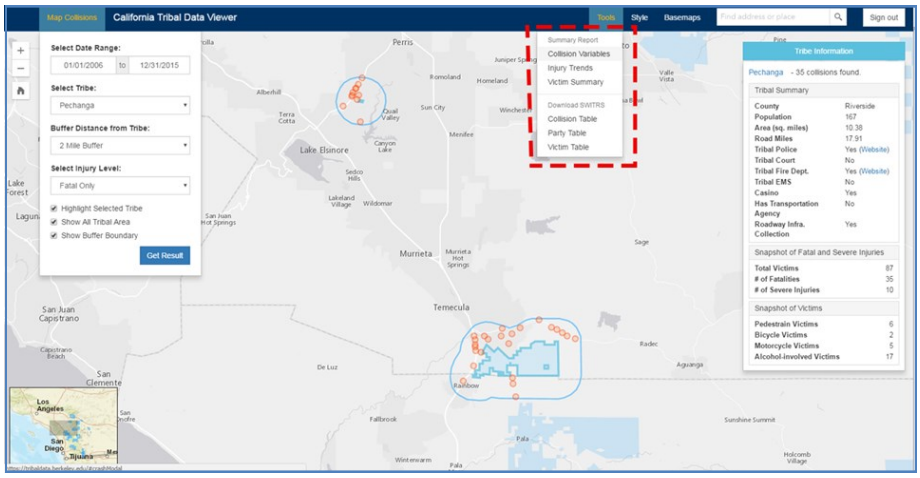


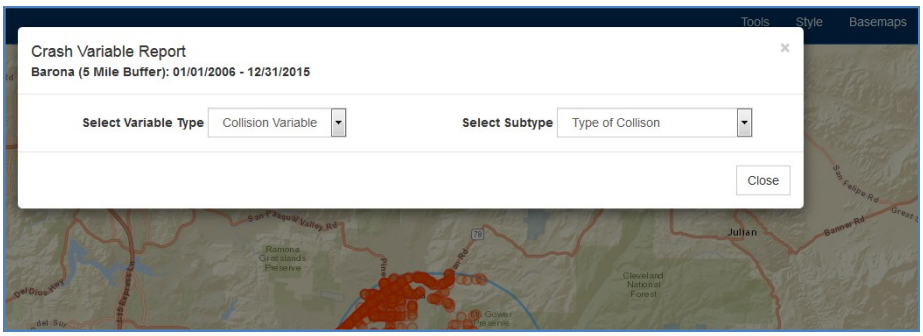
You can pin the individual collision window to the desktop by clicking the box in the upper right corner or close the box by clicking the "X." Click on the Zoom To button to zoom in on the location of the crash on the base map. You can change the base map to show specific detail at the crash location.

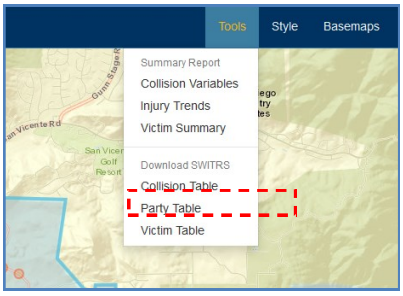
Click View Details to show more collision detail, Google map and Google Earth views of the collision location. The Google map can be toggled from map to satellite view. The Google Earth map allows you to view 360 degrees around the collision location. The pinpoint and the graphic indicate the location. The collision summary table shows the county, city, date/time, nearest intersection, latitude and longitude coordinates, whether it was located on a state highway, state route indicator and post mile number. It also shows information about the victim's injuries or fatalities, alcohol involvement, weather status, Primary Collision Factor (PCF) and other factors involved in the collision. To exit this View Details screen, click the X for the browser page.

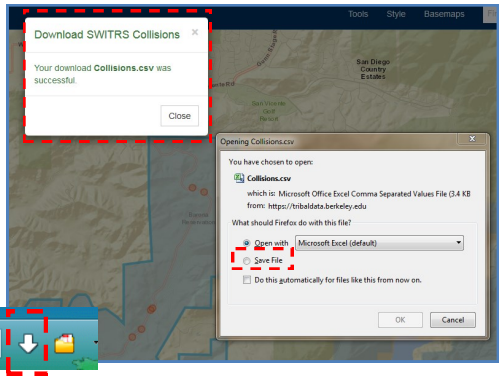


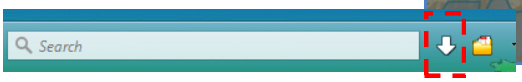
View and Download Crash Summary Reports







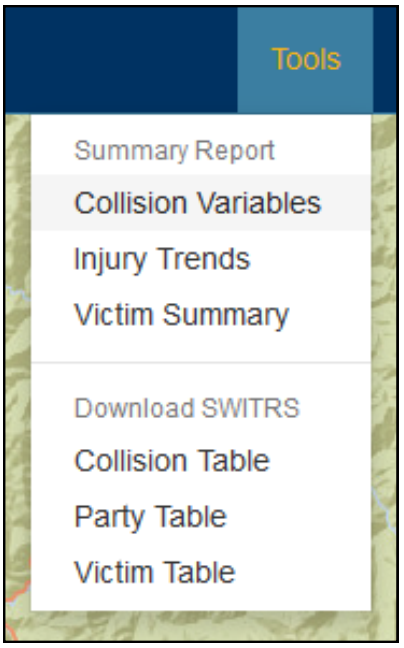




Users can visualize the details of the mapped crashes in charts by going to the **'Tools'** menu (upper right of the screen). The Tools menu provides Summary Reports entitled Collision/Crash Variables, Injury Trends and Victim Summary. After choosing a Summary Report Title, select a subtype to create a more specific report. Note that some Summary Reports and Subtypes may not be available due to limited data for the selected Tribe. The Tools menu also allows you to download the following Tables from SWITRS: Collision Table, Party Table and Victim Table. If there is data for your tribe in SWITRS, you may select the type of table such as Collision Table shown here. After clicking on the Table type, a dialogue box opens that confirms that your download was successful, as shown. A second dialogue box opens to ask how you want to handle the file. Select Save File, then OK. The file will be saved to the Downloads folder on your computer as a Comma Separated Value (CSV) file which may be opened in Excel or other database software. You can locate the file by clicking on the Downloaded File Icon on your browser. ⇩

The Table that you downloaded comes from SWITRS which may be accessed online at https://www.chp.ca.gov/programs-services/services-information/switrs-internet-statewide-integrated-traffic-records-system. Public users may access the data online by creating a user account. There are numerous fields in the CSV file that will tell you about the specific collision reported into SWITRS, including CaseID, latitude and longitude locations, crash severity, injuries, weather and much more. The fields and the coding

contained in the field may require further explanation.



After selecting your Date Range, Tribe, Buffer Distance from Tribe and Injury Level, then clicking on the Get Result button, you can go to Tools and select one of the three Summary Report options: Collision Variables, Injury Trends, or Victim Summary.

Collision Variables Summary Report

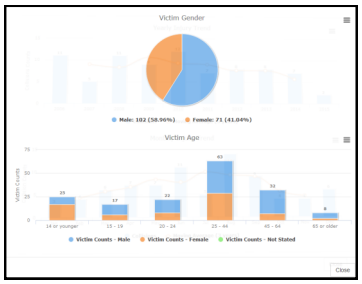
The default Collision Variable Summary Report provides a bar chart showing the number and types of collisions for the date range selected. The Collision Variable Summary Report allows you to select Collision Variable, Party Variable and Victim Variable. From the Select Subtype menu, you can choose Type of Collision, Collision Severity, Day of the Week, Motor Vehicle Involved With, or PCF Violation Category.

The default Party Variable bar chart shows the Party Type(s) (Driver, Pedestrian, Bicyclist and Other) and the Number of Parties involved in the Collisions during the Date Range. From the Select Subtype menu, you can choose Party Type, Party Sobriety, or Party Drug Physical.

The default Victim Variable bar chart shows the Victim Type(s) (Passenger, Drive, Pedestrian and Bicyclist) and the Number of Victims involved in the Collisions during the Date Range. From the Select Subtype menu, you can choose Victim Role, Victim Degree of Injury, Victim Seating Position, Victim Safety Equipment, or Victim Ejected.

Injury Trends Summary Report

The Injury Trends Summary Report shows the Yearly and Monthly Injury Trends with a moving average of the number of Collisions during the selected Date Range.



Victim Summary Report

The Victim Summary Report shows the Gender and Age of the Victims in the Collisions.

Printing the Summary Reports

To print the chart or to download a graphic version of the chart (PNG, JPEG, PDF or SVG), click on the menu button.

Download SWITRS Tables

Data reflected in the Summary Reports can be downloaded. When you click on the desired Table, a dialogue box will open asking whether to Open or Save the file. If you choose Open, the file will open in the selected software. If you select Save File, the file will be saved in the default folder which may be accessed by clicking

the Down Arrow Icon for your browser. The downloaded file is in a Comma Separated Value (CSV) format which may be opened using Excel or other types of database software. You can download the SWITRS Collision, Party and Victim Data Tables by clicking Tools and selecting the Table. The data field names correspond to the SWITRS database fields.