Crash Analysis System (CAS) Data: casdata

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Sources, Licenses, and Summary of the Data

- Data needs to be downloaded every time it is loaded into R
- Source: https://opendata.arcgis.com/api/v3/datasets/8d684f1841fa4dbea6afaefc8a1ba0fc_0/downloads/data?format=csv&spatialRefId=2193&where=1%3D1
- License: CC BY 4.0 License
- Summary of the data:

Table 1: Table continues below

X	Y	OBJECTID	advisorySpeed
Min. :1150346	Min. :4793921	Min. : 1	Min. :15.0
1st Qu.:1705075	1st Qu.:5433971	1st Qu.: 329629	1st Qu.:40.0
Median :1757368	Median :5803341	Median : 655347	Median :55.0
Mean :1721242	Mean :5644677	Mean : 654113	Mean :54.4
3rd Qu.:1793359	3rd Qu.:5913910	3rd Qu.: 988178	3rd Qu.:65.0
Max. :2465388	Max. :6190095	Max. :1318963	Max. :95.0
NA	NA	NA	NA's :790400

Table 2: Table continues below

areaUnitID	bicycle	bridge	bus
Min. :500100	Min. :0.00000	Min. :0	Min. :0.00000
1st Qu.:519400	1st Qu.:0.00000	1st Qu.:0	1st Qu.:0.00000
Median :536642	Median :0.00000	Median :0	Median :0.00000
Mean :546242	Mean :0.02896	Mean :0	Mean :0.01587
3rd Qu.:573523	3rd Qu.:0.00000	3rd Qu.:0	3rd Qu.:0.00000
Max. :626801	Max. :5.00000	Max. :4	Max. :3.00000
NA's :97	NA's :5	NA's :488831	NA's :5

Table 3: Table continues below

carStationWagon	cliffBank	crashDirectionDescription
Min. : 0.000	Min. :0.0	East : 98787
1st Qu.: 1.000	1st Qu.:0.0	North:154926
Median : 1.000	Median :0.0	South:158996

carStationWagon	cliffBank	crashDirectionDescription
Mean : 1.311	Mean :0.1	West : 99767
3rd Qu.: 2.000	3rd Qu.:0.0	NA's :309268
Max. :11.000	Max. :3.0	NA
NA's :5	NA's :488831	NA

Table 4: Table continues below

crashFinancialYear	crashLocation1	crashLocation2	crashSeverity
Length:821744	Length:821744	Length:821744	N : 0
Class :character	Class :character	Class :character	M : 0
Mode :character	Mode :character	Mode :character	S : 0
NA	NA	NA	F : 0
NA	NA	NA	NA's:821744
NA	NA	NA	NA
NA	NA	NA	NA

Table 5: Table continues below

crashSHDescription	crashYear	debris	directionRoleDescription
Mode:logical	Min. :2000	Min. :0	East :160477
NA's:821744	1st Qu.:2005	1st Qu.:0	North:256063
NA	Median :2010	Median :0	Null : 3603
NA	Mean :2011	Mean :0	South:243301
NA	3rd Qu.:2017	3rd Qu.:0	West :158228
NA	Max. :2023	Max. :7	NA's : 72
NA	NA	NA's :488831	NA

Table 6: Table continues below

ditch	fatalCount	fence	flatHill
Min. :0.0	Min. :0.00000	Min. :0.0	Flat :655461
1st Qu.:0.0	1st Qu.:0.00000	1st Qu.:0.0	Hill Road:159966
Median :0.0	Median :0.00000	Median :0.0	NA's : 6317
Mean :0.1	Mean :0.01043	Mean :0.2	NA
3rd Qu.:0.0	3rd Qu.:0.00000	3rd Qu.:0.0	NA
Max. :3.0	Max. :9.00000	Max. :3.0	NA
NA's :488831	NA's :1	NA's :488831	NA

Table 7: Table continues below

guardRail	holiday	houseOrBuilding	kerb
Min. :0.0	Christmas New Year: 20453	Min. :0	Min. :0
1st Qu.:0.0	Easter : 9463	1st Qu.:0	1st Qu.:0
Median :0.0	Labour Weekend : 7055	Median :0	Median :0
Mean :0.1	Queens Birthday : 7851	Mean :0	Mean :0
3rd Qu.:0.0	NA's :776922	3rd Qu.:0	3rd Qu.:0

guardRail	holiday	houseOrBuilding	kerb
Max. :4.0	NA	Max. :2	Max. :3
NA's :488831	NA	NA's :488831	NA's :488831

Table 8: Table continues below

light	meshblockId	minorInjuryCount	moped
Bright sun:302973	Min. : 100	Min. : 0.0000	Min. :0.000000
Dark :225920	1st Qu.: 597100	1st Qu.: 0.0000	1st Qu.:0.000000
Overcast :246470	Median :1175202	Median : 0.0000	Median :0.000000
Twilight : 38372	Mean :1350448	Mean : 0.3186	Mean :0.007098
Unknown : 8009	3rd Qu.:2128200	3rd Qu.: 1.0000	3rd Qu.:0.000000
NA	Max. :3209003	Max. :34.0000	Max. :4.000000
NA	NA's :97	NA's :1	NA's :5

Table 9: Table continues below

motorcycle	NumberOfLanes	objectThrownOrDropped	otherObject
Min. :0.00000	Min. :0.000	Min. :0	Min. :0
1st Qu.:0.00000	1st Qu.:2.000	1st Qu.:0	1st Qu.:0
Median :0.00000	Median :2.000	Median :0	Median :0
Mean :0.03627	Mean :2.338	Mean :0	Mean :0
3rd Qu.:0.00000	3rd Qu.:2.000	3rd Qu.:0	3rd Qu.:0
Max. :8.00000	Max. :9.000	Max. :4	Max. :5
NA's :5	NA's :1813	NA's :488831	NA's :488831

Table 10: Table continues below

otherVehicleType	overBank	parkedVehicle	pedestrian	phoneBoxEtc
Min. :0.000000	Min. :0	Min. :0.0	Min. :1	Min. :0
1st Qu.:0.000000	1st Qu.:0	1st Qu.:0.0	1st Qu.:1	1st Qu.:0
Median :0.000000	Median :0	Median :0.0	Median :1	Median :0
Mean :0.005162	Mean :0	Mean :0.3	Mean :1	Mean :0
3rd Qu.:0.000000	3rd Qu.:0	3rd Qu.:0.0	3rd Qu.:1	3rd Qu.:0
Max. :3.000000	Max. :4	Max. :8.0	Max. :6	Max. :3
NA's :5	NA's :488831	NA's :488831	NA's :795139	NA's :488831

Table 11: Table continues below

postOrPole	region	roadCharacter
Min. :0.0	Auckland Region :285346	Nil :789988
1st Qu.:0.0	Waikato Region : 87849	Bridge : 16365
Median :0.0	Canterbury Region : 82146	Motorway ramp: 11503
Mean :0.1	Wellington Region : 79725	Rail xing : 2157
3rd Qu.:0.0	Bay of Plenty Region : 47177	Overpass : 646
Max. :4.0	Manawatū-Whanganui Region: 46329	Speed hump : 579

postOrPole	region	roadCharacter
NA's :488831	(Other) :193172	(Other) : 506

Table 12: Table continues below

roadLane	roadSurface	roadworks	schoolBus
1-way : 78232	End of seal: 103	Min. :0	Min. :0.000000
2-way :731577	Sealed :804252	1st Qu.:0	1st Qu.:0.000000
Null : 504	Unsealed : 16412	Median :0	Median :0.000000
Off road: 11431	NA's : 977	Mean :0	Mean :0.000753
NA	NA	3rd Qu.:0	3rd Qu.:0.000000
NA	NA	Max. :3	Max. :3.000000
NA	NA	NA's :488831	NA's :5

Table 13: Table continues below

seriousInjuryCount	slipOrFlood	speedLimit	strayAnimal
Min. : 0.0000	Min. :0	Min. : 2.00	Min. :0
1st Qu.: 0.0000	1st Qu.:0	1st Qu.: 50.00	1st Qu.:0
Median : 0.0000	Median :0	Median : 50.00	Median :0
Mean : 0.0692	Mean :0	Mean : 65.88	Mean :0
3rd Qu.: 0.0000	3rd Qu.:0	3rd Qu.:100.00	3rd Qu.:0
Max. :14.0000	Max. :4	Max. :110.00	Max. :3
NA's :1	NA's :488831	NA's :838	NA's :488831

Table 14: Table continues below

streetLight	suv	taxi	temporarySpeedLimit
None :125634	Min. :0.0000	Min. :0.0000	Min. : 8.0
Off :219573	1st Qu.:0.0000	1st Qu.:0.0000	1st Qu.: 30.0
On :177573	Median :0.0000	Median :0.0000	Median : 40.0
Unknown:298964	Mean :0.1051	Mean :0.0107	Mean : 45.7
NA	3rd Qu.:0.0000	3rd Qu.:0.0000	3rd Qu.: 60.0
NA	Max. :6.0000	Max. :5.0000	Max. :100.0
NA	NA's :5	NA's :5	NA's :809161

Table 15: Table continues below

tlaId	tlaName	trafficControl	trafficIsland
Min. : 1.00	Length:821744	Nil :354203	Min. :0
1st Qu.:31.00	Class :character	Unknown :190197	1st Qu.:0
Median :60.00	Mode :character	Give way :146169	Median :0
Mean :52.41	NA	Traffic Signals : 80635	Mean :0
3rd Qu.:76.00	NA	Stop : 49866	3rd Qu.:0
Max. :76.00	NA	School Patrol/warden: 336	Max. :4
NA's :3188	NA	(Other) : 338	NA's :488831

Table 16: Table continues below

trafficSign	train	tree	truck
Min. :0	Min. :0	Min. :0.0	Min. :0.0000
1st Qu.:0	1st Qu.:0	1st Qu.:0.0	1st Qu.:0.0000
Median :0	Median :0	Median :0.0	Median :0.0000
Mean :0	Mean :0	Mean :0.1	Mean :0.0804
3rd Qu.:0	3rd Qu.:0	3rd Qu.:0.0	3rd Qu.:0.0000
Max. :4	Max. :1	Max. :3.0	Max. :5.0000
NA's :488831	NA's :488831	NA's :488831	NA's :5

Table 17: Table continues below

unknownVehicleType	urban	vanOrUtility	vehicle
Min. :0.000000	Open :267395	Min. :0.0000	Min. :0
1st Qu.:0.000000	Urban:554349	1st Qu.:0.0000	1st Qu.:0
Median :0.000000	NA	Median :0.0000	Median :0
Mean :0.003057	NA	Mean :0.1758	Mean :0
3rd Qu.:0.000000	NA	3rd Qu.:0.0000	3rd Qu.:0
Max. :3.000000	NA	Max. :6.0000	Max. :4
NA's :5	NA	NA's :5	NA's :488831

waterRiver	weatherA	weatherB
Min. :0	Fine :635621	Frost : 9254
1st Qu.:0	Hail or Sleet: 132	Strong wind: 14389
Median :0	Heavy rain : 33153	Unknown :798101
Mean :0	Light rain :124210	NA
3rd Qu.:0	Mist or Fog : 11306	NA
Max. :2	Snow : 1544	NA
NA's :488831	Unknown : 15778	NA

Field Description of Data

	description
advisorySpeed	The advisory (adv) speed (spd) at the crash site at the time of the crash.
areaUnitID	The unique identifier of an area unit.
bicycle	Derived variable to indicate how many bicycles were involved in the crash.
bridge	Derived variable to indicate how many times a bridge, tunnel, the abutments, handrails were struck in the crash.
bus	Derived variable to indicate how many buses were involved in the crash (excluding school buses which are counted in the SCHOOL_BUS field).
carStationWagon	Derived variable to indicate how many cars or station wagons were involved in the crash.

	description
cliffBank	Derived variable to indicate how many times a 'cliff' or 'bank' was struck in the crash. This includes retaining walls.
crashDirectionDescription	The direction (dirn) of the crash from the reference point. Values possible are 'North', 'East', 'South' or 'West'.
crashDistance	The distance (dist) of the crash from the reference point for the crash. The reference point is often the intersection of 'crash road' and 'side road' (refer to 'cr_rd_sd_rd' variable).
crashFinancialYear	The financial (fin) year in which a crash occurred, if known. This is displayed as a string field. eg 2004/2005.
crashLocation1	Part 1 of the 'crash location' (crash_locn). May be a road name, route position (RP), landmark, or other, e.g. 'Ninety Mile Beach'. Used for location descriptions in reports etc.
crashLocation2	Part 2 of the 'crash location' (crash_locn). May be a side road name, landmark etc. Used for location descriptions in reports etc.
crashSeverity	The severity of a crash. Possible values are 'F' (fatal), 'S' (serious), 'M' (minor), 'N' (non-injury). This is determined by the worst injury sustained in the crash at time of entry.
crashSHDescription	Indicates where a crash is reported to have occurred on a State Highway (SH) marked '1', or on another road type marked '2'.
crashYear	The year in which a crash occurred, if known.
debris	Derived variable to indicate how many times debris, boulders or items dropped or thrown from a vehicle(s) were struck in the crash.
directionRoleDescription	The direction (dirn) of the principal vehicle involved in the crash. Possible values are North, South, East or West.
ditch	Derived variable to indicate how many times a 'ditch' or 'waterable drainage channel' was struck in a crash.
easting	The easting coordinate of an object (usually a crash) expressed in NZMG referred to the WGS84 datum to a precision of 1m. Please note, in some instances crashes are not able to be assigned to GPS co-ordinates. These crashes have been assigned eastings and northings of '0,0' in this dataset. There are two main reasons that a GPS coordinate cannot be allocated to a crash. Firstly, that the crash has been reported but the location was unknown. Secondly in a small number of instances, a crash may have occurred on a road which is not yet captured on the CAS spatial layer.

	description
fatalCount	A count of the number of fatal casualties associated with this crash.
fence	Derived variable to indicate how many times a 'fence' was struck in the crash. This includes letterbox(es), hoardings, private roadside furniture, hedges, sight rails, etc.
flatHill	Whether the road is flat or sloped. Possible values include 'Flat or 'Hill'.
guardRail	Derived variable to indicate how many times a guard or guard rail was struck in the crash. This includes 'New Jersey' barriers, 'ARMCO', sand filled barriers, wire catch fences, etc.
holiday	Indicates where a crash occurred during a 'Christmas/New Year', 'Easter', 'Queens Birthday' or 'Labour Weekend' holiday period, otherwise 'None'.
houseOrBuilding	Derived variable to indicate how many times a houses, garages, sheds or other buildings(Bldg) were struck in the crash.
intersectionMidblock	A derived variable to indicate if a crash occurred at an intersection (intsn) or not. The 'intsn_midblock' variable is calculated using the 'intersection' and 'junction_type' variables. Values are 'Intersection' (where intersection variable = 'Intersection' or {'Intersection' = 'At Landmark' and junction_type is not in ('Unknown' or 'Driveway')} OR {Intersection = 'Unknown' and crash_dist <= 10}), otherwise 'Midblock' for crashes not meeting the criteria for 'Intersection').
kerb	Derived variable to indicate how many times a kerb was struck in the crash, that contributed directly to the crash.
light	The light at the time and place of the crash. Possible values: 'Bright Sun', 'Overcast', 'Twilight', 'Dark' or 'Unknown'.
meshblockId	The unique identifier of a meshblock.
minorInjuryCount	A count of the number of minor injuries (inj) associated with this crash.
moped	Derived variable to indicate how many mopeds were involved in the crash.
motorcycle	Derived variable to indicate how many motorcycles were involved in the crash.

	description
northing	The northing coordinate of an object (usually a crash) expressed in NZMG referred to the WGS84 datum to a precision of 1m. Please note, in some instances crashes are not able to be assigned to GPS co-ordinates. These crashes have been assigned eastings and northings of '0,0' in this dataset. There are two main reasons that a GPS coordinate cannot be allocated to a crash. Firstly, that the crash has been reported but the location was unknown. Secondly in a small number of instances, a crash may have occurred on a road which is not yet captured on the CAS spatial layer.
NumberOfLanes	The number(num) of lanes on the crash road.
objectThrownOrDropped	Derived variable to indicate how many times objects were thrown at or dropped on vehicles in the crash.
otherObject	Derived variable to indicate how many times an object was struck in a crash and the object struck was not pre-defined. This variable includes stockpiled materials, rubbish bins, fallen poles, fallen trees, etc.
otherVehicleType	Derived variable to indicate how many other vehicles (not included in any other category) were involved in the crash.
overBank	Derived variable to indicate how many times an embankment was struck or driven over during a crash. This variable includes other vertical drops driven over during a crash.
parkedVehicle	Derived variable to indicate how many times a parked or unattended vehicle was struck in the crash. This variable can include trailers.
phoneBoxEtc	Derived variable to indicate how many times a telephone kiosk traffic signal controllers, bus shelters or other public furniture was struck in the crash.
pedestrian	Derived variable to indicate how many pedestrians were involved in the crash. This includes pedestrians on skateboards, scooters and wheelchairs.
postOrPole	Derived variable to indicate how many times a post or pole was struck in the crash. This includes light, power, phone, utility poles and objects practically forming part of a pole (i.e. 'Transformer Guy' wires).
region	Identifies the local government (LG) region. The boundaries match territorial local authority (TLA) boundaries.
roadCharacter	The general nature of the road. Possible values include 'Bridge', 'Motorway Ramp', 'Rail crossing' or 'Nil'.

	description
roadLane	The lane configuration of the road. Possible values : '1' (one way), '2' (two way), 'M' (for where a median exists), 'O' (for off-road lane configurations), ' ' (for unknown or invalid configurations).
roadMarkings	The road markings at the crash site. Possible values: 'Ped Crossing' (for pedestrian crossings), 'Raised Island', 'Painted Island', 'No Passing Lanes', 'Centre Line', 'No Marks' or 'Unknown'.
roadSurface	The road surface description applying at the crash site. Possible values: 'Sealed' or 'Unsealed'.
roadworks	Derived variable to indicate how many times an object associated with 'roadworks' (including signs, cones, drums, barriers, but not roadwork vehicles) was struck during the crash.
schoolBus	Derived variable to indicate how many school buses were involved in the crash.
seriousInjuryCount	A count of the number of serious injuries (inj) associated with this crash.
slipOrFlood	Derived variable to indicate how many times landslips, washouts or floods (excluding rivers) were objects struck in the crash.
speedLimit	The speed (spd) limit (lim) in force at the crash site at the time of the crash. May be a number, or 'LSZ' for a limited speed zone.
strayAnimal	Derived variable to indicate how many times a stray animal(s) was struck in the crash. This variable includes wild animals such as pigs, goats, deer, straying farm animals, house pets and birds.
streetLight	The street lighting at the time of the crash. Possible values 'On', 'Off', 'None' or 'Unknown'.
suv	Derived variable to indicate how many SUVs were involved in the crash.
taxi	Derived variable to indicate how many taxis were involved in the crash.
tlaId	The unique identifier for a territorial local authority (TLA). Each crash is assigned a TLA based on where the crash occurred.
tlaName	The name of the territorial local authority (TLA) the crash has been attributed.
temporarySpeedLimit	The temporary (temp) speed (spd) limit (lim) at the crash site if one exists (e.g. for road works).
trafficControl	The traffic control (ctrl) signals at the crash site. Possible values are 'Traffic Signals', 'Stop Sign', 'Give Way Sign', 'Pointsman', 'School Patrol', 'Nil' or 'Unknown'.

	description
trafficIsland	Derived variable to indicate how many times a traffic island, medians (excluding barriers) was struck in the crash.
trafficSign	Derived variable to indicate how many times 'traffic signage' (including traffic signals, their poles, bollards or roadside delineators) was struck in the crash.
train	Derived variable to indicate how many times a train, rolling stock or jiggers was struck in the crash, whether stationary or moving.
tree	Derived variable to indicate how many times trees or other growing items were struck during the crash.
truck	Derived variable to indicate how many trucks were involved in the crash.
unknownVehicleType	Derived variable to indicate how many vehicles were involved in the crash (where the vehicle type is unknown).
urban	A derived variable using the 'spd_lim' variable. Possible values are 'Urban' (urban, spd_lim < 80) or 'Open Road' (open road, spd_lim >=80 or 'LSZ').
vanOrUtility	Derived variable to indicate how many vans or utes were involved in the crash.
vehicle	Derived variable to indicate how many times a stationary attended vehicle was struck in the crash. This includes broken down vehicles, workmen's vehicles, taxis, buses.
waterRiver	Derived variable to indicate how many times a body of water (including rivers, streams, lakes, the sea, tidal flats, canals, watercourses or swamps) was struck in the crash.
weatherA	Indicates weather at the crash time/place. See wthr_b. Values that are possible are 'Fine', 'Mist', 'Light Rain', 'Heavy Rain', 'Snow', 'Unknown'.
weatherB	The weather at the crash time/place. See weather_a. Values 'Frost', 'Strong Wind' or 'Unknown.'