



Project : Traffic
Accidents ETL





Propósito

Diseñar e implementar un pipeline ETL para procesar 209,306 registros de accidentes de tráfico (2018-2025), con el fin de identificar patrones y mejorar la seguridad vial mediante herramientas de Business Intelligence como Power BI

Objetivos

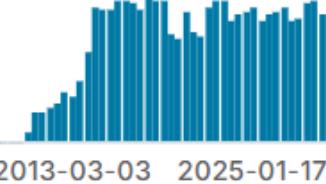
- Estandarizar y limpiar los datos.
- Detectar patrones temporales, climáticos y de severidad.
- Proporcionar información accionable para estrategias de seguridad.

traffic_accidents.csv (51.08 MB)

↓ ⌂ <

Detail Compact Column

10 of 24 columns ▾

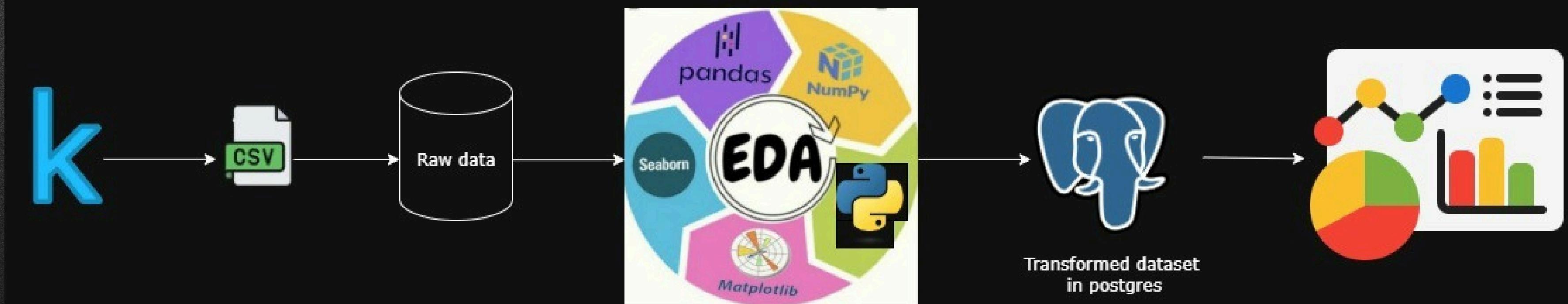
crash_date	traffic_control_device	weather_condition	lighting_condition	first_crash_type	trafficway_type	alignment	roadway_surface	road_defect
The date the accident occurred	The type of traffic control device involved (e.g., traffic light, sign)	The weather conditions at the time of the accident.	The lighting conditions at the time of the accident.	The initial type of the crash (e.g., head-on, rear-end)	The type of roadway involved in the accident (e.g., highway, local road).	The alignment of the road where the accident occurred (e.g., straight, curved).	The condition of the roadway surface (e.g., dry, wet, icy).	The condition of the roadway surface (e.g., dry, wet, icy).
	TRAFFIC SIGNAL 59% STOP SIGN/FLASHING LIGHT 23% Other (36223) 17%	CLEAR 79% RAIN 10% Other (22903) 11%	DAYLIGHT 64% DARKNESS, LIGHTED ROAD 26% Other (21819) 10%	TURNING 31% ANGLE 25% Other (92899) 44%	NOT DIVIDED 37% FOUR WAY 23% Other (82496) 39%	STRAIGHT AND LEVEL 98% STRAIGHT ON GRADE 1% Other (1724) 1%	DRY 74% WET 16% Other (20493) 10%	NO DEFECTS UNKNOWN Other (3150)
07/29/2023 01:00:00 PM	TRAFFIC SIGNAL	CLEAR	DAYLIGHT	TURNING	NOT DIVIDED	STRAIGHT AND LEVEL	UNKNOWN	UNKNOWN
08/13/2023 12:11:00 AM	TRAFFIC SIGNAL	CLEAR	DARKNESS, LIGHTED ROAD	TURNING	FOUR WAY	STRAIGHT AND LEVEL	DRY	NO DEFECTS
12/09/2021 10:30:00 AM	TRAFFIC SIGNAL	CLEAR	DAYLIGHT	REAR END	T-INTERSECTION	STRAIGHT AND LEVEL	DRY	NO DEFECTS
08/09/2023 07:55:00 PM	TRAFFIC SIGNAL	CLEAR	DAYLIGHT	ANGLE	FOUR WAY	STRAIGHT AND LEVEL	DRY	NO DEFECTS
08/19/2023 02:55:00 PM	TRAFFIC SIGNAL	CLEAR	DAYLIGHT	REAR END	T-INTERSECTION	STRAIGHT AND LEVEL	UNKNOWN	UNKNOWN
09/06/2023 12:59:00 AM	NO CONTROLS	RAIN	DARKNESS, LIGHTED ROAD	FIXED OBJECT	NOT DIVIDED	STRAIGHT AND LEVEL	WET	UNKNOWN
12/20/2022 11:45:00 AM	TRAFFIC SIGNAL	CLEAR	DAYLIGHT	REAR TO FRONT	FOUR WAY	STRAIGHT AND LEVEL	DRY	NO DEFECTS
09/20/2023 02:38:00	NO CONTROLS	CLEAR	DAYLIGHT	ANGLE	DIVIDED - W/MEDIAN	CURVE, LEVEL	DRY	NO DEFECTS

<https://www.kaggle.com/datasets/oktayrdeki/traffic-accidents>

Extract

Transformation

Load



CrashTraffic/postgres@ETL

No limit

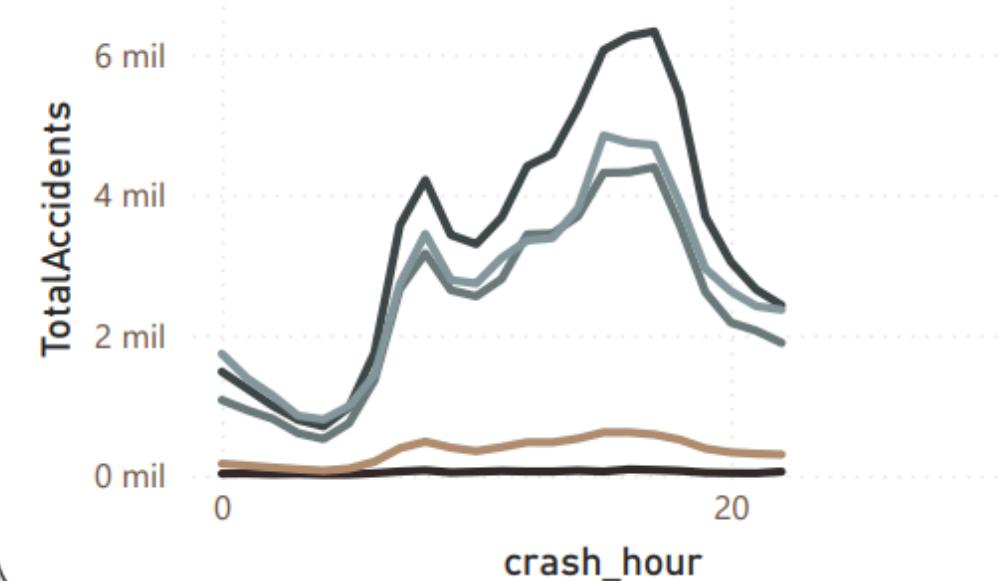
Data Output Messages Notifications

Showing rows: 1 to 20 | Page No: 1 of 1

	id [PK] integer	crash_date timestamp without time zone	traffic_control_device text	weather_condition text	lighting_condition text	first_crash_type text	trafficway_type text	alignment text	roadway_surface_cond text
1	1	2023-07-29 13:00:00	TRAFFIC SIGNAL	CLEAR	DAYLIGHT	TURNING	NOT DIVIDED	STRAIGHT AND LEVEL	UNKNOWN
2	2	2023-08-13 00:11:00	TRAFFIC SIGNAL	CLEAR	DARKNESS, LIGHTED ROAD	TURNING	FOUR WAY	STRAIGHT AND LEVEL	DRY
3	3	2021-12-09 10:30:00	TRAFFIC SIGNAL	CLEAR	DAYLIGHT	REAR END	T-INTERSECTION	STRAIGHT AND LEVEL	DRY
4	4	2023-08-09 19:55:00	TRAFFIC SIGNAL	CLEAR	DAYLIGHT	ANGLE	FOUR WAY	STRAIGHT AND LEVEL	DRY
5	5	2023-08-19 14:55:00	TRAFFIC SIGNAL	CLEAR	DAYLIGHT	REAR END	T-INTERSECTION	STRAIGHT AND LEVEL	UNKNOWN
6	6	2023-09-06 00:59:00	NO CONTROLS	RAIN	DARKNESS, LIGHTED ROAD	FIXED OBJECT	NOT DIVIDED	STRAIGHT AND LEVEL	WET
7	7	2022-12-20 11:45:00	TRAFFIC SIGNAL	CLEAR	DAYLIGHT	REAR TO FRONT	FOUR WAY	STRAIGHT AND LEVEL	DRY
8	8	2023-09-20 14:38:00	NO CONTROLS	CLEAR	DAYLIGHT	ANGLE	DIVIDED - W/MEDIAN (NOT RAISED)	CURVE, LEVEL	DRY
9	9	2018-06-04 18:42:00	TRAFFIC SIGNAL	CLEAR	DAYLIGHT	REAR END	NOT DIVIDED	STRAIGHT AND LEVEL	DRY
10	10	2023-09-07 17:30:00	STOP SIGN/FLASHER	CLEAR	DAYLIGHT	ANGLE	FOUR WAY	STRAIGHT AND LEVEL	DRY
11	11	2023-09-07 20:32:00	TRAFFIC SIGNAL	CLEAR	DARKNESS, LIGHTED ROAD	FIXED OBJECT	NOT DIVIDED	STRAIGHT AND LEVEL	DRY
12	12	2016-11-02 16:49:00	TRAFFIC SIGNAL	RAIN	DUSK	ANGLE	OTHER	STRAIGHT AND LEVEL	WET
13	13	2020-07-02 17:45:00	UNKNOWN	CLEAR	DAYLIGHT	TURNING	UNKNOWN INTERSECTION TYPE	STRAIGHT AND LEVEL	DRY
14	14	2023-08-09 07:00:00	NO CONTROLS	CLEAR	DAYLIGHT	SIDESWIPE SAME DIRECTION	ONE-WAY	STRAIGHT AND LEVEL	DRY
15	15	2020-02-09 14:00:00	TRAFFIC SIGNAL	SNOW	DAYLIGHT	REAR END	RAMP	STRAIGHT AND LEVEL	SNOW OR SLUSH
16	16	2023-08-01 23:45:00	NO CONTROLS	CLEAR	DARKNESS, LIGHTED ROAD	SIDESWIPE OPPOSITE DIRECTION	NOT DIVIDED	STRAIGHT AND LEVEL	DRY
17	17	2023-08-01 15:29:00	TRAFFIC SIGNAL	CLEAR	DAYLIGHT	PEDALCYCLIST	TRAFFIC ROUTE	STRAIGHT AND LEVEL	DRY
18	18	2023-09-05 19:05:00	TRAFFIC SIGNAL	CLEAR	DUSK	ANGLE	FIVE POINT, OR MORE	STRAIGHT AND LEVEL	DRY
19	19	2022-09-09 16:53:00	TRAFFIC SIGNAL	CLEAR	DAYLIGHT	SIDESWIPE SAME DIRECTION	FOUR WAY	STRAIGHT AND LEVEL	DRY
20	20	2023-09-15 10:50:00	STOP SIGN/FLASHER	CLEAR	DAYLIGHT	TURNING	ONE WAY	STRAIGHT AND LEVEL	UNKNOWN

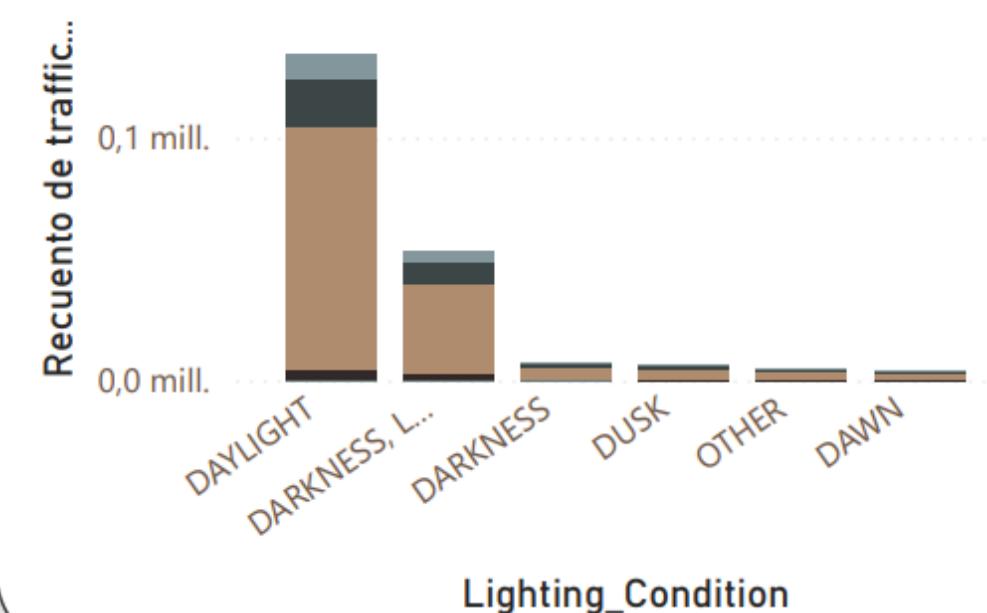
Accidents by Day of the Week and Road Type

Clean_Traffi... ● Highways a... ● Large Inte... ● Otros ►



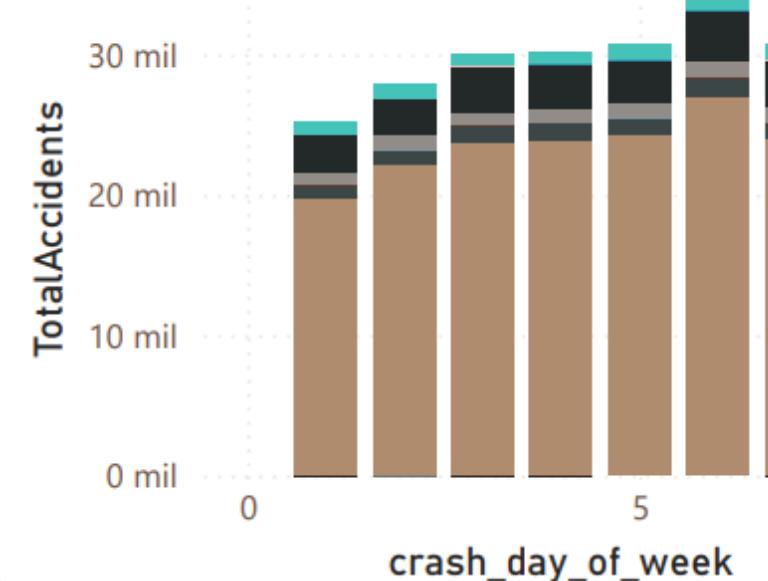
Traffic Devices, Lighting & Injuries

most_sever... ● FATAL ● INCAPACIT... ● NO INDIC... ►



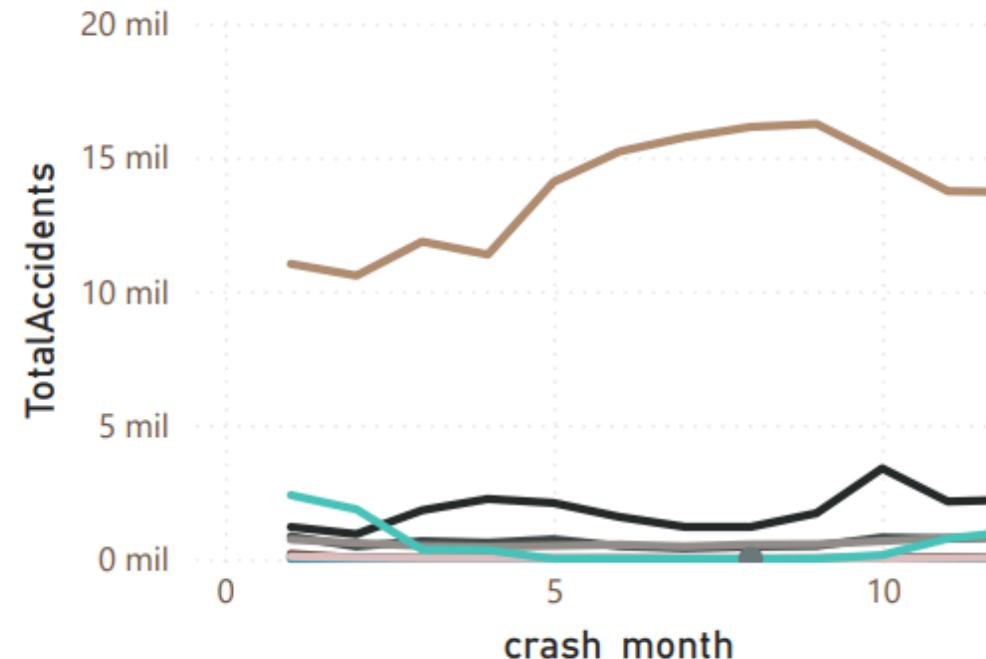
Accidents by Day of Week & Weather

Weather_... ● BLOWIN... ● BLOWIN... ● CLEAR ►



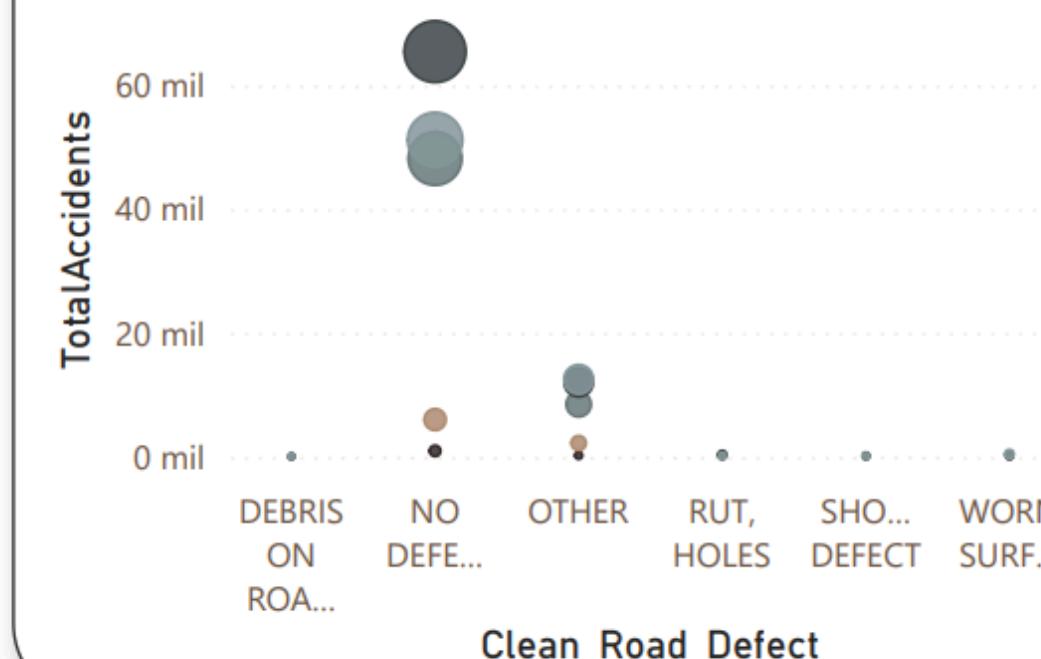
Accidents by Month & Weather

Weather_co... ● BLOWING S... ● BLOWING ... ● CLEAR ►



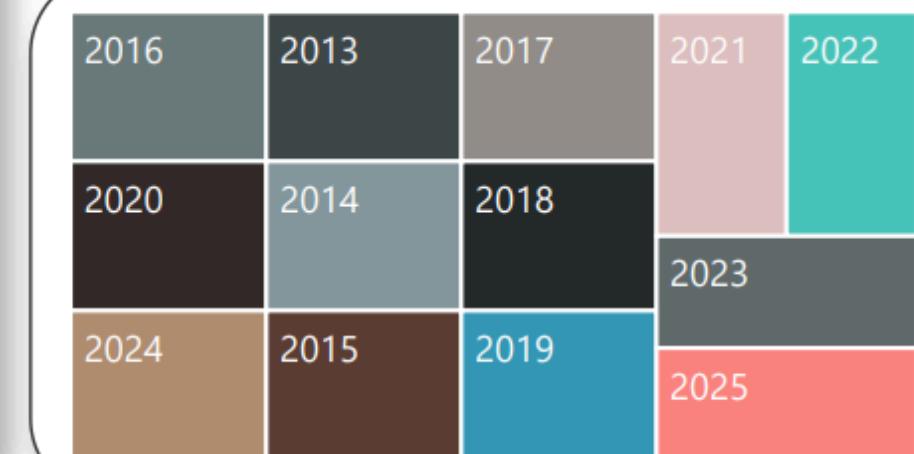
Accidents and Weather by Road Type & Defects

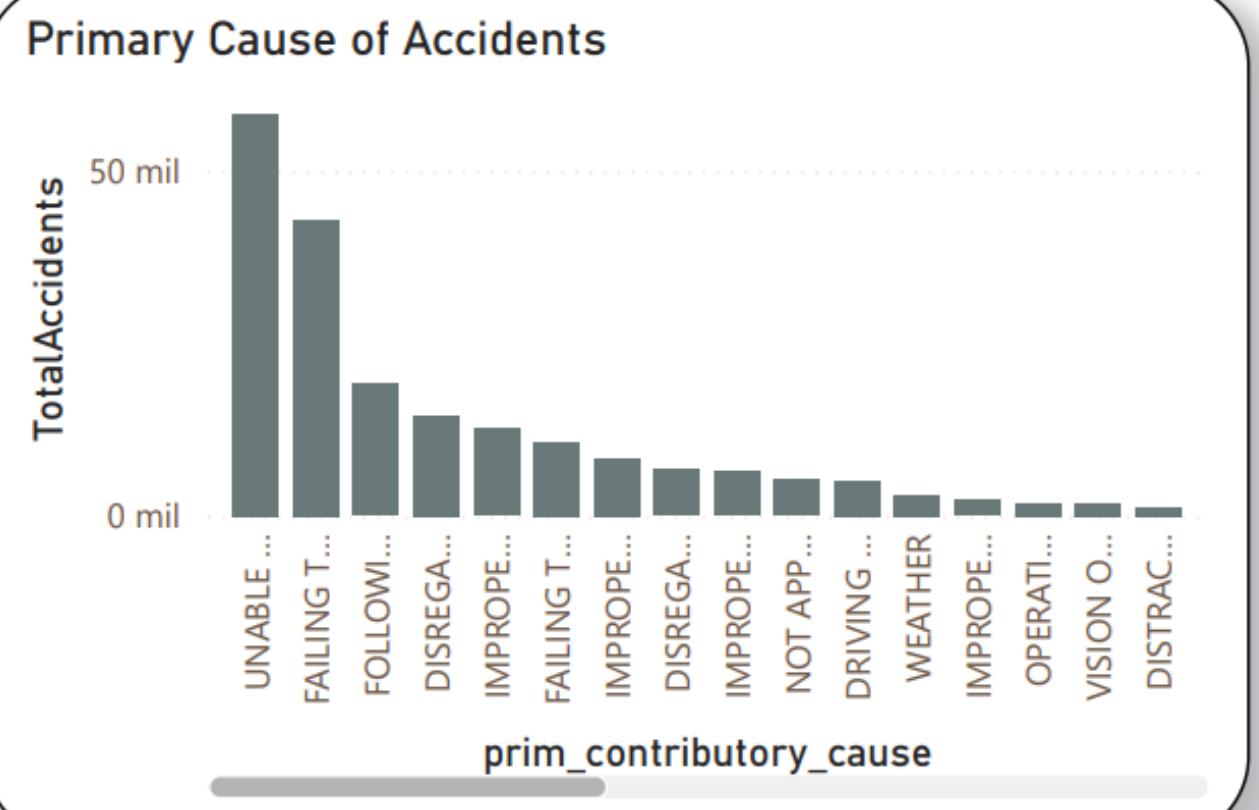
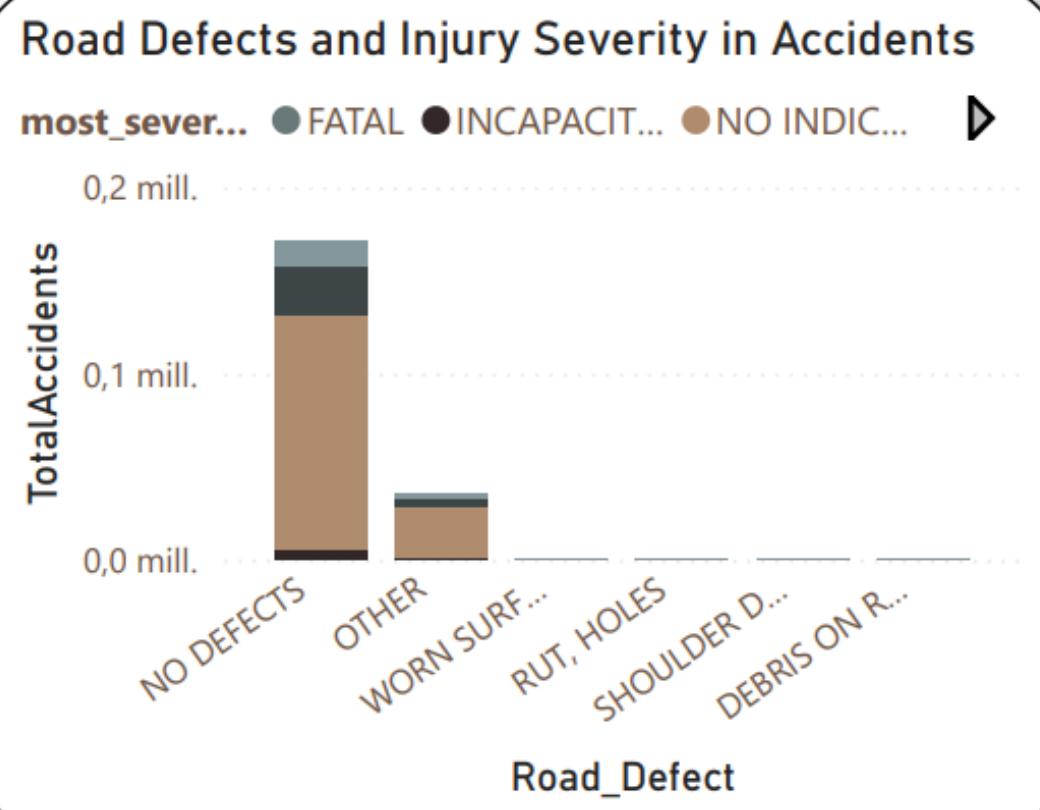
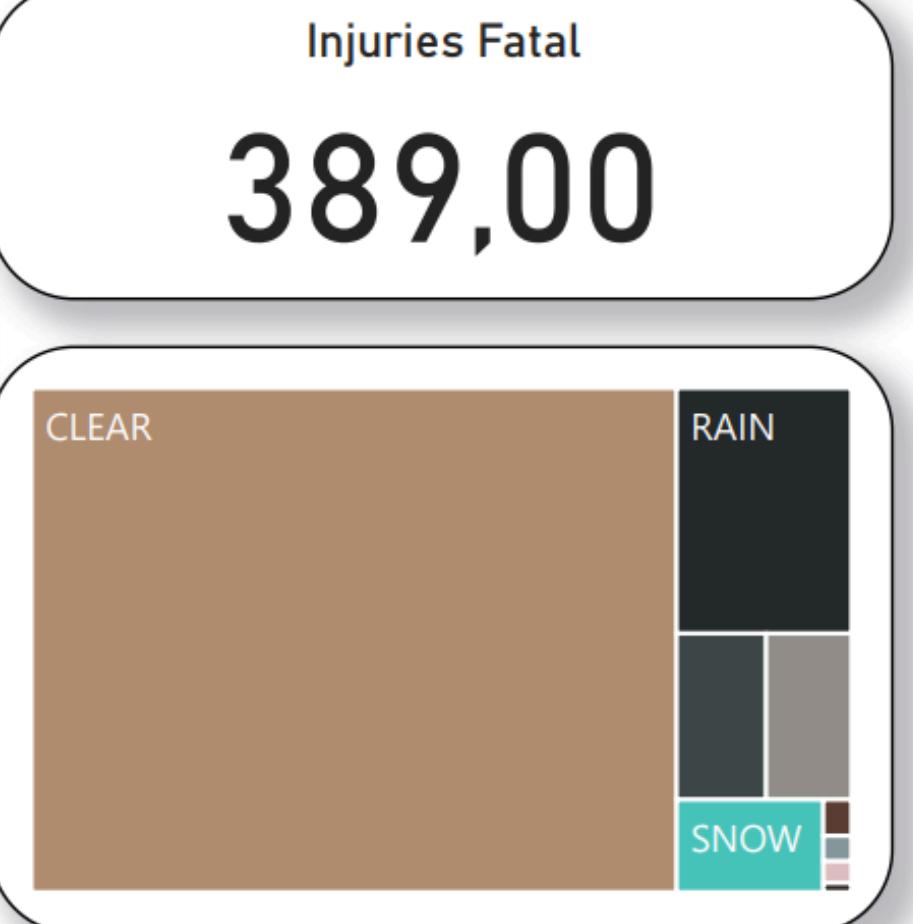
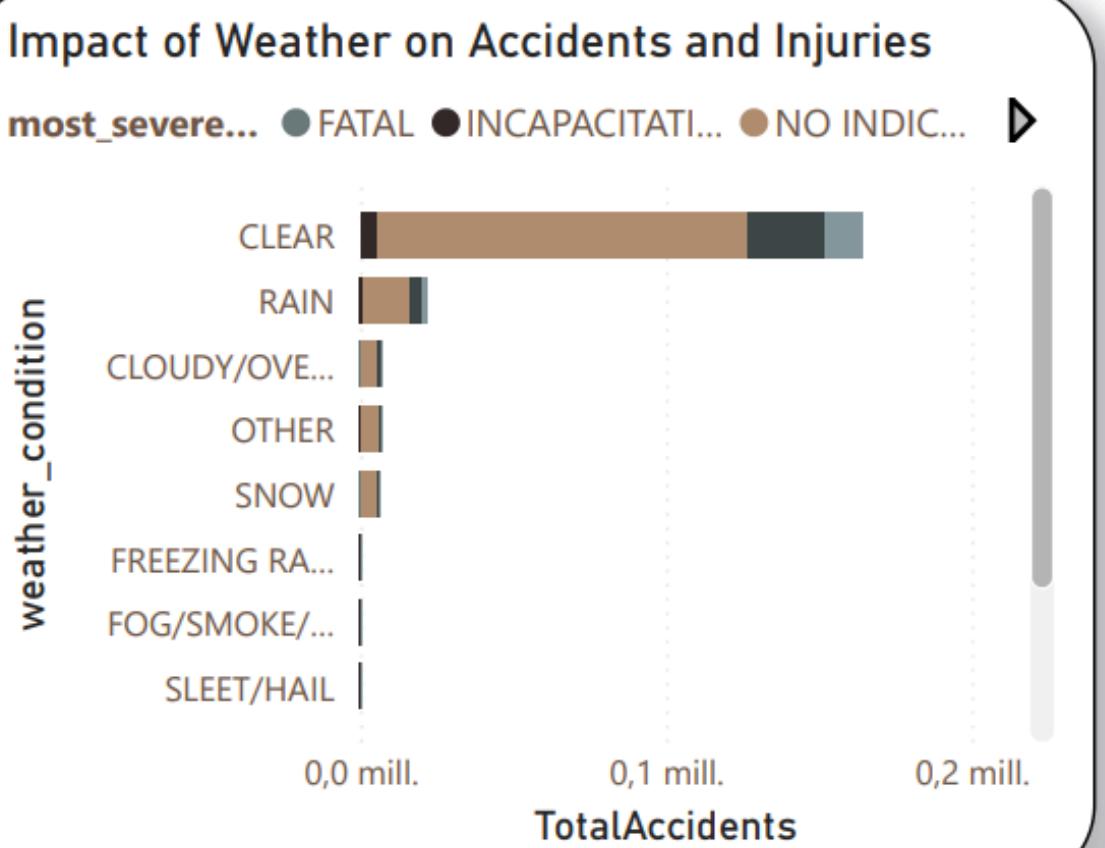
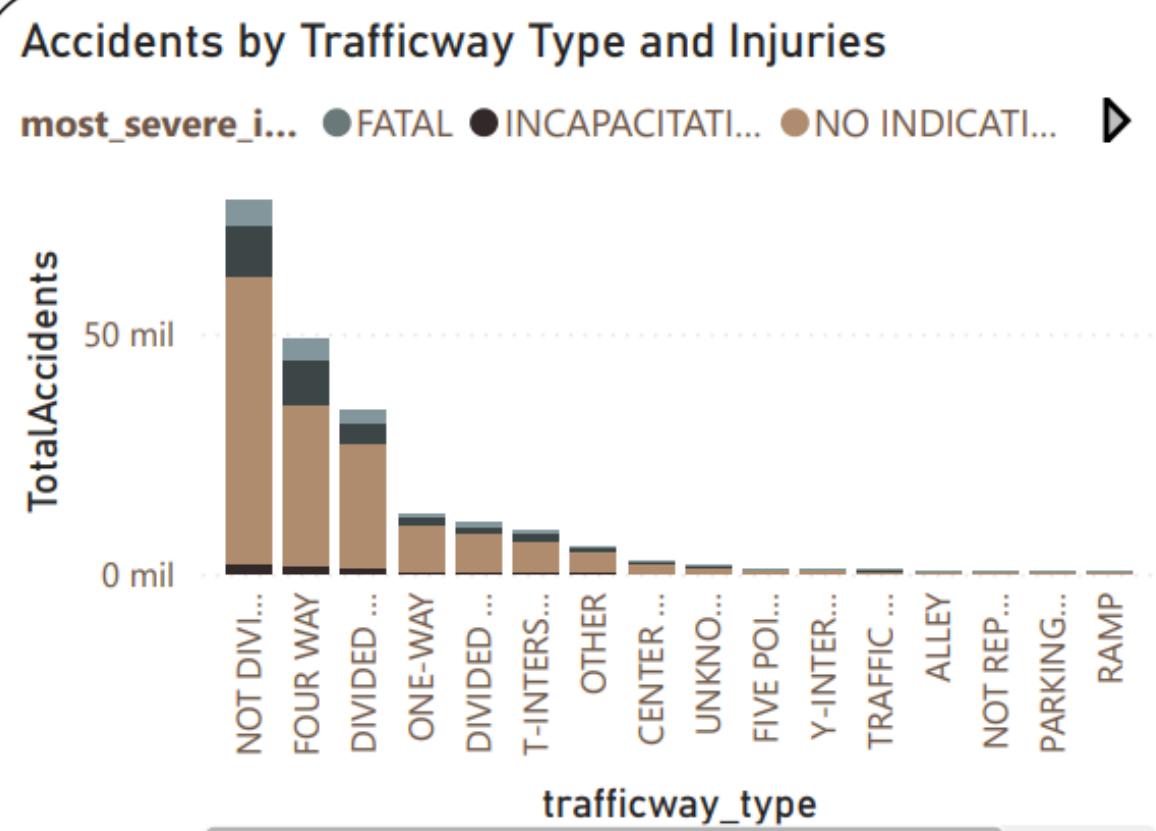
Trafficway_t... ● Highways an... ● Large Inter... ● Otros ►



209,31 mil

TotalAccidents





Our Team



Luz Angela Carabali M

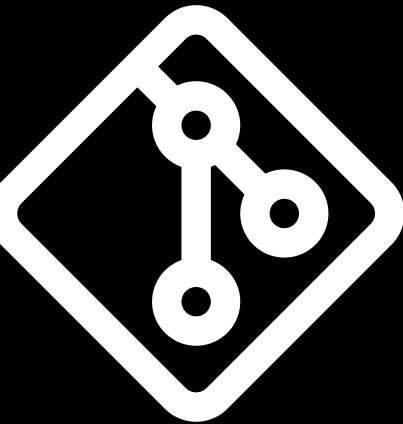


Isabella Perez Cav



Nicolas Peña I

Thank You



SHOW MORE:

[HTTPS://GITHUB.COM/ISABELLAPEREZ
CAV/TRAFFIC-ACCIDENTS-ETL](https://github.com/isabellaperez/CAV-Traffic-Accidents-ETL)

