

Tableau Project

2021 Automobile/Motorcycle Crash Data PA

By: Shane Artis

Input/Filter Data

- Using Tableau Prep Builder
- Input my excel file
- Did a join on both files
- Aggregated
- Cleaned

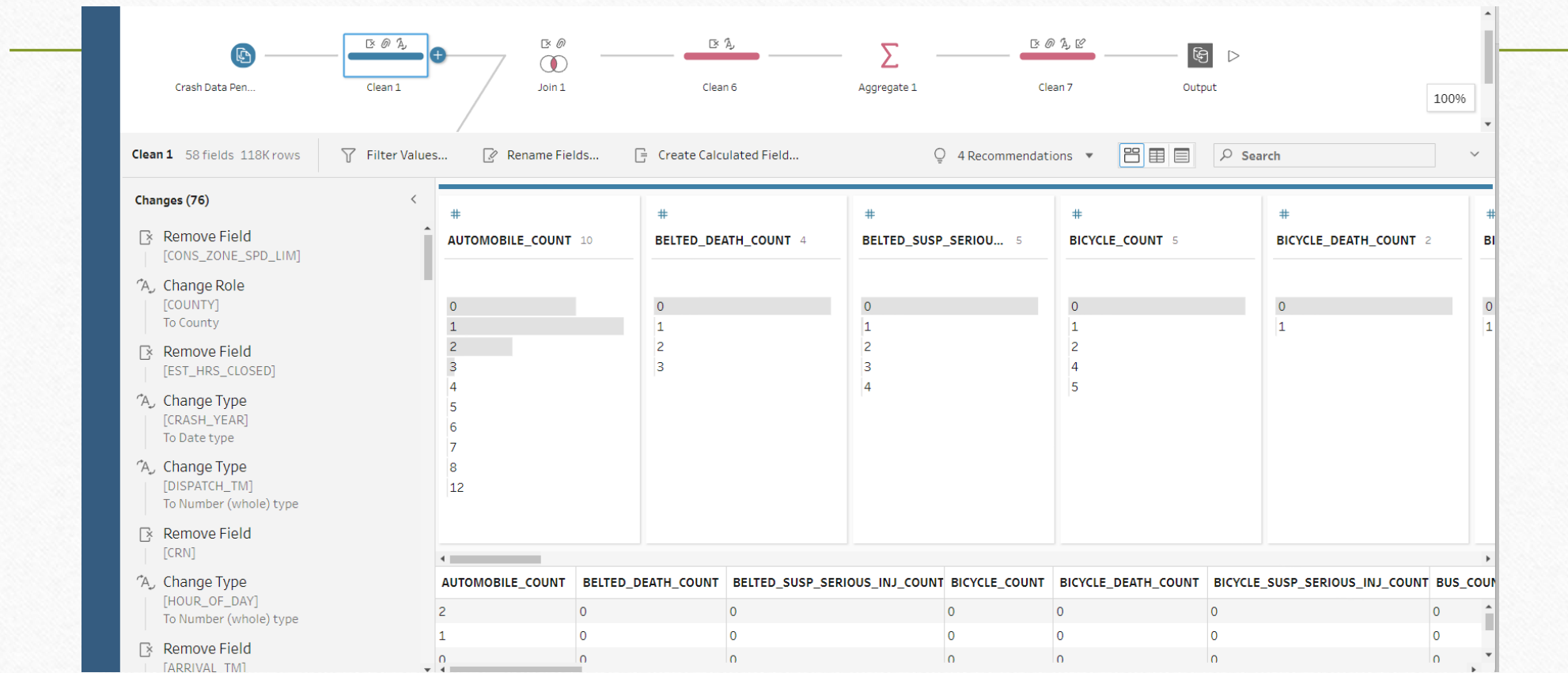
The screenshot shows the Tableau Prep Builder interface for a project named "Crash Data Project". The workflow consists of the following steps:

- Crash Data Pen...** (Input)
- Clean 1** (Filter)
- Sheet1** (Input)
- Clean 2** (Filter)
- Join 1** (Join)
- Clean 6** (Filter)
- Aggregate 1** (Aggregate)
- Clean 7** (Filter)
- Output** (Output)

The output table is titled "Intro to Data and AI (Crash Data) ETL.hyper" and contains 38 fields. The visible data is as follows:

COLLISION_TYPE	COUNTY	CRASH_MONTH	CRASH_YEAR	DAY_OF_WEEK	DISTRICT	HOUR_OF_DAY	LATITUDE
Head-on	Allegheny	August	2021	Wednesday	District 11 (Allegheny, Beaver, Lawrence Counties)	14	40.7
Angle	Allegheny	December	2021	Tuesday	District 11 (Allegheny, Beaver, Lawrence Counties)	19	40.7
Rear-end	Lebanon	July	2021	Wednesday	District 8 (Adams, Cumberland, Dauphin, Franklin, Lancaster, York)	15	40.7
Hit pedestrian	Philadelphia	August	2021	Sunday	District 6 (Bucks, Chester, Delaware, Montgomery, Philadelphia)	21	40.7
Hit fixed object	Lehigh	May	2021	Saturday	District 5 (Berks, Carbon, Lehigh, Monroe, Northampton, Schuylkill)	16	40.7
Hit fixed object	Centre	February	2021	Monday	District 2 (Cameron, Centre, Clearfield, Clinton, Elk, Juniata, Luzerne, Lycoming, Mifflin, Monroe, Northumberland, Schuylkill, York)	20	40.7
Hit pedestrian	Philadelphia	March	2021	Friday	District 6 (Bucks, Chester, Delaware, Montgomery, Philadelphia)	16	40.7
Other	Lycoming	November	2021	Friday	District 3 (Bradford, Columbia, Lycoming, Montour, Northumberland, Schuylkill, York)	23	41.1

Cleaning the Data



Completing the Join

The screenshot displays a data tool interface with a workflow at the top and configuration panels below. The workflow consists of the following steps: 'Crash Data Pen...', 'Clean 1', 'Join 1' (highlighted with a blue box), 'Clean 6', 'Aggregate 1', 'Clean 7', and 'Output'. The 'Join 1' step is selected, opening its configuration panel.

Join 1 Configuration Panel:

- Settings:** Shows 'Applied Join Clauses' with 'Clean 1' (COUNTY) joined to 'Clean 2' (County). The 'Join Type' is set to 'inner', illustrated with a Venn diagram. A 'Summary of Join Results' section includes a legend for 'Mismatched values' (diagonal lines) and 'Included' (solid color).
- Join Clauses:** A table showing the fields being joined.
- Join Results:** Three bar charts showing the distribution of values for 'AUTOMOBILE_COUNT', 'BELTED_DEATH_COUNT', and 'BELTED_SUSP_SERIOU...'.

Join Clauses	Clean 1	Clean 2
↑ COUNTY		↑ County
Adams		Adams
Allegheny		Allegheny
Armstrong		Armstrong
Beaver		Beaver
Bedford		Bedford
Berks		Berks
Blair		Blair
Bradford		Bradford
Bucks		Bucks

Join Results	AUTOMOBILE_COUNT	BELTED_DEATH_COUNT	BELTED_SUSP_SERIOU...
#	10	4	5
0			
1			
2			
3			
4			
5			
6			
7			
8			

The Aggregation

Aggregate 1 59 fields 118K rows Filter Values... 2 Recommendations Search

Settings Changes (0)

Additional Fields

Drag fields to aggregate or group them.

Search

Add All Remove All

None

Grouped Fields

GROUP	GROUP	GROUP
COLLISION_TYPE 11	COUNTY 67	CRASH_MONTH 12
Angle	Blair	April
Backing	Bradford	August
Head-on	Bucks	December
Hit fixed object	Butler	February
Hit pedestrian	Cambria	January
Non-collision	Cameron	July
Other	Carbon	June
Rear-end	Centre	March
Sideswipe (opposite directi...	Chester	May
Sideswipe (same direction)	Clarion	November
Unknown	Clearfield	October
	Clinton	September

Aggregated Fields

SUM	SUM	SUM
Number of Rows (Aggre... 2	AUTOMOBILE_COUNT 10	BELTED_DEATH_COUNT 1
1	0	0
2	1	1
	2	2
	3	3
	4	
	5	
	6	
	7	
	8	
	12	

COLLISION_TYPE	COUNTY	CRASH_MONTH	CRASH_YEAR	DAY_OF_WEEK	Number of Rows (Aggregated)	AUTOMOBILE_COUNT	BELTED_DEATH_COUNT	BELTED_DEATH_COUNT
Head-on	Allegheny	August	01/01/2021	Wensd	1	2	0	0
Angle	Allegheny	December	01/01/2021	Tuesda	1	2	0	0

Output

Crash Data Pen...

Clean 1

Join 1

Clean 6

Aggregate 1

Clean 7

Output

Alerts (0)

100%

Output 38 fields

Save output to

File

Browse

Name

Intro to Data and AI (Crash Data) ETL

Location

C:\Users\shane\OneDrive\Documents\My Tableau Prep Repository\Datasources

Output type

Tableau Data Extract (.hyper)

Write Options

Select an option to create or update your output table.

Full refresh

Create table

Run Flow

Save to Intro to Data and AI (Crash Data) ETL.hyper

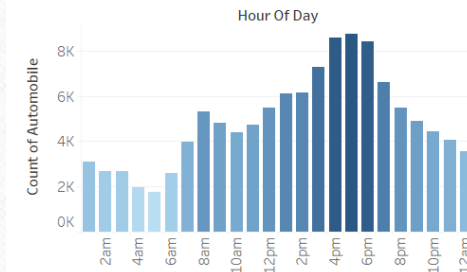
COLLISION_TYPE	COUNTY	CRASH_MONTH	CRASH_YEAR	DAY_OF_WEEK	DISTRICT	HOUR_OF_DAY	LATITUDE	LC
Head-on	Allegheny	August	2021	Wensday	District 11 (Allegheny, Beaver, Lawrence Counties)	14	40 25:27.843	
Angle	Allegheny	December	2021	Tuesday	District 11 (Allegheny, Beaver, Lawrence Counties)	19	40 29:22.124	
Rear-end	Lebanon	July	2021	Wensday	District 8 (Adams, Cumberland, Dauphin, Franklin, Lanc	15	40 21:49.874	
Hit pedestrian	Philadelphia	August	2021	Sunday	District 6 (Bucks, Chester, Delaware, Montgomery, Phil	21	40 01:00.679	
Hit fixed object	Lehigh	May	2021	Saturday	District 5 (Berks, Carbon, Lehigh, Monroe, Northampto	16	40 37:01.031	
Hit pedestrian	Philadelphia	March	2021	Friday	District 6 (Bucks, Chester, Delaware, Montgomery, Phil	16	40 04:13.071	
Other	Lycoming	November	2021	Friday	District 3 (Bradford, Columbia, Lycoming, Montour, Nor	23	41 13:34.460	
Hit fixed object	Centre	Febuary	2021	Monday	District 2 (Cameron, Centre, Clearfield, Clinton, Elk, Jur	20	40 48:04.575	
Head-on	Philadelphia	May	2021	Saturday	District 6 (Bucks, Chester, Delaware, Montgomery, Phil	0	40 00:53.586	
Angle	Northampton	March	2021	Monday	District 5 (Berks, Carbon, Lehigh, Monroe, Northampto	13	40 39:47.443	
Hit fixed object	Warren	Jannuary	2021	Wensday	District 1 (Crawford, Erie, Forest, Mercer, Venango, Wa	18	41 45:58.652	
Hit pedestrian	Philadelphia	July	2021	Saturday	District 6 (Bucks, Chester, Delaware, Montgomery, Phil	22	39 58:32.471	
Hit fixed object	Mercer	November	2021	Sunday	District 1 (Crawford, Erie, Forest, Mercer, Venango, Wa	18	41 13:37.344	
Non-collision	Chester	March	2021	Friday	District 6 (Bucks, Chester, Delaware, Montgomery, Phil	13	39 44:35.099	
Rear-end	Lawrence	December	2021	Sunday	District 11 (Allegheny, Beaver, Lawrence Counties)	14	41 01:14.436	
Rear-end	Lehigh	August	2021	Tuesday	District 5 (Berks, Carbon, Lehigh, Monroe, Northampto	20	40 37:34.093	

Creating Visuals in Desktop

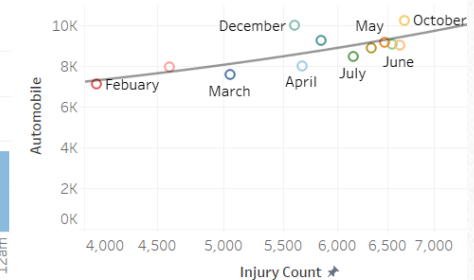
- Using Tableau Desktop
- Uploaded the cleaned data
- Created visuals
- Posted to Dashboard

Automobile Dashboard

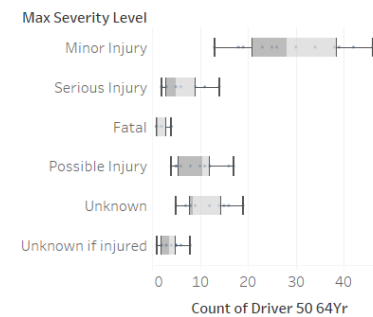
50-64 Yr. Old Automobile Accidents by Hour of Day



Injury Count per Automobile Accident for each Month



Level of Injury per Age group 50-64

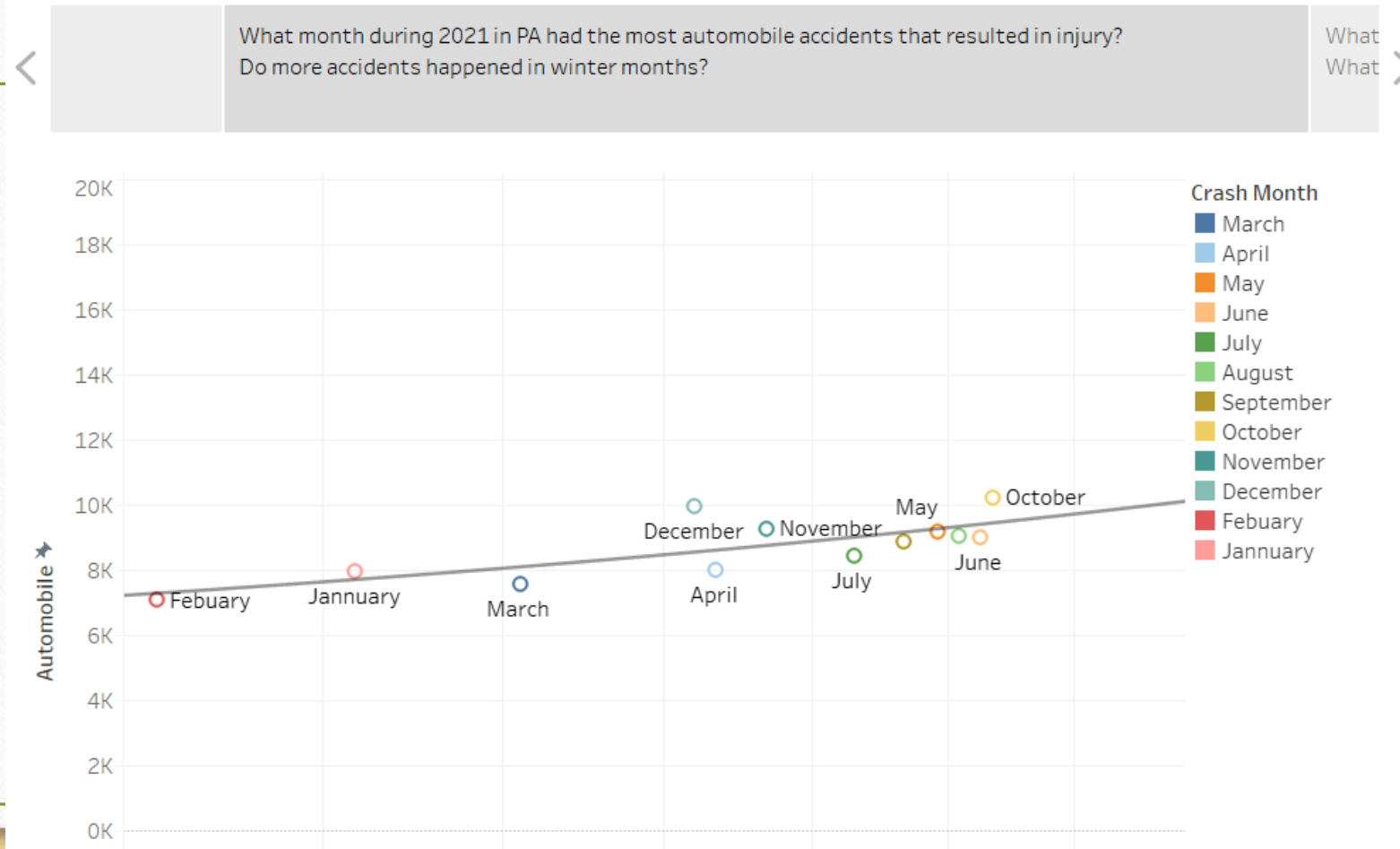


Collision Type by Injury

Collision Type	Max Severity Level				
	Minor I..	Serious..	Fatal	Possibl..	Unkno.
Angle	25,397	3,371	811	8,435	12,899
Backing	232	15		80	149
Head-on	3,770	1,122	339	1,040	1,889
Hit fixed object	9,363	1,911	572	2,330	5,049
Hit pedestrian	2,766	1,072	407	570	1,629
Non-collision	1,304	443	111	253	599
Other	831	83	24	171	299
Rear-end	17,466	1,464	309	7,394	9,099
Sideswipe (opposite dire..	1,421	204	40	440	849
Sideswipe (same directio..	3,175	354	74	1,200	2,599
Unknown	11	10	2	4	39

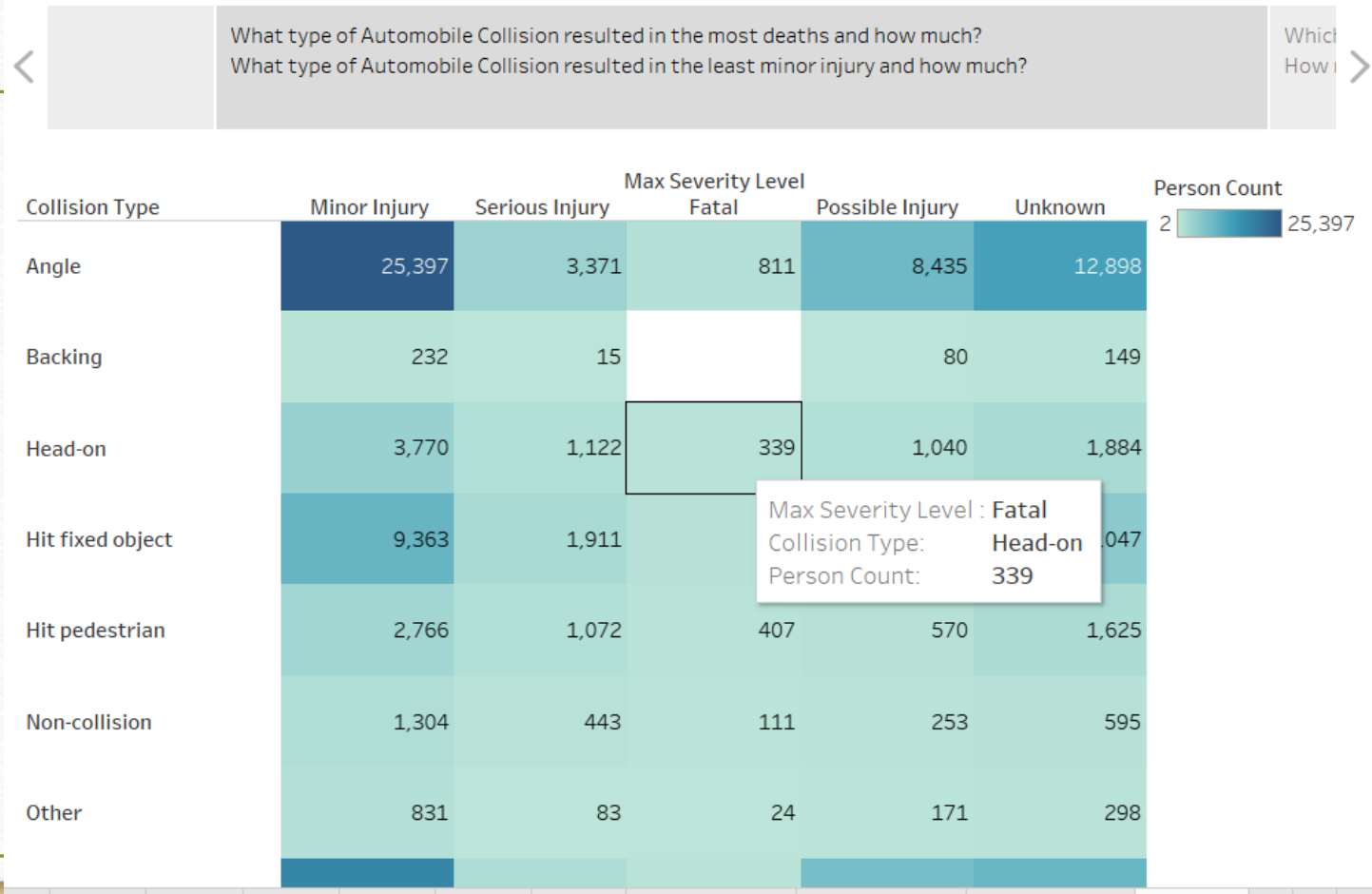
Telling the Story:

2021 Automobile/Motorcycle Crash Data



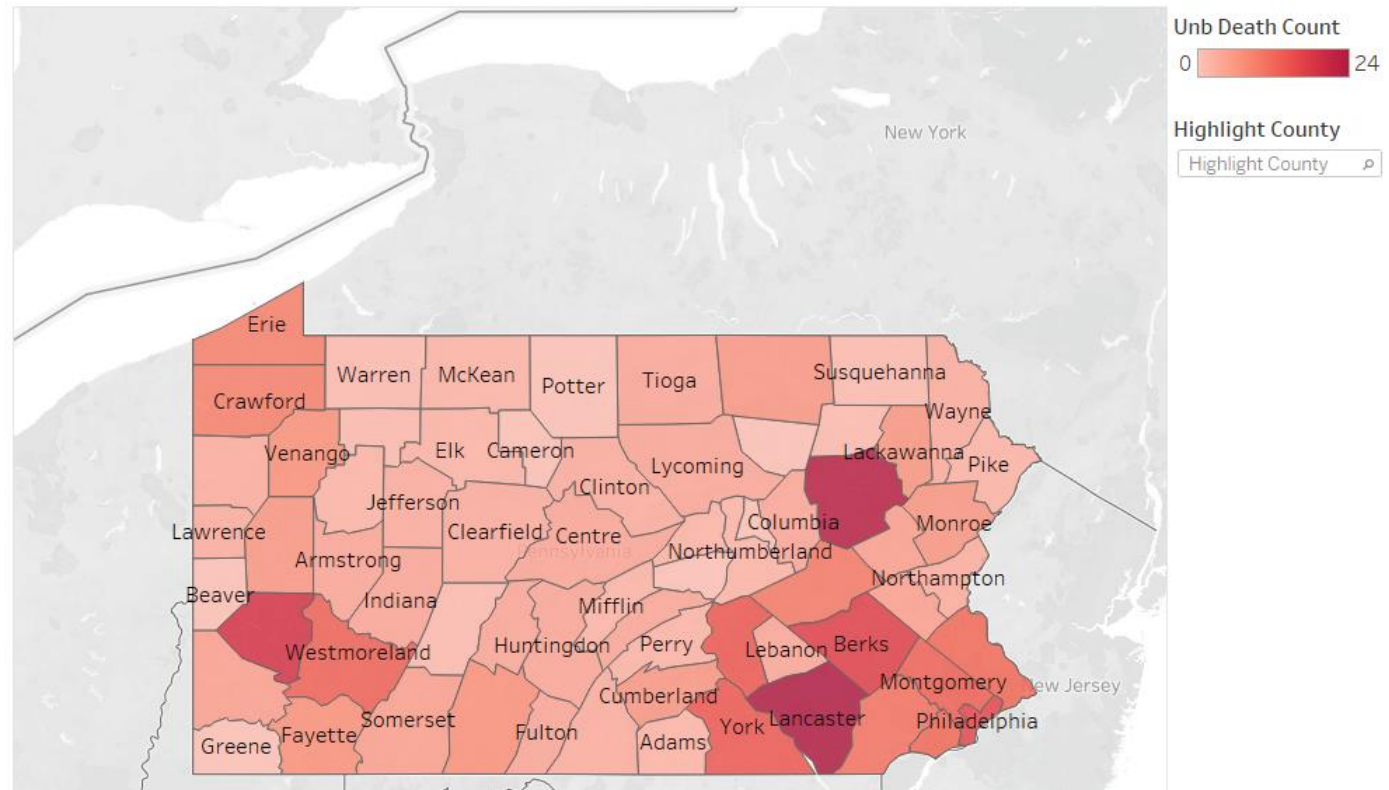
Telling the Story:

2021 Automobile/Motorcycle Crash Data

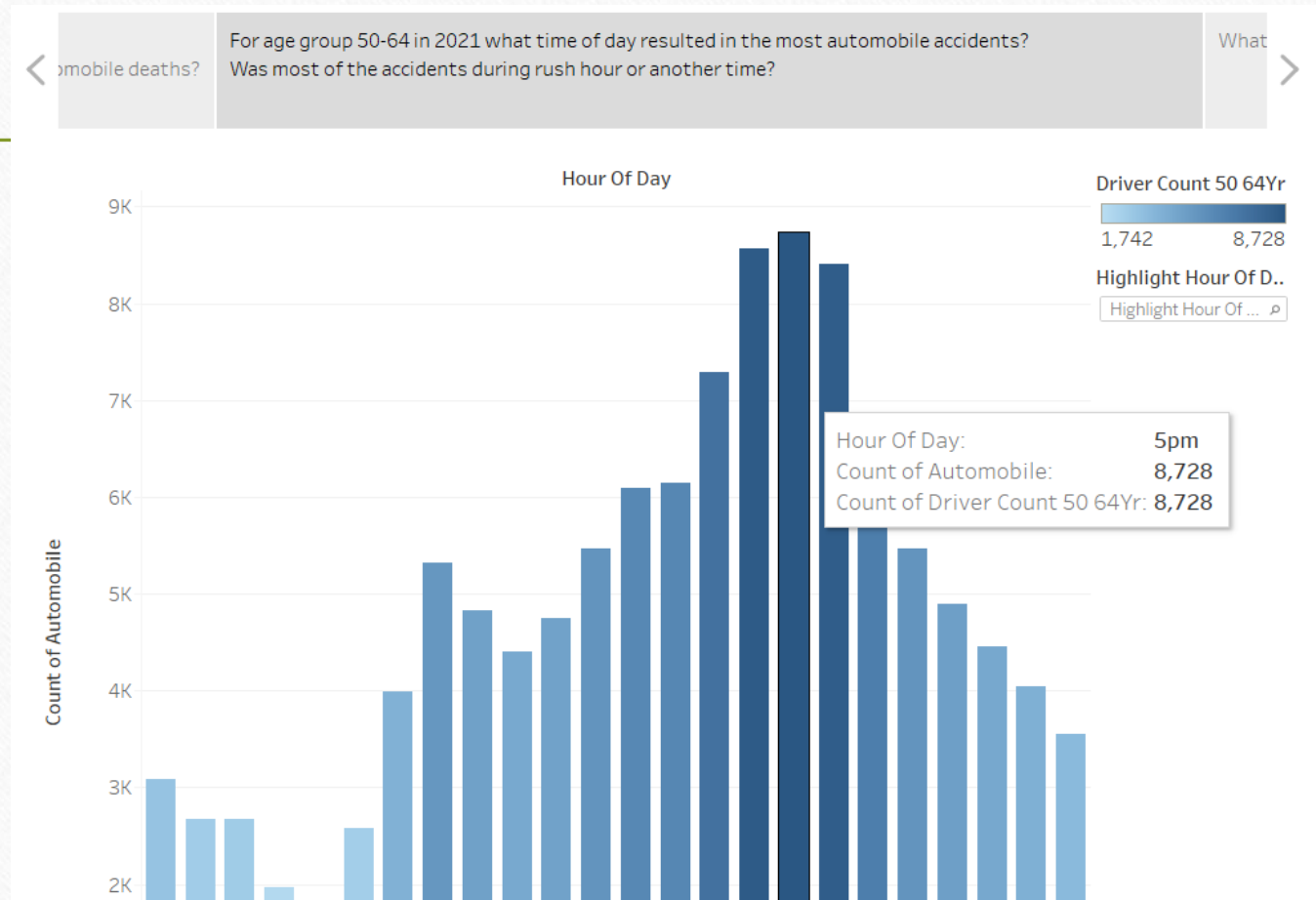


Telling the Story:

< Which county in PA during 2021 had the most deaths from not wearing a seatbelt?
How many deaths was there in Lehigh county from not wearing a seatbelt versus total automobile deaths? For ag
Was r >



Telling the Story:



Telling the Story:

2021 Automobile/Motorcycle Crash Data

< What level of injury were 50-64 year olds involved in the most during the year 2021? >

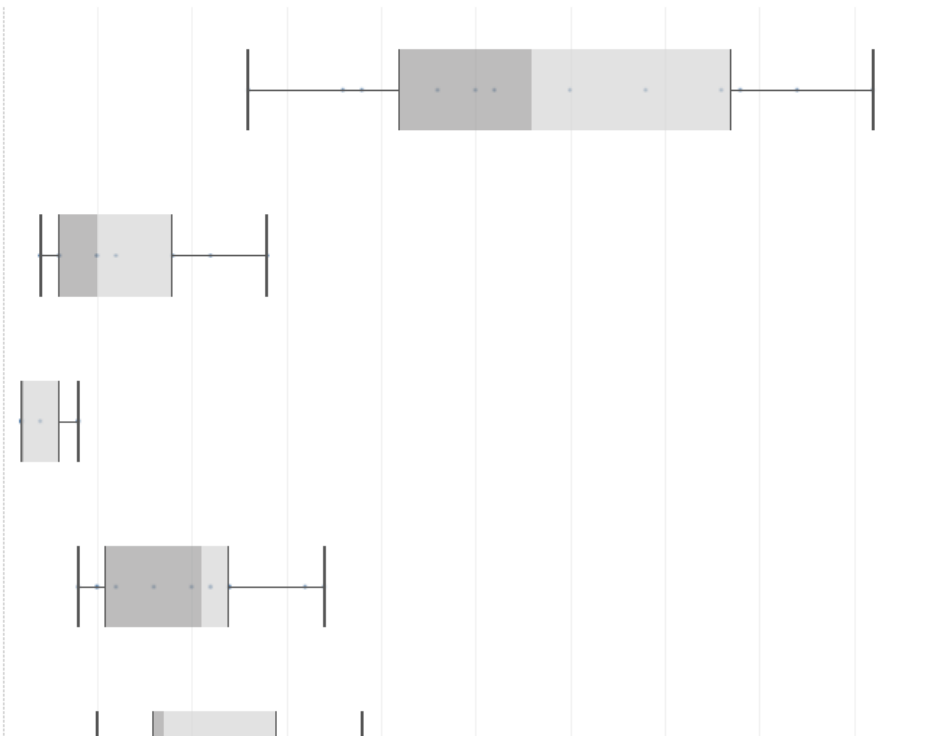
Max Severity Level

Minor Injury

Serious Injury

Fatal

Possible Injury



Telling the Story:

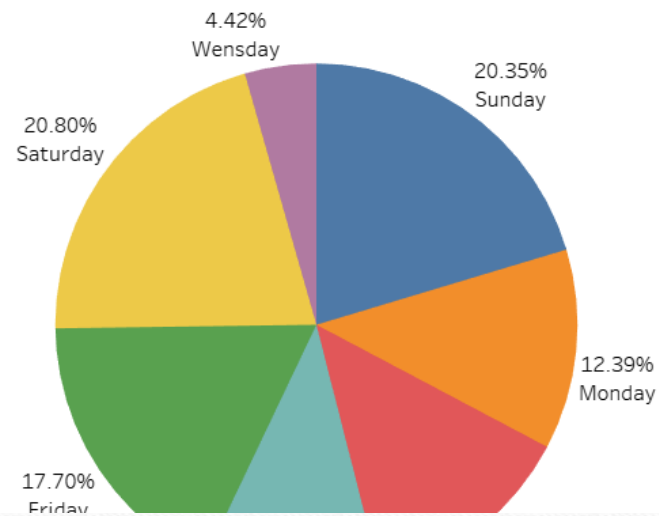
2021 Automobile/Motorcycle Crash Data

< What day of the week had the most motorcycle deaths in the year 2021? >

During
What

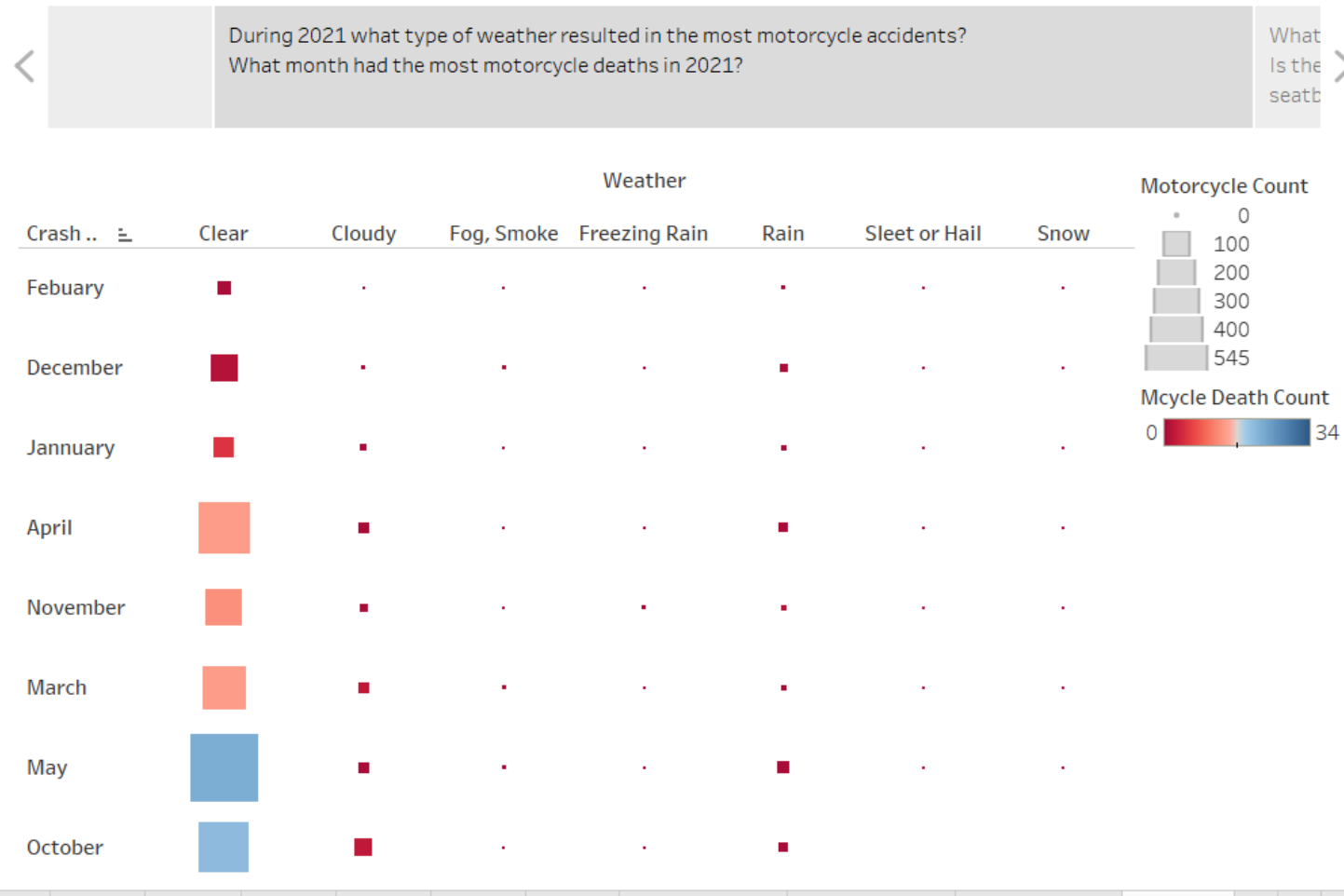
Day Of Week

Sunday
Monday
Tuesday
Thursday
Friday
Saturday
Wednesday



Telling the Story:

2021 Automobile/Motorcycle Crash Data



Telling the Story:

