Building Your Myth Busting Lab with Power BI

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LobsterPot Solutions

19 July 2014

~~Don't~~ try this at home

Failure is an option

Holy Crap, that's cool!

I reject your reality and substitute my own

What could go wrong?

Busted, Confirmed, Plausible

about me

10 years experience with SQL Server

Power BI & Tabular Model Enthusiast

Co-chapter Leader of PASS BUSINESS INTELLIGENCE VIRTUAL CHAPTER

Volunteer at PASS WOMEN IN TECHNOLOGY VIRTUAL CHAPTER W.I.T & SQL MALIBU

PASS Virtual Chapter Mentor

Microsoft CERTIFIED Solutions Expert
Business Intelligence
Data Platform

MVP Microsoft® Most Valuable Professional

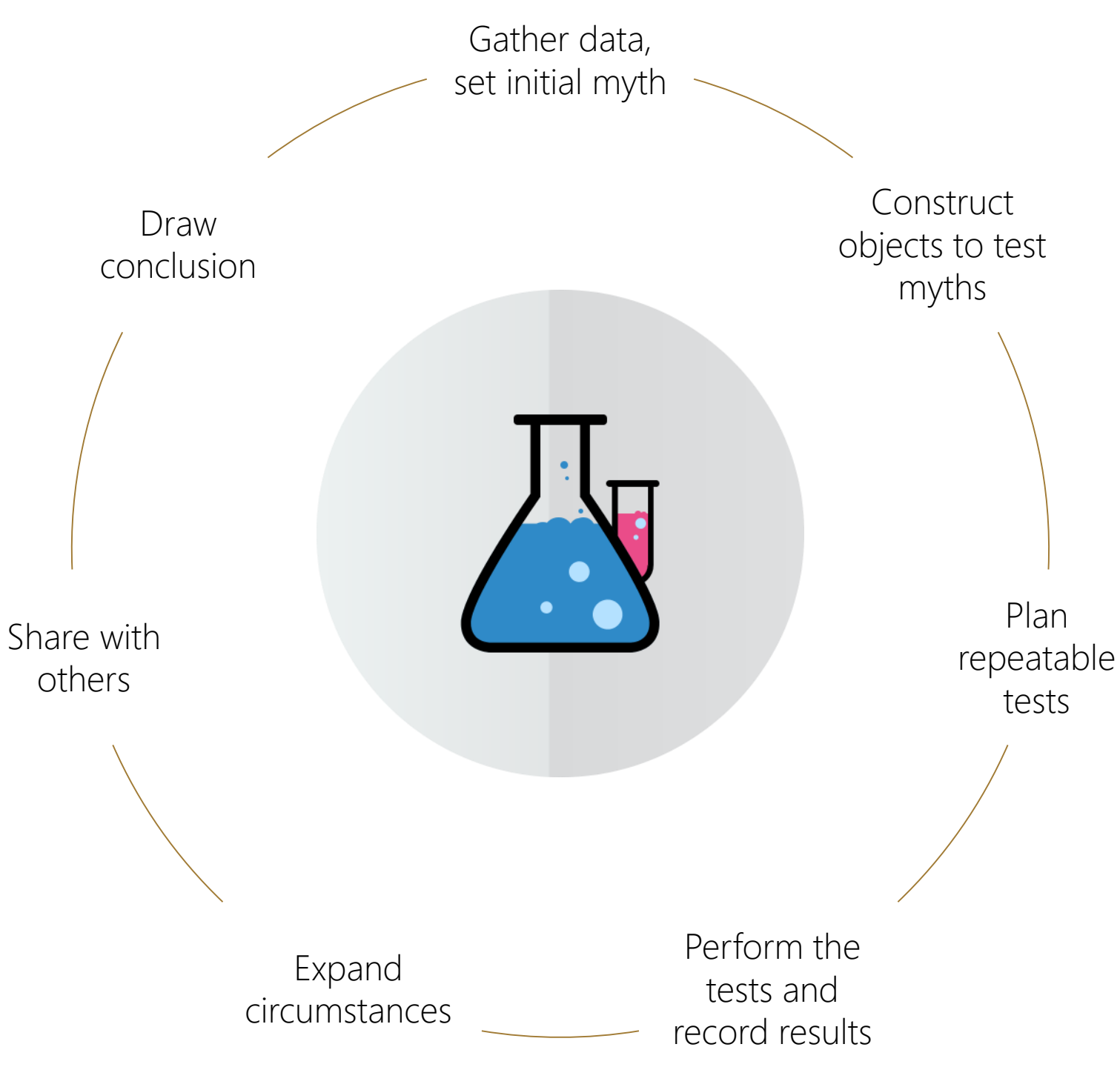
PASS OUTSTANDING PASS VOLUNTEER

LobsterPot™ Solutions Pty Ltd

Improving your data story

Accidental learning of some myths around Driving may be **unavoidable**

Myth Busting
and Data Professionals


Gather data, set initial myth
Construct objects to test myths
Plan repeatable tests
Perform the tests and record results
Expand circumstances
Share with others
Draw conclusion

Business performance, Speculations
Search for new / use existing data
Create a data model if needed
Query the data model
Analyse / explore results
Share with others
Draw conclusion

3

myths on driving

35

minutes

1

workshop / lab

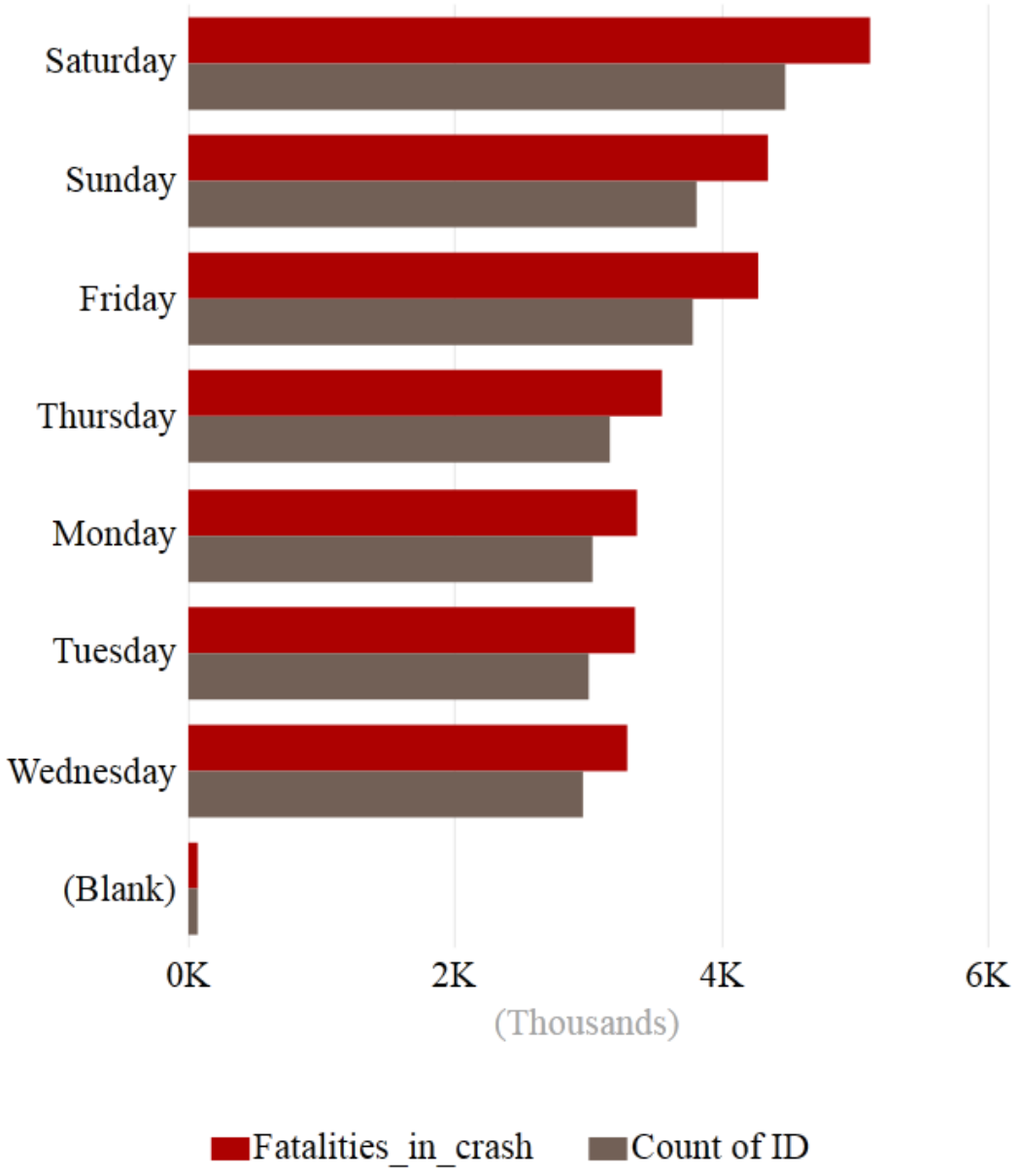
Power BI

Office 365

Myth #1:
Sunday Drivers

Sunday

Myth #1: Sunday Drivers Are Dangerous!



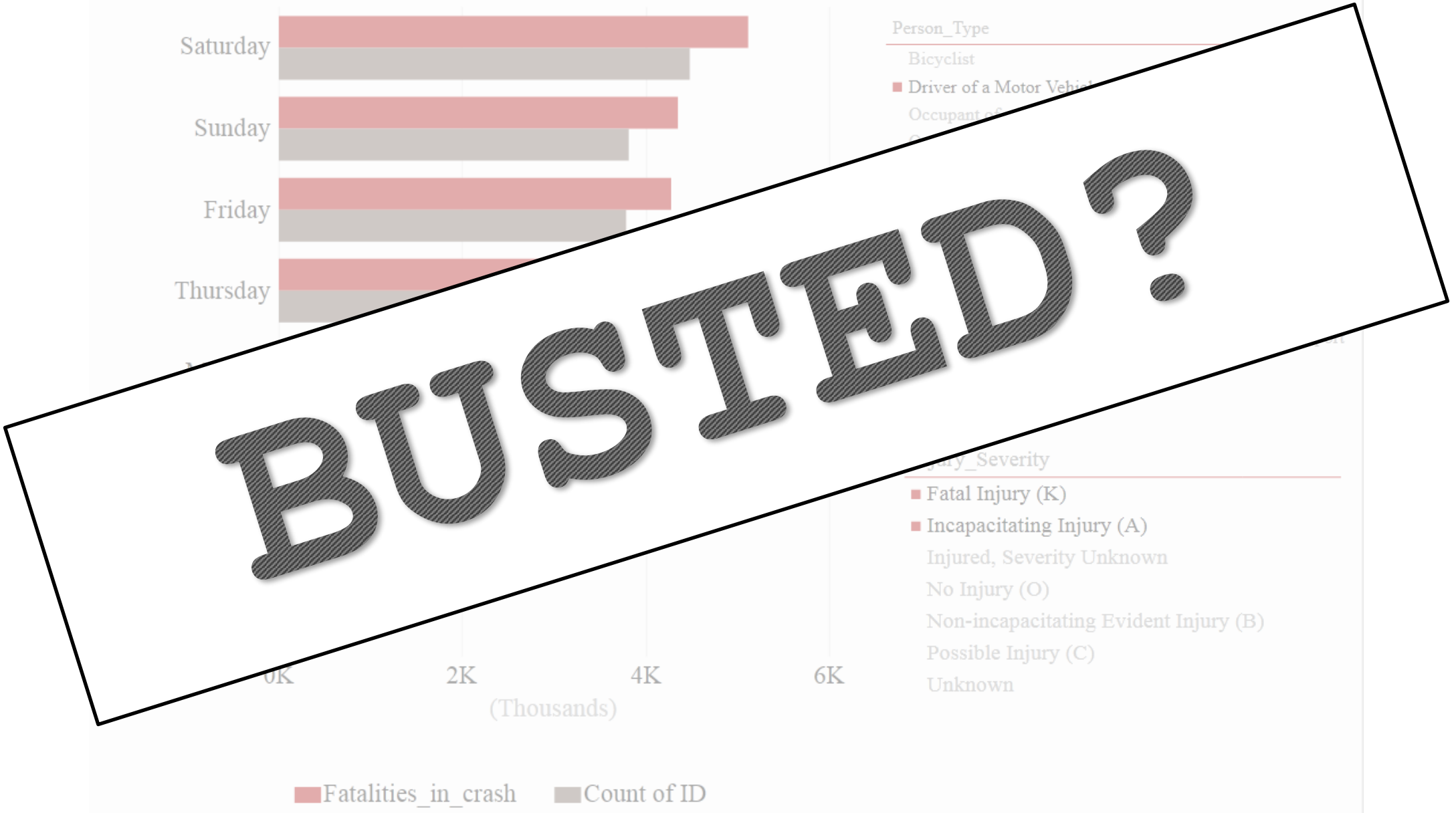
Person_Type

- Bicyclist
- Driver of a Motor Vehicle In-Transport
- Occupant of a Motor Vehicle Not In- Transport
- Occupant of a Non-Motor Vehicle Transport Device
- Other Cyclist
- Passenger of a Motor Vehicle In-Transport
- Pedestrian
- Persons In/On Buildings
- Persons on Personal Conveyances
- Unknown
- Unknown Occupant Type in a Motor Vehicle In- Transport

Injury_Severity

- Fatal Injury (K)
- Incapacitating Injury (A)
- Injured, Severity Unknown
- No Injury (O)
- Non-incapacitating Evident Injury (B)
- Possible Injury (C)
- Unknown

Myth #1: Sunday Drivers Are Dangerous!



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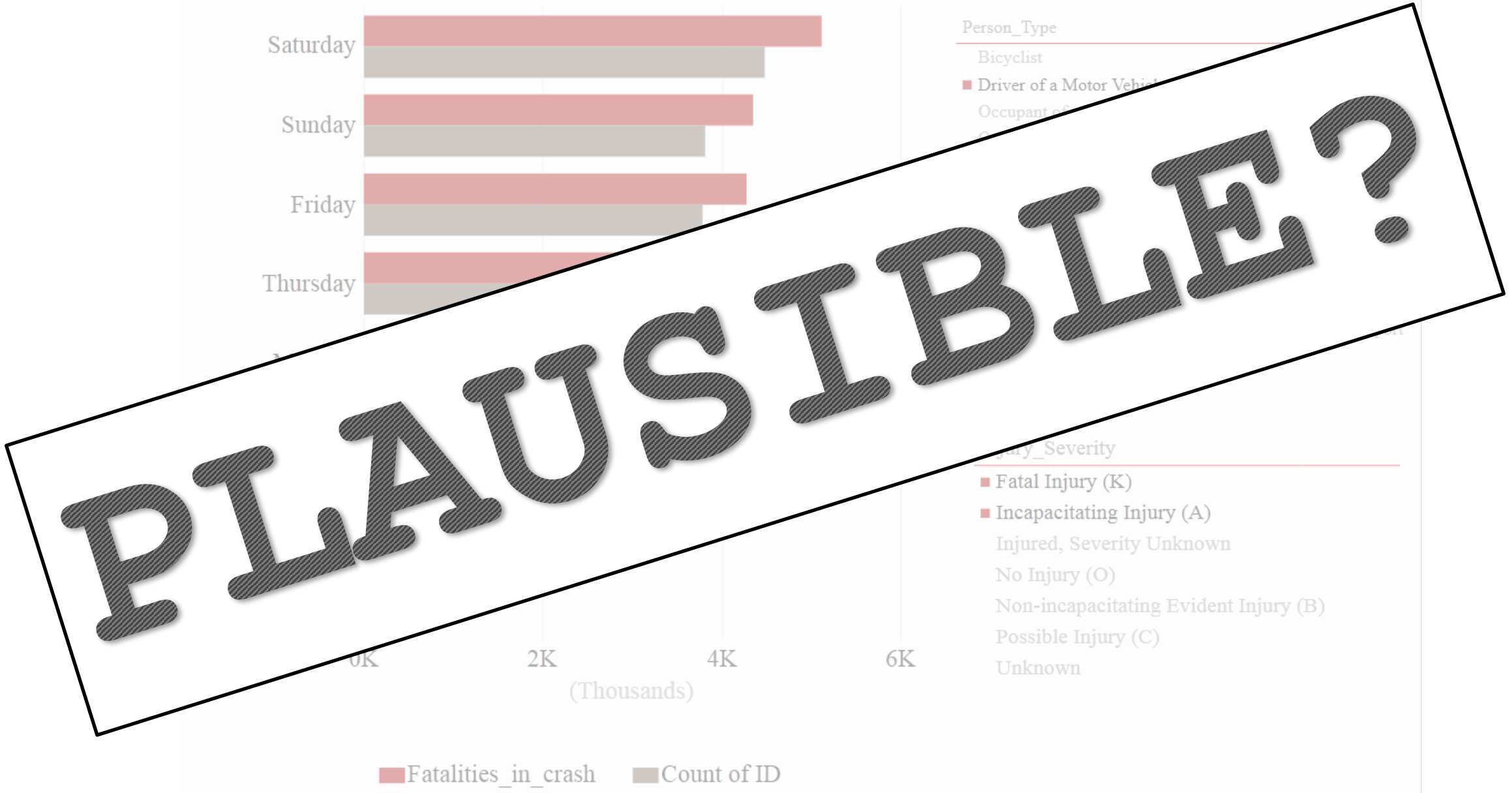
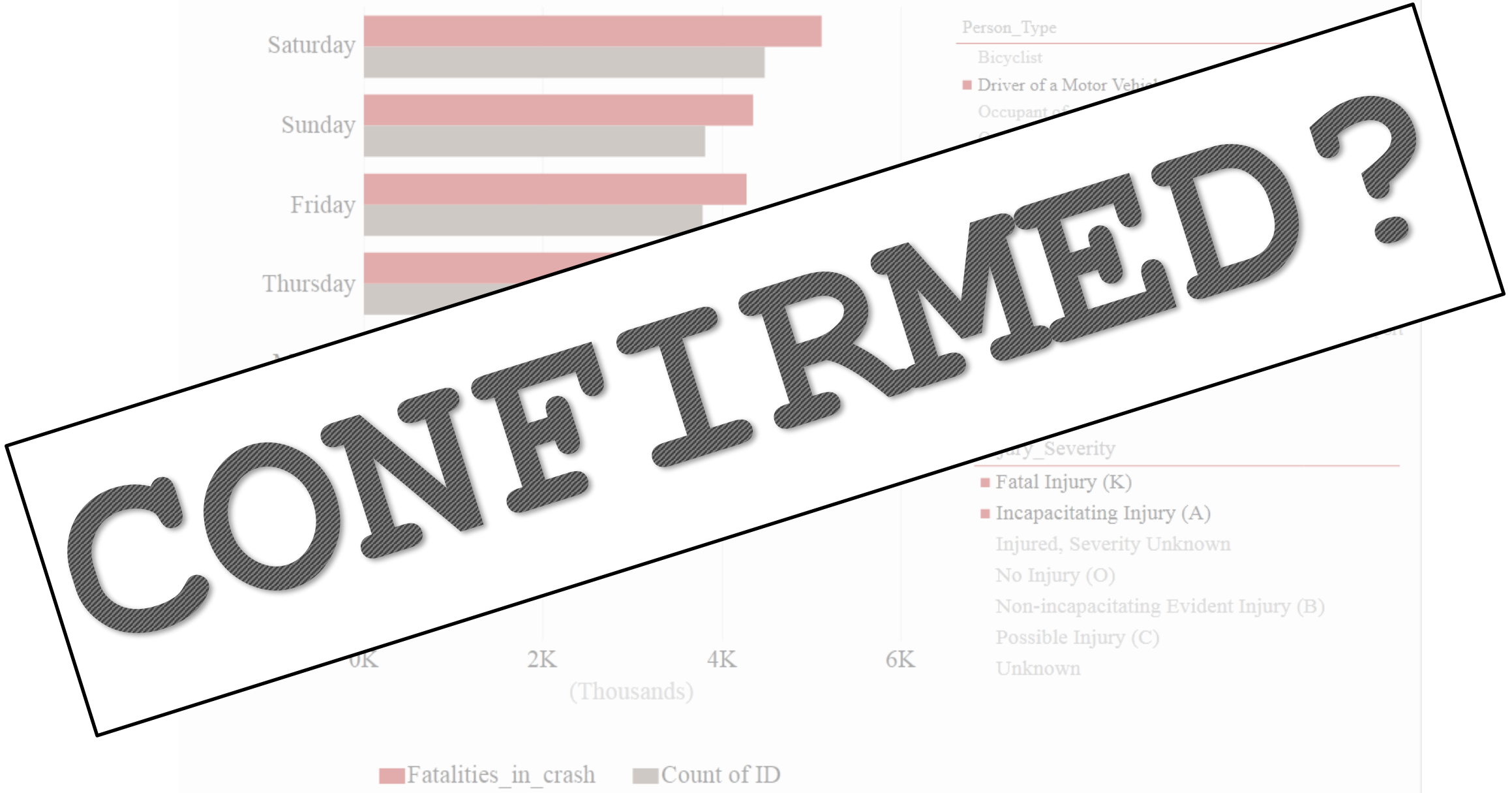


PLAUSIBLE?

Myth #1: Sunday Drivers Are Dangerous!



CONFIRMED?

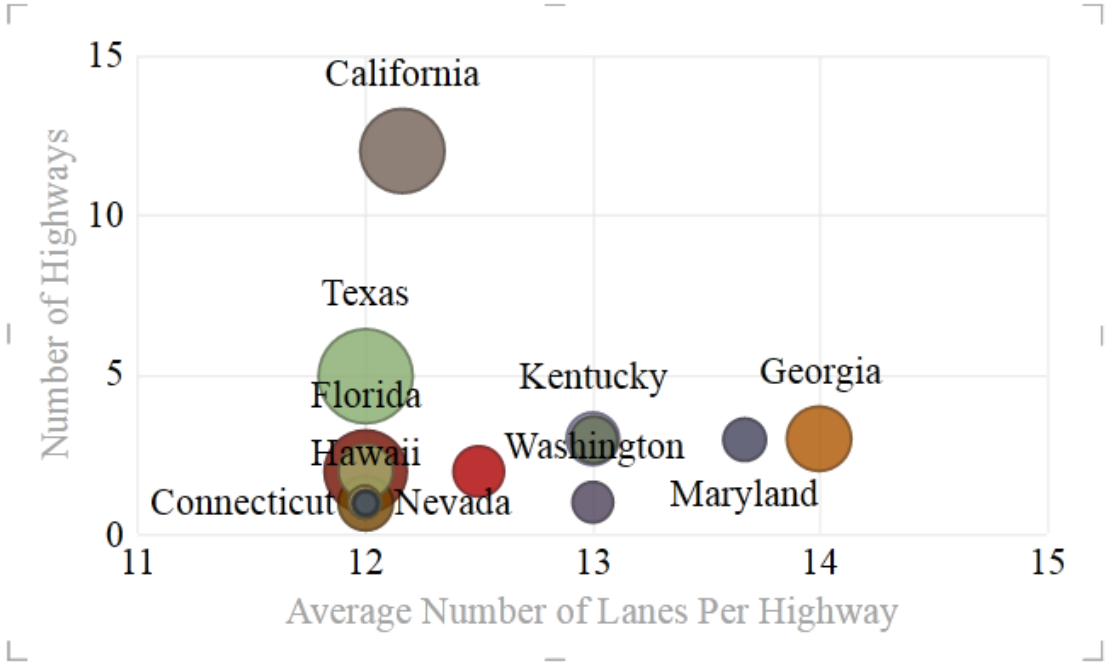
Saturday has higher fatalities and volume of driver incidents

We have not compared percentage of fatalities over volume of traffic

Myth #2: *Highway* Phobia

Highway

Myth #2: Highway Phobia



Person_Type

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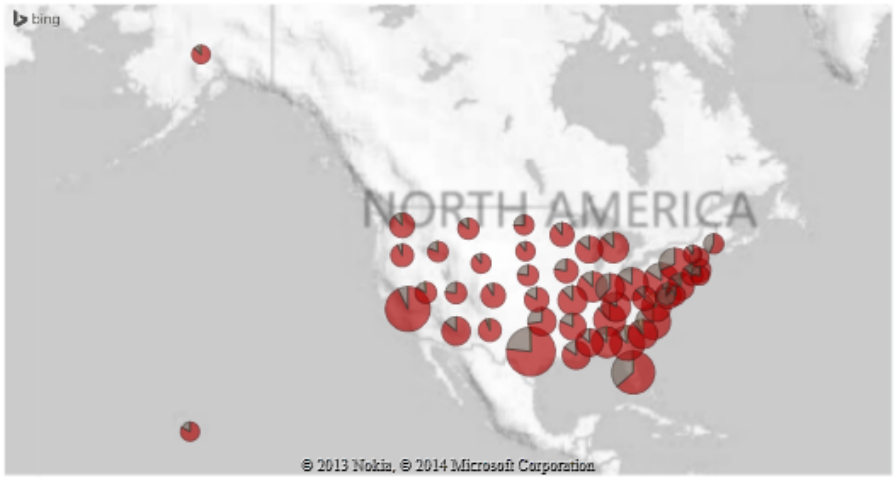
Count of ID by State, and Road Type



Road Type

- Highway
- Not Highway
- Unknown

Injury_Severity

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- No Injury (O)
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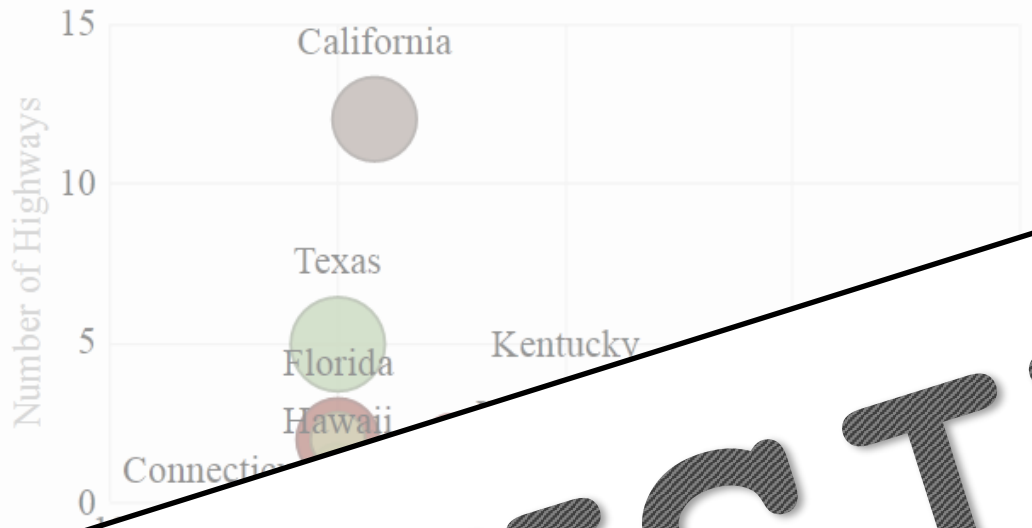
Myth #2: Highway Phobia

BUSTED?

Myth #2: Highway Phobia



Person_Type
Bicyclist
Driver

Type
Highway
Not Highway
Unknown

Injury_Severity
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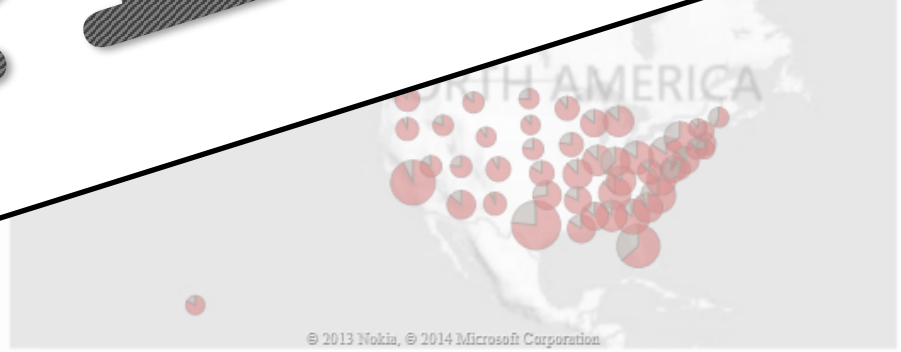
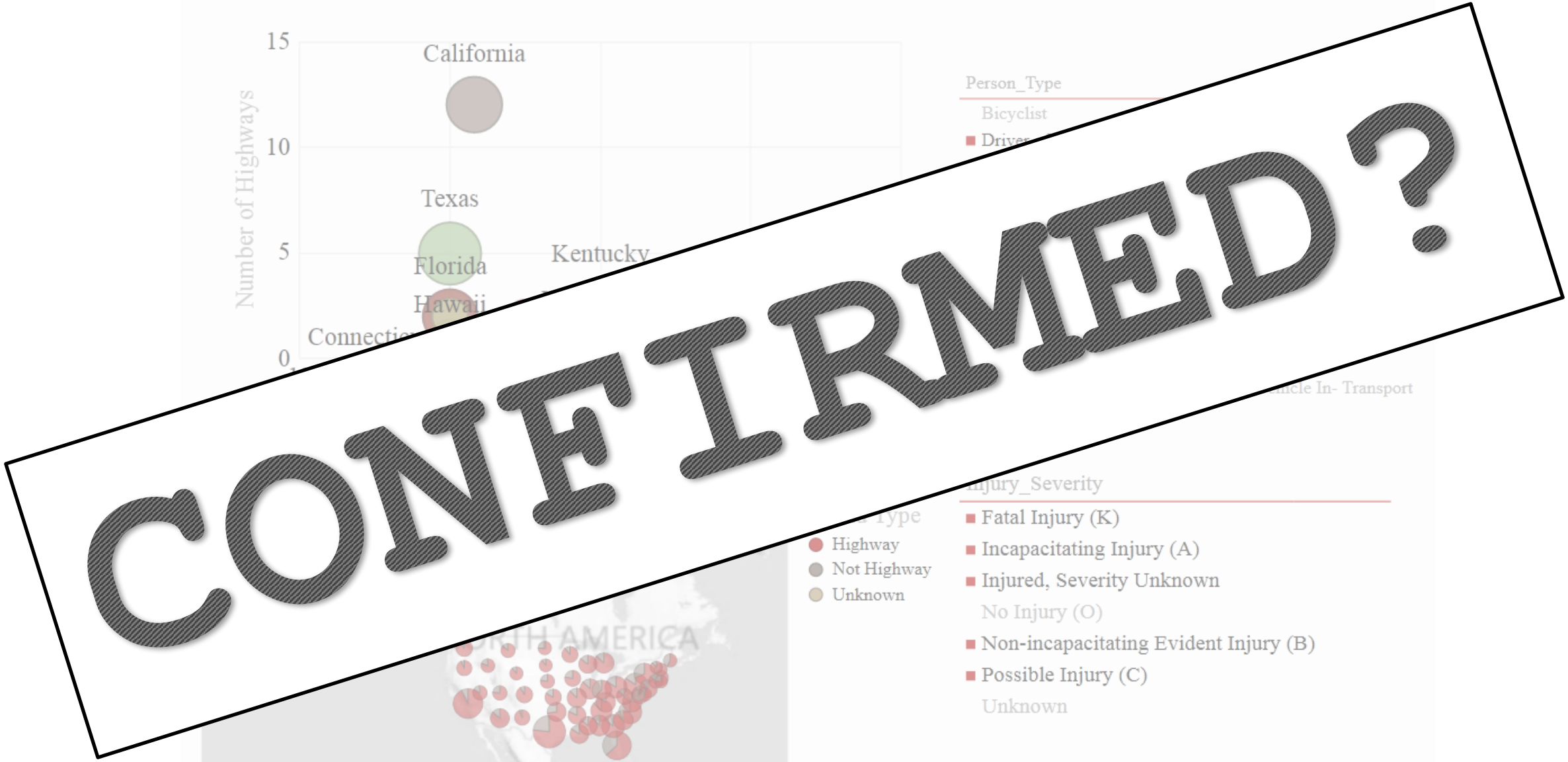


PLAUSIBLE?

Myth #2: Highway Phobia



CONFIRMED?

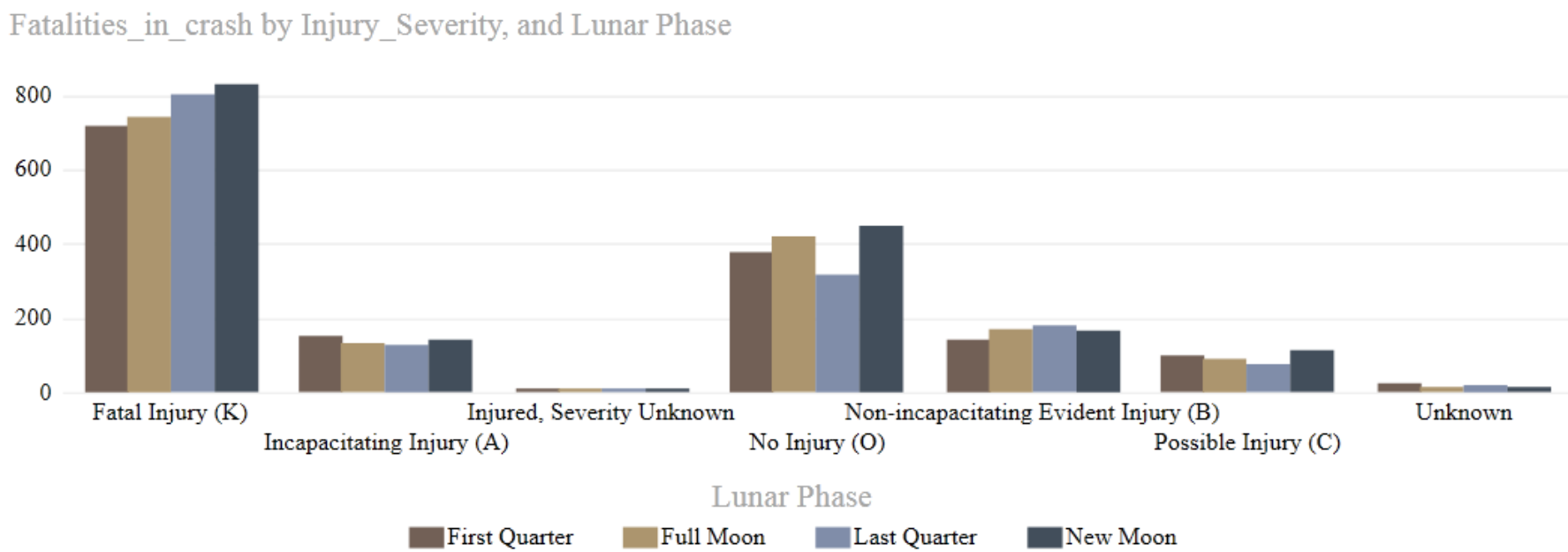
CA, TX and GA have highest fatalities, and have either wide or more highways than other states

Further research on Fatalities over each Road Type Volume

Myth #3:
Lunatic drivers

Lunatic

Myth #3: Lunatic Drivers



Lunar Phase

- (Blank)
- First Quarter
- Full Moon
- Last Quarter
- New Moon

Person_Type

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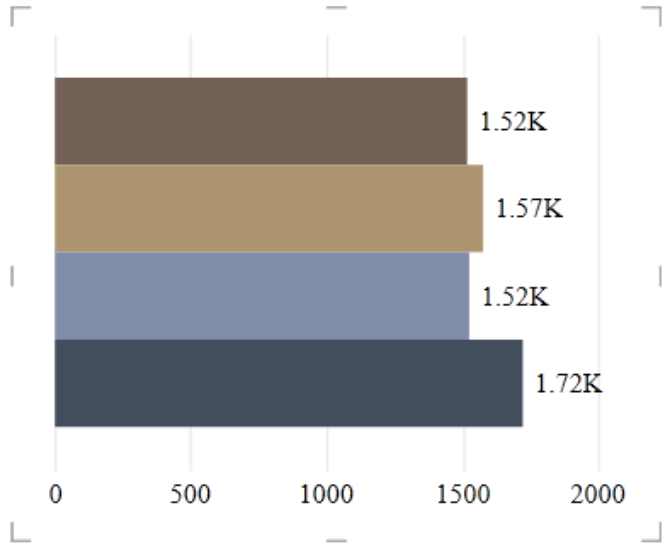


Myth #3: Lunatic Drivers

Myth #3: Lunatic Drivers

PLAUSIBLE?

Myth #3: Lunatic Drivers

“Lunatic” related to Lunar phase. There are more fatalities around New Moon!

People avoid driving on Full Moon?

Beyond Mythbusting

try this!

Power BI Q&A

Power BI for Office 365

show car crash on Superbowl vs Valentine's Day by state

Show car crashes and their state and important day, where important day is Super bowl or Valentine's Day

Average of Age by Important Day, and State

Super Bowl

Valentine's Day

results from

Car Crash v3.xlsx

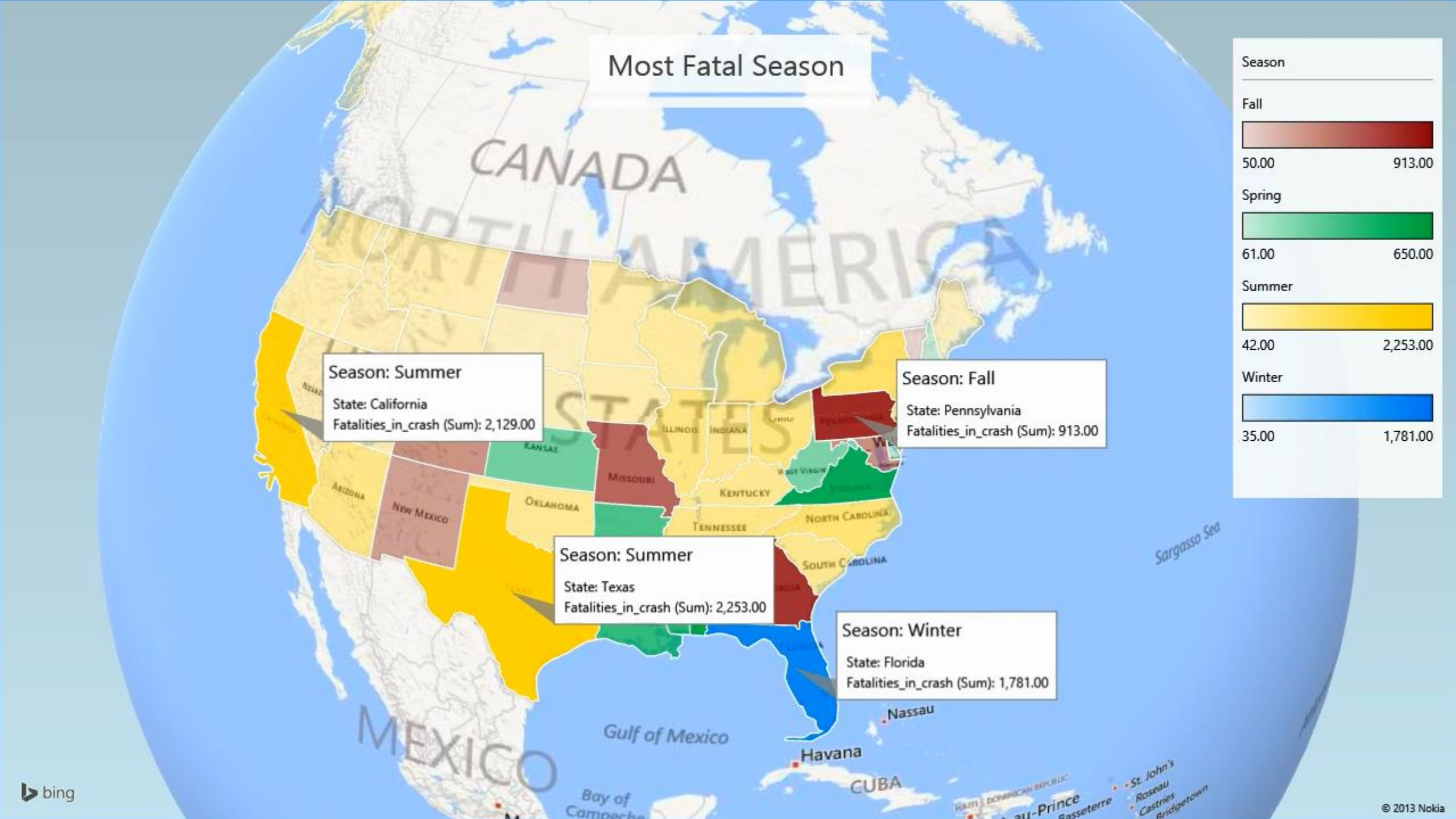
explore this result

SHOW FILTERS FIELDS

- table
- **map**
- card
- line chart
- pie chart
- scatter chart
- clustered bar chart
- bar chart
- 100% stacked bar chart
- clustered column chart
- column chart
- 100% stacked column chart

show time

Power Map


Most Fatal Season
Season
Fall
50.00
913.00
Spring
61.00
650.00
Summer
42.00
2,253.00
Winter
35.00
1,781.00
Season: Summer
State: California
Fatalities_in_crash (Sum): 2,129.00
Season: Fall
State: Pennsylvania
Fatalities_in_crash (Sum): 913.00
Season: Summer
State: Texas
Fatalities_in_crash (Sum): 2,253.00
Season: Winter
State: Florida
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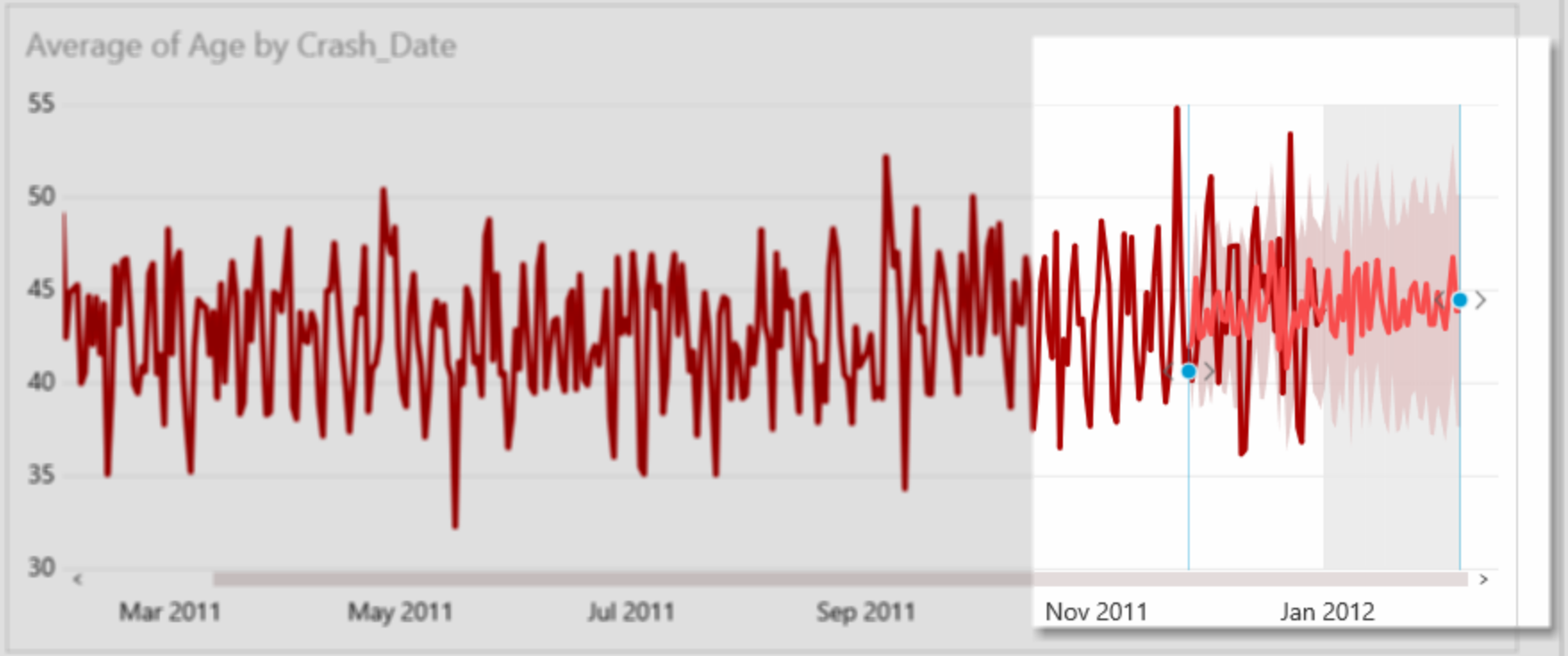
CANADA
NORTH AMERICA
UNITED STATES
MEXICO
Gulf of Mexico
Sargasso Sea
CUBA
Havana
Nassau
Kansas
Missouri
Illinois
Indiana
Kentucky
Tennessee
Oklahoma
Arizona
New Mexico
North Carolina
bing
© 2013 Nokia

forecasting

Power View on Office 365

Trend Analysis



Filters | Analysis

Forecast

Seasonality

Every 52 units

Seasonality

Auto None 2 3 4 6 7 12 52 365

Your data cycle setting is 52 units.

(1 unit = Time difference between two data points)

Confidence Interval

1 standard deviation (68% of values)

Show acceptable range of values

None 1σ 2σ 3σ

Values 1 standard deviation from the mean (68% of possible values) are acceptable.

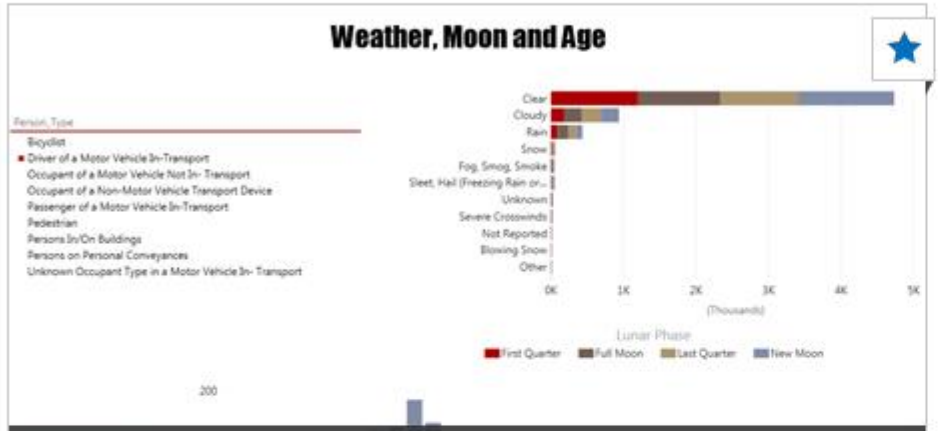
collaborate

Office 365 Power BI Site

LobsterPot's Myth Busting Lab

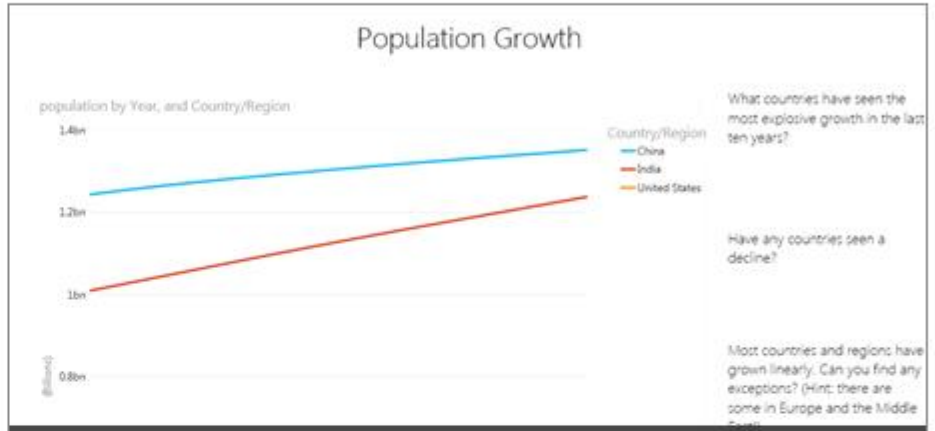
Power BI

Featured reports



04. Trend

Julie Koesmarno | Updated: 9 minutes ago



WorldBankIndicators (Sample)

Rob Farley | Updated: 3 Apr 2014 3:55 PM

Olympic

Rob Farle

Featured questions

medal count by year for swimming vs athletics

athletes from Italy with gold medals in 1964

athletes that won swimming medals in Athens '04

show GD

portable

Power BI App, Office 365 Online

Weather, Moon and Age

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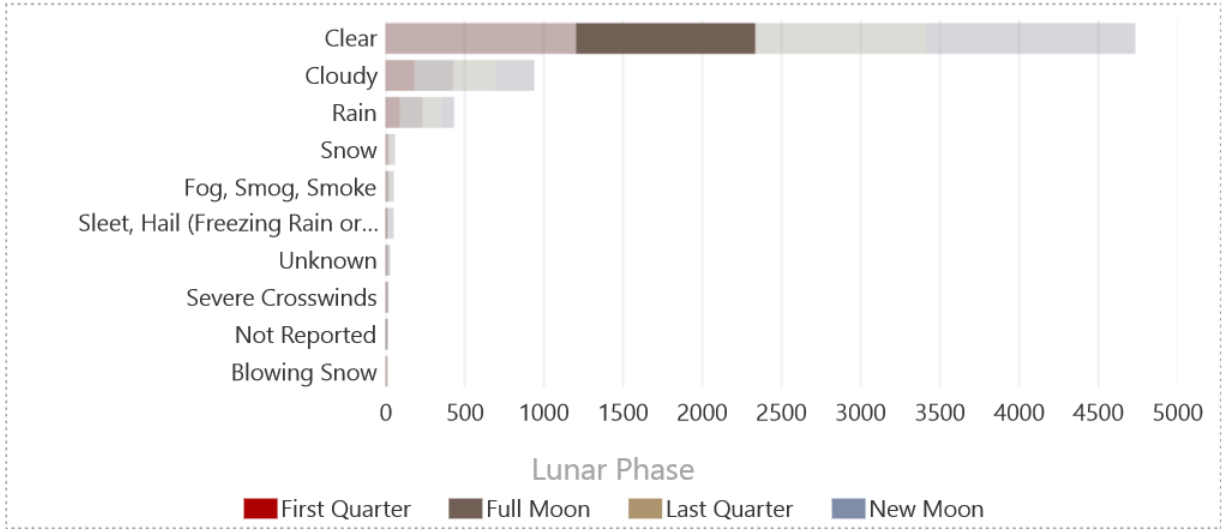
sort by Fatalities_in_crash desc



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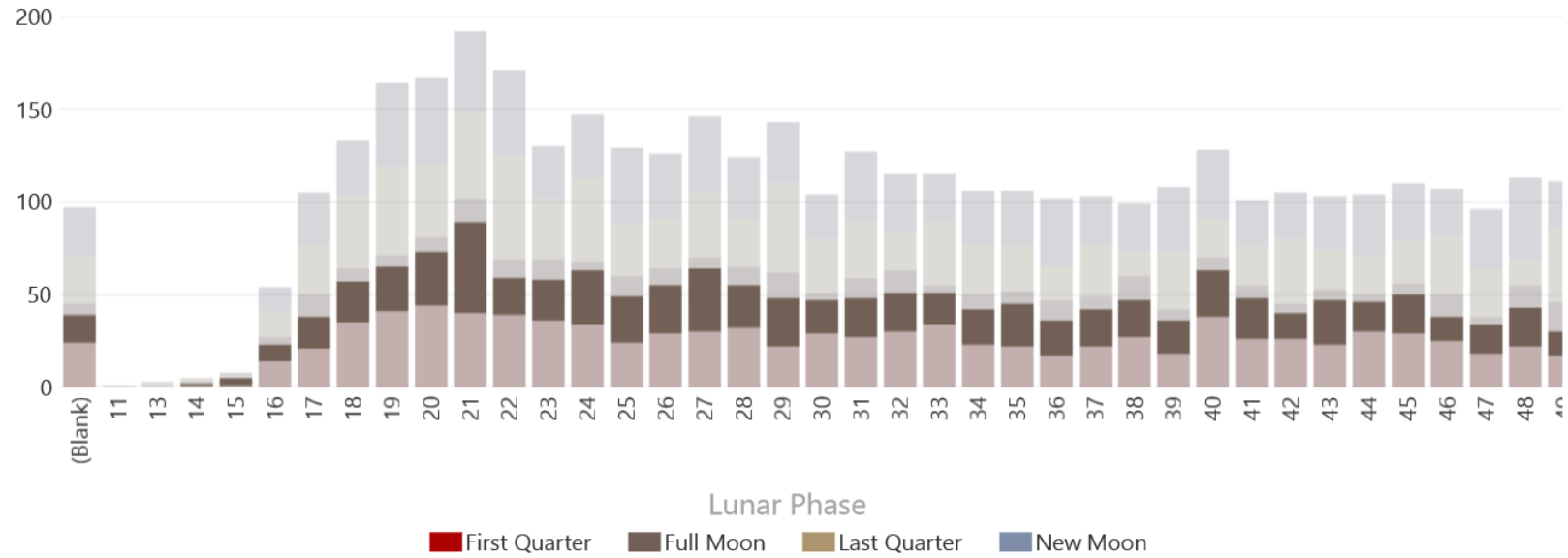


Wrap it up!

Power BI

Self Service BI

Collaborative BI

Mythbusting BI

Gather data, set initial myth

Get the right tools / platform for testing

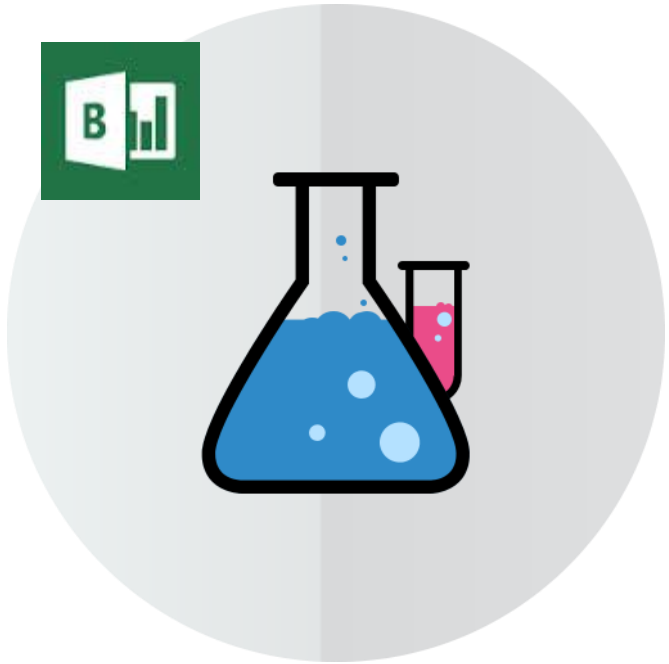
Design repeatable tests

Perform the tests

Ask questions / explore more myths

Share with others

Draw conclusion



Power Query

Power BI
Office 365

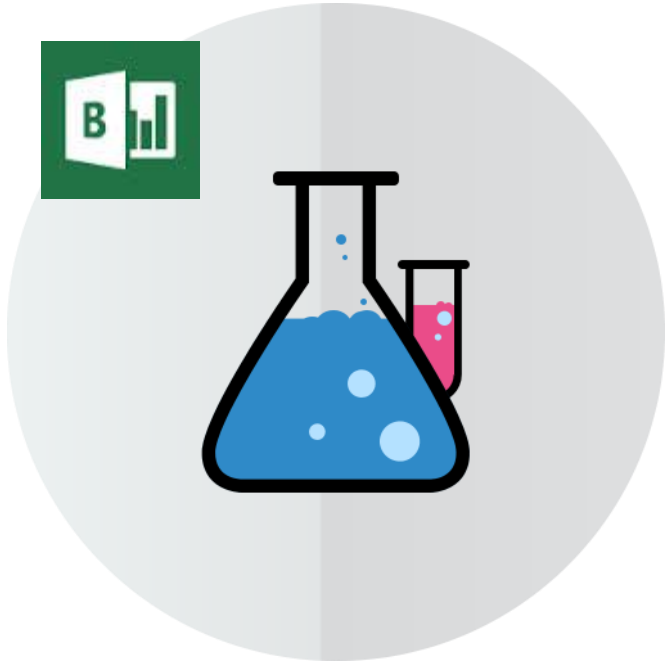
Power Pivot

Power View
Power Map
Pivot Table / Charts

Power View
Power BI Q&A

Power BI Site
Power BI App
Office 365

you + team



further reading

Power BI -

http://powerbi.com/

Chris Webb's Power BI articles

https://cwebbbi.wordpress.com/category/power-bi/

Power BI Getting Started

http://www.microsoft.com/en-us/powerBI/support/default.aspx?topic=getting-started

Matt Masson's Power Query blogs

http://www.mattmasson.com/category/power-query/

Myth Busting Driver Fatalities Using Power BI

https://www.youtube.com/watch?v=hSig8_TKsyo

contact me

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Blog	http://www.mssqlgirl.com
Twitter	@mssqlgirl
LinkedIn	http://www.linkedin.com/in/juliekoesmarno

Thank you
and *please* drive
safely!