MetroTransit Passenger Trends

Sep 2019 - Apr 2020

Zoey Zhou, Karim Darbaki & Josh Peterson

Pre / Post-COVID Public Transportation Behavior

Data was publicly available through City of Minneapolis

Data Owner was pivotal for 2020 data

We learned the importance of assumptions in data analytics

Limited documentation led us down several rabbit holes

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1. What are the **most popular** MetroTransit stations, as defined by volume of "Ons" & "Offs"?

2. What **part of the week** sees the highest level of MetroTransit traffic?

3. What is the **relationship** between station "Ons" & "Offs"?
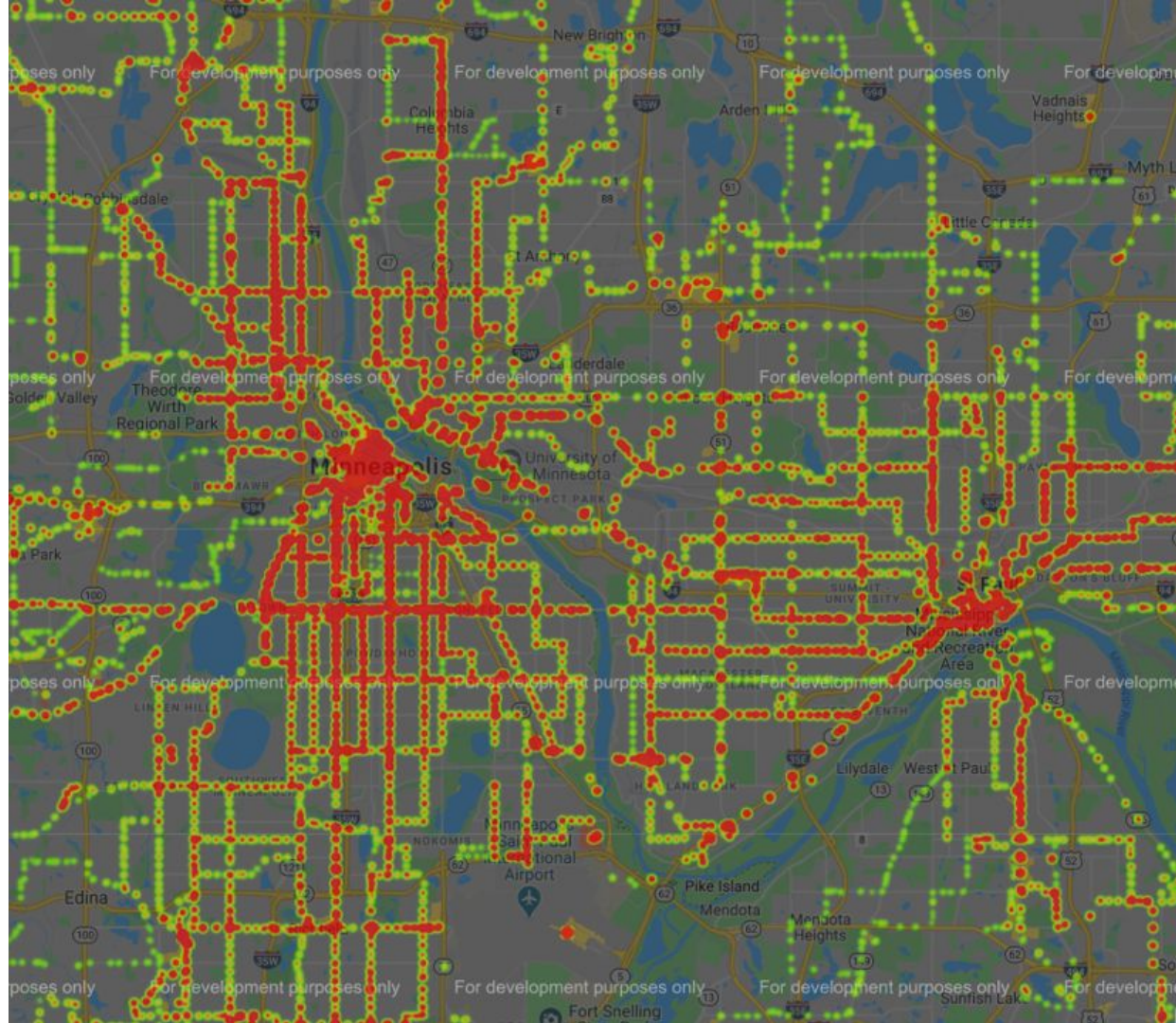
4. How has **Minnesota's lockdown** impacted MetroTransit?

Key Questions

1. What are the **most popular** MetroTransit stations, as defined by volume of "Ons" & "Offs"?

First we created a heatmap to show all the transit routes
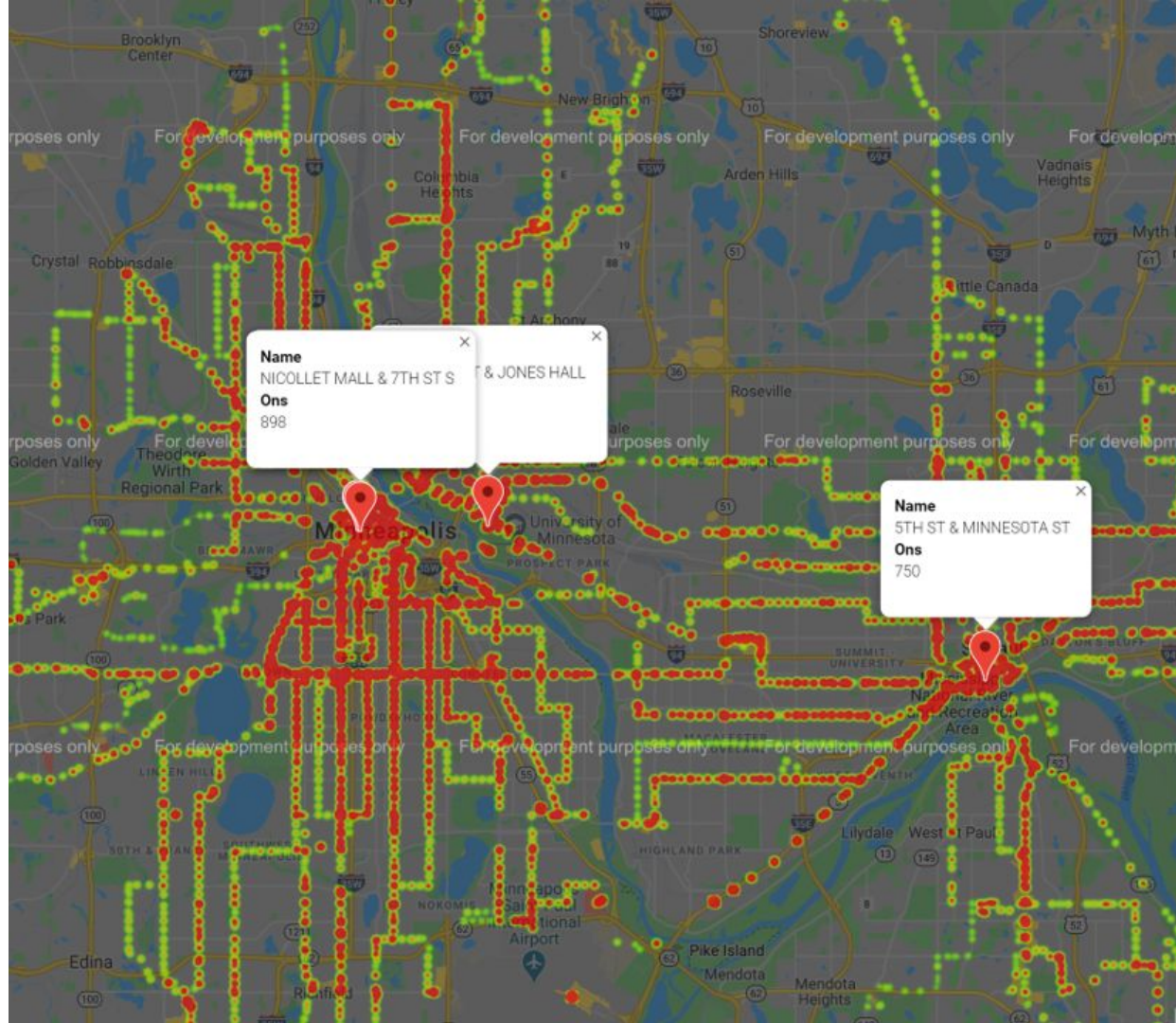
Red represents highest number of "Ons"

Easy to determine downtown Minneapolis & St. Paul

1. What are the **most popular** MetroTransit stations, as defined by volume of "Ons" & "Offs"?

Most popular stations for "Ons" are:

- **Downtown Minneapolis**
- **U of MN**
- **St. Paul**

Name
NICOLLET MALL & 7TH ST S
Ons
898

T & JONES HALL

Name
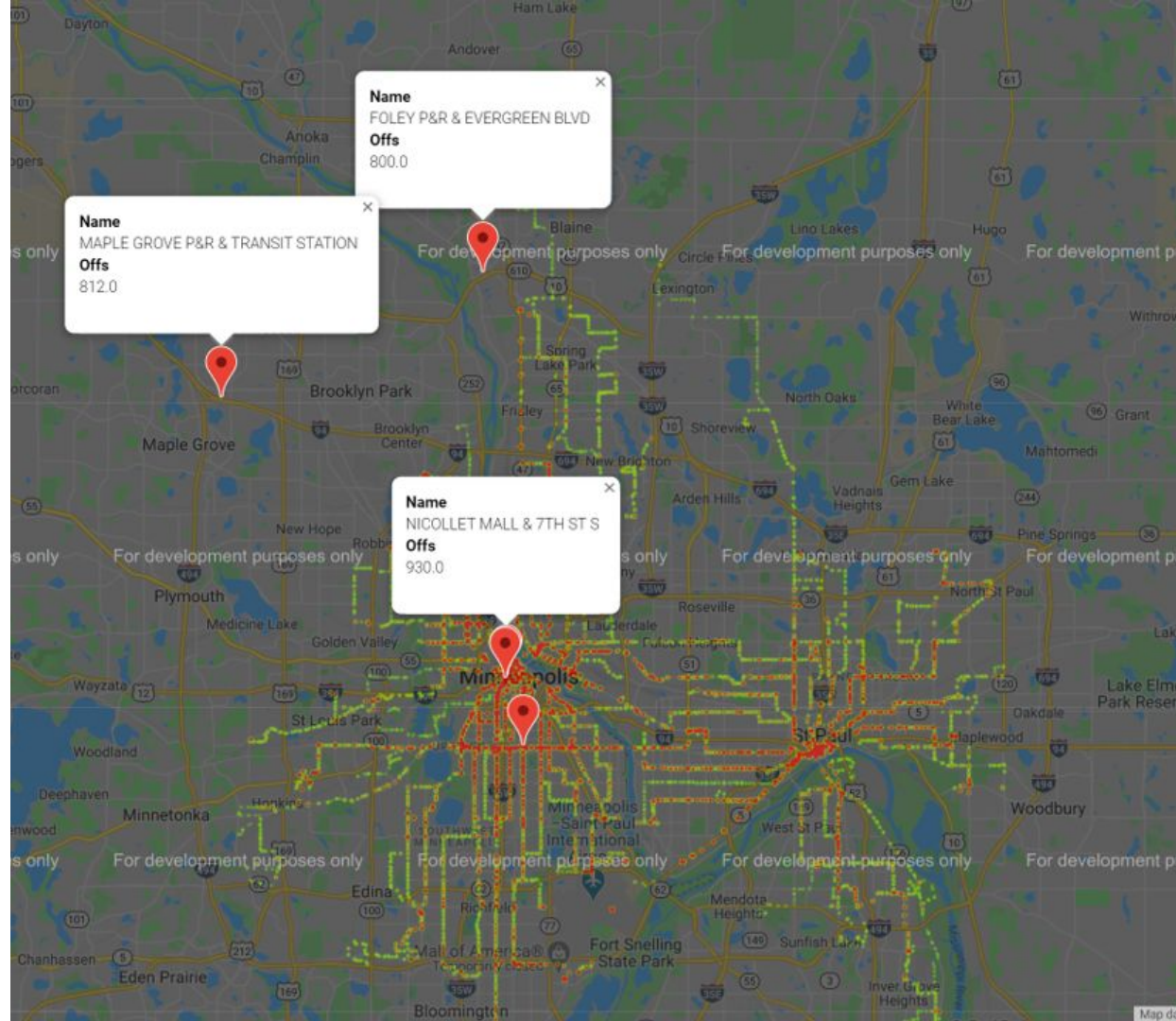5TH ST & MINNESOTA ST
Ons
750

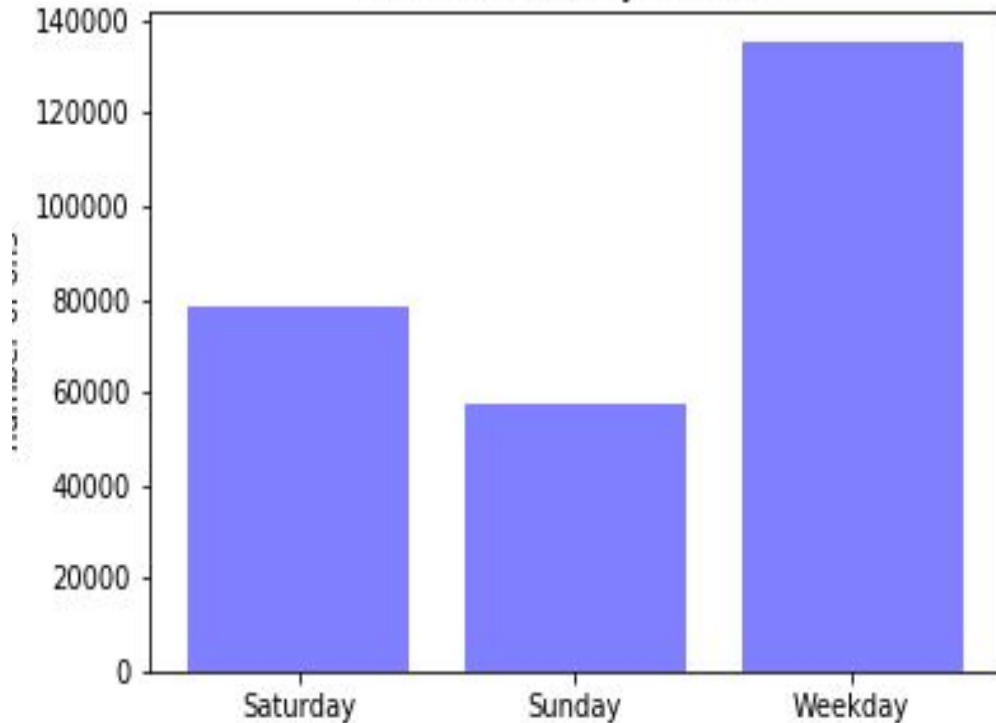1. What are the **most popular** MetroTransit stations, as defined by volume of "Ons" & "Offs"?

Most popular stations for "Offs" are:

- **Downtown Minneapolis**
- **North Suburbs**

Apparently everyone flees to Maple Grove & Blaine

Name
FOLEY P&R & EVERGREEN BLVD
Offs
800.0

Name
MAPLE GROVE P&R & TRANSIT STATION
Offs
812.0

Name
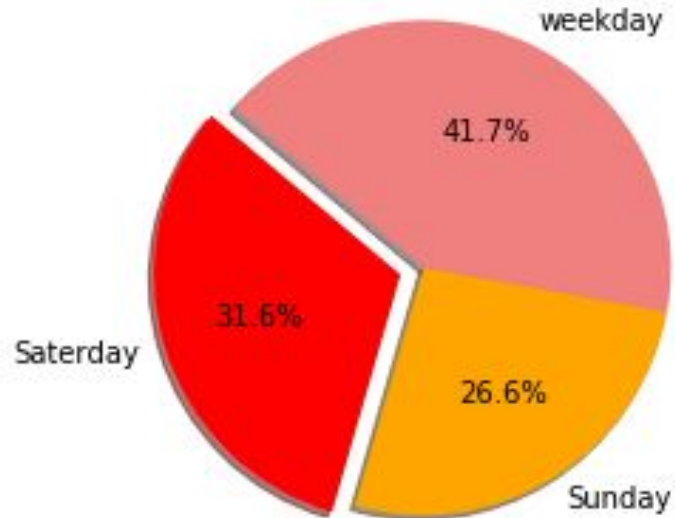NICOLLET MALL & 7TH ST S
Offs
930.0

Number of ons by schedule

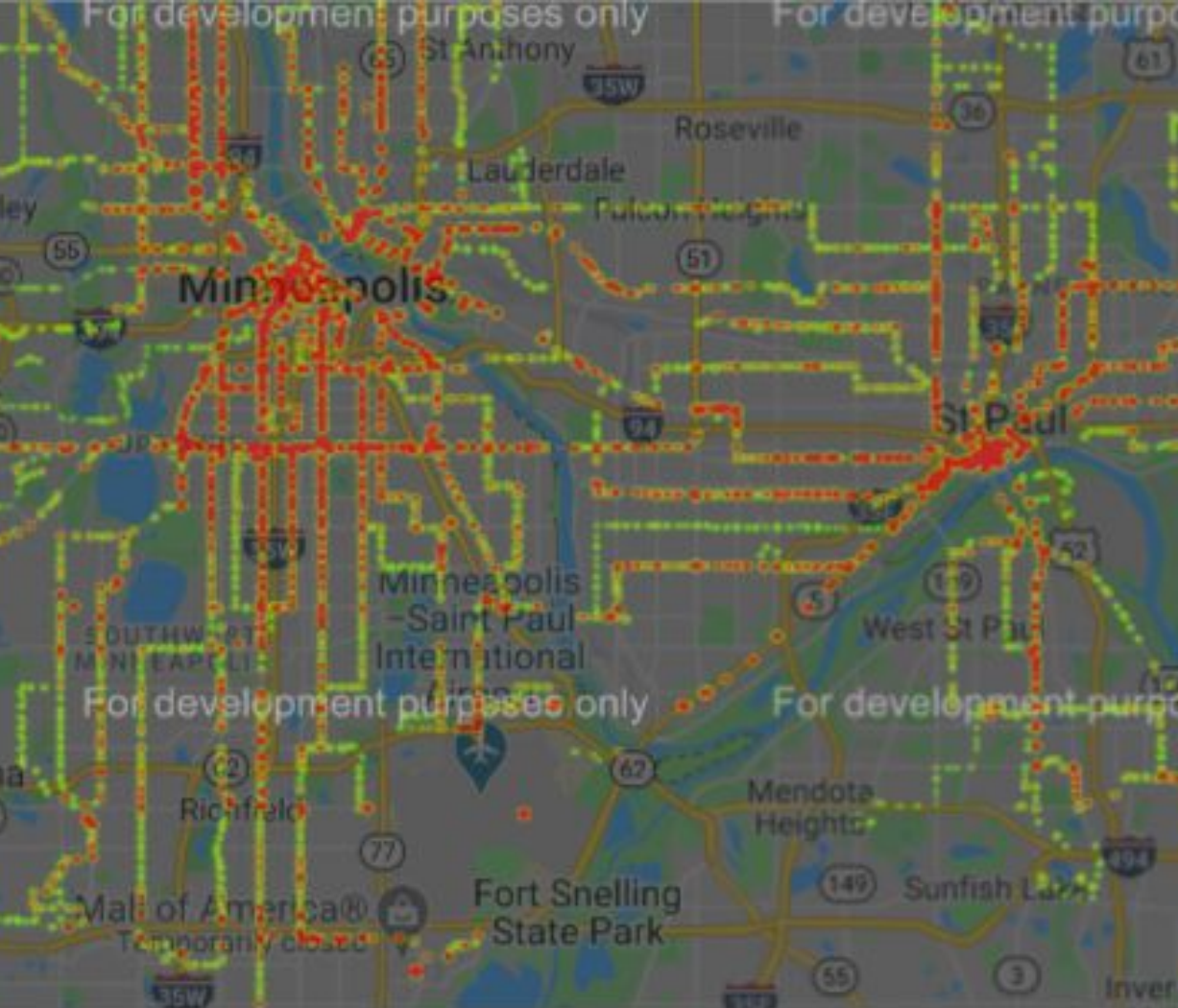2. What **part of the week** sees the highest level of MetroTransit traffic?

Weekdays see the highest number of travelers

- **Weekday is an average number of ons for M-F**

2. What **part of the week** sees the highest level of MetroTransit traffic?

- **This is a percentage break down of "ons" by Schedule**
- **There are 3975 total stops.**

2. What **part of the week** sees the highest level of "Ons" for the MetroTransit traffic?

This is an image of a google map of Minneapolis with the stops with a thermal layer showing which stops have the most "ons"
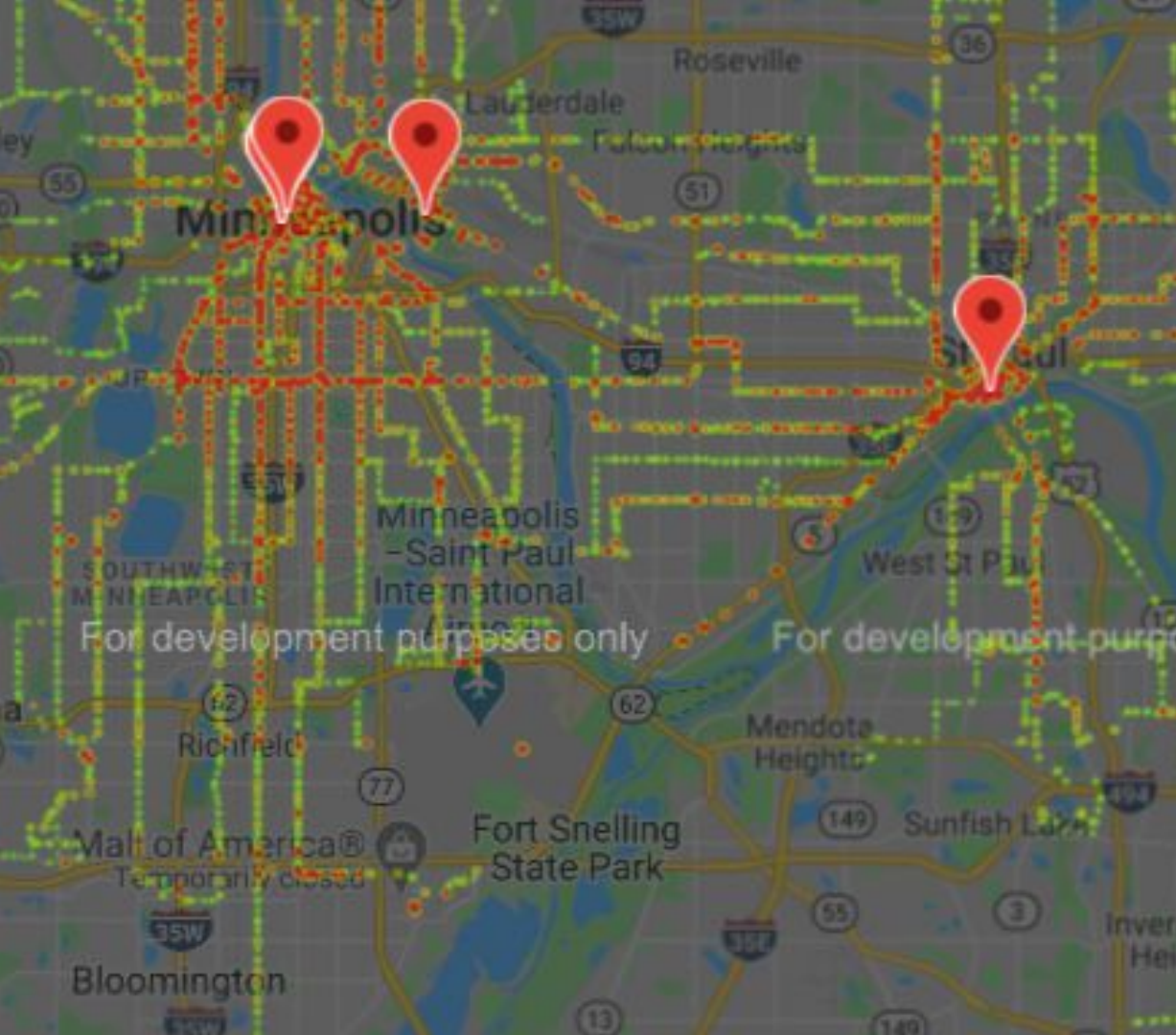
2. What **part of the week** sees the highest level of MetroTransit traffic?

Here you can see a map with a Heat map of "ons" for the average weekday and the top 5 spots with the most "ons"
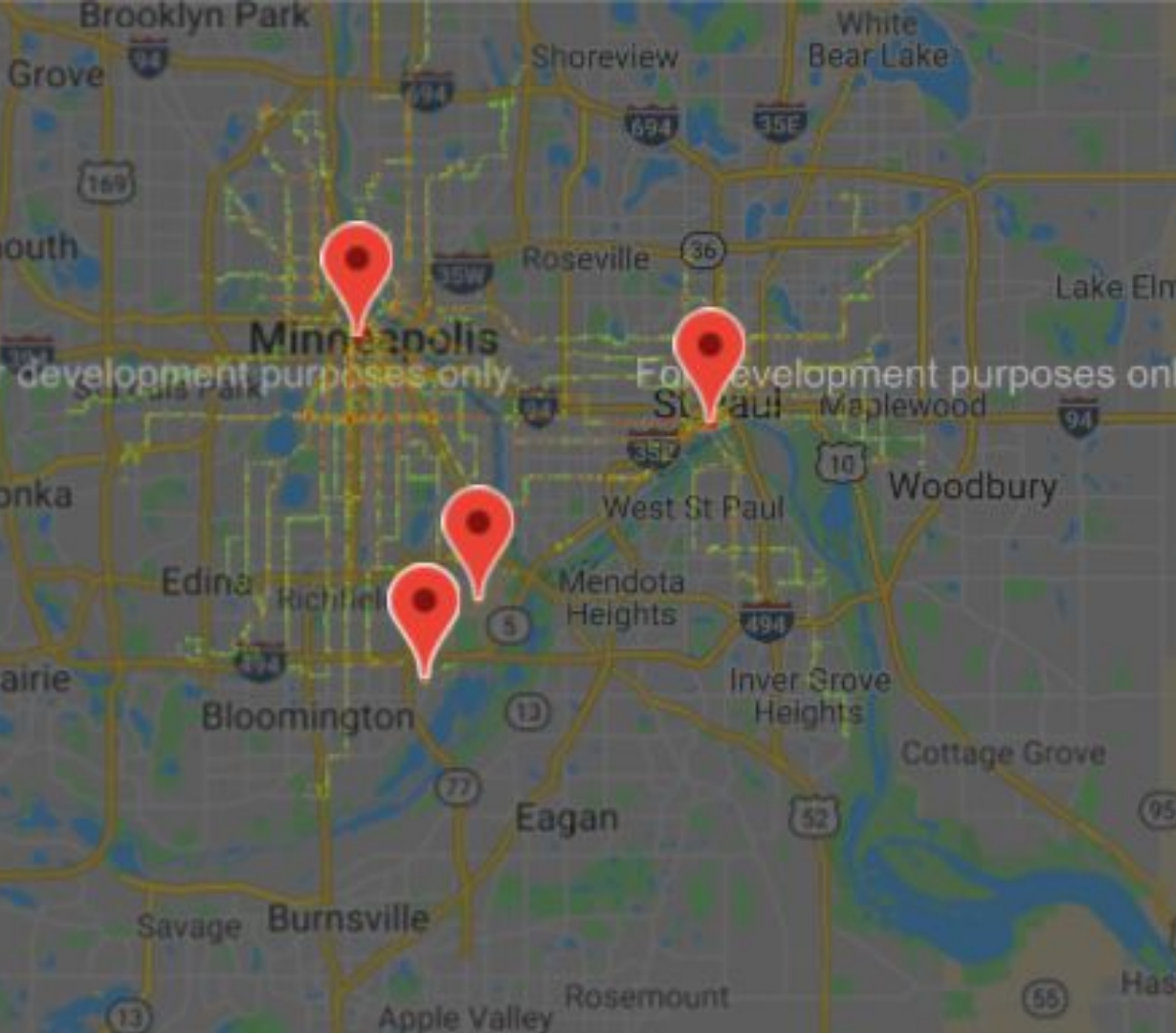
2. What **part of the week** sees the highest level of MetroTransit traffic?

Here you can see a map with a Heat map of "ons" for the <mark>Saturday</mark> and the top 5 spots with the most "ons"

2. What **part of the week** sees the highest level of MetroTransit traffic?

Here you can see a map with a Heat map of "ons" for Sundays and the top 5 spots with the most "ons"

3. What is the **relationship** between station "Ons" & "Offs"?

OFFS=0.39*ONS +6.79

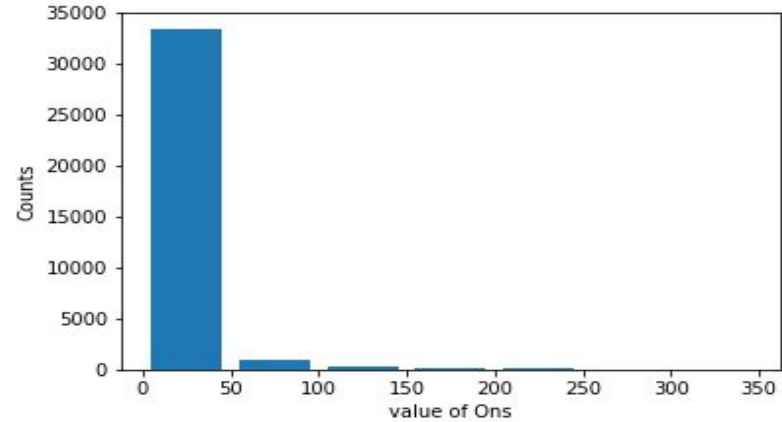**There are *5991* data for this plot!**

General in "L" shape,

Slightly positive relationship between ONS and OFFS.
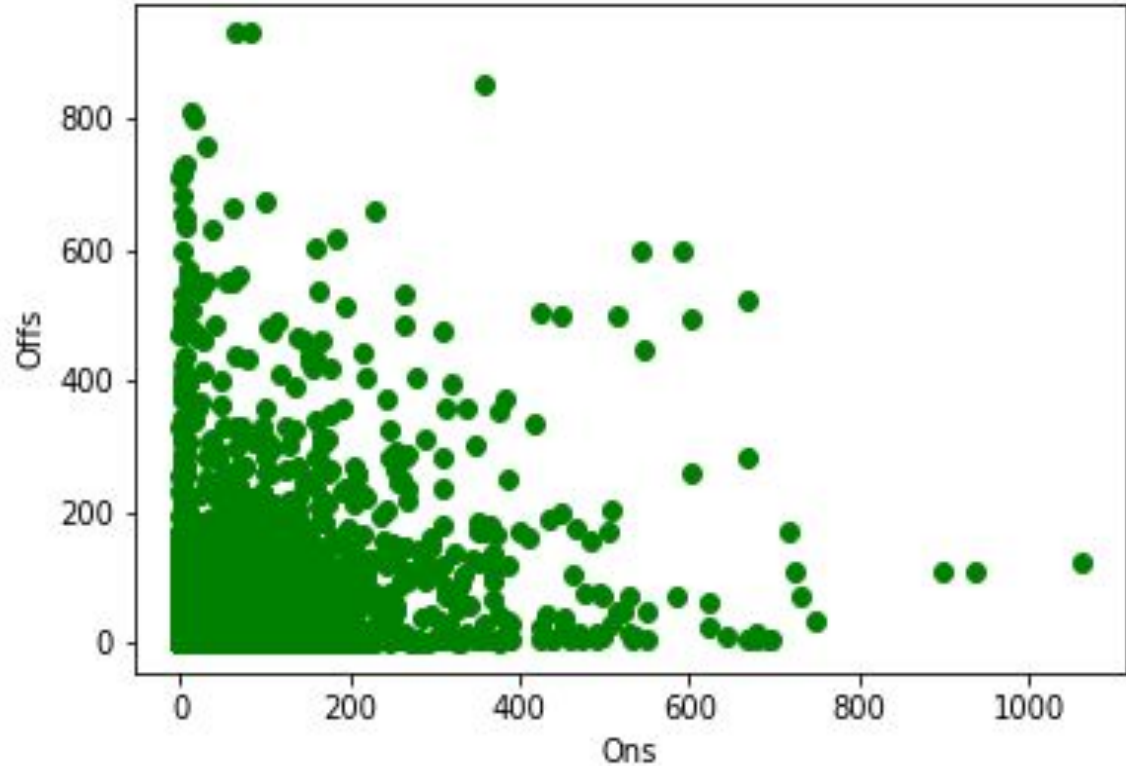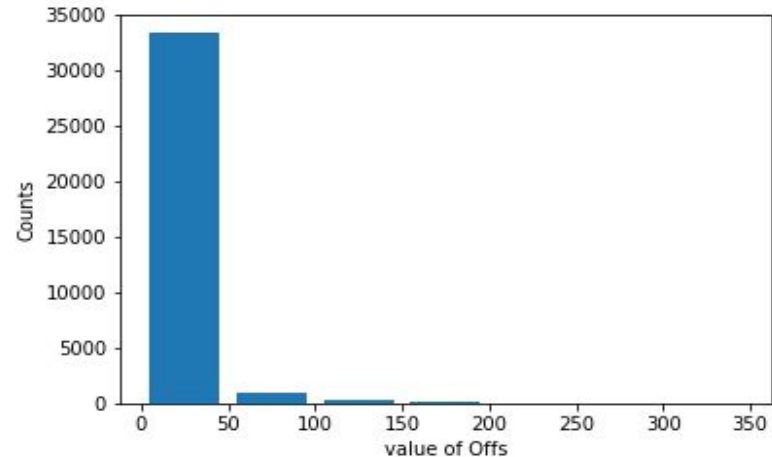
Distribution of "Ons"

Over ==3500== "Ons" and "Offs" are valued in ==0-50!==
Same distribution for "Ons" and "Offs"

Distribution of "Offs"

Top 10 "Ons" street name:

Geo_Node_Name	Ons	Offs
PLEASANT ST & JONES HALL	938	108
NICOLLET MALL & 7TH ST S	898	107
5TH ST & MINNESOTA ST	750	34
NICOLLET MALL & 5TH ST S	724	110
NICOLLET MALL & 7TH ST S	718	172
MOA TRANSIT STATION GATE B	678	14
CHICAGO AVE S & CHICAGO LAKE TRANSIT CTR GATE C	668	282
MOA TRANSIT STATION GATE B	667	4
NICOLLET MALL & 5TH ST S	624	23
6TH ST S & NICOLLET MALL – ARRIVE	603	496

Top 10 "Offs" street name:

Geo_Node_Name	Ons	Offs
NICOLLET MALL & 7TH ST S	82	930
6TH ST S & NICOLLET MALL	66	930
CHICAGO LAKE TRANSIT CENTER & GATE A	357	850
MAPLE GROVE P&R & TRANSIT STATION	12	812
FOLEY P&R & EVERGREEN BLVD	15	800
NICOLLET MALL & 5TH ST S	29	758
MOA TRANSIT STATION GATE B	5	731
BROOKLYN CTR TRANSIT CTR GATE I	2	726
MOA TRANSIT STATION GATE B	3	715
ROSEDALE TRANSIT CENTER GATE A	0	712

Ons

Metro Transit Traffic from January through April

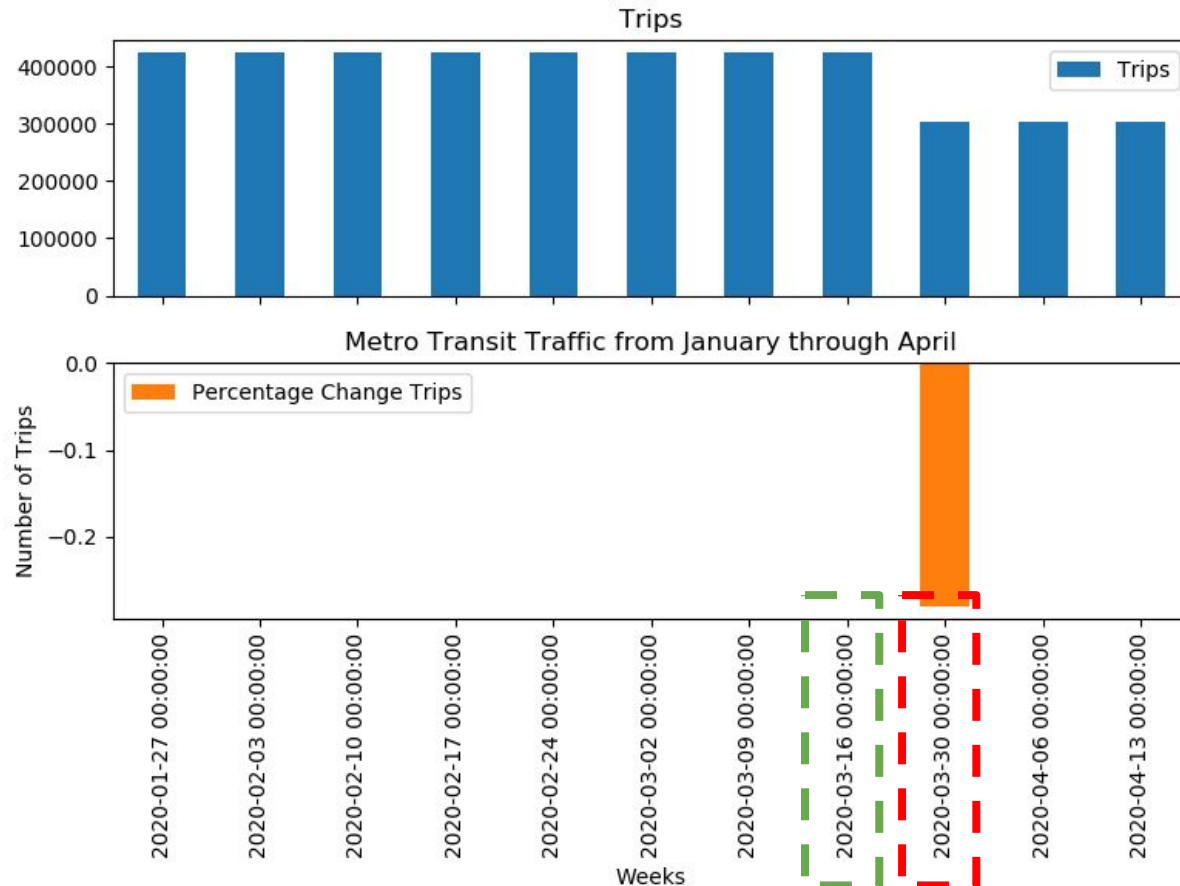4. How has **Minnesota's lockdown** impacted MetroTransit?
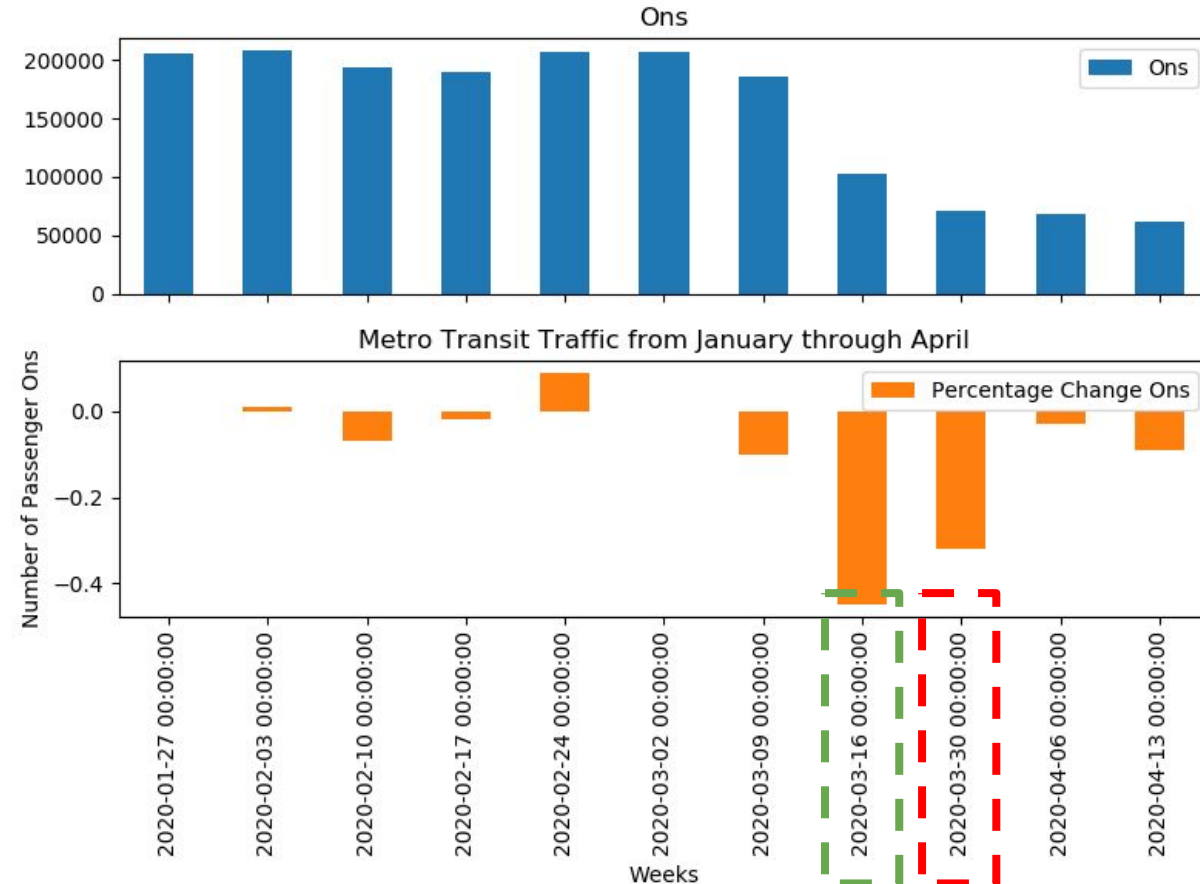
Number of "Ons" dropped dramatically the 3rd week of March -45%!!

Mar 15: Gov Walz press conf. on MN's response to COVID-19

Mar 28: Lockdown begins

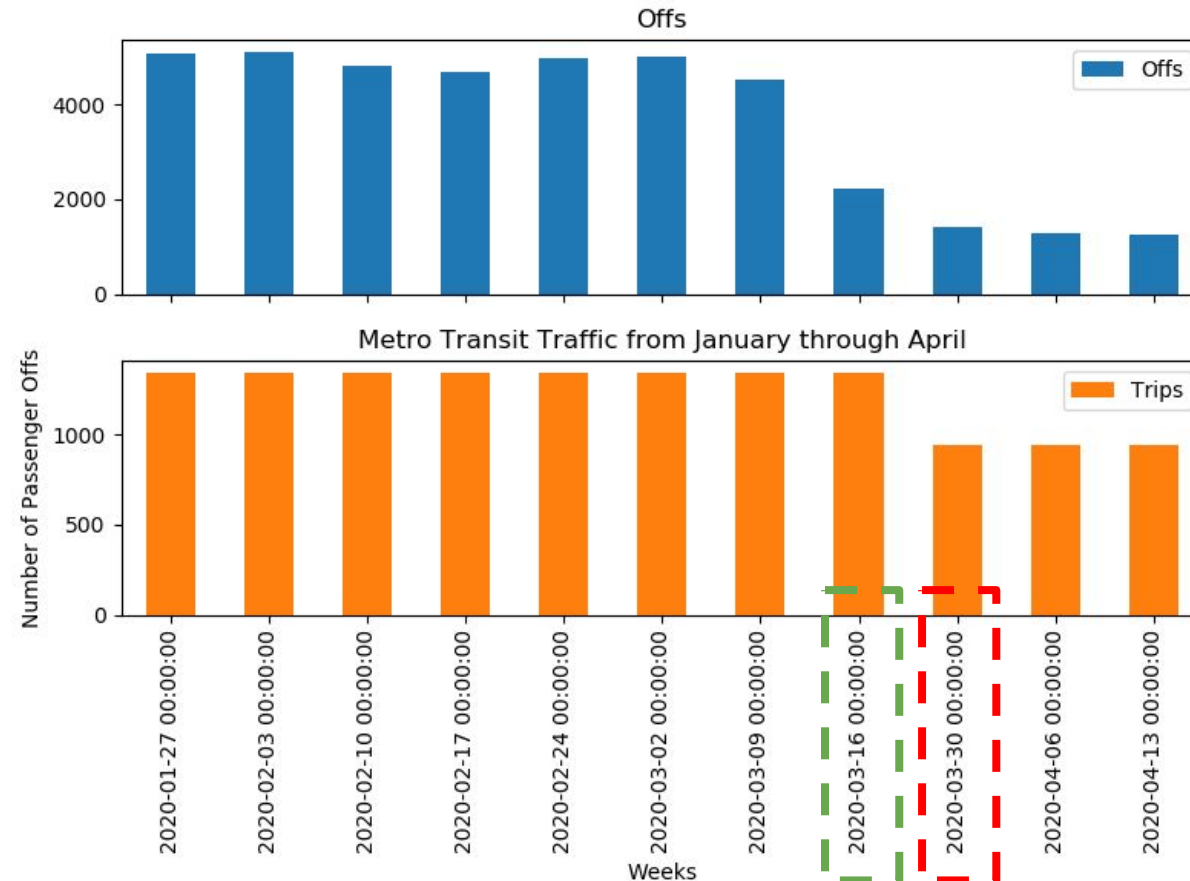4. How has **Minnesota's lockdown** impacted MetroTransit?

MetroTransit implemented <mark>decrease in routes by -32%</mark> after the lockdown was implemented
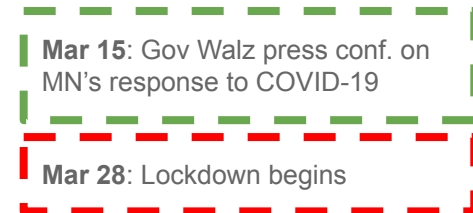
Mar 15: Gov Walz press conf. on MN's response to COVID-19

Mar 28: Lockdown begins

Offs

Metro Transit Traffic from January through April

4. How has **Minnesota's lockdown** impacted MetroTransit?

Minnesotans anticipated the lockdown by at least 1 week, and <mark>dramatically reduced</mark> their public transportation

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Mar 28: Lockdown begins

Q&A