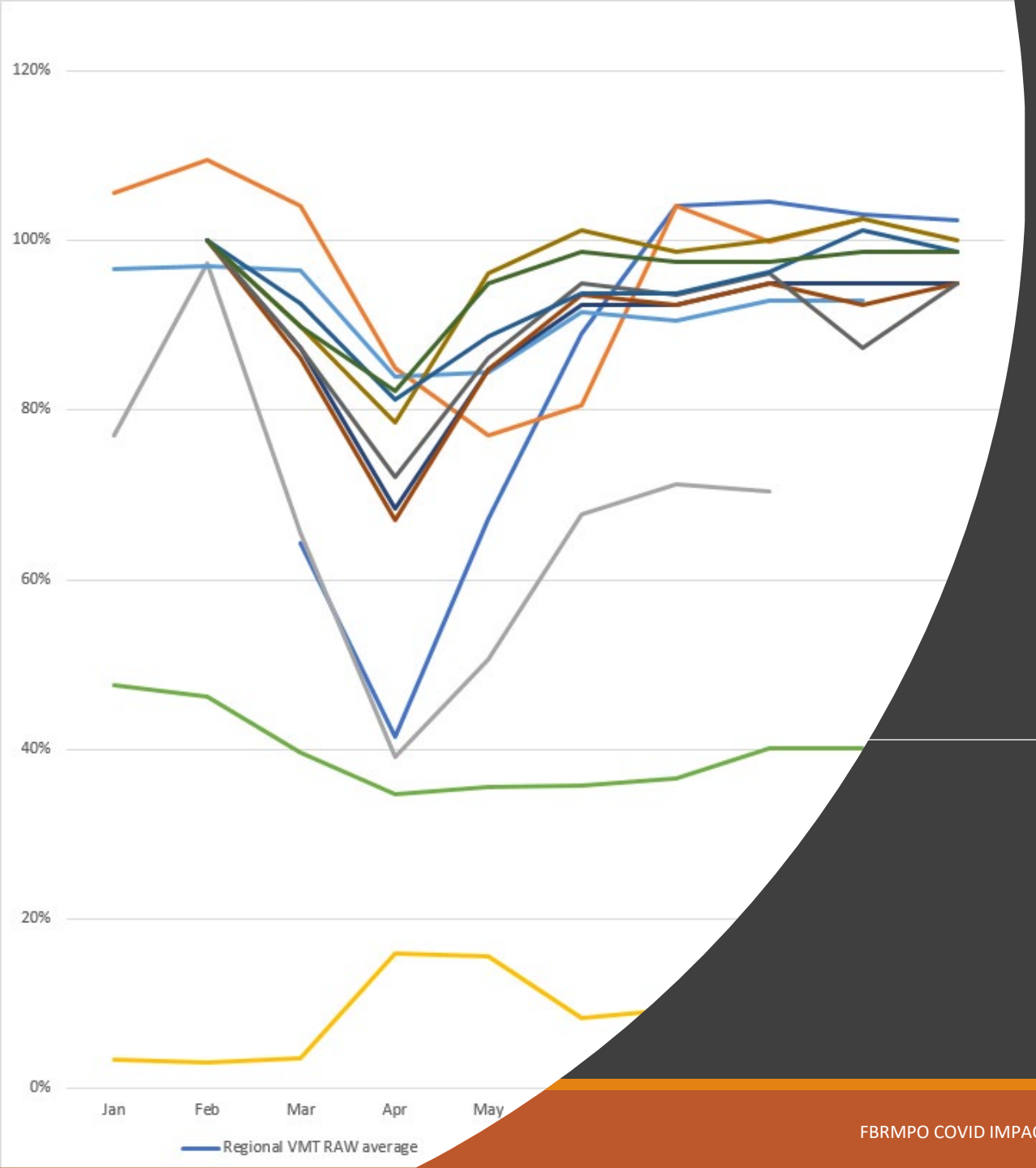


French Broad River MPO Covid Impact Tracking

REPORTING TO THE PRIORIZATION SUBCOMMITTEE ON DECEMBER 1, 2020

PREPARED WITH CONTRIBUTIONS OF MPO STAFF

MPO Covid Impact Tracking

Since March 2020, the FBRMPO has tracked several regional metrics relating to the impact of Covid -19. We include a county-by-county breakout as well as both regional and state reported data.

Metrics include but are not limited to:

- Regional vehicle miles travelled, sales tax data, transit trips on ART, percentage of those staying home, work trips per person, transit share, active Covid cases reported, imported covid cases, unemployment claims, unemployment rate, percentage working from home, percentage of consumption change, Covid Hot Spot per 1000, death rate.
- We used the most datasets that showed the most robustness as well as a preference of more accurate infromation based on reporting methodogy when available. Example: Sales Tax Data over Consumtion Change as a reflection of economic activity.

Sources include:

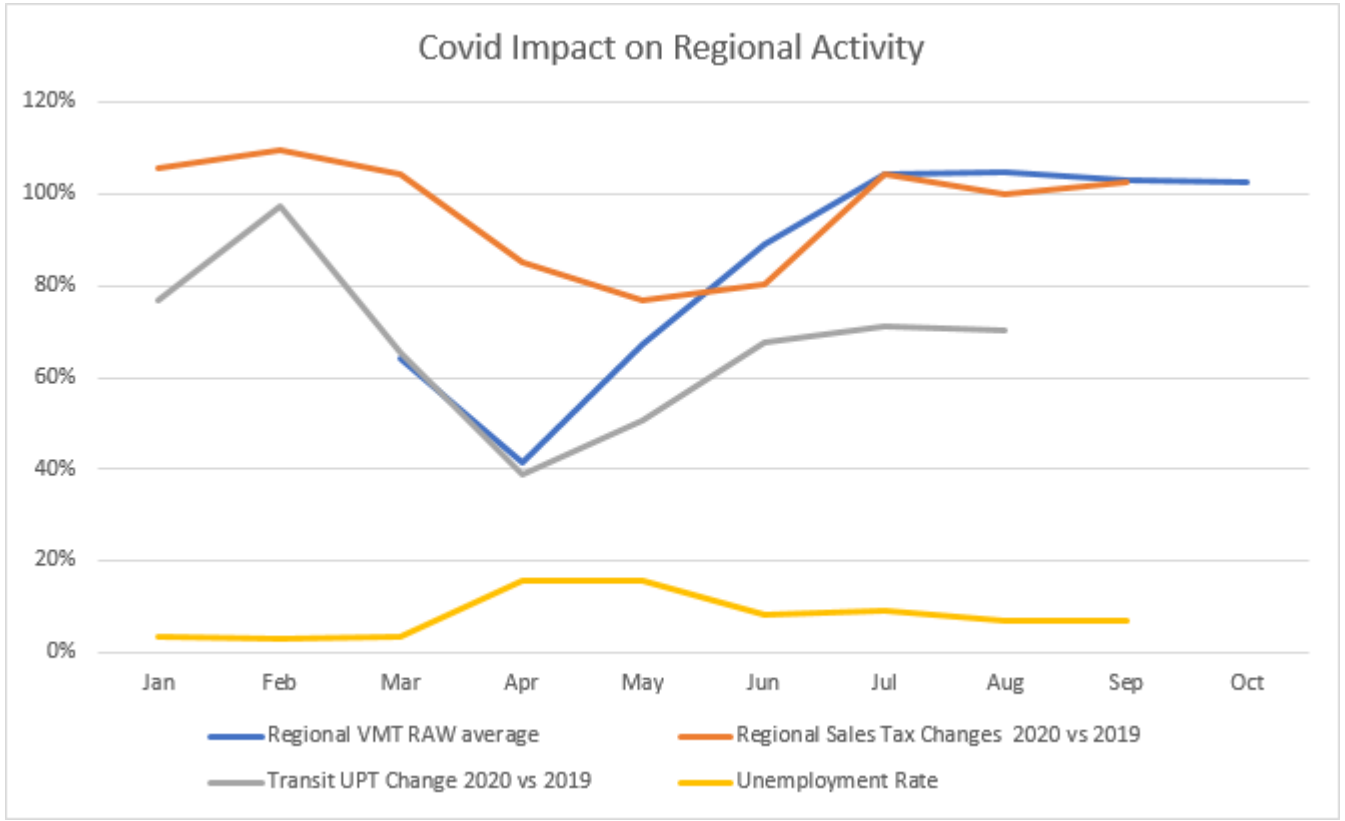
- Regional Integrated Transportation Information System, City of Asheville Transportation Department, NC Dept of Revenue, the Society and Economy Reopening Assessment Tool - University of Maryland, World Health Organixation, CDC, CATT Labs, etc.
- Depending on the dataset, we have data available from about the bigging of 2020 through either September, October or November depenging on the reporting agency. Some datasets allow infromatiuon back as far as 2017 while others start reporting in 2020. In some instances such as the Unemployment rate, intitial reported figures may change as there is some refinement between reporting cycles. Other reported data can be developed in a shorter timeline thus the most recent data might not always reflect the same month as other data.
- We are including composite metadata for some data sources. In some cases, the data allows direct comparisons can be made, othertimes the information might be useful but not directly comparable.

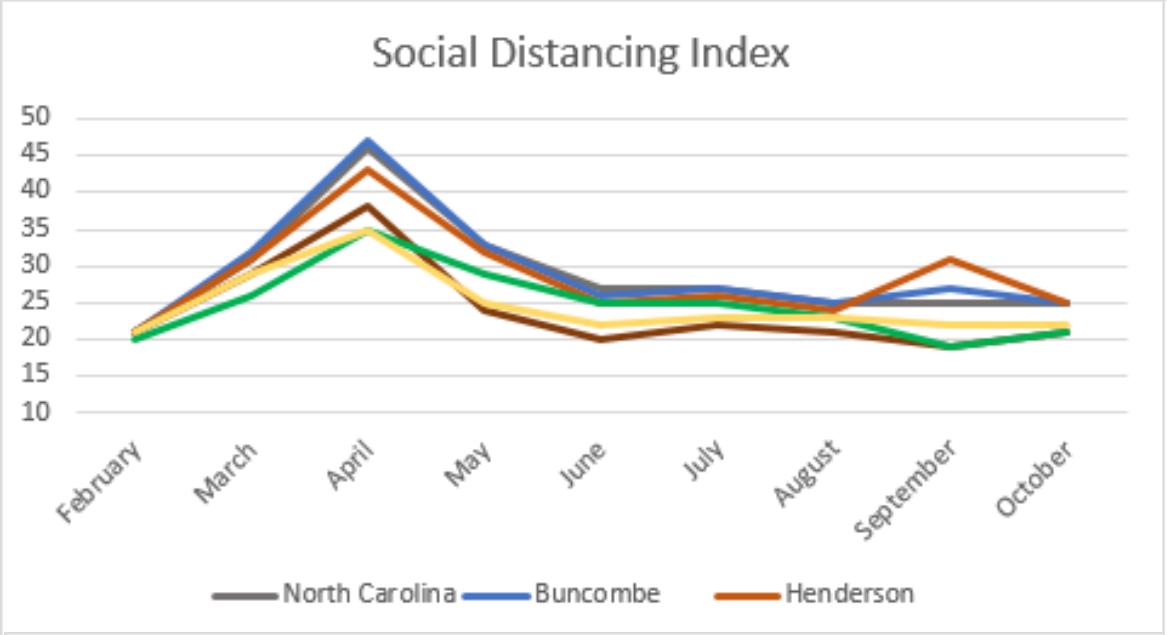
For example, the Social Distancing Index as developed by the Maryland Transportation Institute is a composite of several metrics: The social distancing index is computed from six mobility metrics by this equation: social distancing index = 0.8*[% staying home + 0.01*(100 - %staying home)*(0.1*% reduction of all trips compared to pre-COVID-19 benchmark + 0.2*% reduction of work trips + 0.4*% reduction of non-work trips + 0.3*% reduction of travel distance)] + 0.2*% reduction of out-of-county trips. The weights are chosen based on share of residents and visitor trips (e.g., about 20% of all trips are out-of-county trips, which led to the selection of a weight of 0.8 for resident trips and 0.2 for out-of-county trips); what trips are considered more essential (e.g., work trips more essential than non-work trips); and the principle that higher social distancing index scores should correspond to fewer chances for close-distance human interactions and virus transmissions. Additional steps were taken to impute missing trip information for each trip, such as trip purpose (e.g., work, non-work), point-of-interest visited (restaurants, shops, etc.), travel mode (air, rail, bus, driving, biking, walking, and others), trip distance (airline and actual distance), and socio-demographics of the travelers (income, age, gender, race, etc.). If an anonymized individual in the sample did not make any trip with one trip end more than one mile away from home location, this anonymized individual was considered as staying at home. A trip with both trip ends at home (e.g., jogging three miles) does not violate our staying-at-home criteria. A multi-level weighting procedure employing both device weights and trip weights expanded the sample, so the results are representative of the entire population in a nation, state, or county. The data sources and computational algorithms have been validated based on a variety of independent datasets and peer reviewed by an external expert panel in a previous project funded by the U.S. Department of Transportation Federal Highway Administration's Exploratory Advanced Research Program and titled "Data analytics and modeling methods for tracking and predicting origin-destination travel trends based on mobile device data."

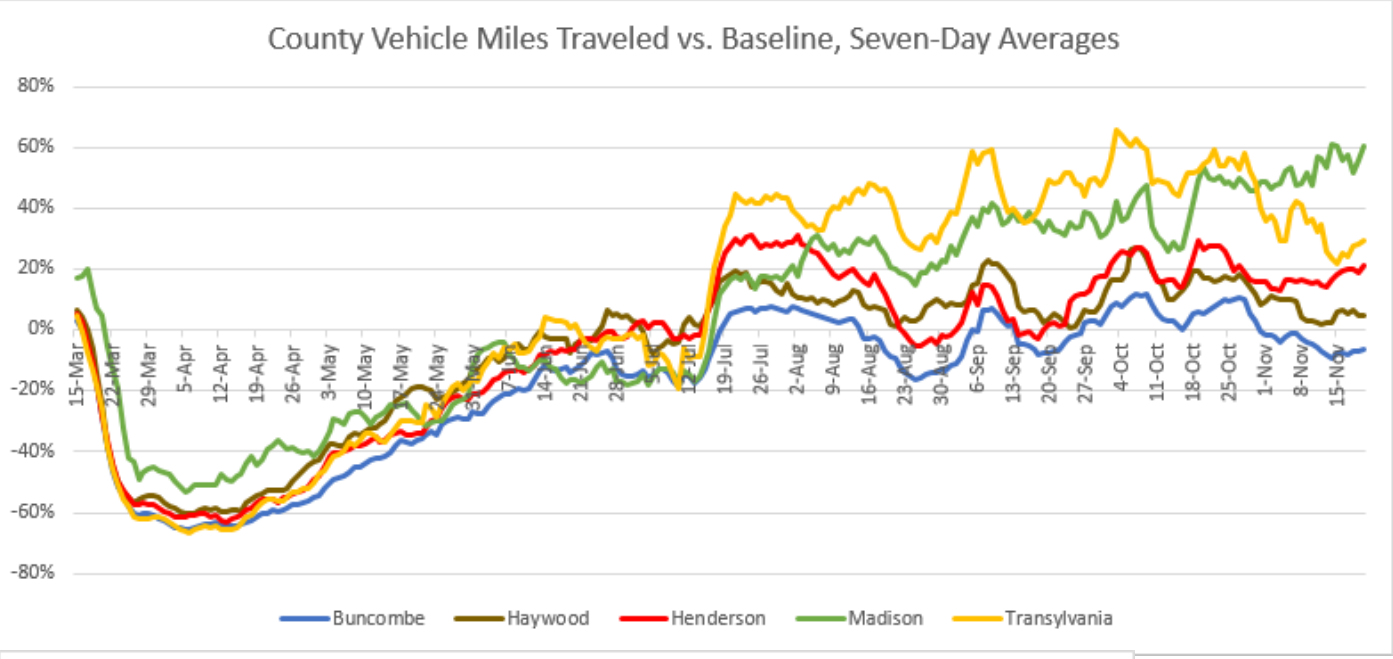
Covid-19's Impact within our Region

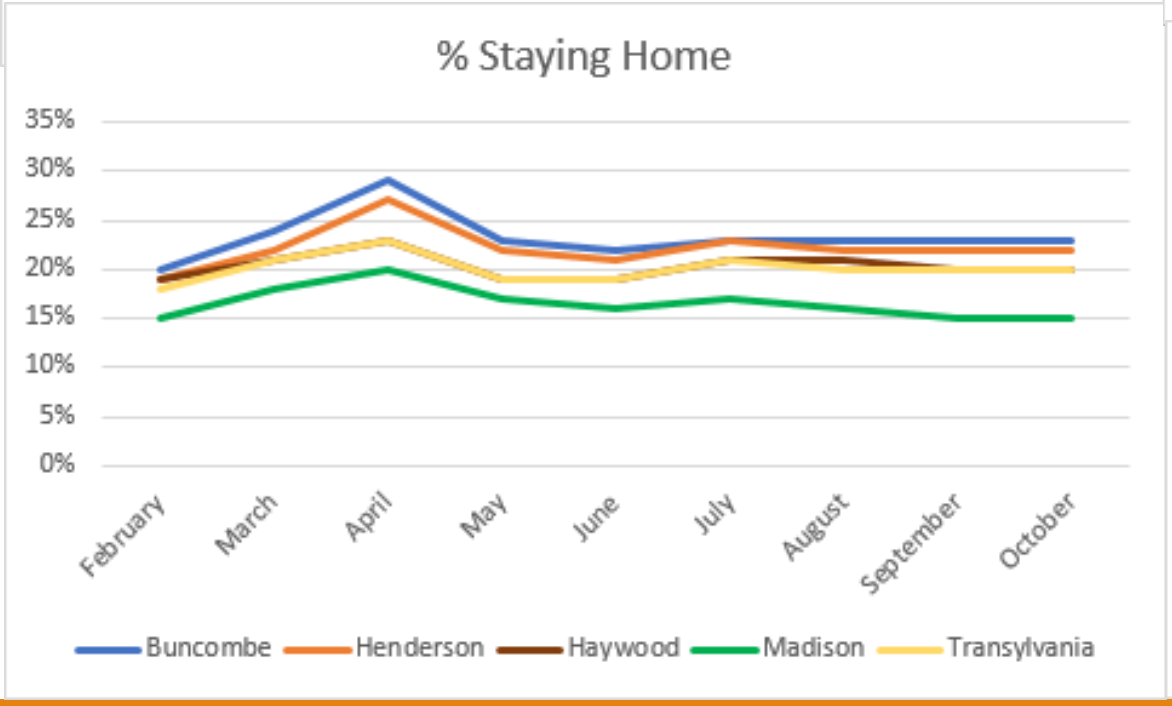
Yes, the impact is significant

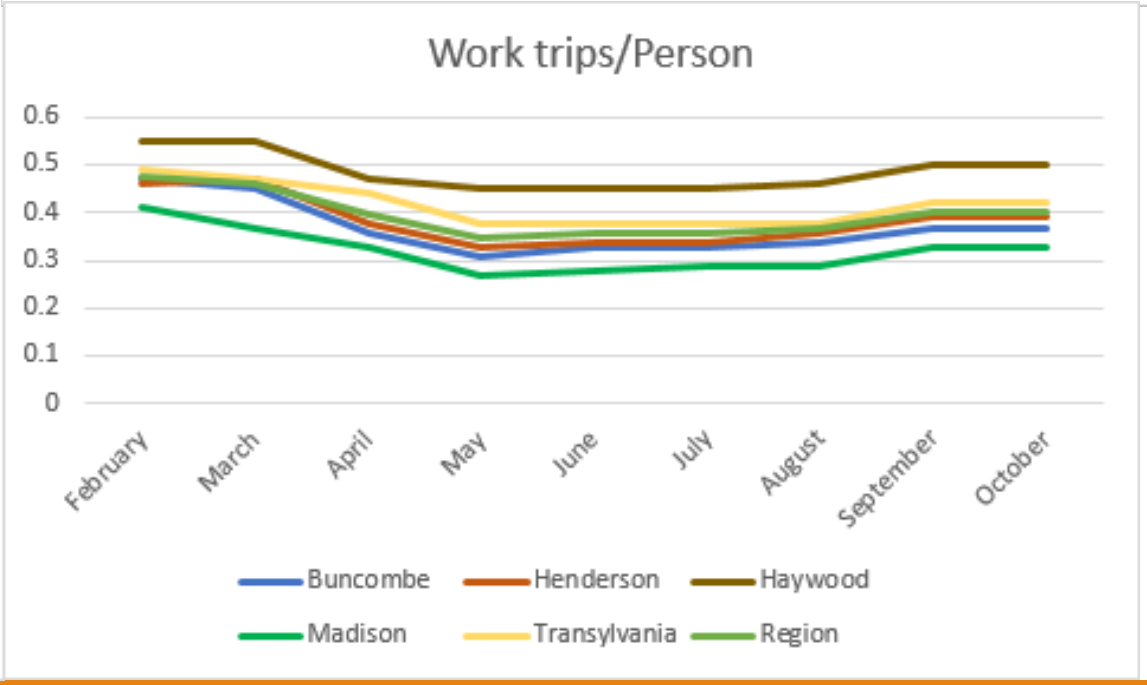
- The range and depth of our region's travel and economic behavior varies greatly.
- As the recovery continues, travel and economic behavior is not necessarily returning to "the old normal" but there may be a new normal forming.
- We are developing this dataset to better inform our MPO approach to transportation behavior.



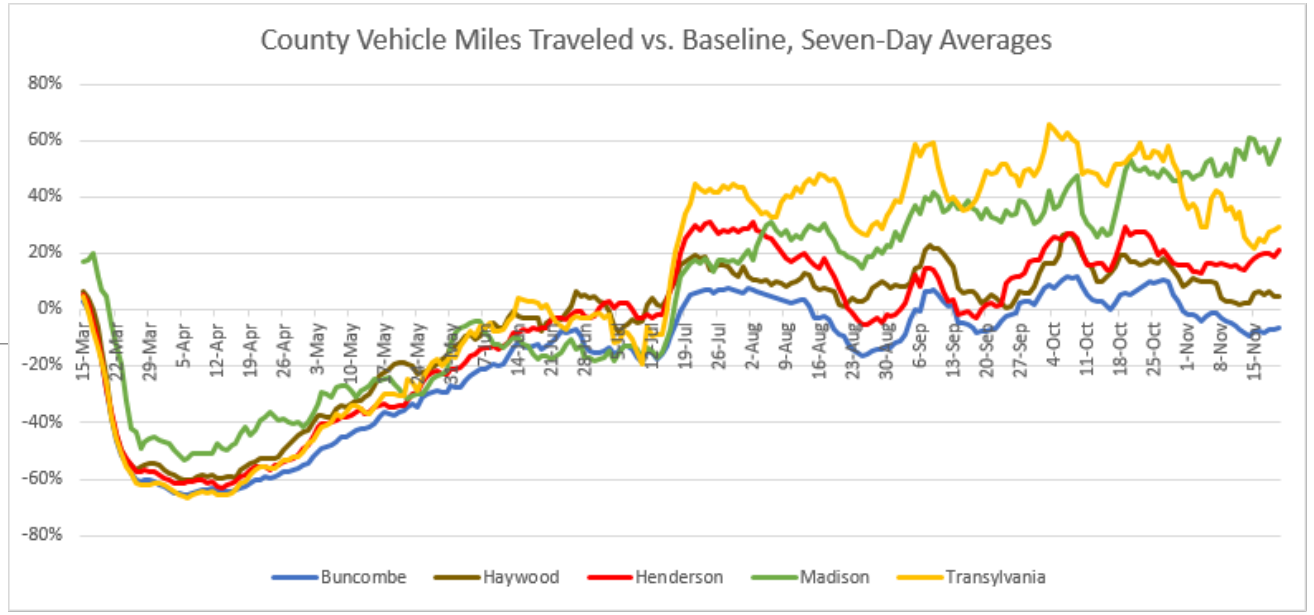

Social Distancing Index
50
45
40
35
30
25
20
15
10
February
March
April
May
June
July
August
September
October
North Carolina
Buncombe
Henderson

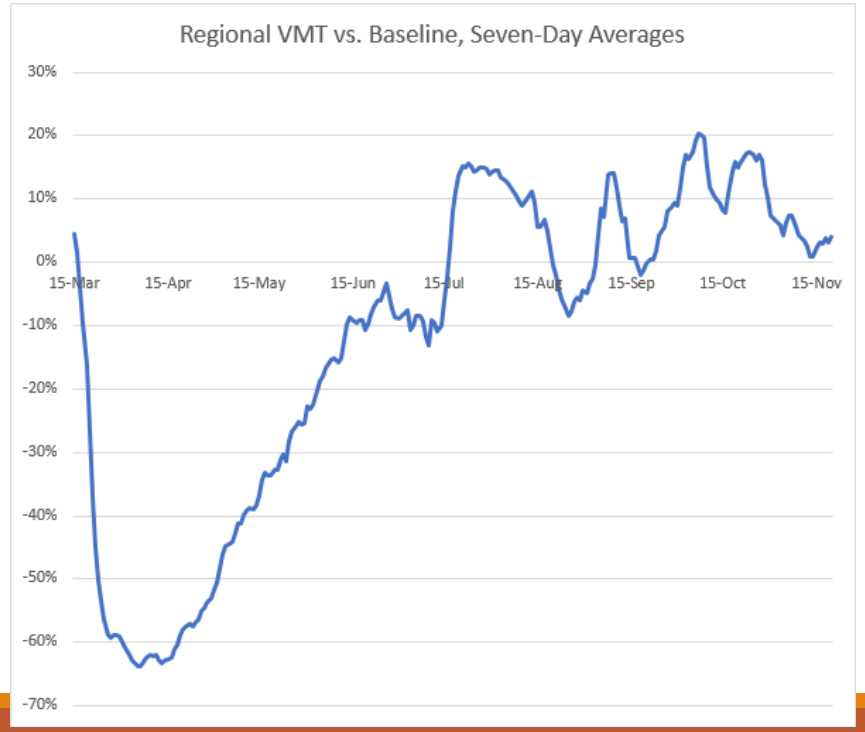

County Vehicle Miles Traveled vs. Baseline, Seven-Day Averages
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
Buncombe
Haywood
Henderson
Madison
Transylvania

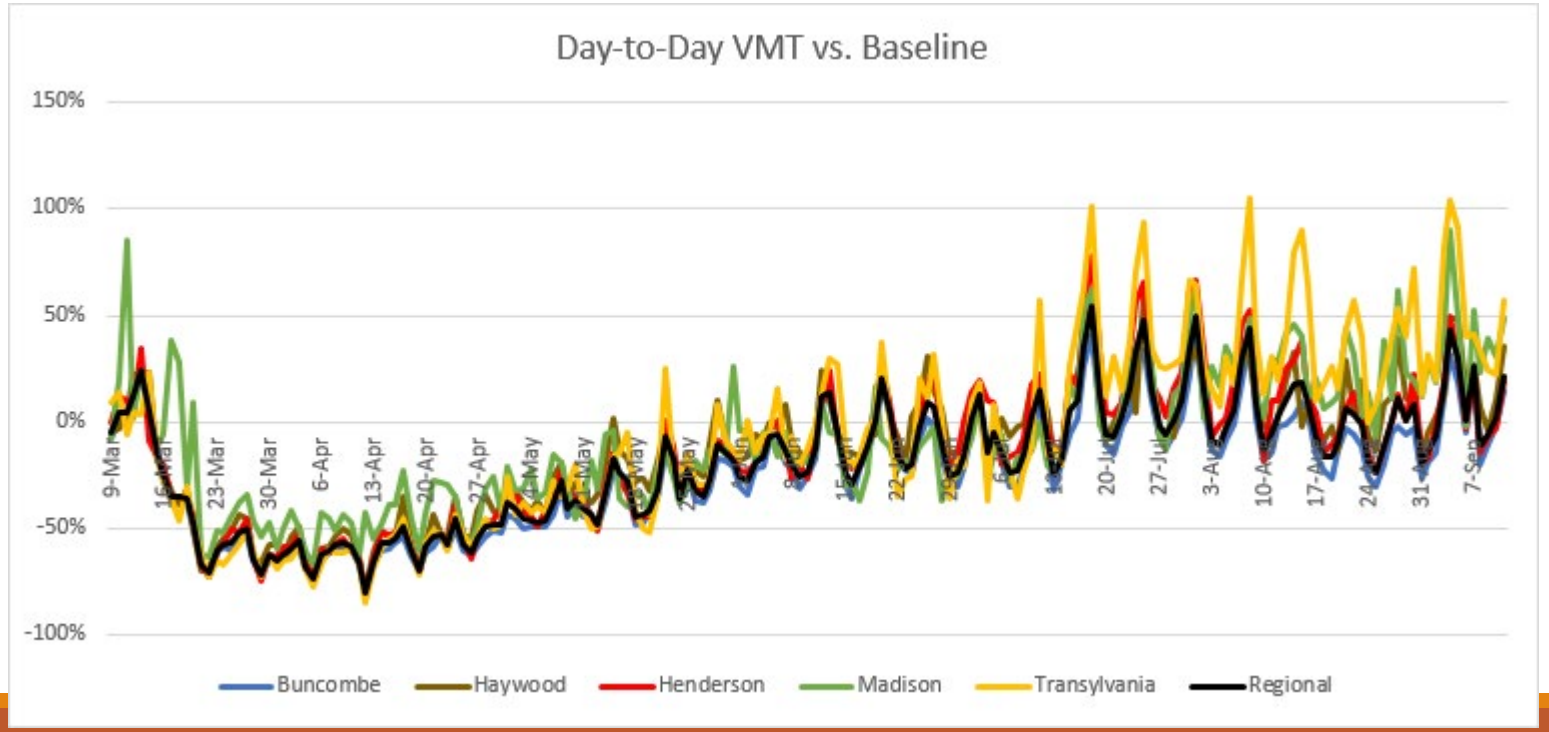

% Staying Home
35%
30%
25%
20%
15%
10%
5%
0%
February
March
April
May
June
July
August
September
October
Buncombe
Henderson
Haywood
Madison
Transylvania


Work trips/Person
0.6
0.5
0.4
0.3
0.2
0.1
0
February
March
April
May
June
July
August
September
October
Buncombe
Henderson
Haywood
Madison
Transylvania
Region

VMT within the Region





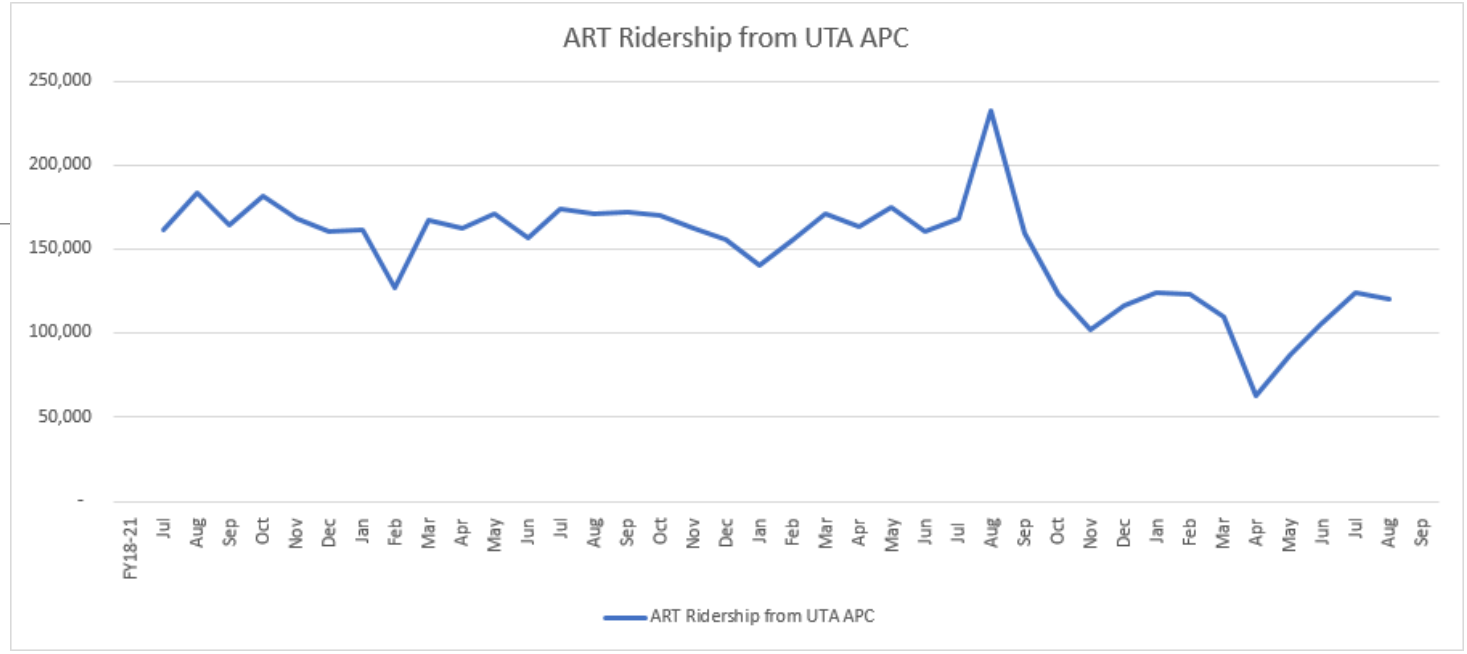


Shared Mobility

Transit has not recovered as quickly as vehicular traffic.

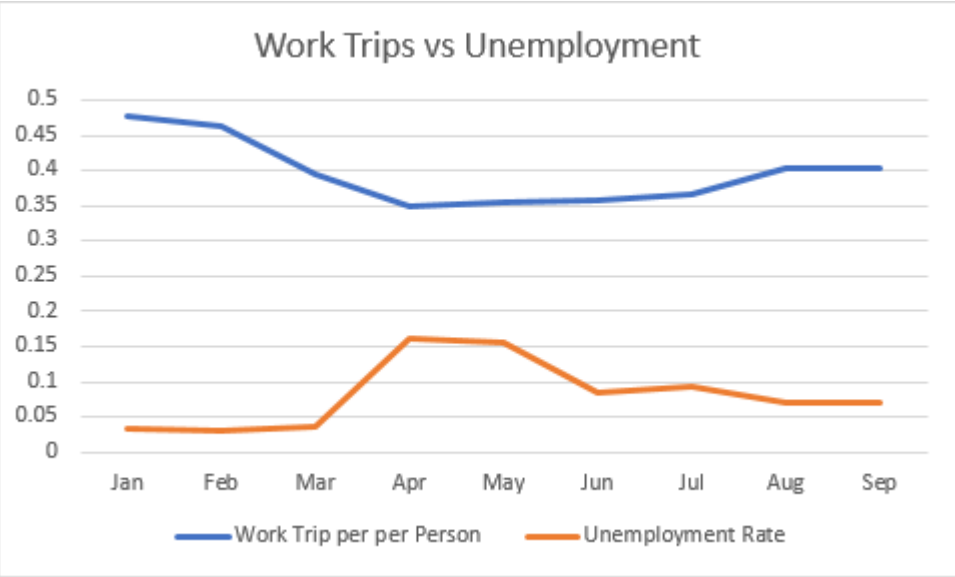
Transit mode hare has stayed flat, but we are unsure if this is a data bug or representing actual behavior

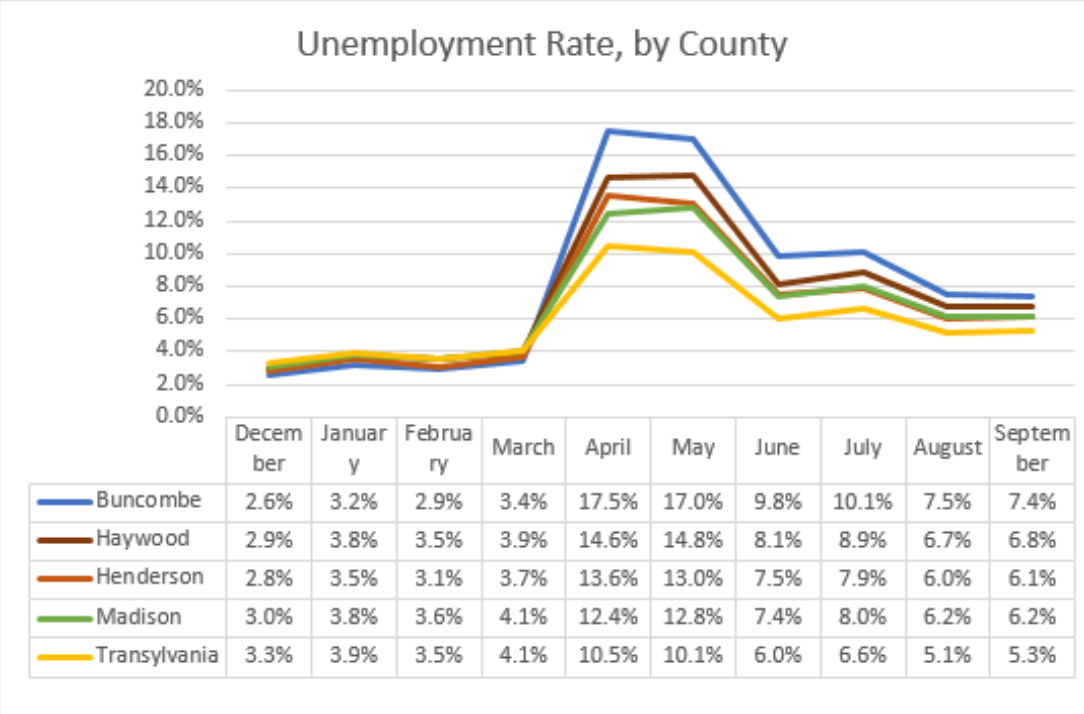
Lost informal shared mobility



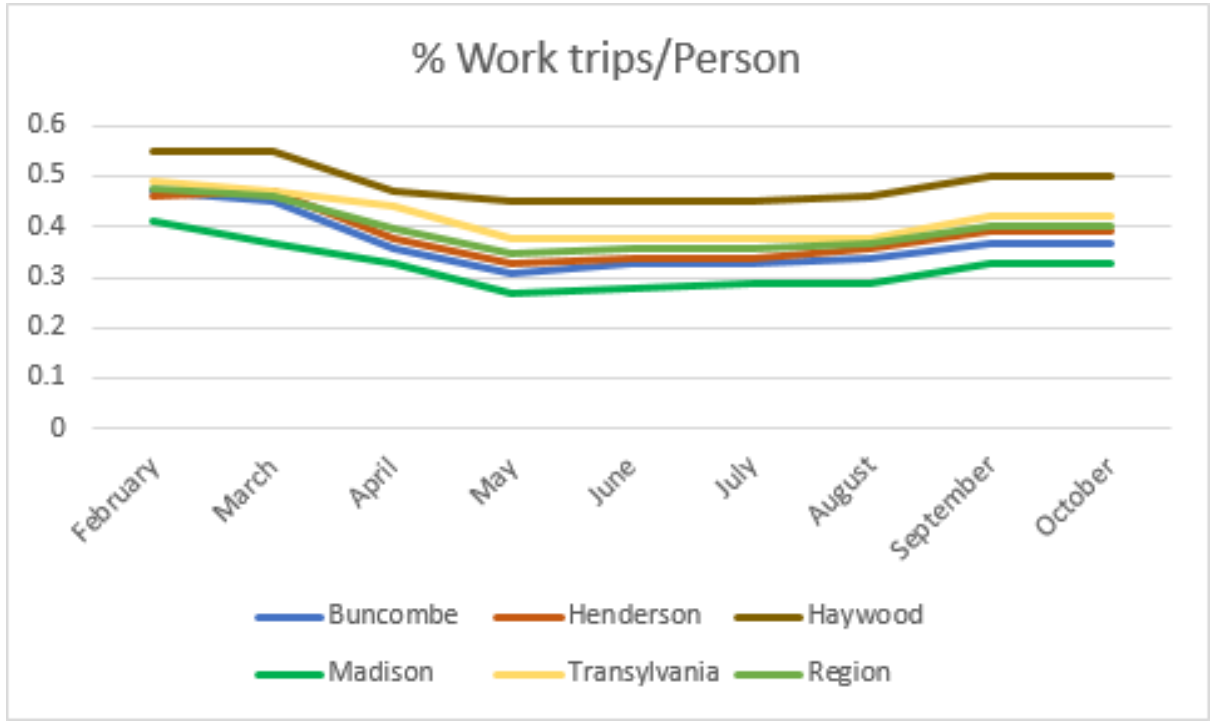
FYDate	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
18/19	161,802	183,723	164,340	181,632	168,487	160,975	161,257	127,202	167,370	162,194	171,009	157,125	174,162	171,366	172,668	170,746	162,426	155,756	140,299	155,729	171,057	163,951	175,586	160,647
20/21	168,075	232,345	160,079	123,049	102,320	116,970	124,106	123,723	109,731	63,327	86,515	106,340	124,134	120,559										
Change	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
VS 18/19	103.9%	126.5%	97.41%	67.75%	60.73%	72.66%	76.96%	97.26%	65.56%	39.04%	50.59%	67.68%	71.28%	70.35%										
VS 19/20	96.50%	135.6%	92.71%	72.07%	62.99%	75.10%	88.46%	79.45%	64.15%	38.63%	49.27%	66.19%	74%	52%										

Employment and Trips

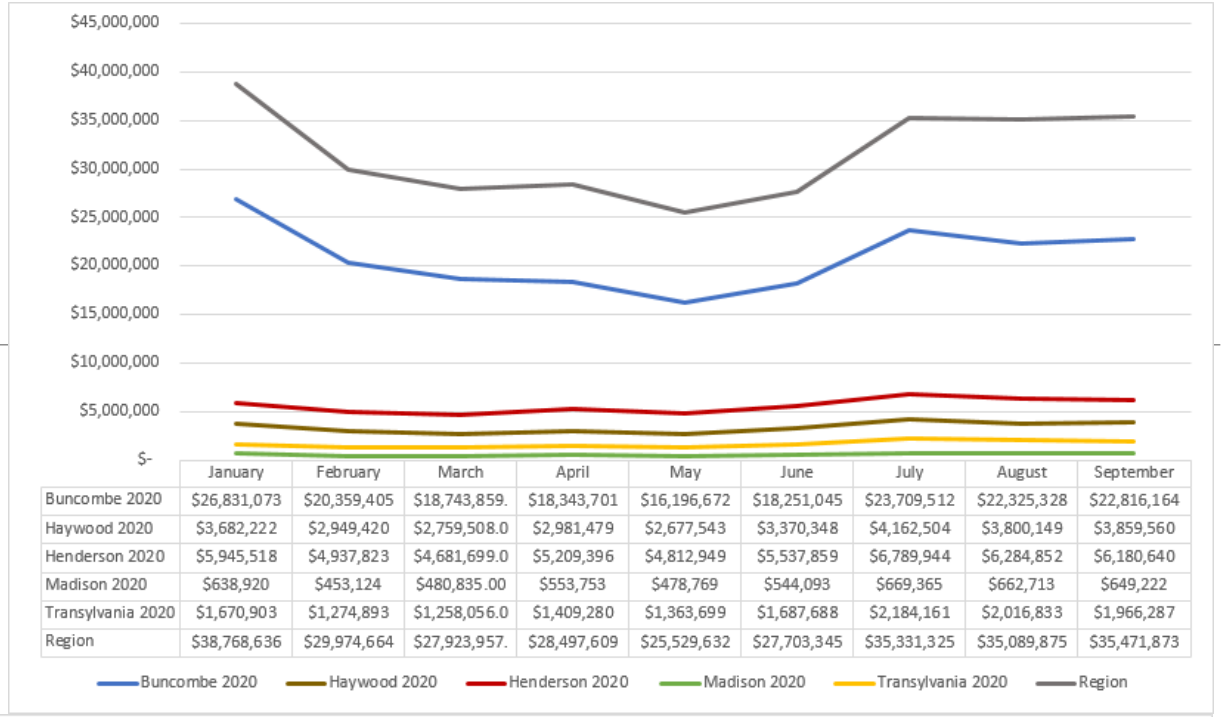




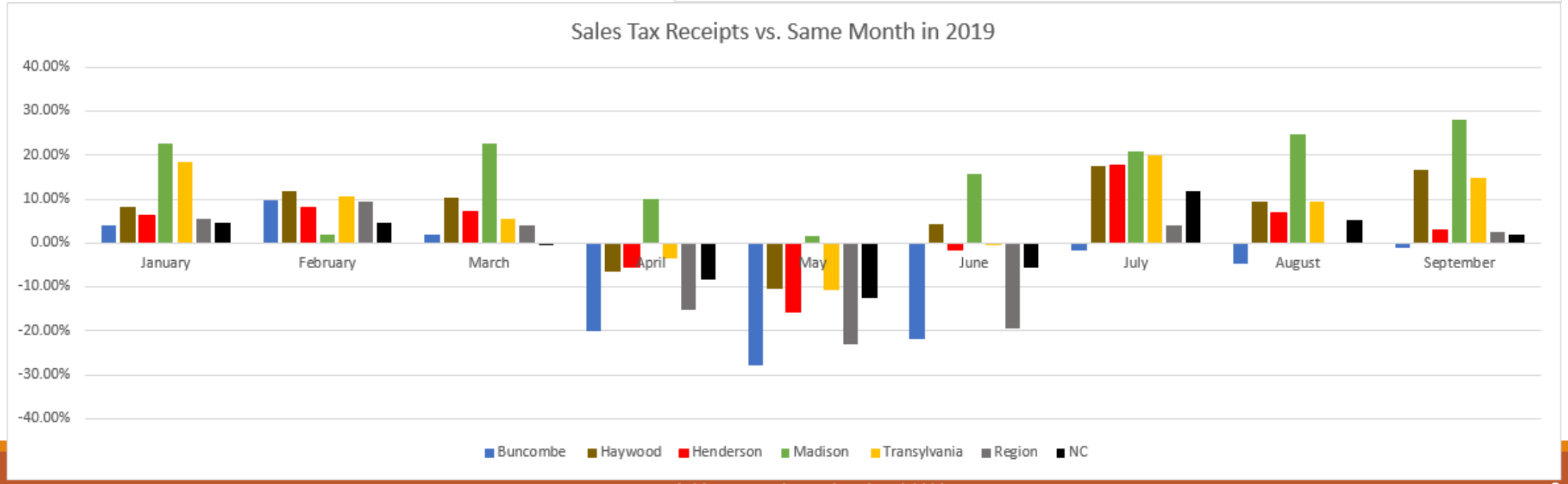
	December	January	February	March	April	May	June	July	August	September
Buncombe	2.6%	3.2%	2.9%	3.4%	17.5%	17.0%	9.8%	10.1%	7.5%	7.4%
Haywood	2.9%	3.8%	3.5%	3.9%	14.6%	14.8%	8.1%	8.9%	6.7%	6.8%
Henderson	2.8%	3.5%	3.1%	3.7%	13.6%	13.0%	7.5%	7.9%	6.0%	6.1%
Madison	3.0%	3.8%	3.6%	4.1%	12.4%	12.8%	7.4%	8.0%	6.2%	6.2%
Transylvania	3.3%	3.9%	3.5%	4.1%	10.5%	10.1%	6.0%	6.6%	5.1%	5.3%



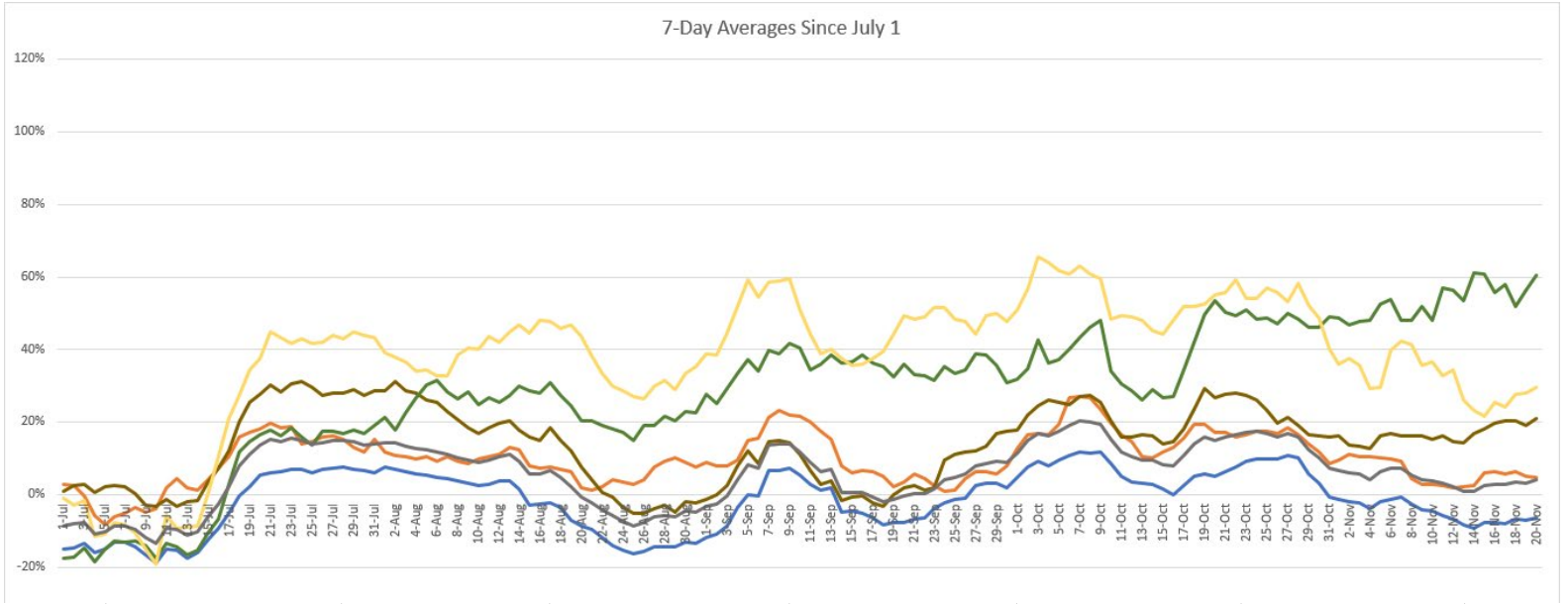
Sales Tax



	January	February	March	April	May	June	July	August	September
Buncombe 2020	$26,831,073	$20,359,405	$18,743,859.	$18,343,701	$16,196,672	$18,251,045	$23,709,512	$22,325,328	$22,816,164
Haywood 2020	$3,682,222	$2,949,420	$2,759,508.0	$2,981,479	$2,677,543	$3,370,348	$4,162,504	$3,800,149	$3,859,560
Henderson 2020	$5,945,518	$4,937,823	$4,681,699.0	$5,209,396	$4,812,949	$5,537,859	$6,789,944	$6,284,852	$6,180,640
Madison 2020	$638,920	$453,124	$480,835.00	$553,753	$478,769	$544,093	$669,365	$662,713	$649,222
Transylvania 2020	$1,670,903	$1,274,893	$1,258,056.0	$1,409,280	$1,363,699	$1,687,688	$2,184,161	$2,016,833	$1,966,287
Region	$38,768,636	$29,974,664	$27,923,957.	$28,497,609	$25,529,632	$27,703,345	$35,331,325	$35,089,875	$35,471,873



Recovery Breakout



Total Change	January	February	March	April	May	June	July	August	September
Buncombe	$ 1,061,456	$ 1,793,062	$ 372,383	$ (4,551,848)	$ (6,285,659)	$ (5,127,587)	$ (367,867)	$ (1,088,707)	$ (223,899)
Haywood	$ 282,365	$ 315,388	$ 255,834	$ (205,216)	$ (311,383)	$ 142,312	$ 620,734	$ 331,380	$ 550,526
Henderson	$ 346,362	$ 368,703	$ 309,776	$ (291,884)	$ (891,928)	$ (92,325)	$ 1,017,616	$ 404,434	$ 181,196
Madison	$ 117,977	$ 8,250	$ 88,858	$ 51,264	$ 7,672	$ 74,125	$ 114,989	$ 131,365	$ 142,198
Transylvania	$ 258,964	$ 121,854	$ 65,890	$ (49,183)	$ (161,912)	$ (7,769)	$ 361,959	$ 174,060	$ 252,437
Region	$ 2,067,124	$ 2,607,256	$ 1,092,741	$ (5,046,867)	$ (7,643,210)	$ (6,698,932)	$ 1,385,472	$ (47,468)	$ 902,458
NC	$ 38,930,112	$ 30,666,688	$ (3,039,082)	$ (66,186,632)	$ (92,377,782)	$ (42,625,649)	$ 94,592,449	$ 40,790,916	$ 16,608,976

Most recent reporint:

	Social Distancing Index	% Stay at Home	% Sales Tax Of previous year	Unemployment Rate	VMT % Above Baseline	Work Trips
Buncombe	25	23	99.3	7.4	-4.8	0.37
Henderson	25	22	116.6	6.8	9.1	0.39
Haywood	21	20	103.0	6.1	6.6	0.50
Madison	21	15	128.1	6.2	29.1	0.33
Transylvania	22	20	114.7	5.3	40.5	0.42
Region	22.8	20	102.6	7.0	2.5	0.40
State	25	23	102.1	7.3	N/A	0.39

September: Sales Tax, Unemployment
October: SDI, Stay at home, VMT, Work Trips

Color scaling bases each county as compared to the region
- Purple: Higher than Regional Average
- Orange: Below Regional Average