TEXAS COASTAL BEND COVID-19 PANDEMIC REPORT

July 2, 2020

CC TAMU-CC Joint COVID-19 Modelling Task Force

https://tinyurl.com/TAMUCC-COVID

TASK FORCE OBJECTIVES

ADDRESS PUBLIC CONCERNS & QUESTIONS ABOUT *COVID-19* & INTERVENTIONS

ENABLE EVIDENCE-BASED DECISION MAKING

WHAT IS AN OUTBREAK?

- Rapid rise in occurrence of disease
  - **Can be localized or widespread**
- COVID-19 is transmitted through air, surfaces, and contact

EXAMPLE SPREAD OF COVID-19
TRANSMISSION RATE OF 2

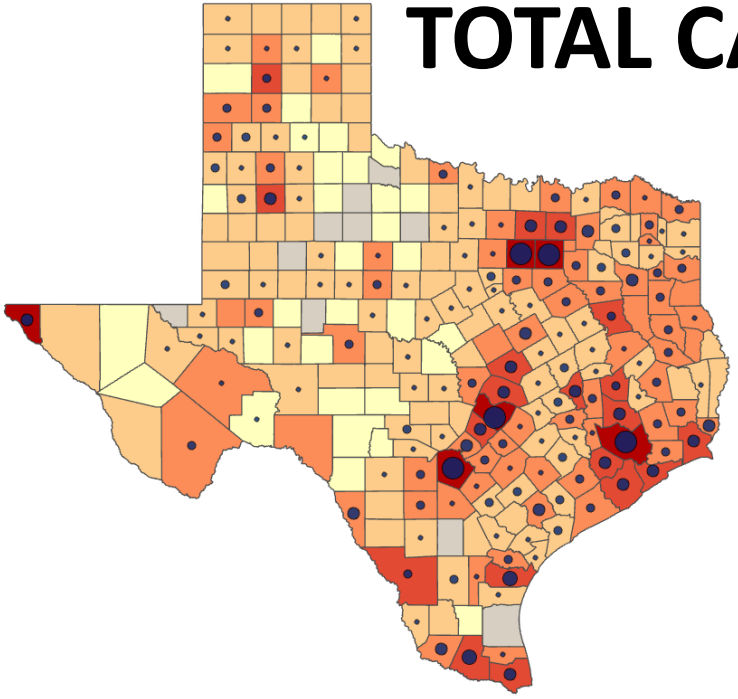
Graphic from https://www.cnn.com/2020/05/01/health/flu-vs-coronavirus-deaths/index.html

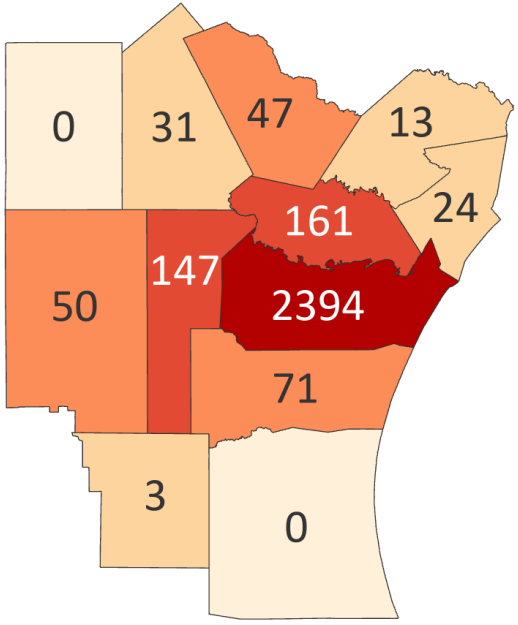
INTERVENTIONS & OPENING TX

1. STAY-AT-HOME IF YOU CAN
2. SOCIAL DISTANCING & FACE COVERINGS
3. SELF ISOLATE WHEN SYMPTOMATIC
4. SCHOOL CLOSURES
5. OPEN TX 1, 2, 3, 3 repealed

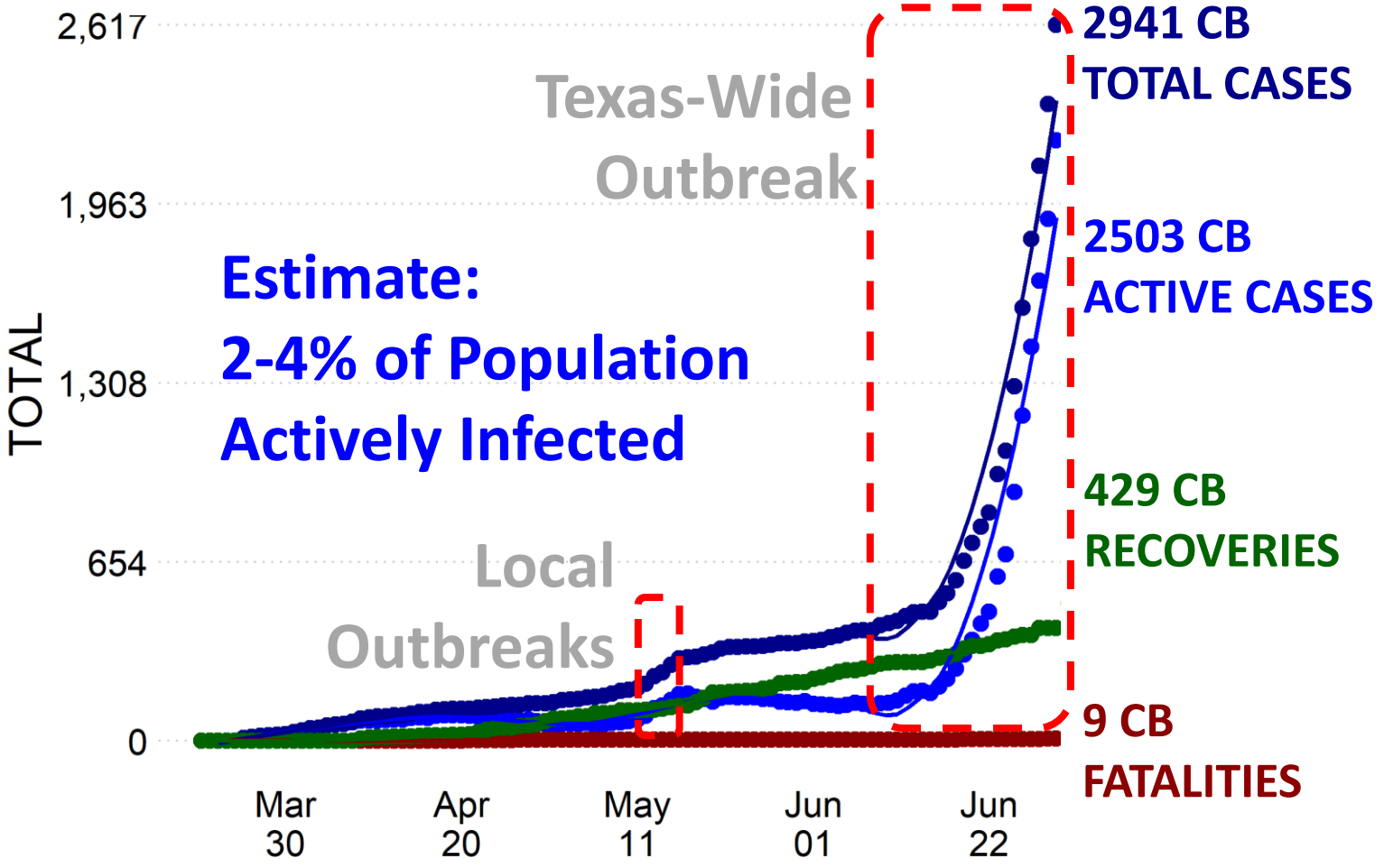
REPORT FOR 12 COUNTY COASTAL BEND

TOTAL CASES

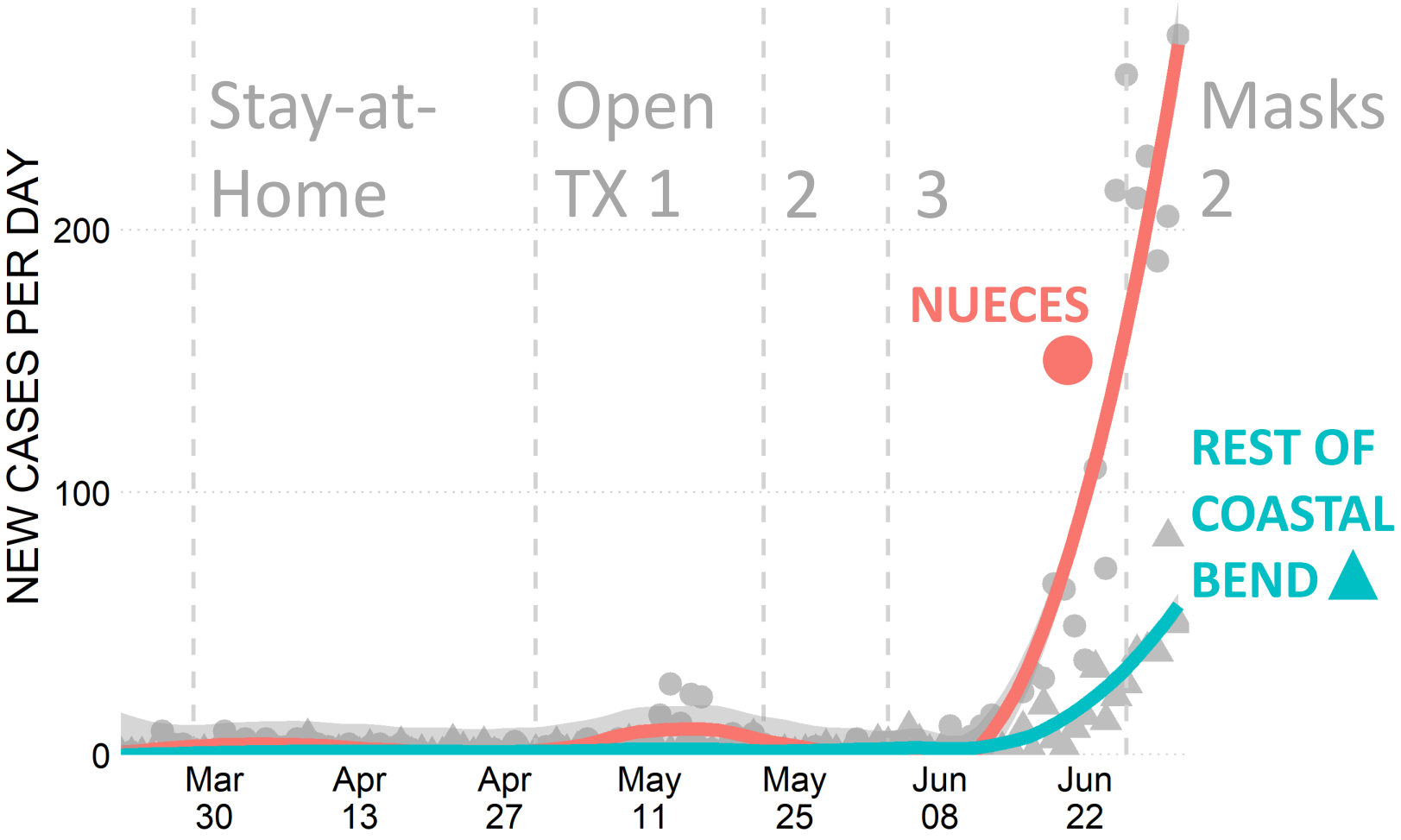




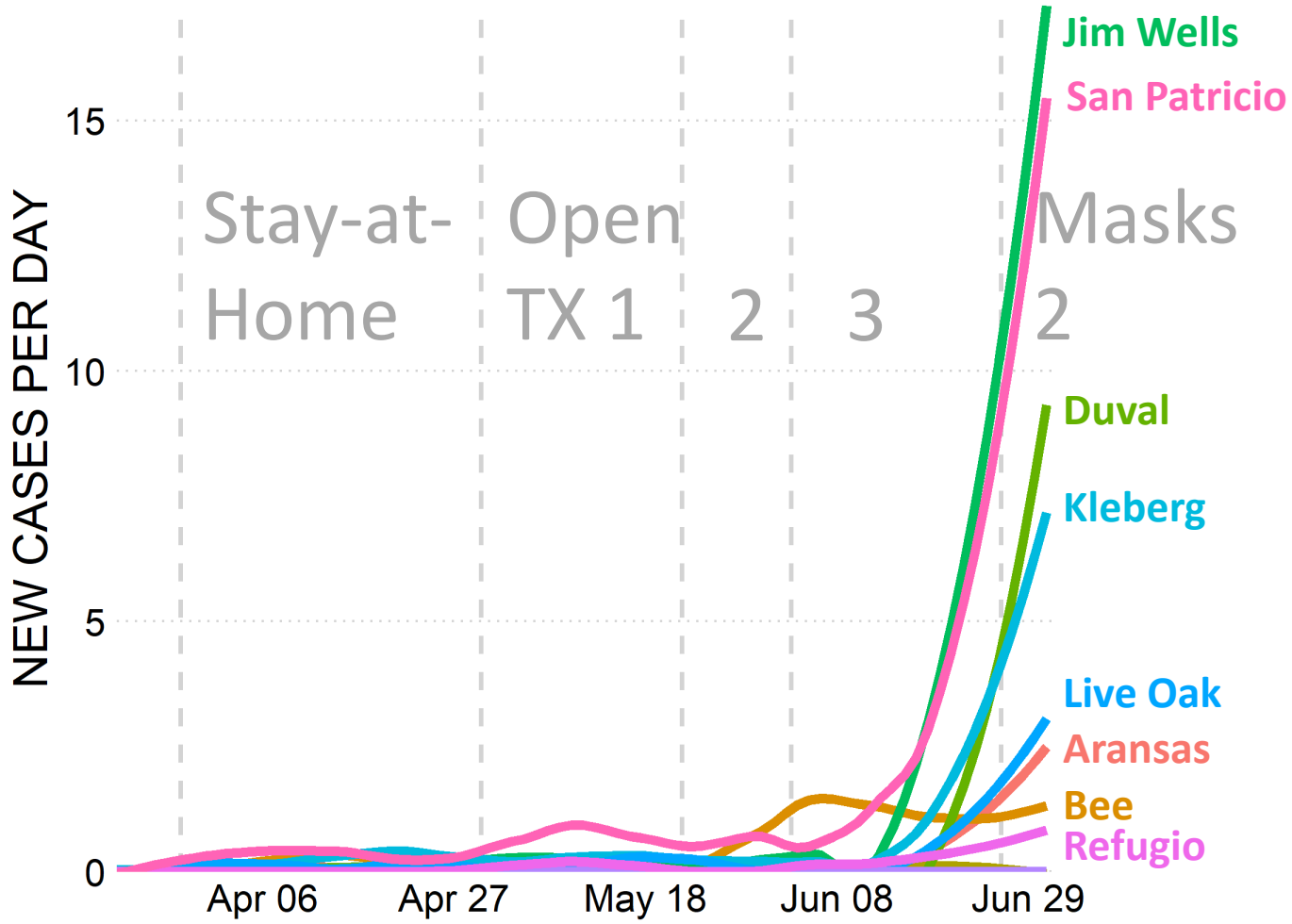
COASTAL BEND COVID-19 CASES



NEW COVID-19 CASES PER DAY

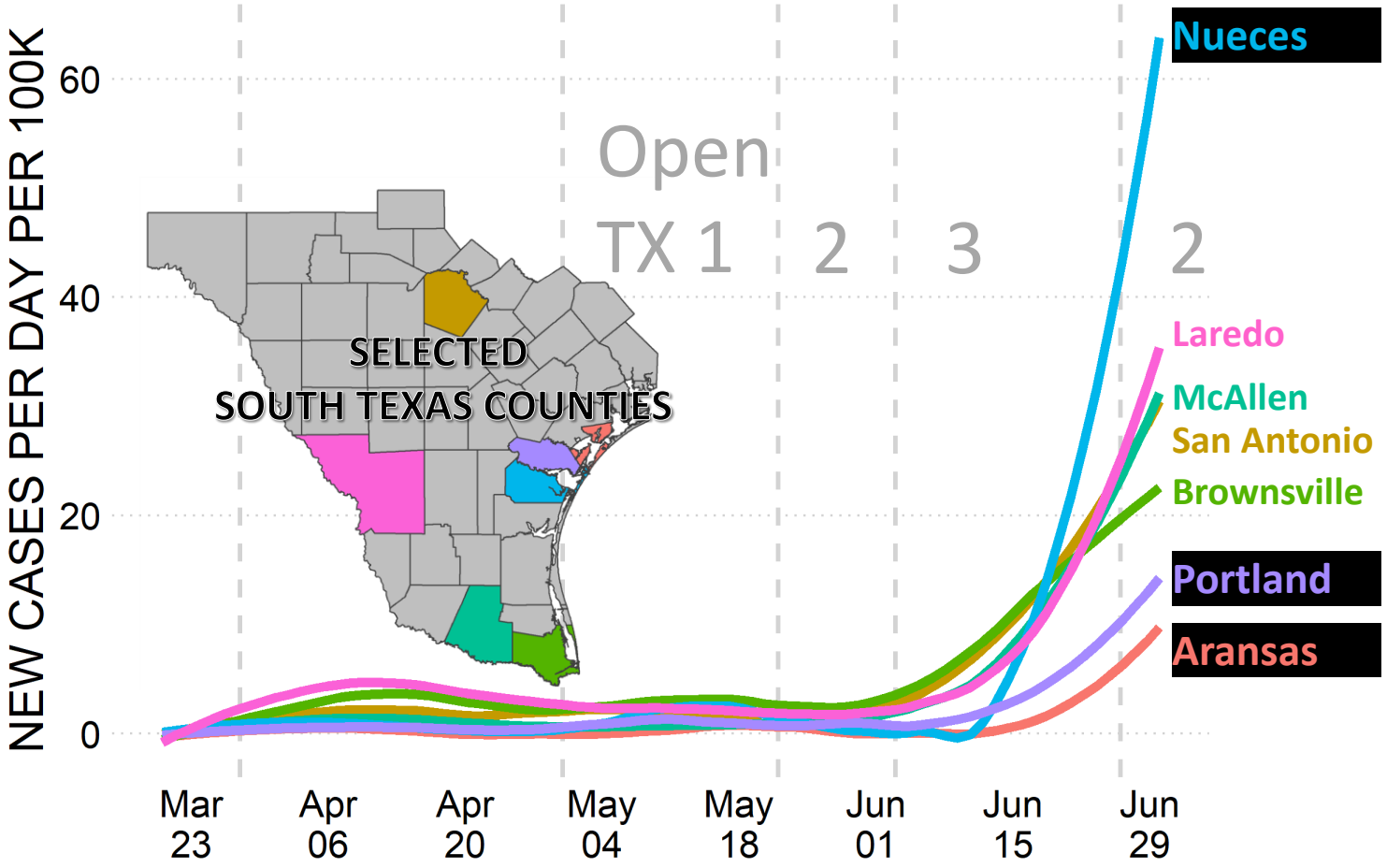


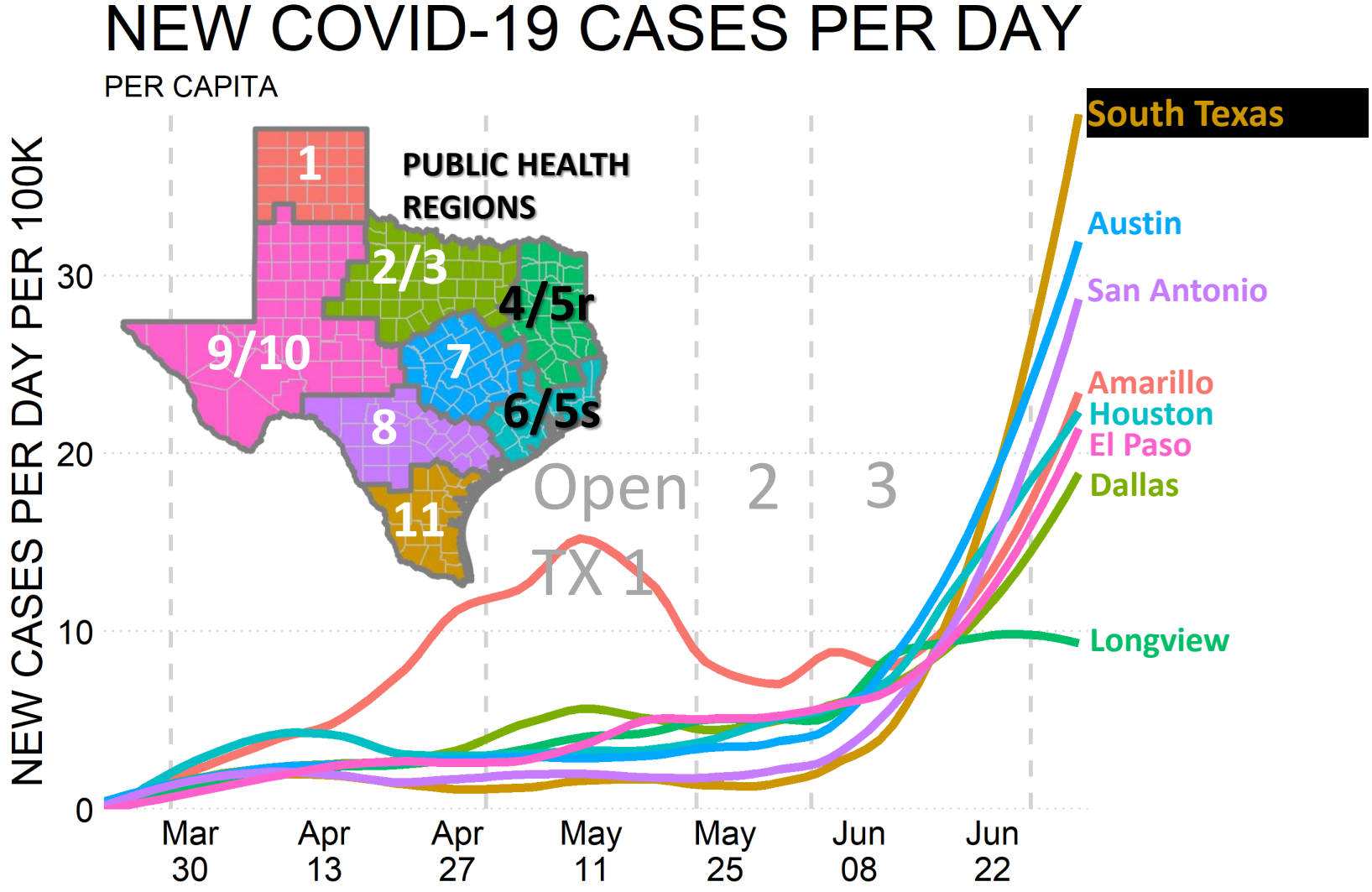
NEW COVID-19 CASES PER DAY



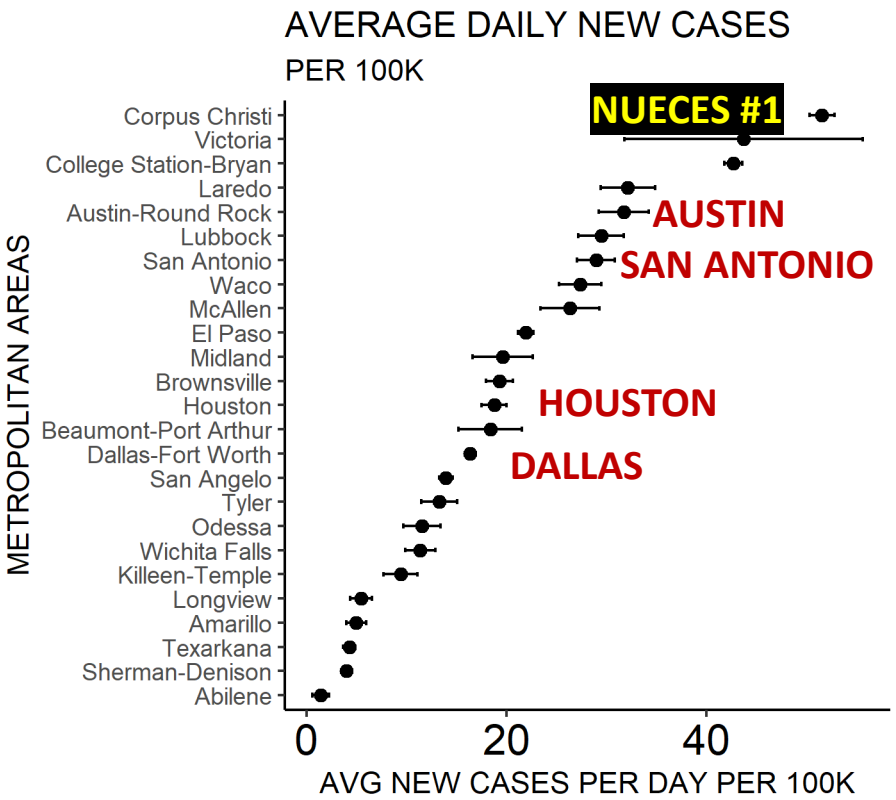
NEW COVID-19 CASES PER DAY

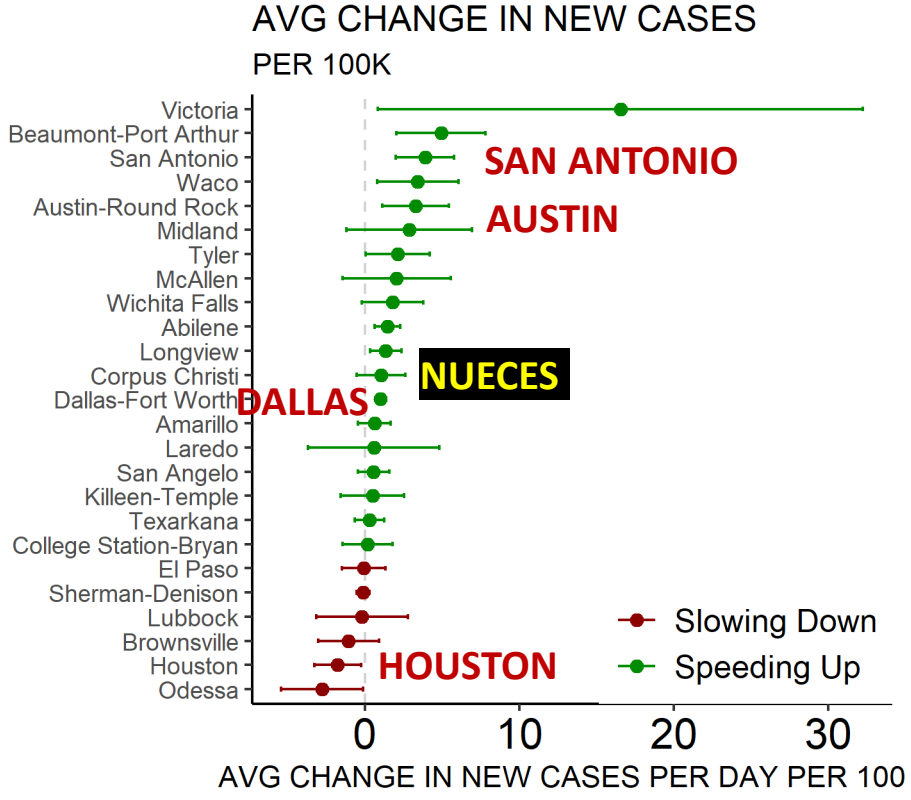
PER CAPITA



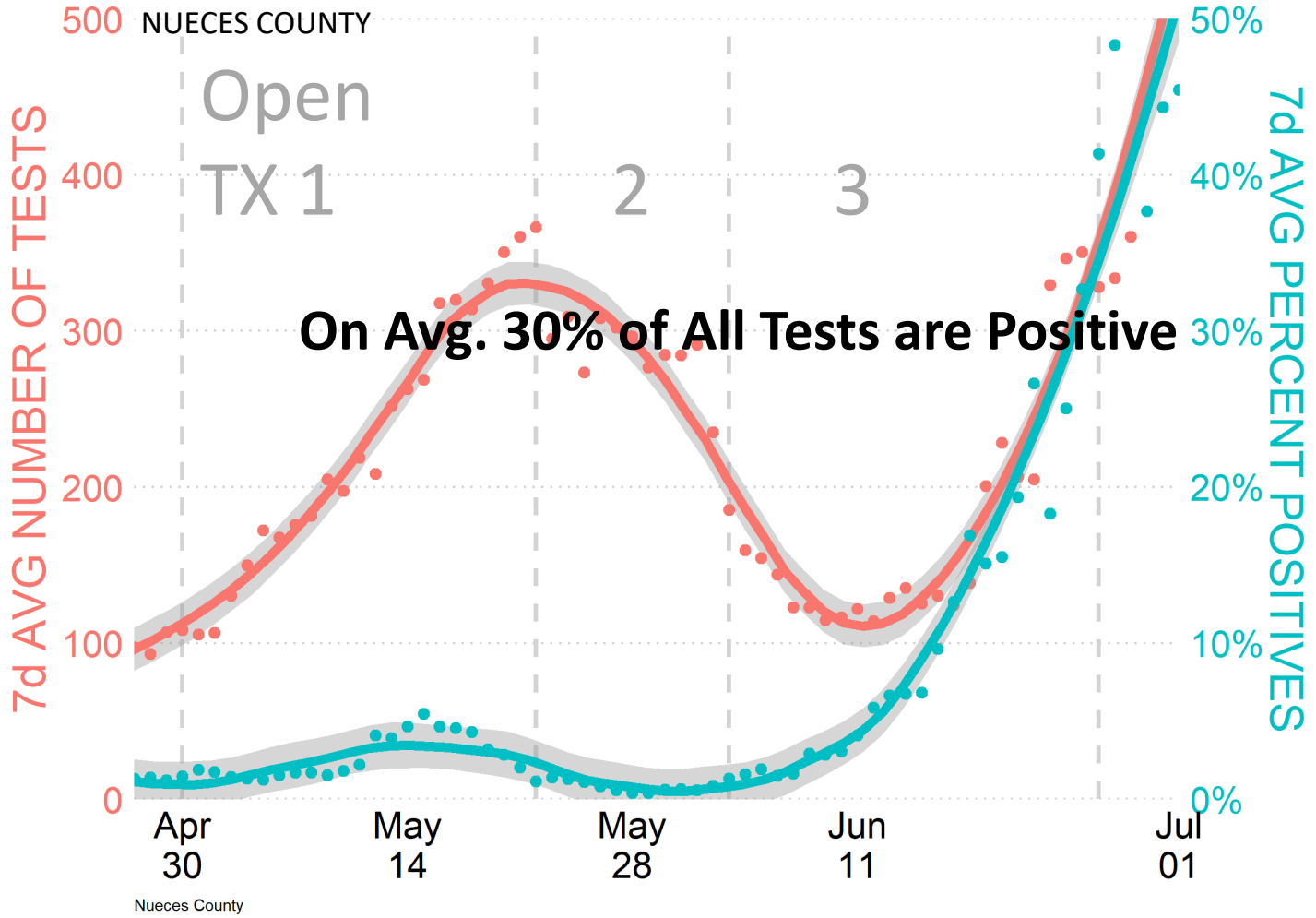

NEW COVID-19 CASES PER DAY
PER CAPITA
NEW CASES PER DAY PER 100K
0
10
20
30
Mar 30
Apr 13
Apr 27
May 11
May 25
Jun 08
Jun 22
PUBLIC HEALTH REGIONS
1
2/3
4/5r
6/5s
7
8
9/10
11
Open
2
3
TX 1
South Texas
Austin
San Antonio
Amarillo
Houston
El Paso
Dallas
Longview

CASES ACCUMULATING RAPIDLY IN NUECES COUNTY IN PAST WEEK





RATE OF POSITIVE TESTS RISING



TEXAS A&M UNIVERSITY CORPUS CHRISTI

CELL PHONES CAN BE USED TO ASSESS OUR BEHAVIORS, EVALUATE INTERVENTIONS

Foot Traffic

Leaving Home

Potential Encounters

In the Dark Knight, Batman Used Cell Phone Data To Locate the Joker

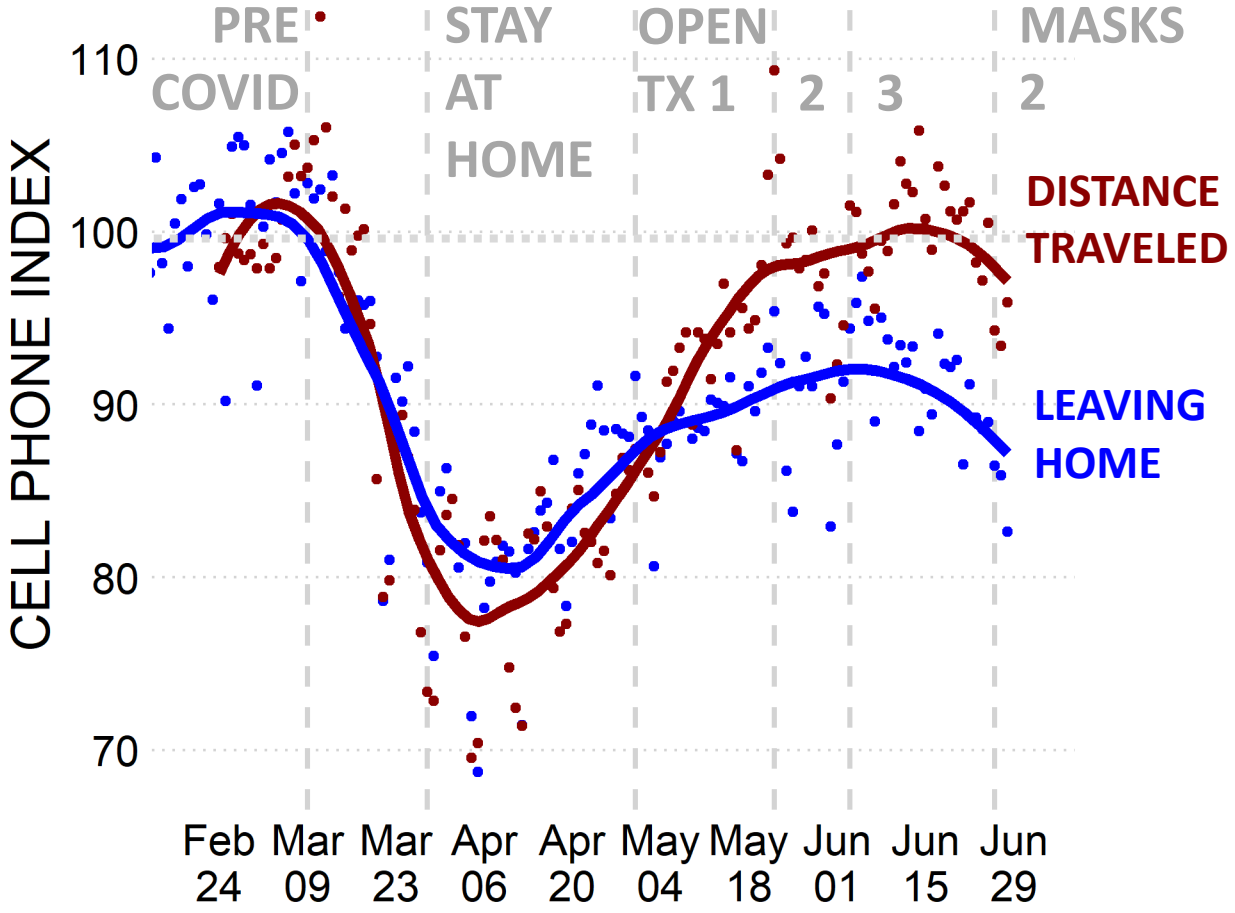
WHAT ABOUT OUR PRIVACY?

- Apps track your location and the data is sold to businesses
  - Google maps
  - Facebook
  - Instagram
  - Flashlight
- Anonymized data is used for targeted advertising & decision making

MANY ARE LEAVING HOME

Cell Phone Location Model

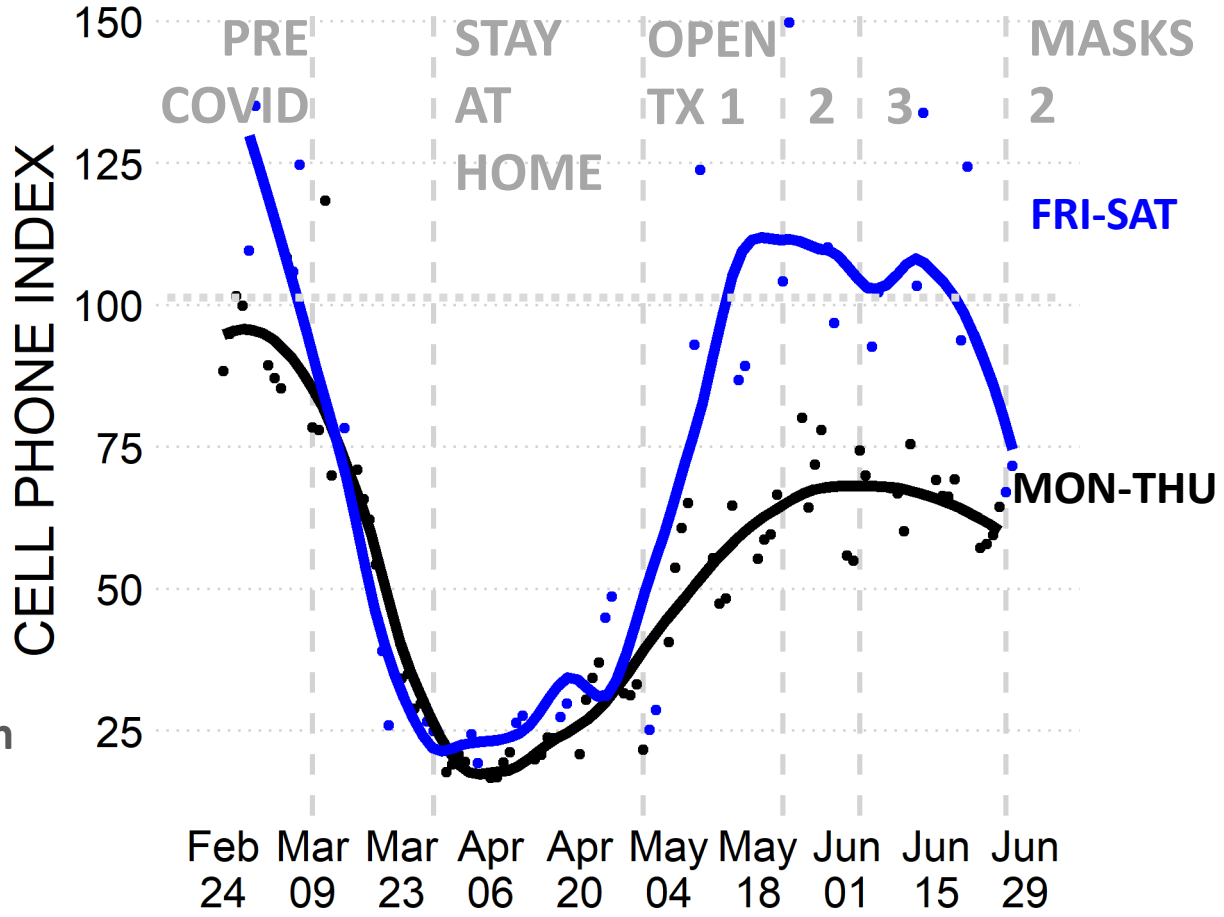
- **Proportion leaving home per day**
- **Device leaves home triggers count**
- **Distance traveled**



POTENTIAL ENCOUNTERS TOO HIGH ON WEEKENDS

Cell Phone Location Model

- **Number of encounters per km² per day scaled to Nueces**
- **Estimate probability of contact**
- **2 devices within 50 meters for less than 60 minutes**

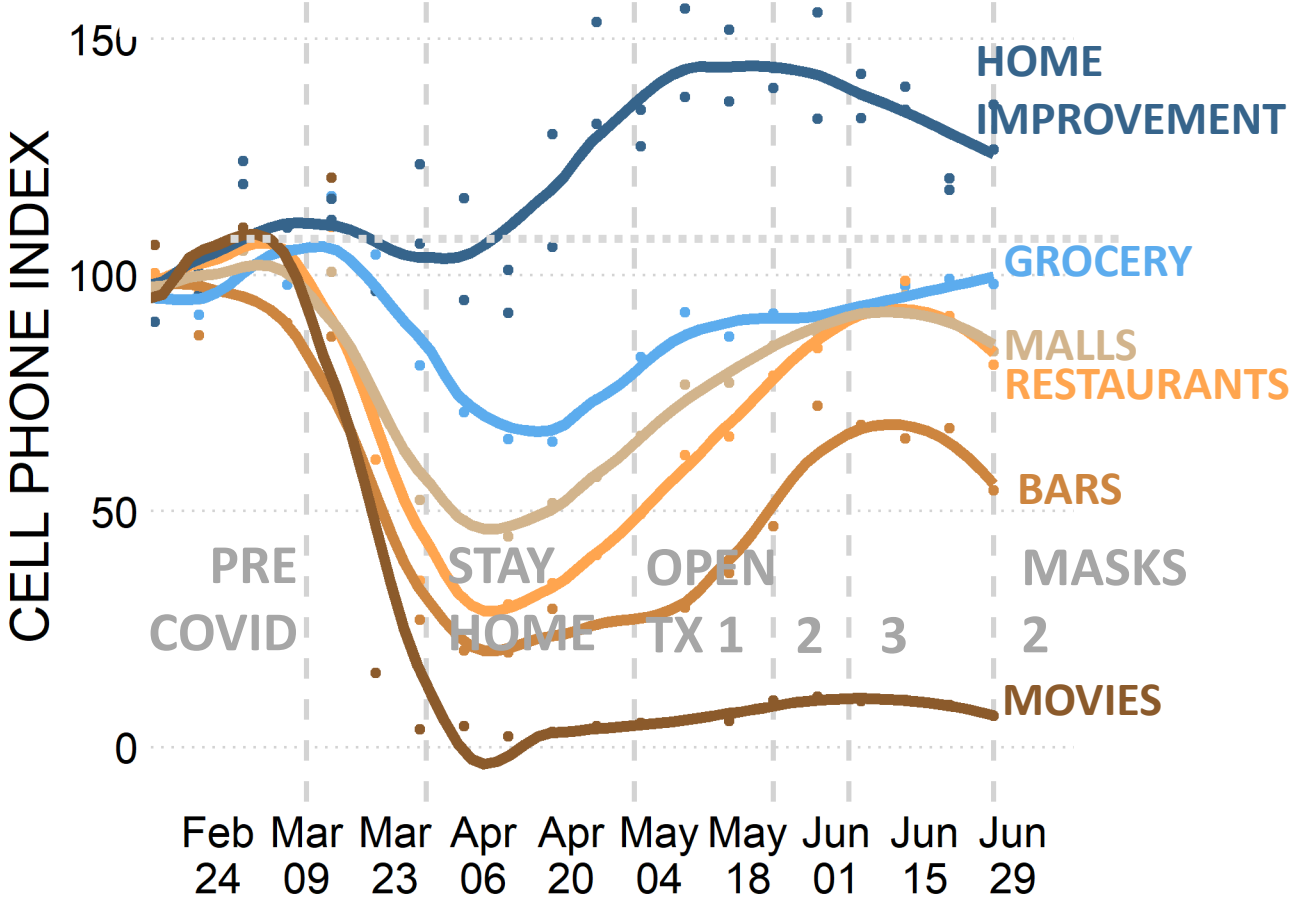


ESSENTIAL & NON-ESSENTIAL GATHERINGS

Cell Phone Foot Traffic Model

- **Visits to local establishments counted**
- **Device near or in building**

- **safeGraph.com**

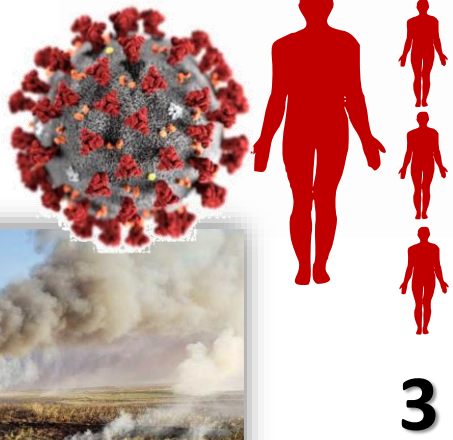


TRANSMISSION RATE IS TOO HIGH

PEOPLE INFECTED PER CARRIER

3.1

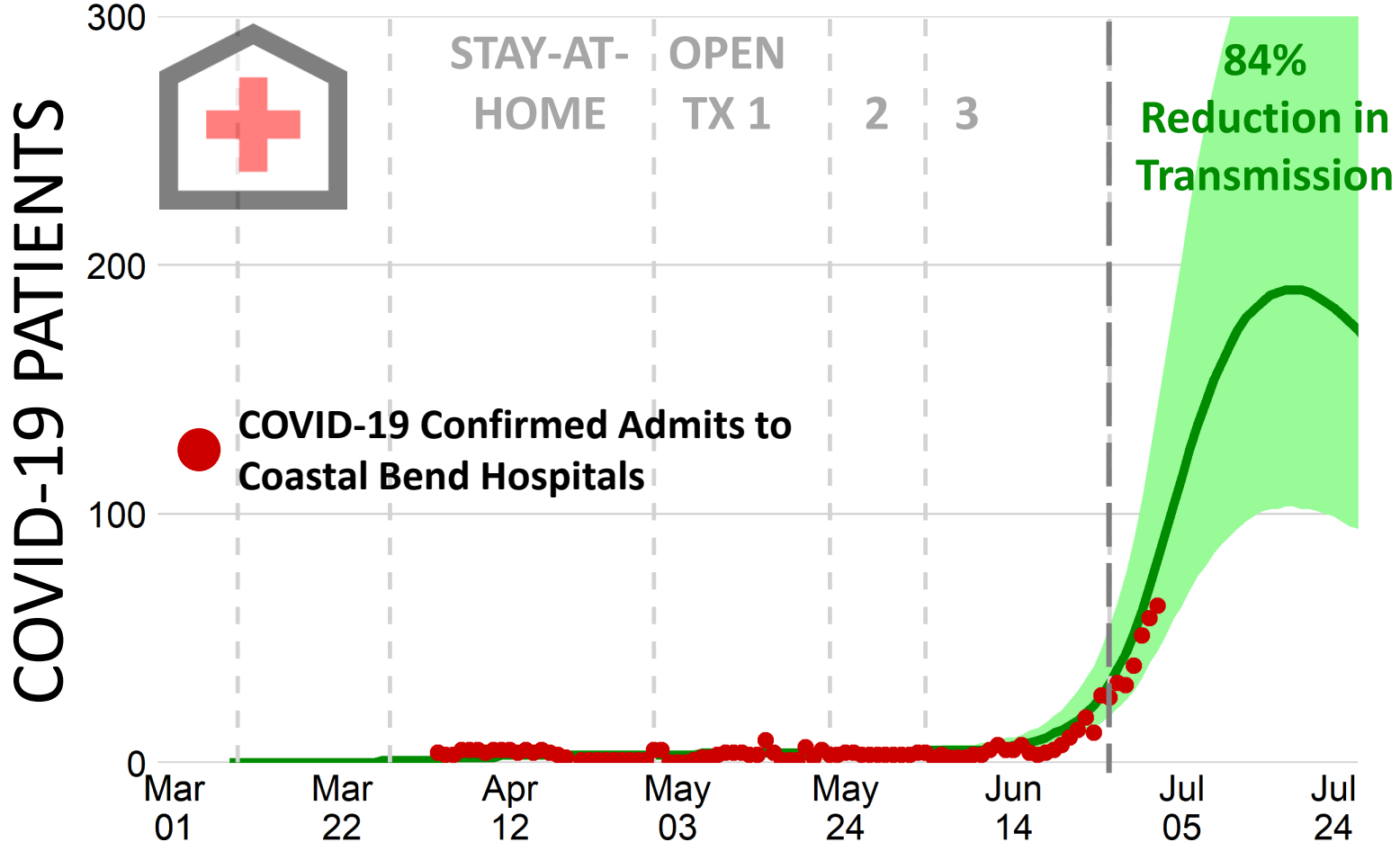
SOUTH TEXAS



136 Infected In 1 month

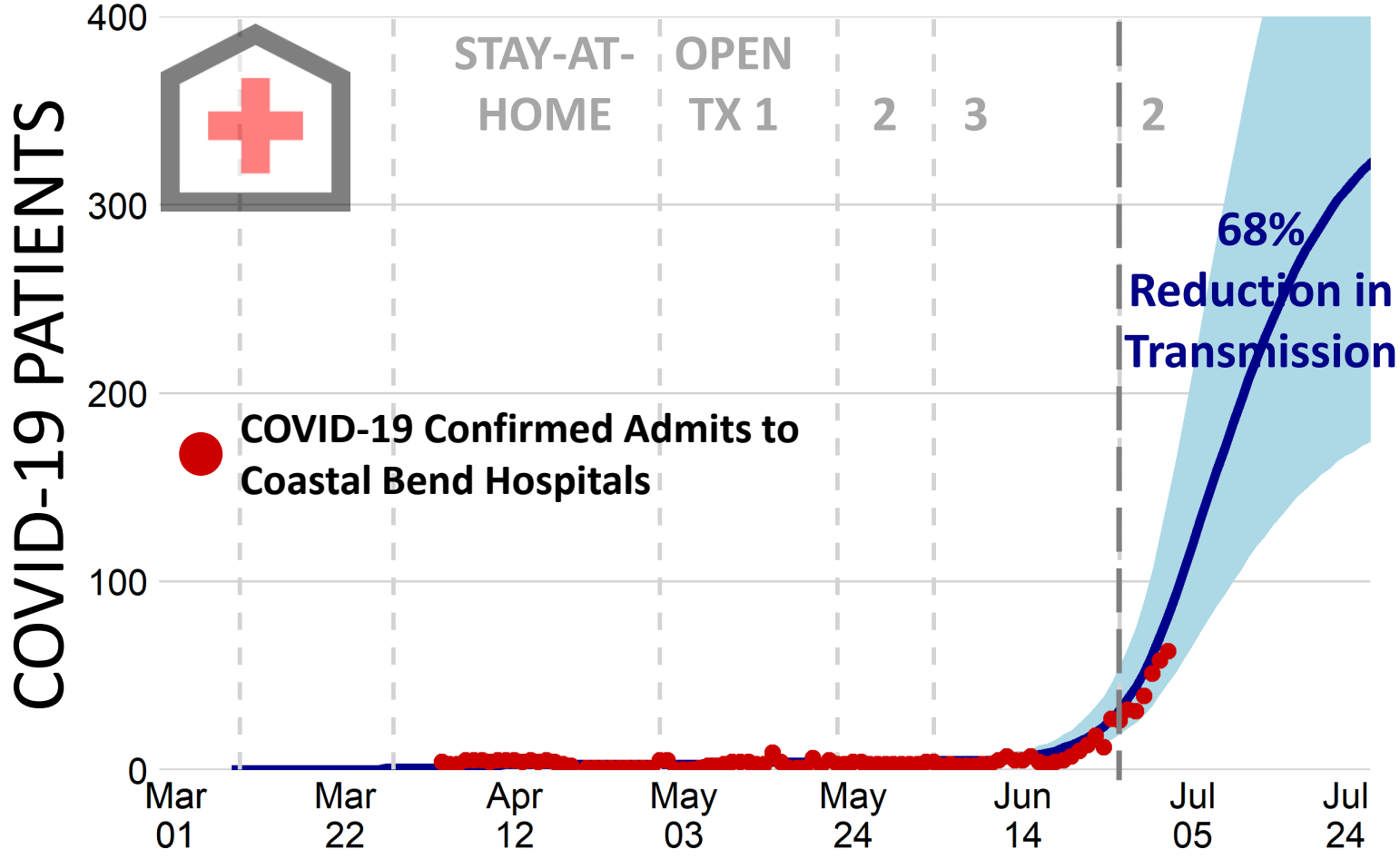
PROJECTED ICU

AVG NUMBER REQUIRING ICU PER DAY



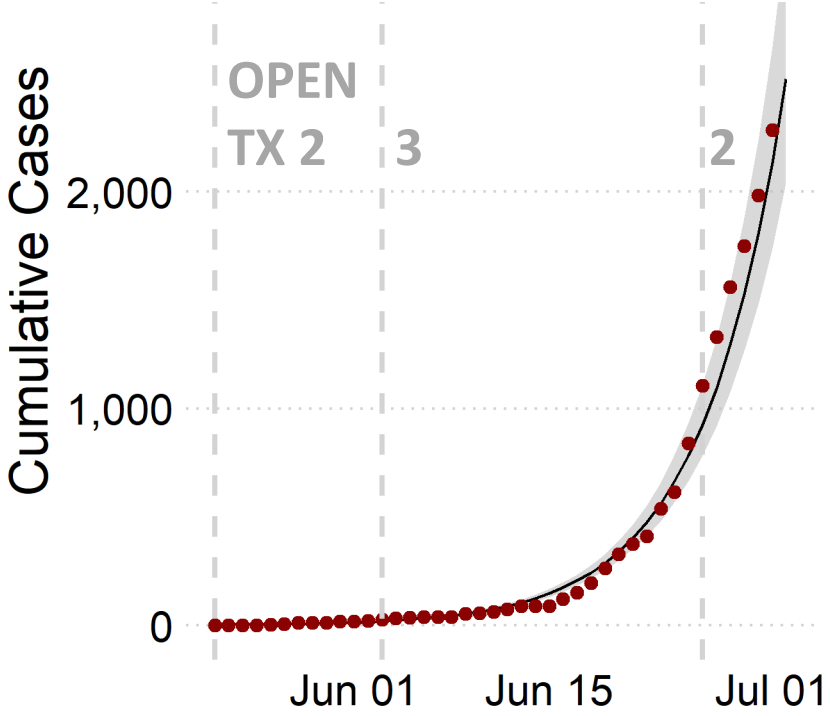
PROJECTED ICU

AVG NUMBER REQUIRING ICU PER DAY

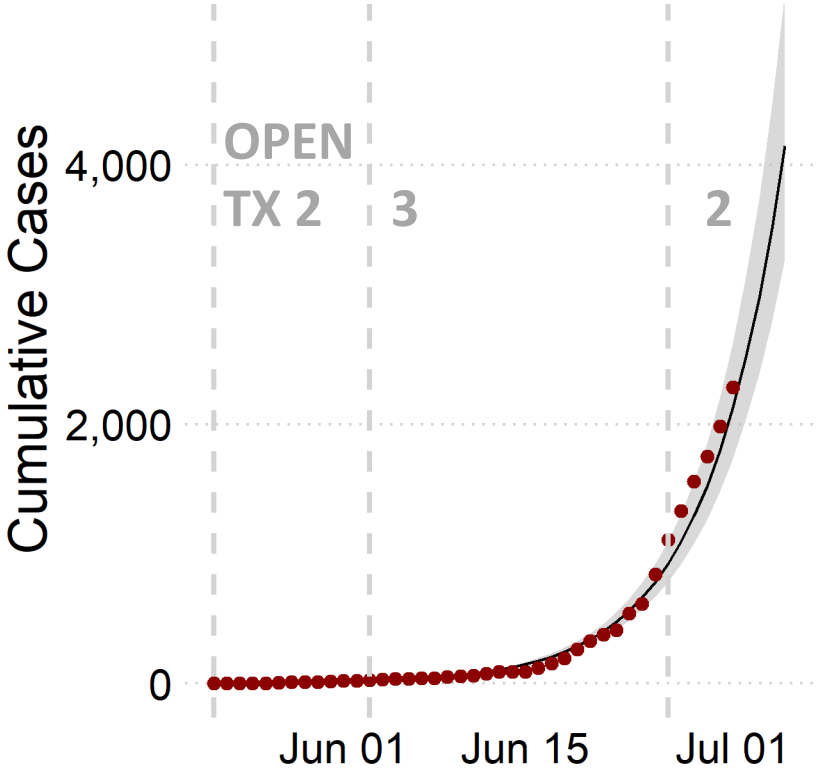


EXPONENTIAL PROJECTION CB

FIT OF EXPONENTIAL GROWTH MODEL TO ACCUMULATION OF CASES IN NUECES SINCE MAY 22, 2020

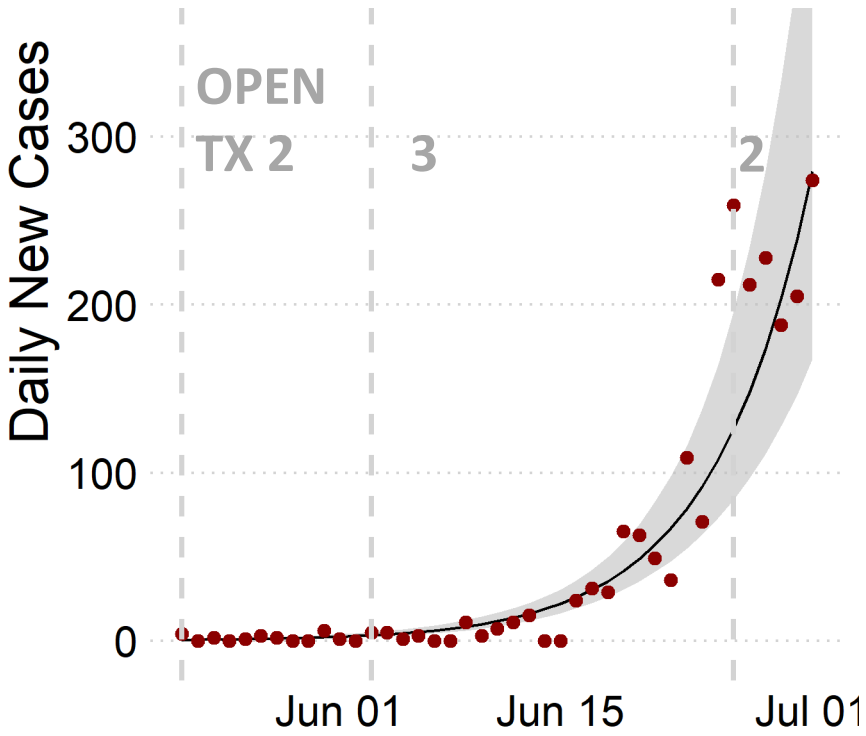


SAME MODEL, PROJECTING 4 DAYS INTO FUTURE

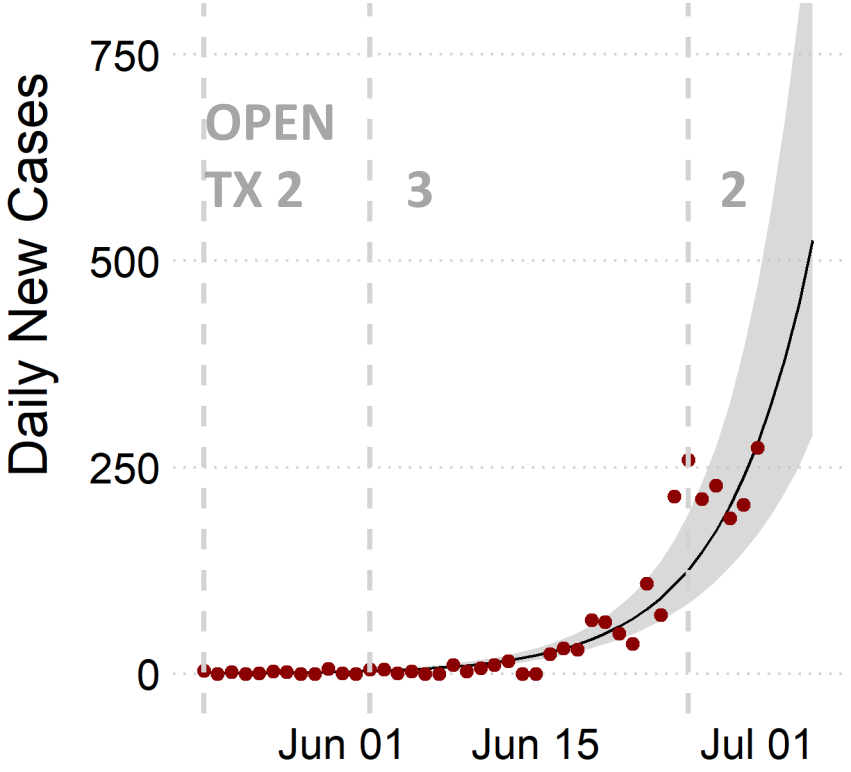


EXPONENTIAL PROJECTION NUECES

FIT OF EXPONENTIAL GROWTH MODEL TO ACCUMULATION OF CASES IN NUECES SINCE MAY 22, 2020



SAME MODEL, PROJECTING 4 DAYS INTO FUTURE



SUMMARY

- Texas-Wide-Outbreak
- COVID-19 still expanding in South TX
- 1 in every 25-50 Coastal Bend residents have COVID
- Up to 8 more days until changes made last Friday affect cases
  - Today's new cases were infected last week
- Hospitals experiencing surge

HELP CONTAIN OUTBREAK

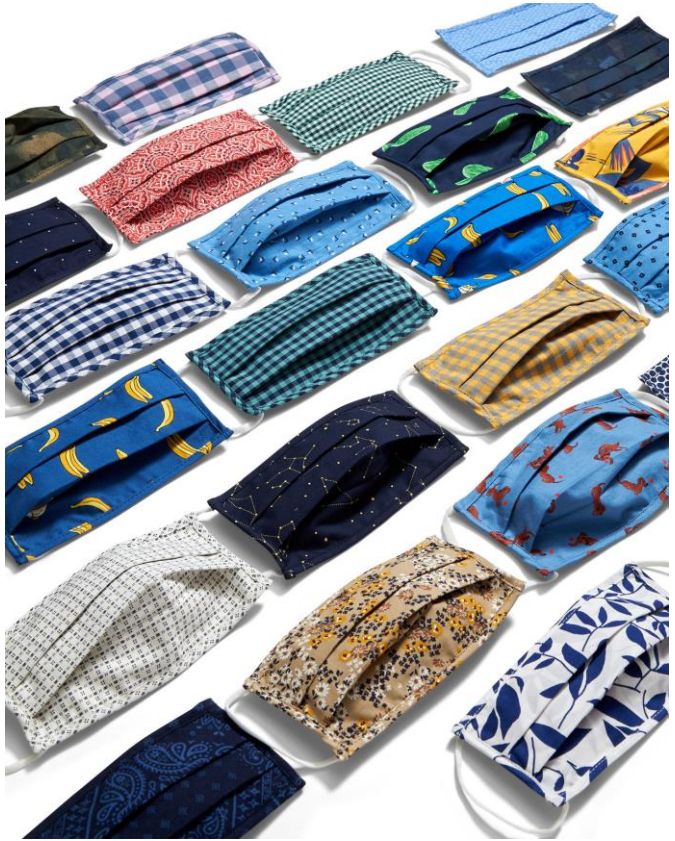
- Task force recommends you do as much as possible to stop the transmission of COVID
  - No Shirt, No Mask, No Service

- Close loopholes in social distancing policies

WHAT CAN WE DO TO CONTROL THE SPREAD OF COVID-19?

- Each of us can make a difference
  - Face coverings in public decrease transmission by up to 50%
  - Social distance (6+ ft)
  - Self-isolate when symptomatic
  - Stay-at-Home if you can
  - Postpone social gatherings, or have them online
  - Curbside & takeout
- Support testing & contact tracing

https://tinyurl.com/TAMUCC-COVID



ACKNOWLEDGEMENTS

https://www.conradblucherinstitute.org/covid19-response

- The joint taskforce was created by Judge Canales, City leadership including City Manager Zanoni, TAMU-CC President Miller and Vice President Mahdy
- Many Organizations and People Contributed to this Work
- Including: Philippe Tissot, Keren Costanzo, Chris Bird, Daniel McGinn, Steve Viera, Lucy Huang, Jason Selwyn, Bryan Gillis, Meng Zhao, Greg Buck, Jason Louis, Hilary Watt, Annette Rodriguez, Mike Mohat, Mike Simmons, Scott King, Evan Krell, Mahmoud Eldefrawy, Roy Roberts, Audrey Garza, Gina Concannon, Davey Edwards, Qianqian Liu, Leisha Martin, Ed Warga, Dante Gonzalez, Tiffany Anderson, Maggie Turner