TEXAS COASTAL BEND COVID-19 PANDEMIC REPORT

July 10, 2020

CC TAMU-CC Joint COVID-19 Modelling Task Force

https://tinyurl.com/TAMUCC-COVID

TEXAS A&M UNIVERSITY CORPUS CHRISTI

STATE OF TEXAS COUNTY OF NUECES

CITY OF CORPUS CHRISTI TEXAS INCORPORATED 1852

Public Health Prevent. Promote. Protect.

COASTAL BEND REGIONAL ADVISORY COUNCIL

TASK FORCE OBJECTIVES

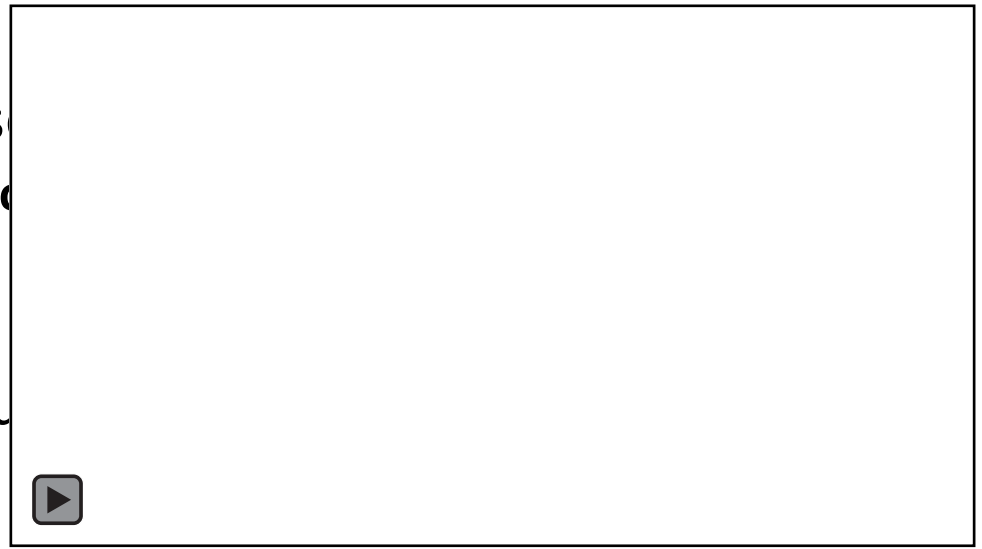
ADDRESS PUBLIC CONCERNS & QUESTIONS ABOUT *COVID-19* & INTERVENTIONS

ENABLE EVIDENCE-BASED DECISION MAKING

WHAT IS AN OUTBREAK?

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

EXAMPLE SPREAD OF COVID-19



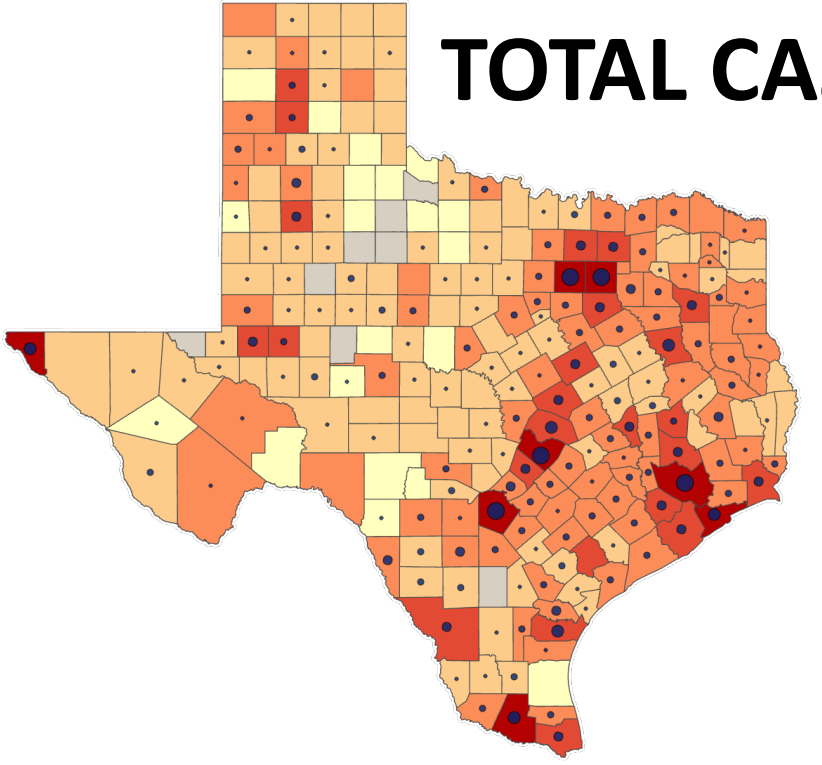
Graphic from https://www.cnn.com/2020/05/01/health/flu-vs-coronavirus-deaths/index.html

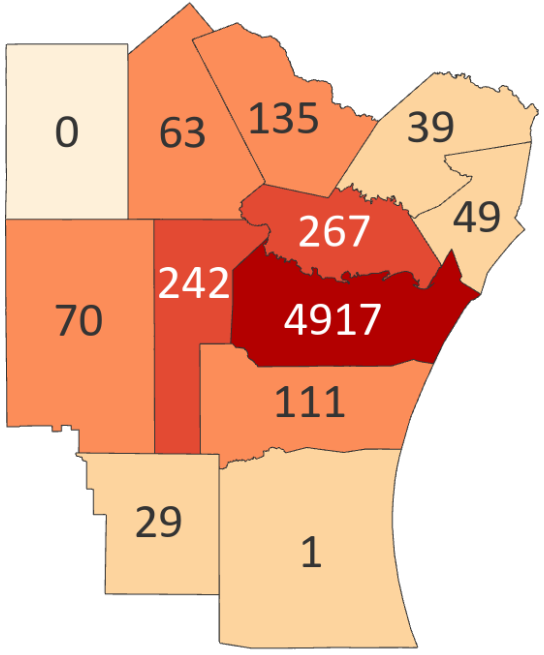
INTERVENTIONS & OPENING TX

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 OPEN TX 1, 2, 3, 3 repealed, 2 partially rolled back

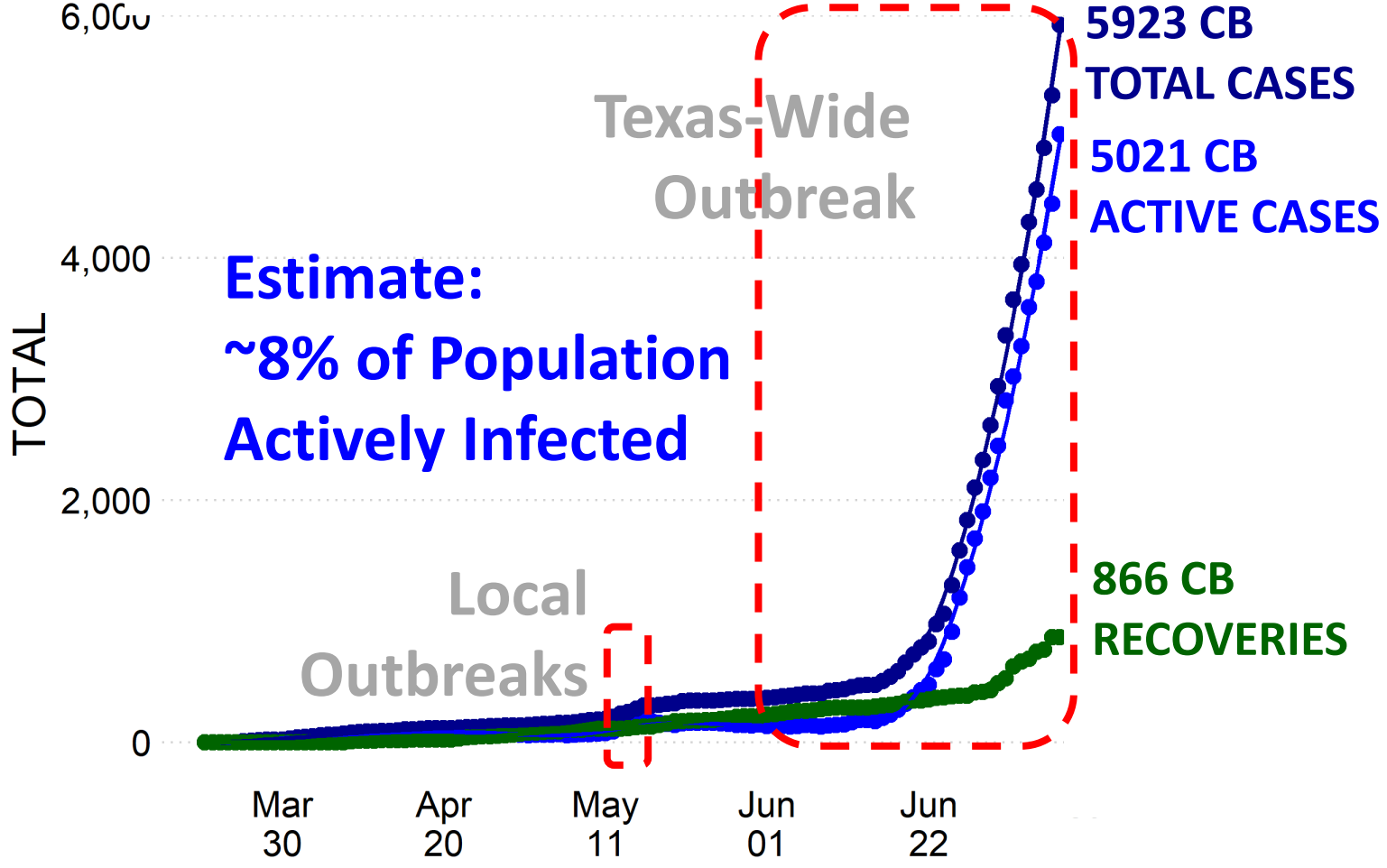
REPORT FOR 12 COUNTY COASTAL BEND

TOTAL CASES

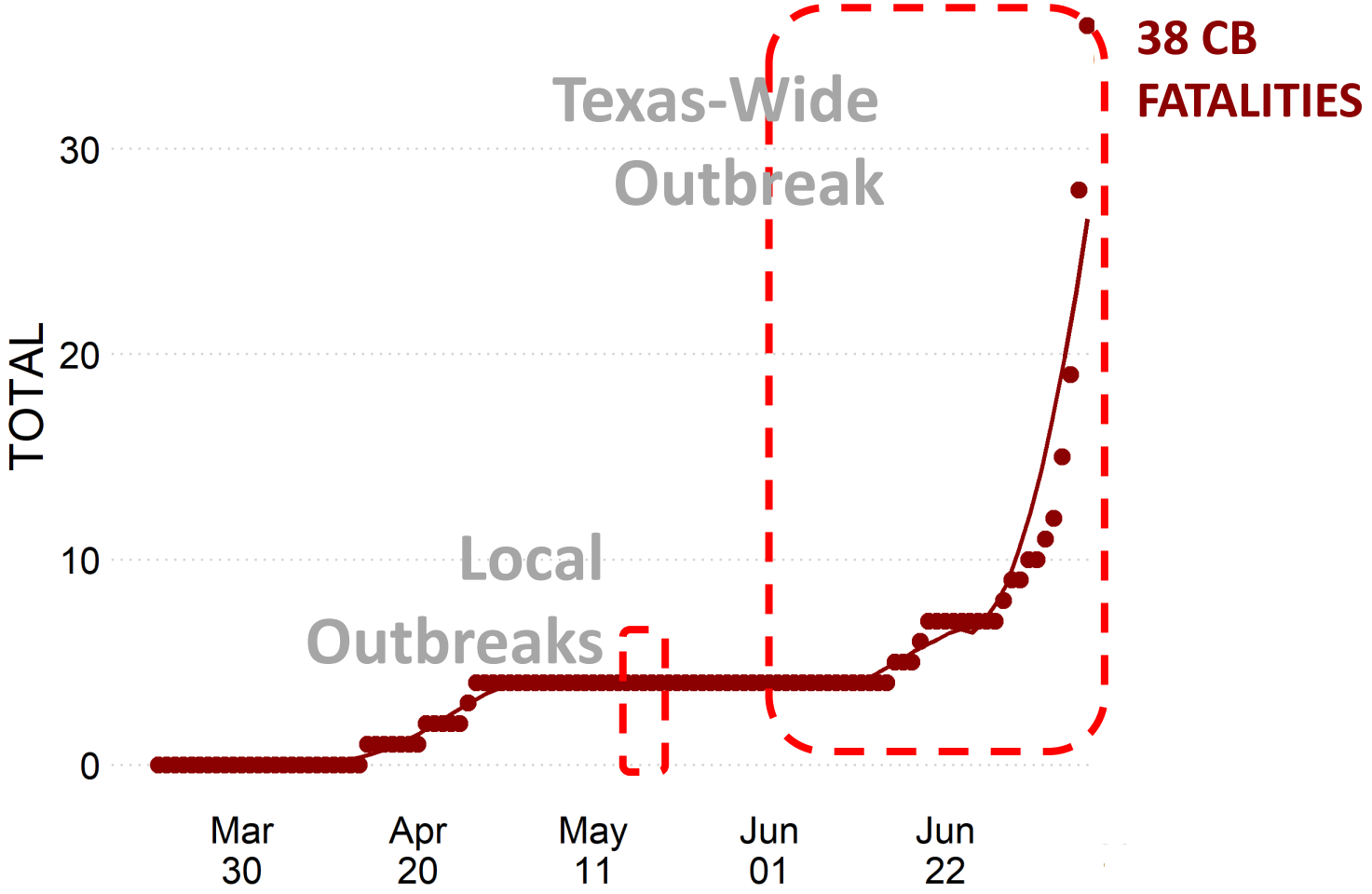




COASTAL BEND COVID-19 CASES

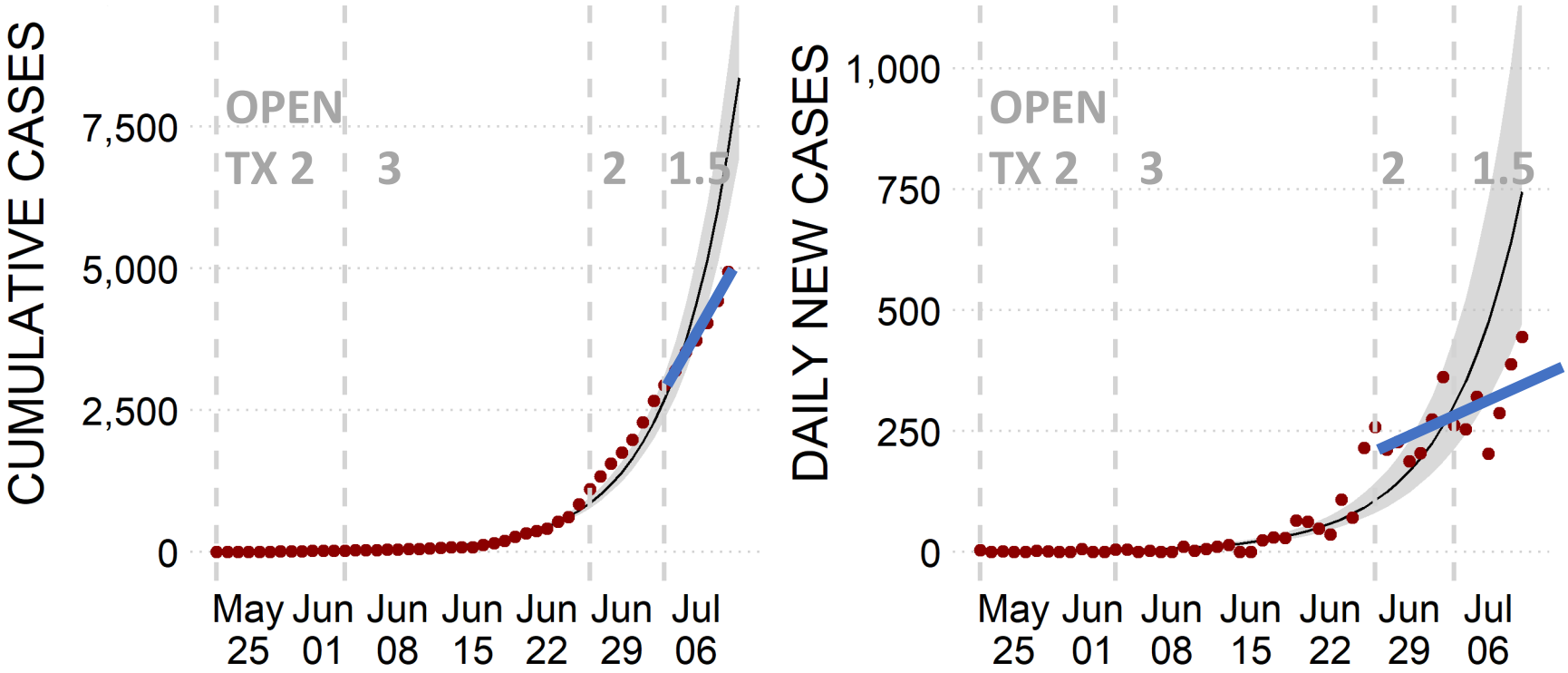


COASTAL BEND COVID-19 FATALITIES

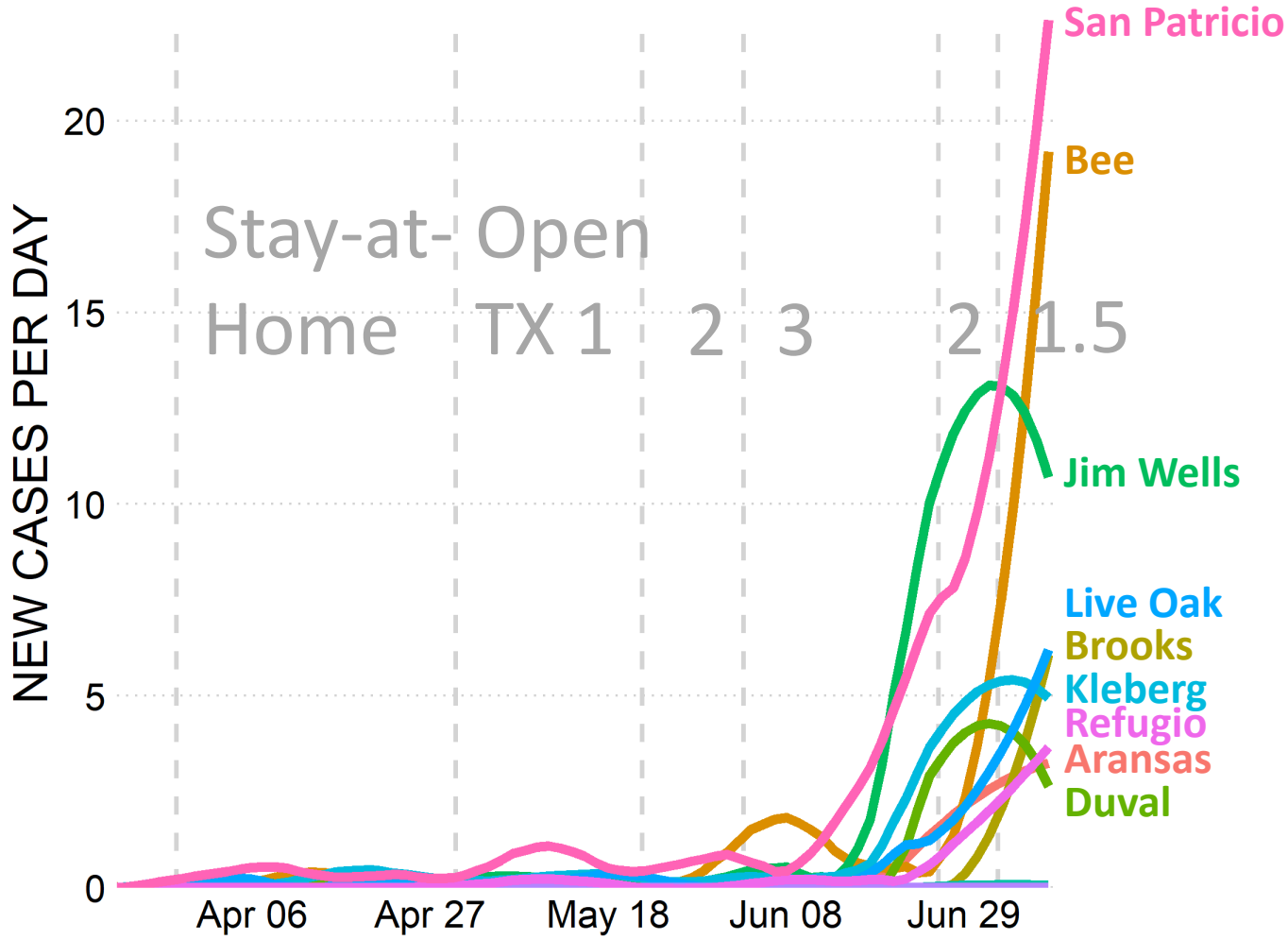


EXPONENTIAL PROJECTION FOR NUECES

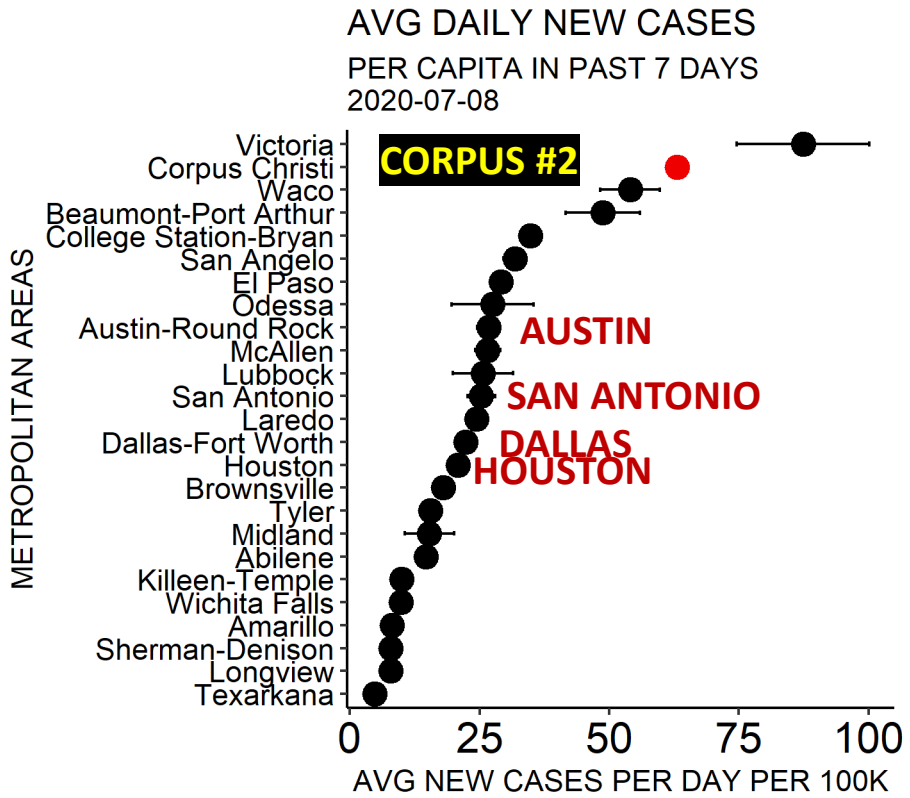
FIT OF EXPONENTIAL GROWTH MODEL TO ACCUMULATION OF CASES IN NUECES SINCE MAY 22, 2020

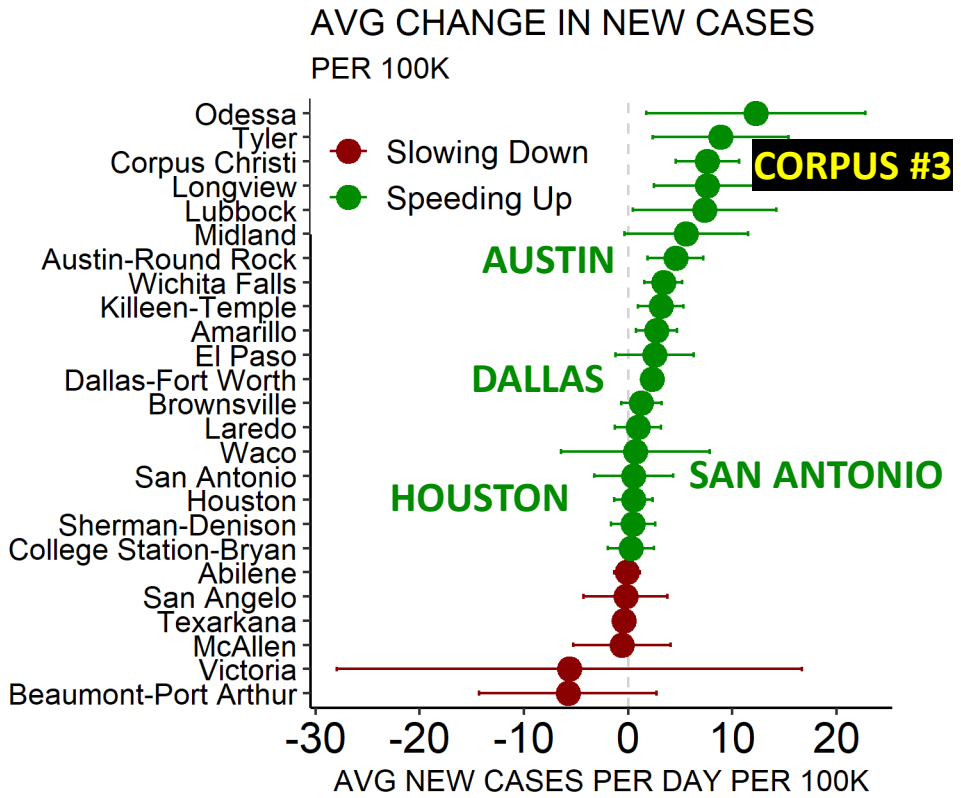


NEW COVID-19 CASES PER DAY

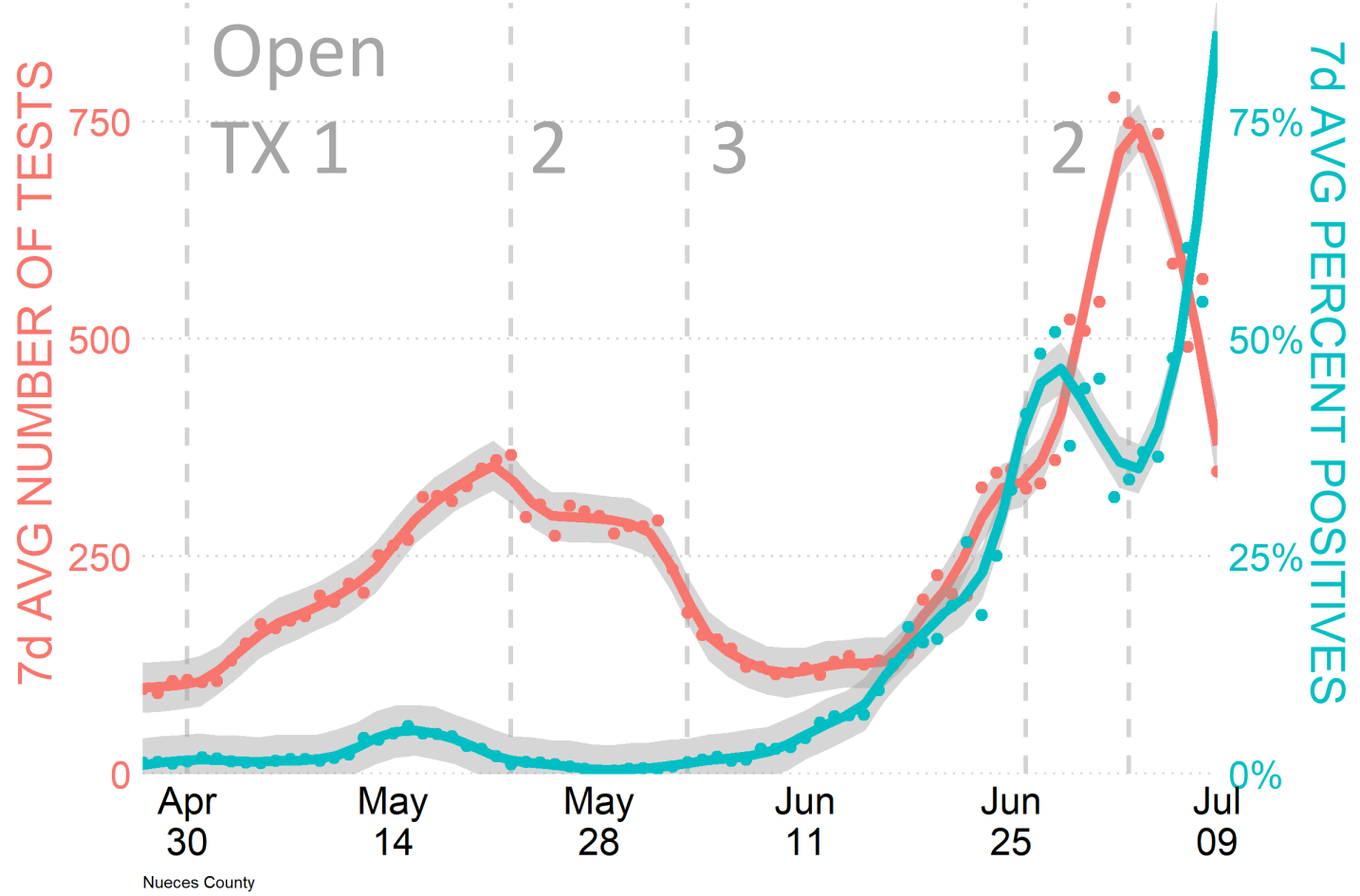


HIGH NUMBER OF CASES PER CAPITA IN CORPUS CHRISTI METRO



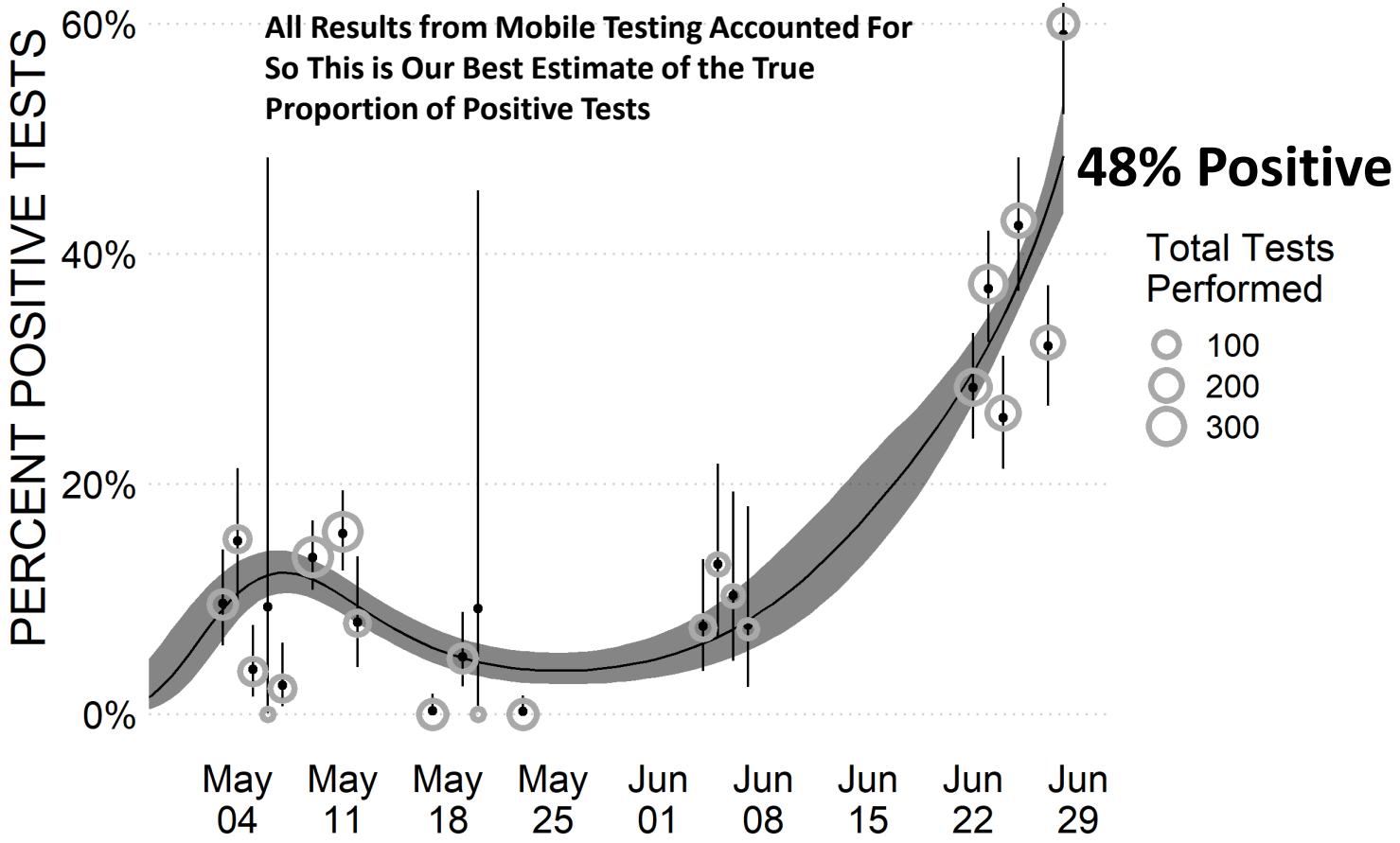


NUECES TESTING UPDATE (ALL DATA)



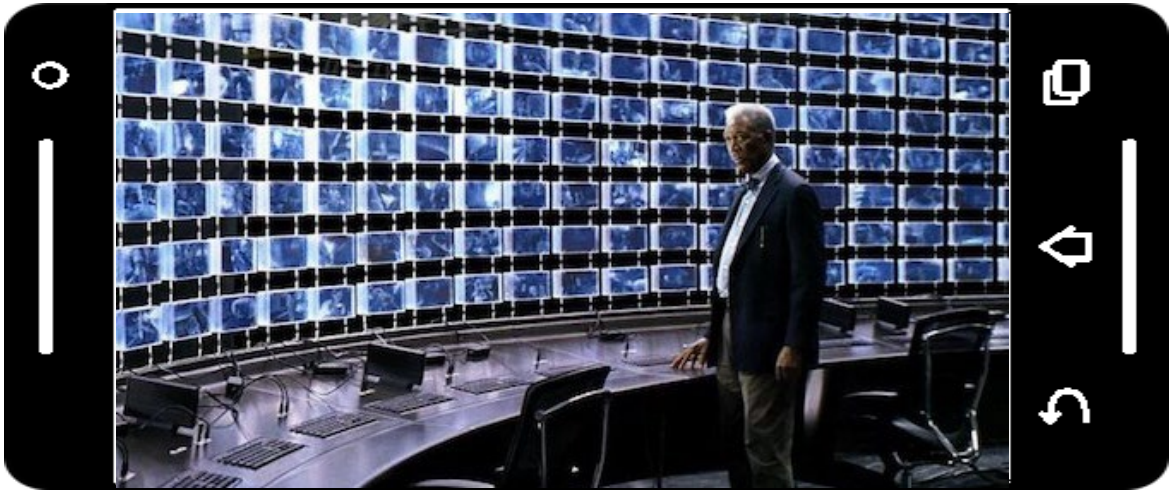
TEXAS A&M UNIVERSITY CORPUS CHRISTI

NUECES TESTING UPDATE (JUST MOBILE)



TEXAS A&M UNIVERSITY CORPUS CHRISTI

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



Foot Traffic

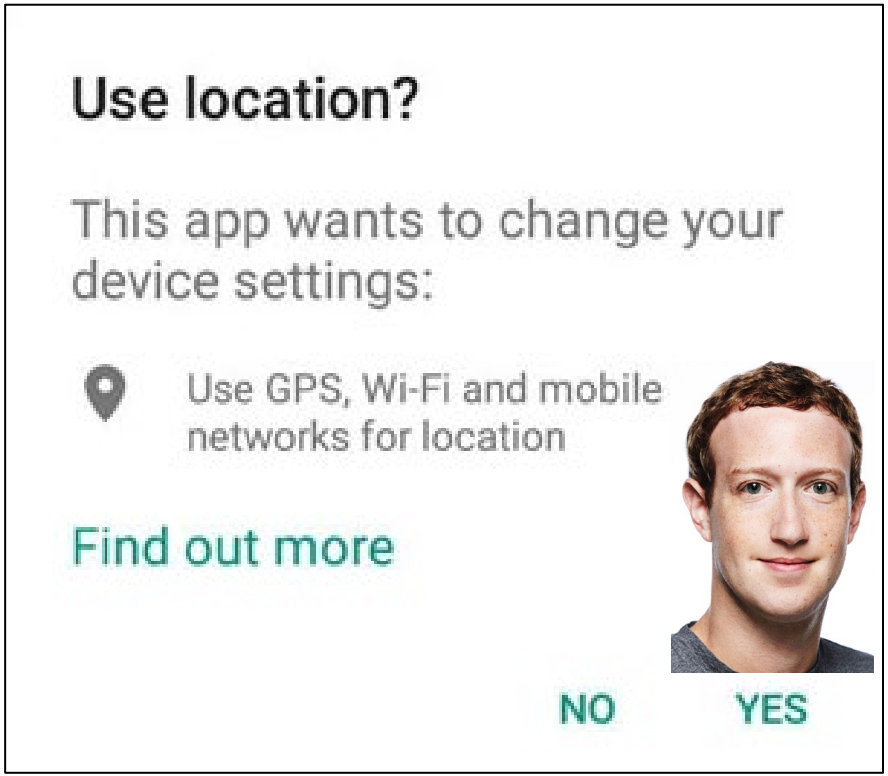
Leaving Home

Potential Encounters

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

WHAT ABOUT OUR PRIVACY?

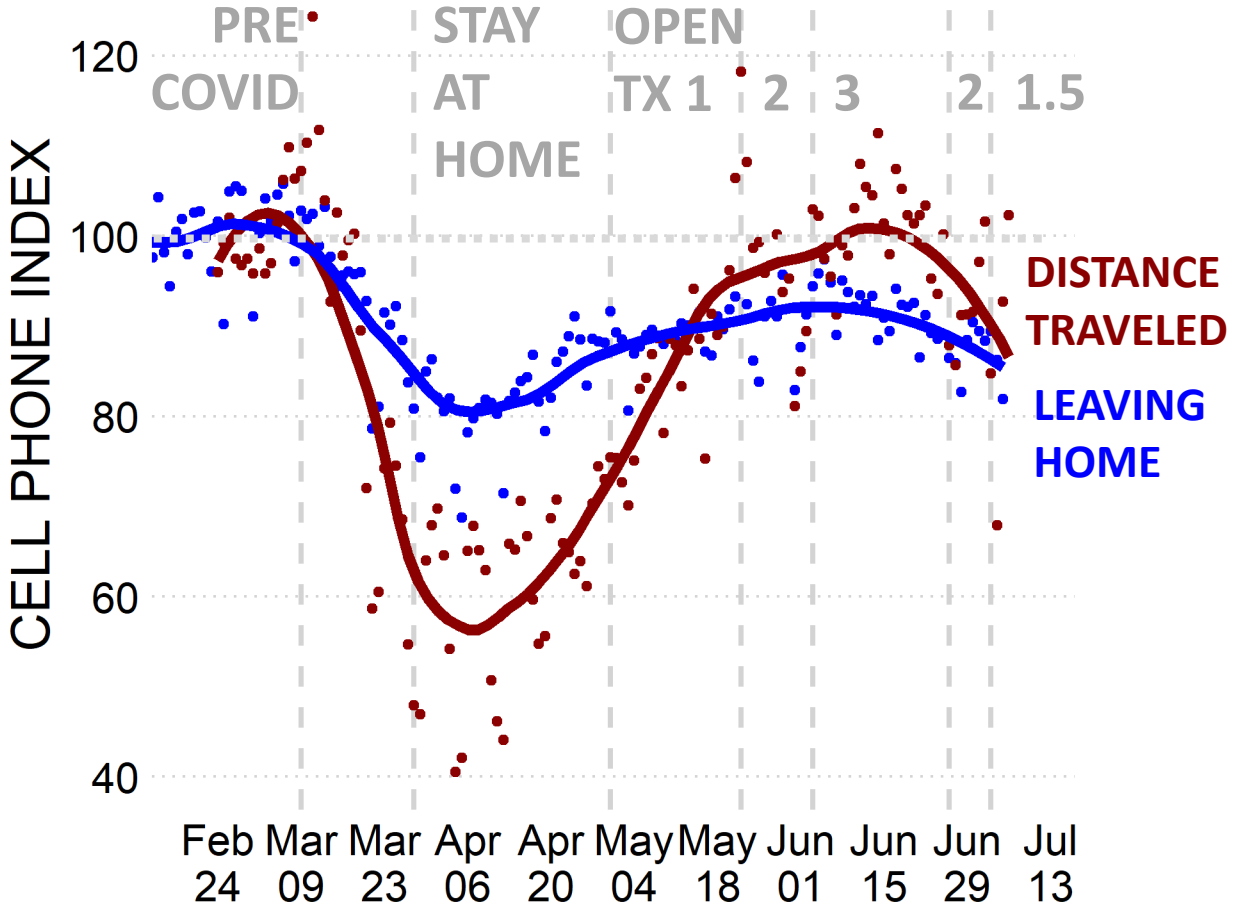
- Apps track your location and the data is sold to businesses
  - Google maps
  - Facebook
  - Instagram
  - Flashlight
- Anonymized data is used for targeted advertising & decision making



MORE PEOPLE STAYING HOME, LESS TRAVEL

Cell Phone Location Model

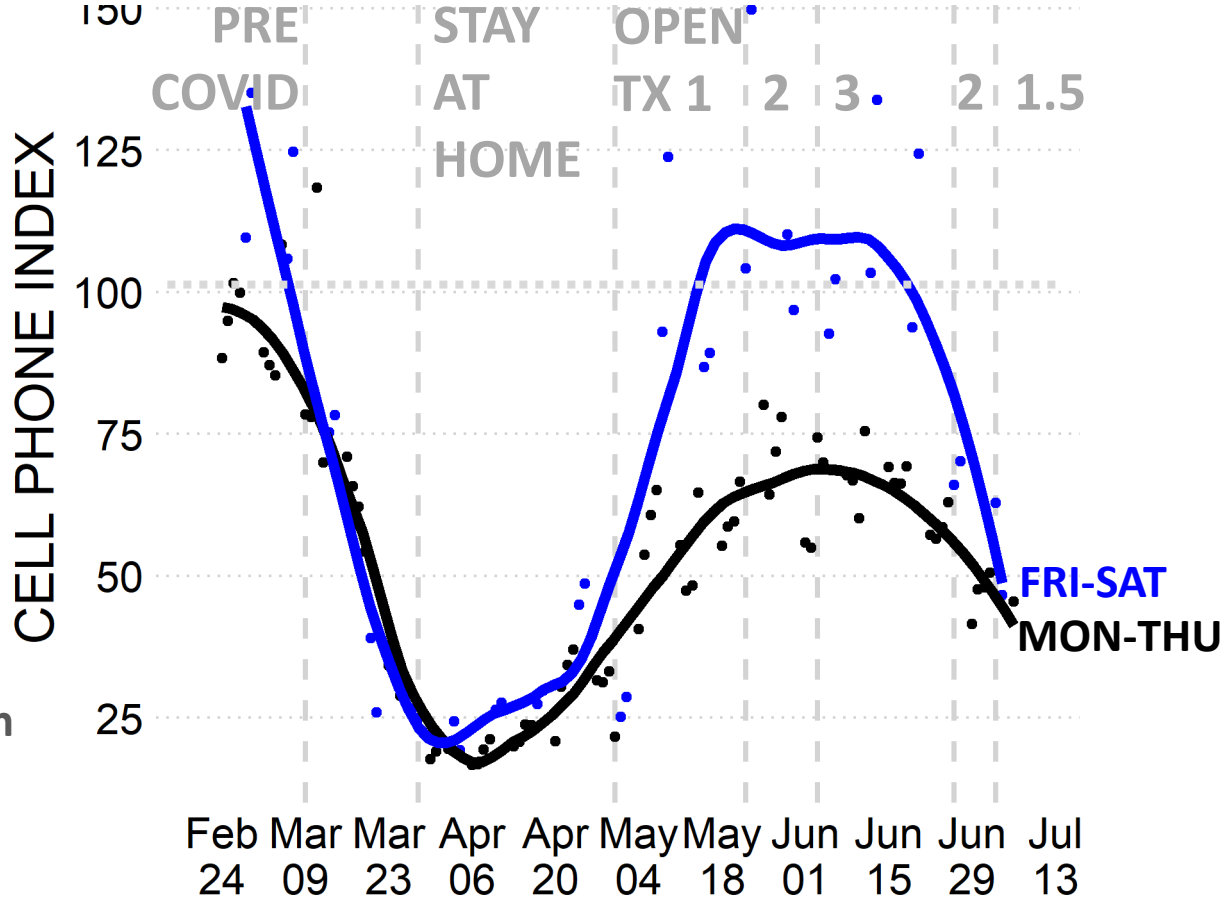
- **Proportion leaving home per day**
- **Device leaves home triggers count**
- **Distance traveled**



POTENTIAL ENCOUNTERS DECLINING

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**

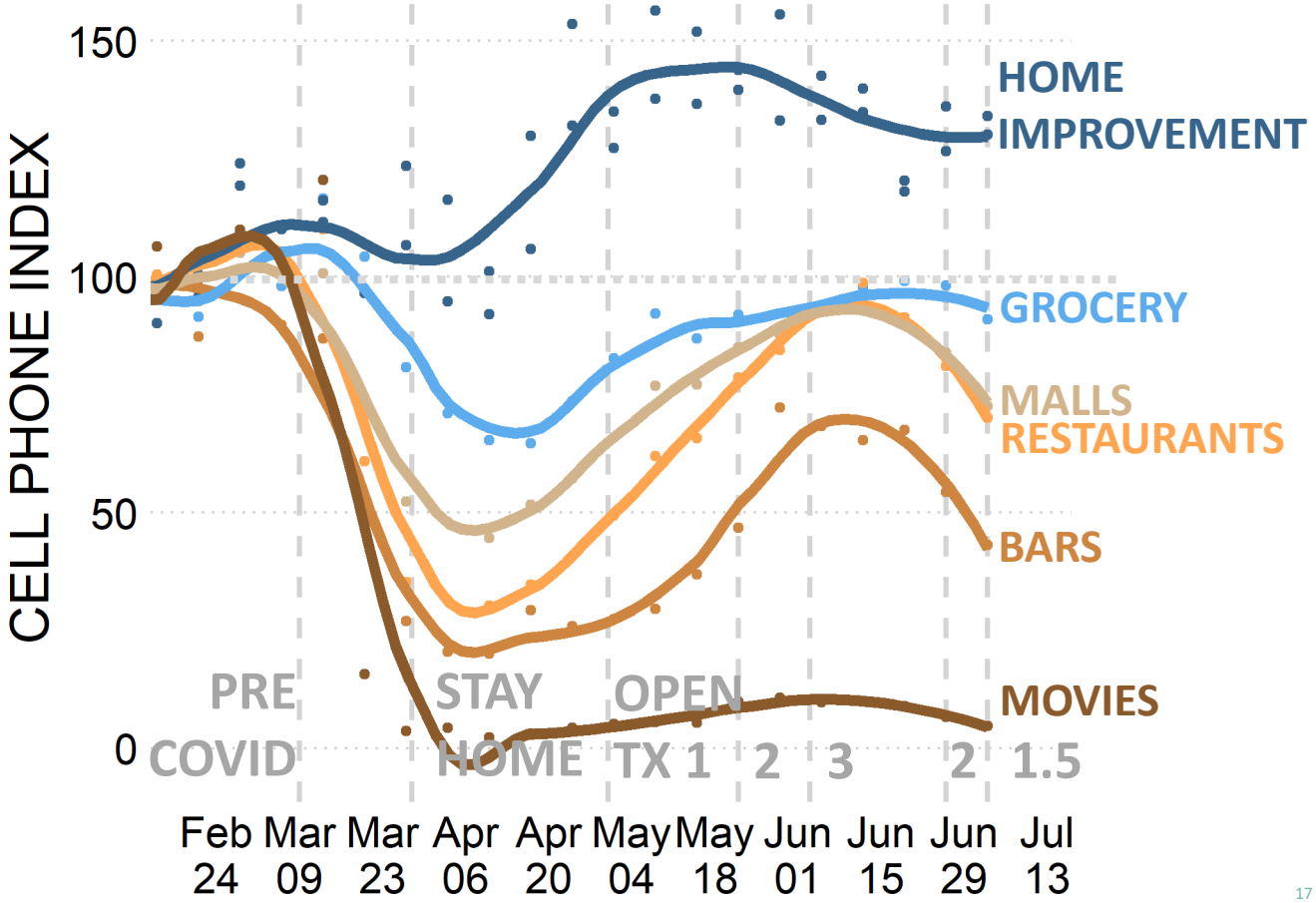


ESSENTIAL & NON-ESSENTIAL GATHERINGS

Cell Phone Foot Traffic Model

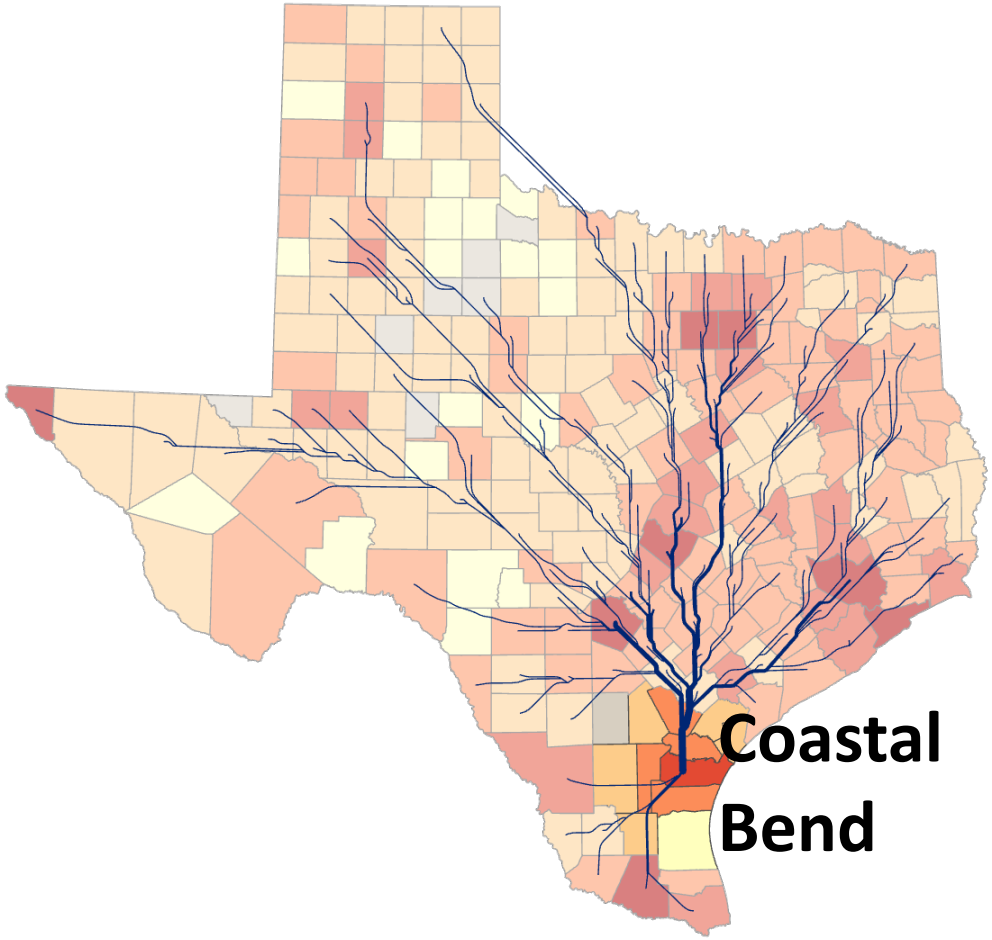
- **Visits to local establishments counted**
- **Device near or in building**

- **safeGraph.com**



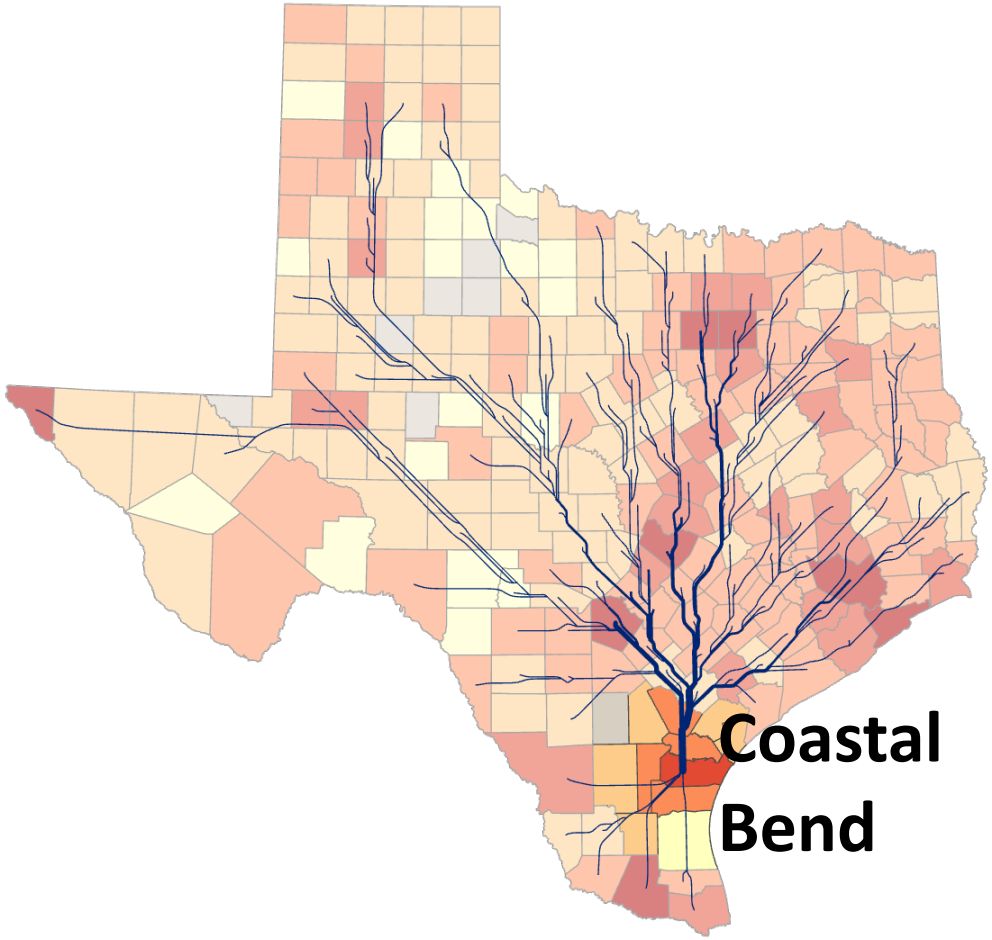
11,152 VISITORS
May 25 to May 31

- 2,900 from San Antonio
- 732 from Austin
- 710 from Houston
- 495 from Gerogetown
- 384 from Seguin
- 369 from New Braunfels
- 5,590 from other locations



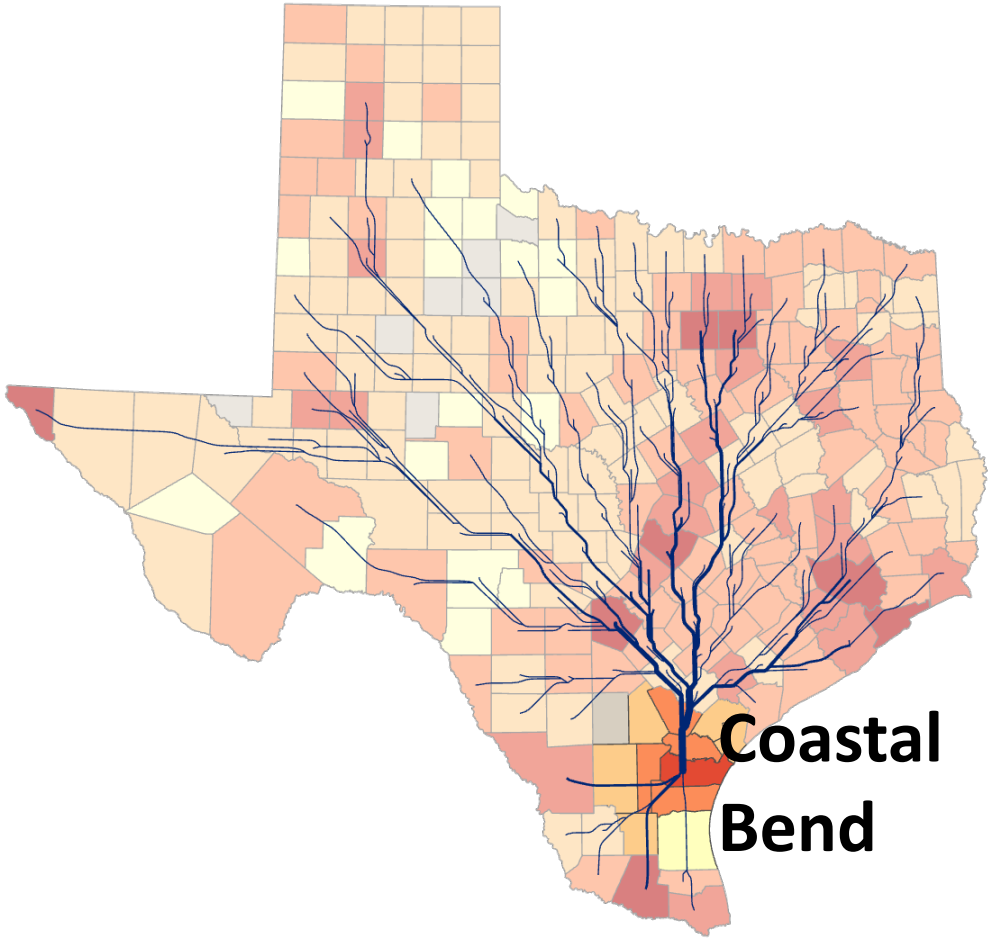
14,123 VISITORS
June 8 to June 14

- 3,143 from San Antonio
- 772 from Austin
- 743 from Houston
- 737 from Georgetown
- 534 from Seguin
- 464 from San Marcos
- 7,730 from other locations



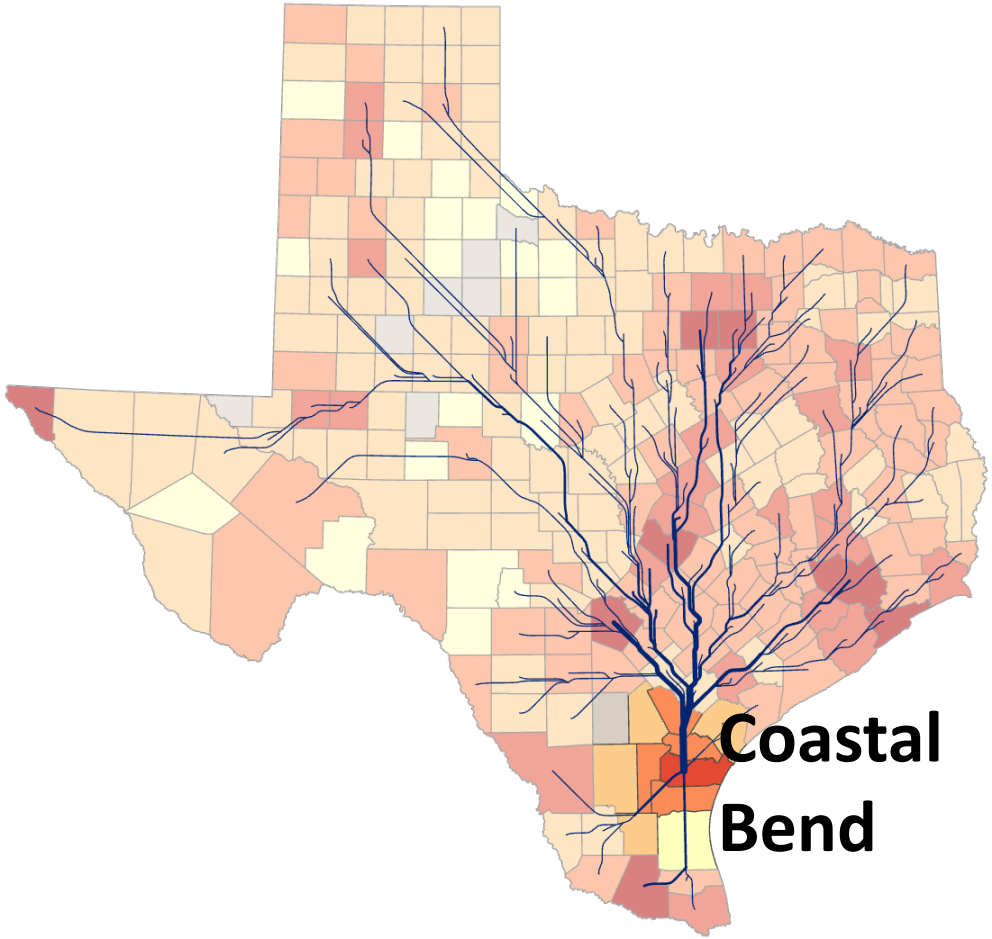
13,438 VISITORS
June 15 to June 21

- 2,578 from San Antonio
- 768 from Austin
- 693 from Houston
- 681 from Georgetown
- 437 from Seguin
- 366 from New Braunfels
- 7,915 from other locations



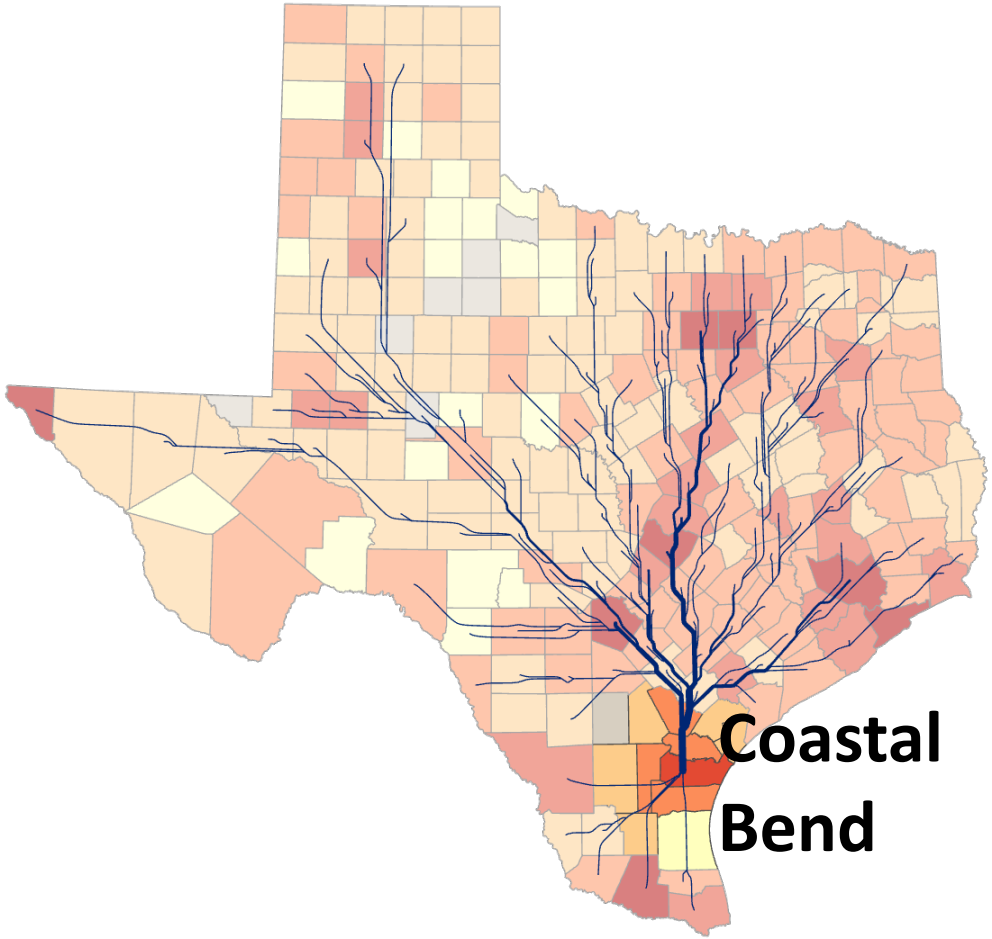
11,931 VISITORS
June 22 to June 28

- 2,082 from San Antonio
- 670 from Austin
- 643 from Georgetown
- 519 from Fort Worth
- 493 from Houston
- 354 from San Marcos
- 7,170 from other locations



9,475 VISITORS
June 29 to July 5

- 1,574 from San Antonio
- 604 from Georgetown
- 577 from Fort Worth
- 532 from Austin
- 483 from Houston
- 282 from San Marcos
- 5,423 from other locations

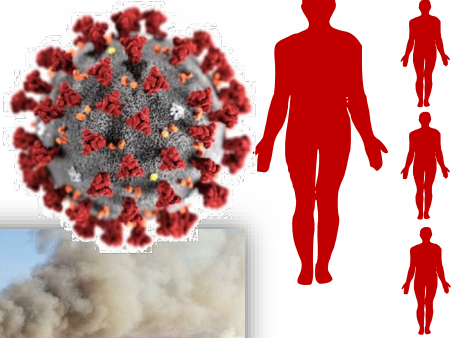


TRANSMISSION RATE WAS TOO HIGH

PEOPLE INFECTED PER CARRIER

3.0

SOUTH TEXAS



Week 1

Week 2

Week 3

Week 4

1

3

9

27

81

120 Infected

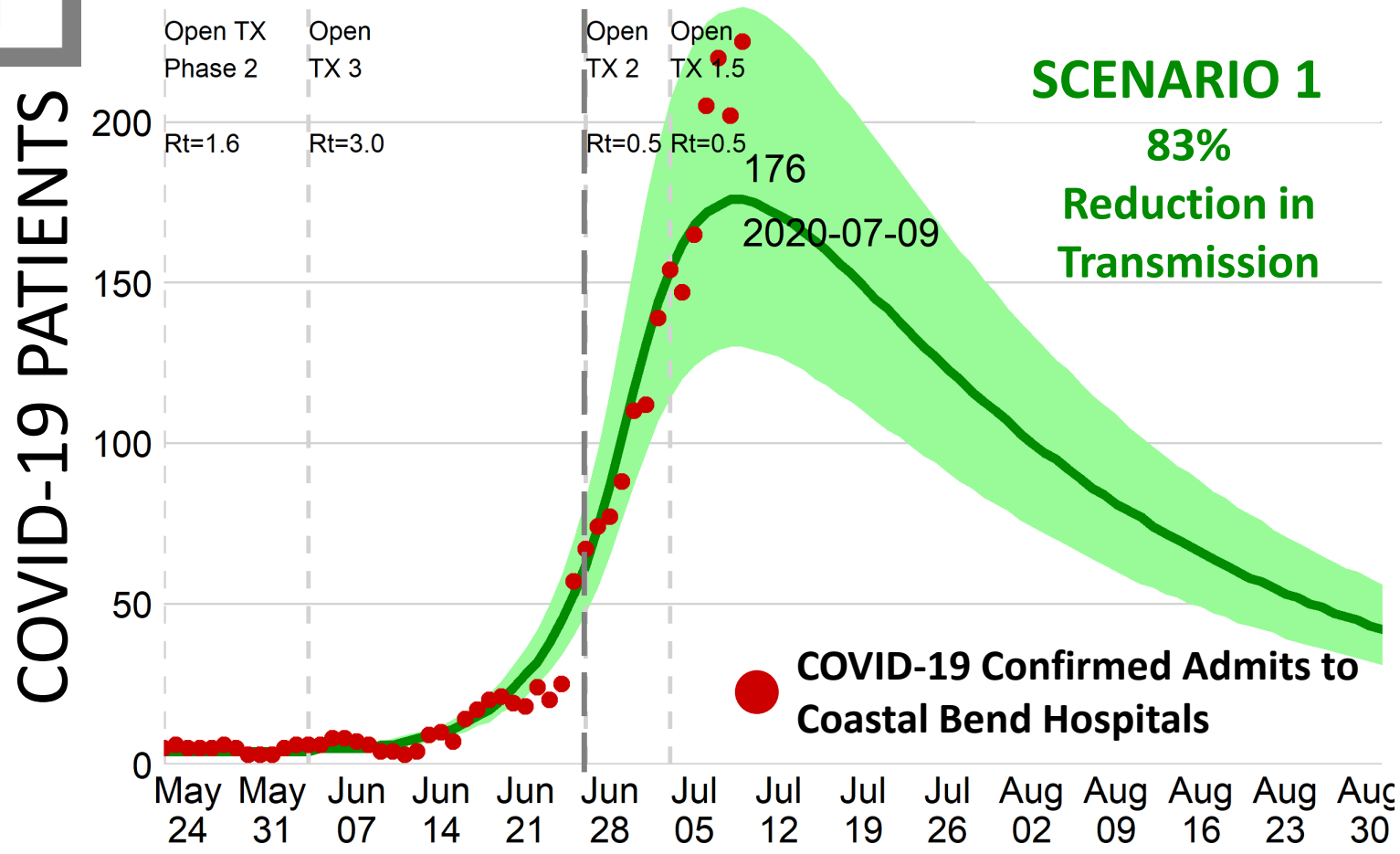
In 1 month

3 SIMULATION SCENARIOS

- SCENARIO 1
  - BEST POSSIBLE OUTCOME, R_t=0.5
- SCENARIO 2
  - OPTIMISTIC, R_t=1.0
- SCENARIO 3
  - STAGED DECLINE, R_t=1.5, 1.0, 0.5

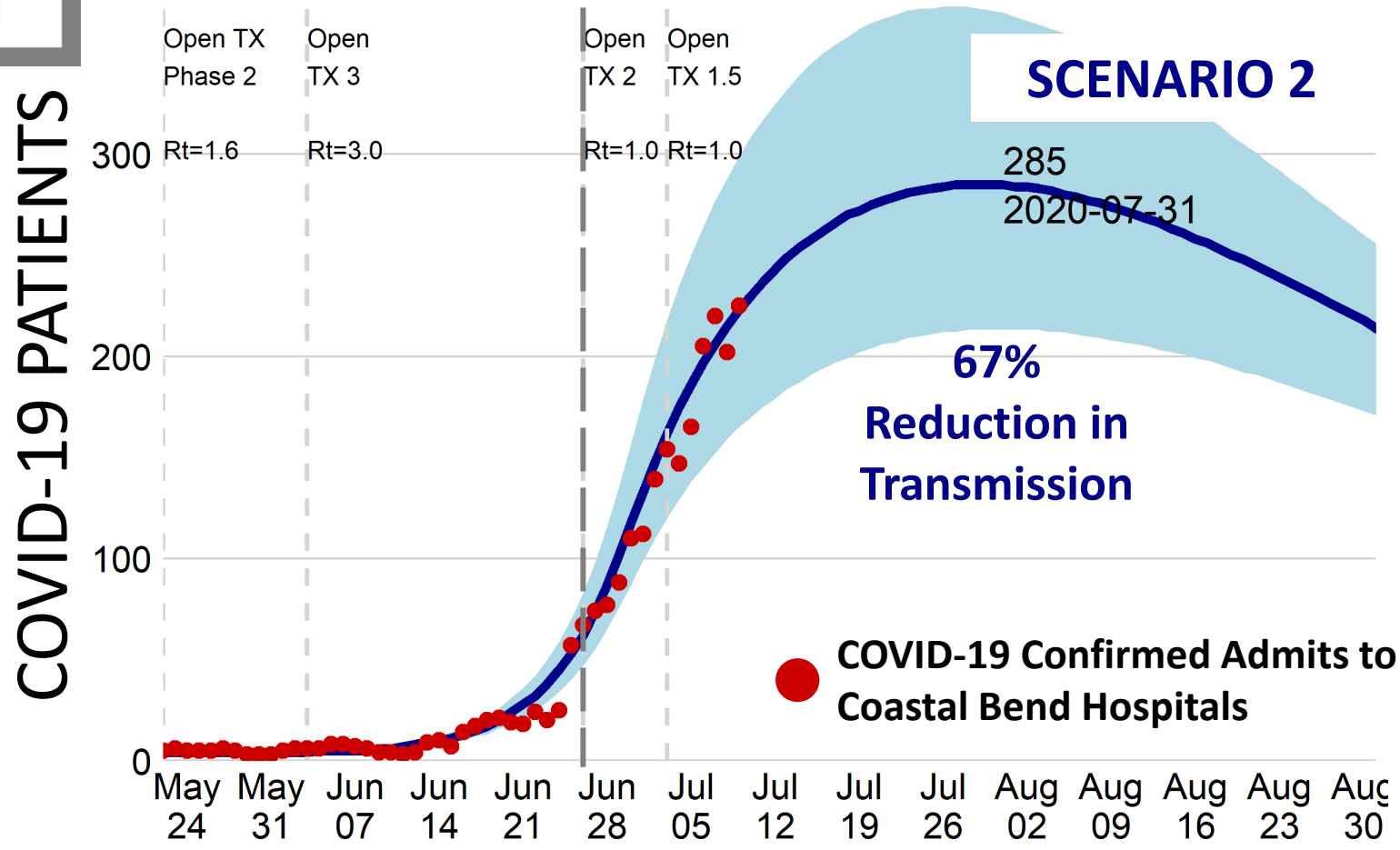
PROJECTED MEDSURG

AVG NUMBER REQUIRING MED/SURG BEDS PER DAY



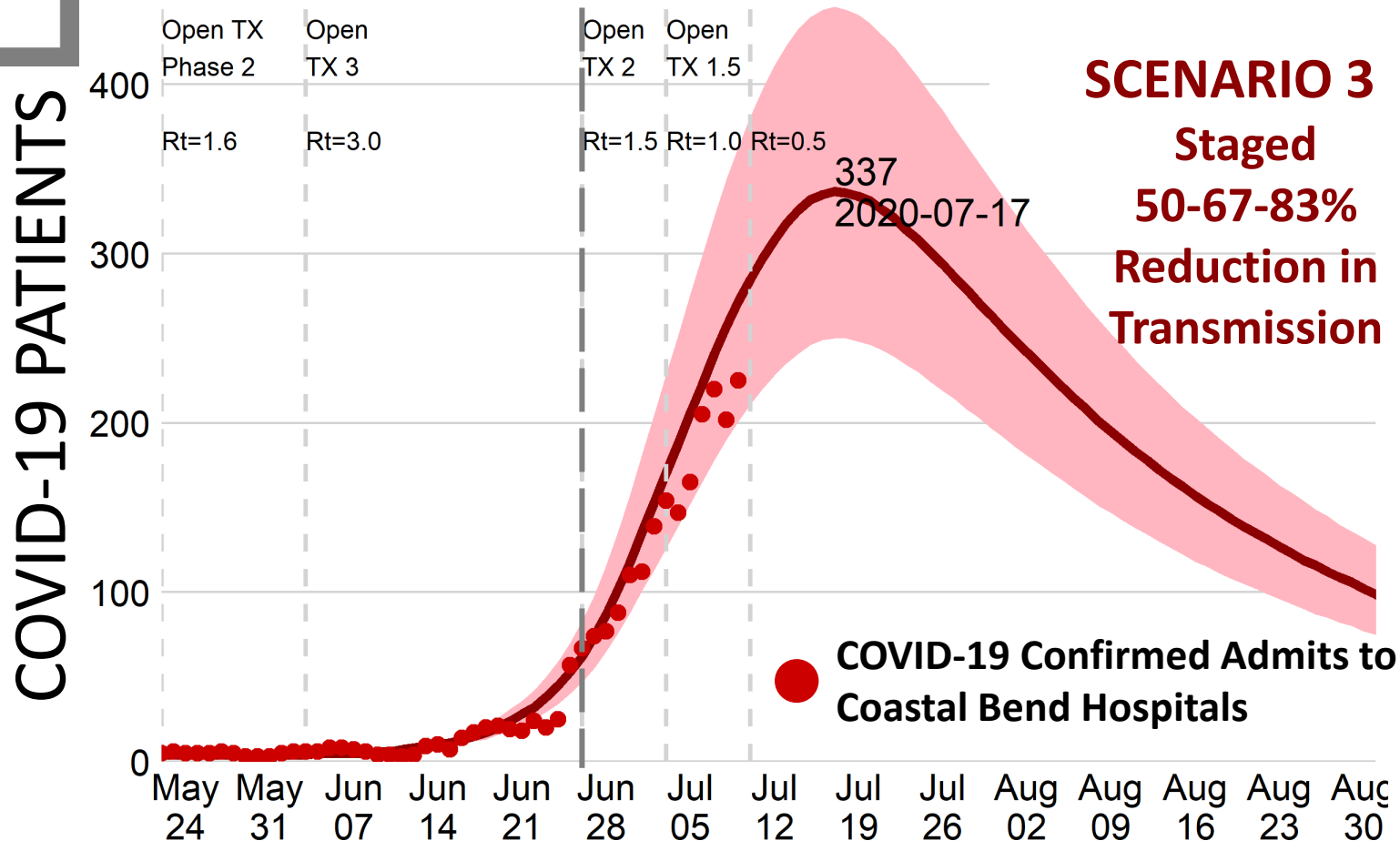
PROJECTED MEDSURG

AVG NUMBER REQUIRING HOSPITALIZATION PER DAY



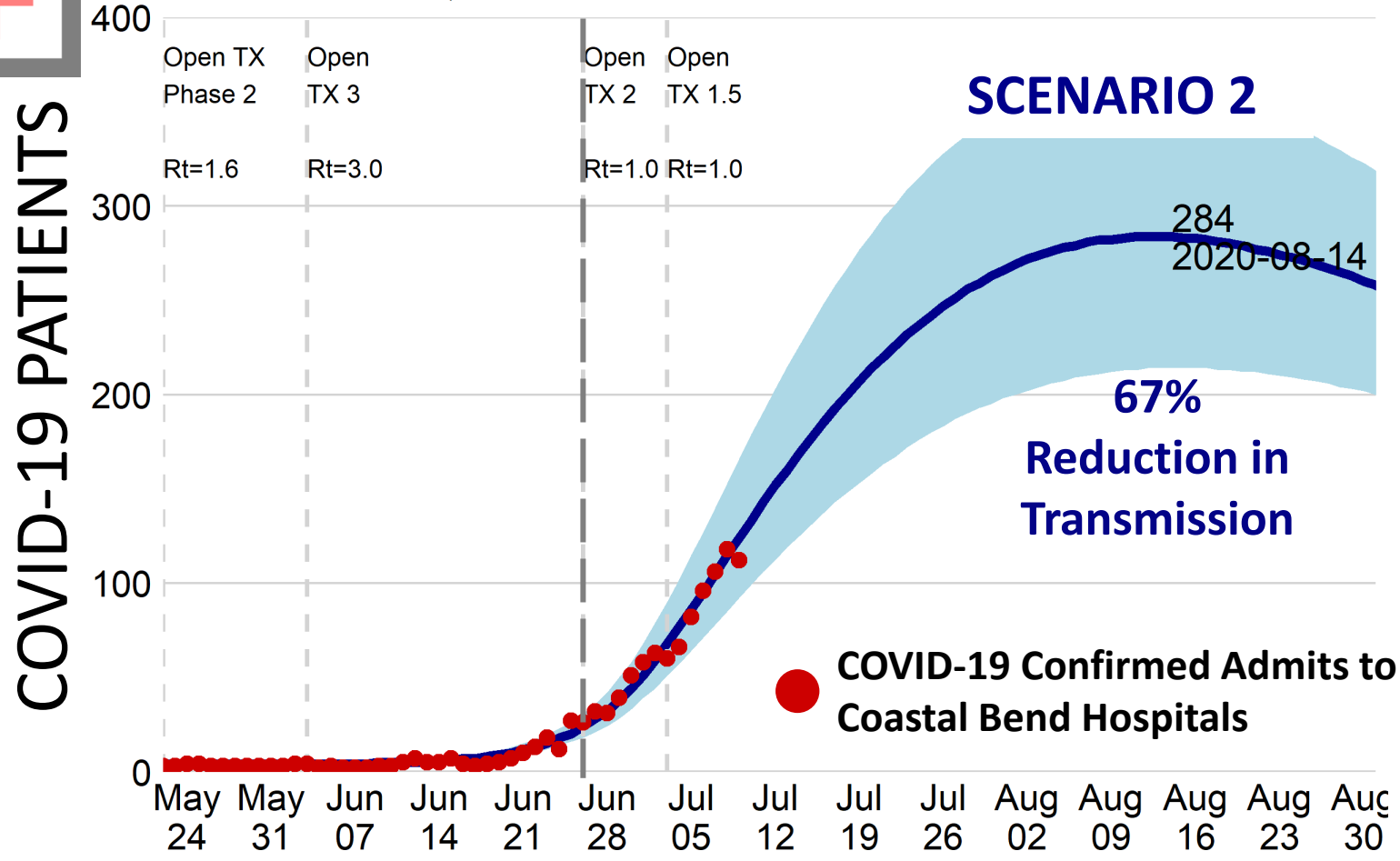
PROJECTED MEDSURG

AVG NUMBER REQUIRING HOSPITALIZATION PER DAY



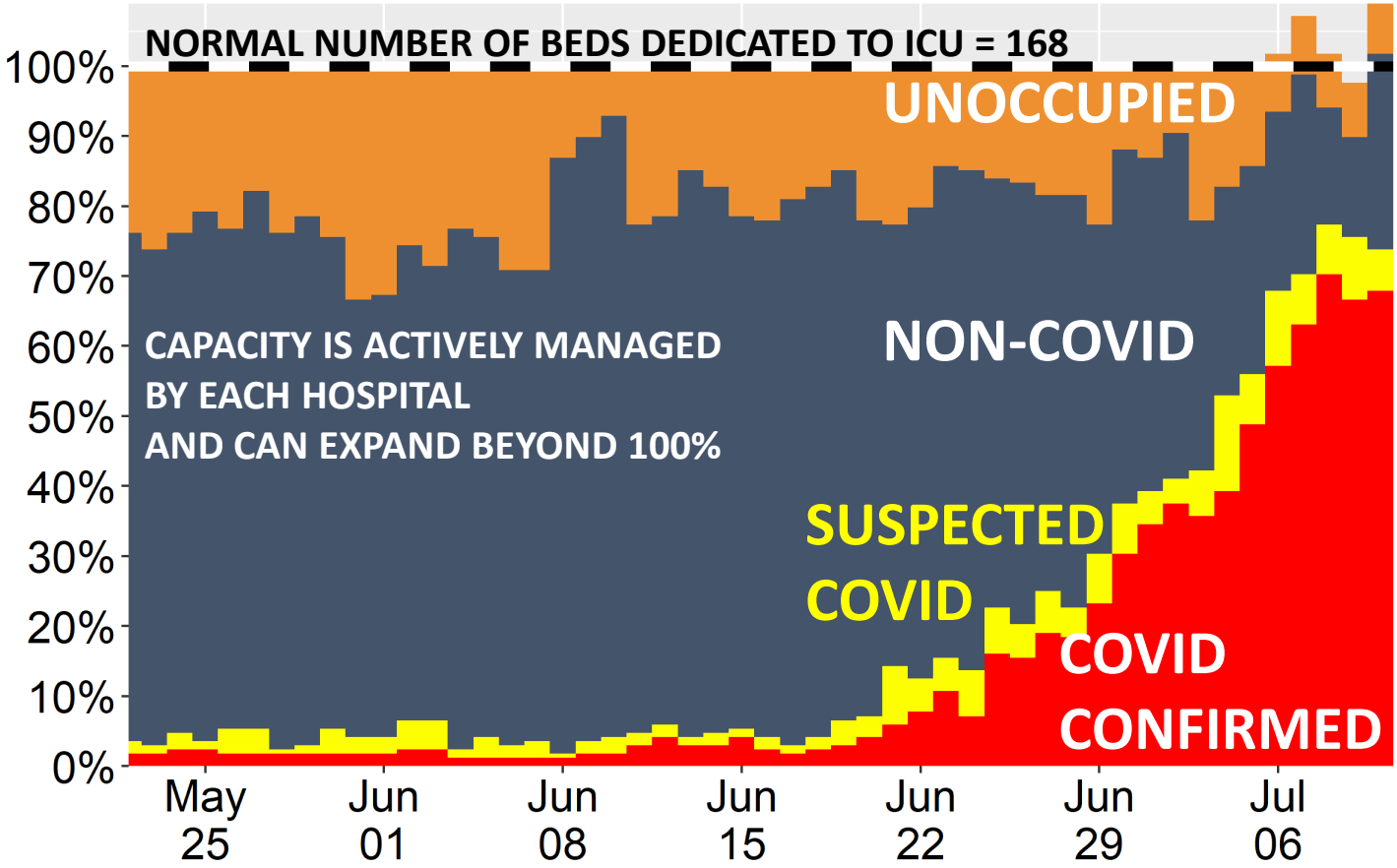
PROJECTED ICU

AVG NUMBER REQUIRING ICU PER DAY



COASTAL BEND ADULT ICU OCCUPANCY

July 10, Data from CBRAC
CC TAMU-CC C19 MTF



SUMMARY

- Texas-Wide-Outbreak
- COVID-19 still expanding in South TX
  - Number positive cases affected by testing limitations
- 1 in every 13 Coastal Bend residents have COVID
- Transmission rate declining (phone data)
  - What we see now is from actions 7-14 days ago
- Hospitals experiencing surge

HELP CONTAIN OUTBREAK

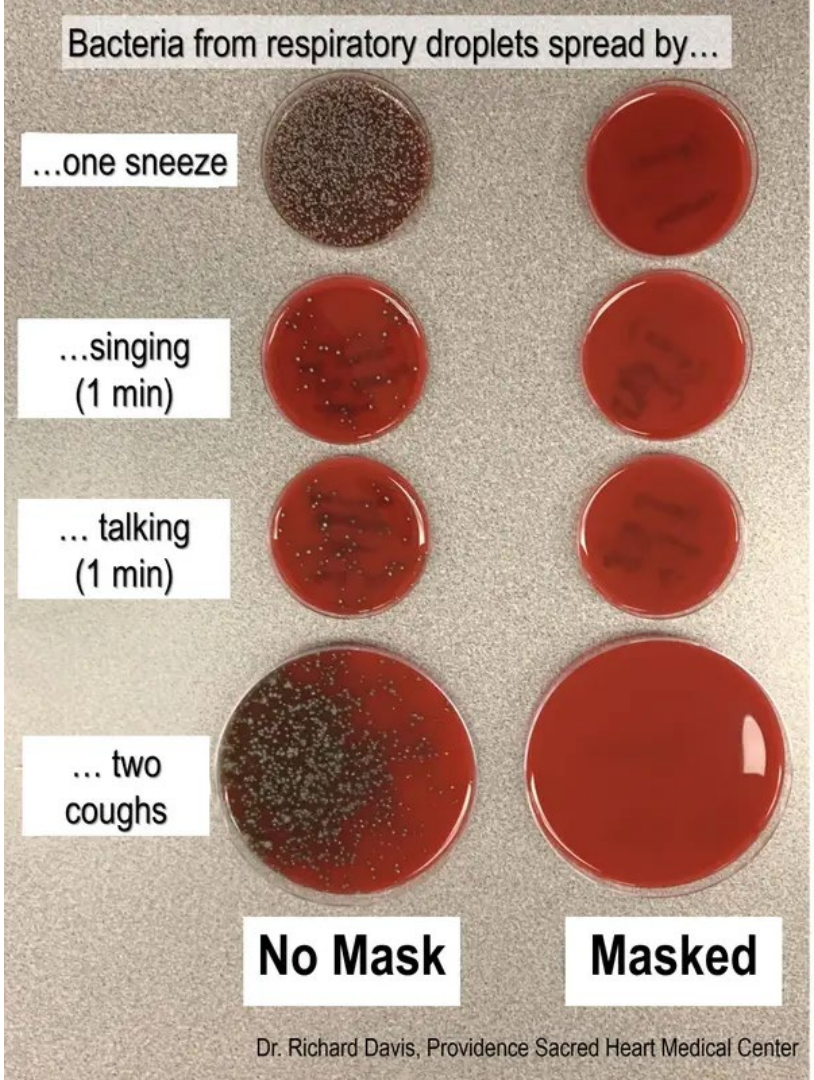
- Task force recommends you do as much as possible to stop the transmission of COVID
  - No Shirt, No Shoes, **No Mask**, No Service
- Close loopholes in social distancing policies

1918 Spanish Flu Pandemic
Seattle Police Force
https://www.cnn.com/2020/04/03/americas/flu-america-1918-masks-intl-hnk/index.html

HOW WE SLOW DOWN 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 sick or exposed
  - Stay-at-Home if you can
  - Avoid xocial gatherings
  - Curbside & takeout
- Support testing & contact tracing

https://tinyurl.com/TAMUCC-COVID



TEXAS A&M UNIVERSITY CORPUS CHRISTI

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