**Analysis Plan: Impact of government-imposed social distancing measures on COVID-19 morbidity and mortality and the movement of people in Florida**

**Study Significance**

BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH.

**Research Questions**

**Primary Research Question**

Have the state-level COVID control measures had a larger impact on COVID-19 community transmission than county-level control measures, in Florida?

**Secondary Research Question.** Have the state-level COVID control measures had a larger impact on individual mobility than county-level control measures, in Florida?

**Hypotheses:**

**Primary Research Question.** BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH

**Secondary Research Question.** BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH

**Study Aim**

BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH BLAH

**Data Cleaning and Calculated values**

**Study Design**

* **Overall Design:** Observational Study
* **Data Collection Method:** Secondary Data Analysis
* **Methodology:** Panel Data Analysis, Repeated Measures Mixed-Effects Model
* **Study population**: Florida Counties
* **Dealing with Missing data:**
* **Unit of measure:** Day or Week
* **Outcome Variables:** COVID daily Case & Death counts
* **Human participant protection:** County-level data, identifiable information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **COVID-19 (daily or weekly) Case count**  **Independent Variables** | | | | |
| **Control Variables** | | | | |
| Variable | Rationale | Unit of Measure | Source |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| **Variables of Interest** | | | |
| Variable | Rationale | Unit of Measure | Source |
| COVID-19 Daily Case Counts | * Lagged to the serial interval of COVID-19 1 | Day | Florida Department of Health |
| COVID-19 Death Counts |  | Day | Florida Department of Health |
| County board Crossing numbers |  |  | [https://github.com/descarteslabs/DL-COVID-19](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fgithub.com%2Fdescarteslabs%2FDL-COVID-19&data=02%7C01%7Cdchacret%40usf.edu%7C39236703b9e54ec5088c08d8553a2518%7C741bf7dee2e546df8d6782607df9deaa%7C0%7C0%7C637353055515175015&sdata=fBMSp4ZZCS6XvYTb6w32QTH7uV%2FPvAuvrsb2oP%2BoT6c%3D&reserved=0)  OR  [https://www.google.com/covid19/mobility/](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.google.com%2Fcovid19%2Fmobility%2F&data=02%7C01%7Cdchacret%40usf.edu%7C39236703b9e54ec5088c08d8553a2518%7C741bf7dee2e546df8d6782607df9deaa%7C0%7C0%7C637353055515185010&sdata=DhkH3T9e%2Bdh7o1Dg7vK5mN2uRtz%2BWWQQZA96S2HA8oc%3D&reserved=0) |
| Time spent @ home |  |  | [https://github.com/GeoDS/COVID19USFlows](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fgithub.com%2FGeoDS%2FCOVID19USFlows&data=02%7C01%7Cdchacret%40usf.edu%7C39236703b9e54ec5088c08d8553a2518%7C741bf7dee2e546df8d6782607df9deaa%7C0%7C0%7C637353055515175015&sdata=oVKAefJeXjOkO7u1MaXr6txXcpK1wa%2BNzk%2BmZyaw5Z4%3D&reserved=0)  OR  [https://www.google.com/covid19/mobility/](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.google.com%2Fcovid19%2Fmobility%2F&data=02%7C01%7Cdchacret%40usf.edu%7C39236703b9e54ec5088c08d8553a2518%7C741bf7dee2e546df8d6782607df9deaa%7C0%7C0%7C637353055515185010&sdata=DhkH3T9e%2Bdh7o1Dg7vK5mN2uRtz%2BWWQQZA96S2HA8oc%3D&reserved=0) |

**Limitations to discuss**

* Lower income countries were more likely to have missing variables in the control measure variable group. Does this matter?

**MISC NOTES**

**From:** SONG GAO <song.gao@wisc.edu>   
**Sent:** Wednesday, September 9, 2020 11:32 PM  
**To:** Chacreton, Daniel <dchacret@usf.edu>  
**Subject:** Re: Mapping Mobility Changes in Response to COVID-19

HI Daniel,

Yes, you can download the travel distance index from github: [https://github.com/descarteslabs/DL-COVID-19](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fgithub.com%2Fdescarteslabs%2FDL-COVID-19&data=02%7C01%7Cdchacret%40usf.edu%7C39236703b9e54ec5088c08d8553a2518%7C741bf7dee2e546df8d6782607df9deaa%7C0%7C0%7C637353055515175015&sdata=fBMSp4ZZCS6XvYTb6w32QTH7uV%2FPvAuvrsb2oP%2BoT6c%3D&reserved=0)

or the O-D mobility flow between regions: [https://github.com/GeoDS/COVID19USFlows](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fgithub.com%2FGeoDS%2FCOVID19USFlows&data=02%7C01%7Cdchacret%40usf.edu%7C39236703b9e54ec5088c08d8553a2518%7C741bf7dee2e546df8d6782607df9deaa%7C0%7C0%7C637353055515175015&sdata=oVKAefJeXjOkO7u1MaXr6txXcpK1wa%2BNzk%2BmZyaw5Z4%3D&reserved=0)

Another open-source dataset is Google Mobility: [https://www.google.com/covid19/mobility/](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.google.com%2Fcovid19%2Fmobility%2F&data=02%7C01%7Cdchacret%40usf.edu%7C39236703b9e54ec5088c08d8553a2518%7C741bf7dee2e546df8d6782607df9deaa%7C0%7C0%7C637353055515185010&sdata=DhkH3T9e%2Bdh7o1Dg7vK5mN2uRtz%2BWWQQZA96S2HA8oc%3D&reserved=0)

Best wishes to your dissertation research!

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Song Gao, Ph.D., Email: [song.gao@wisc.edu](mailto:song.gao@wisc.edu)

Assistant Professor, Department of Geography, University of Wisconsin-Madison

Address: 550 N. Park St., Madison, Wisconsin 53706-1404, USA

Geospatial Data Science Lab: [https://geods.geography.wisc.edu/](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fgeods.geography.wisc.edu%2F&data=02%7C01%7Cdchacret%40usf.edu%7C39236703b9e54ec5088c08d8553a2518%7C741bf7dee2e546df8d6782607df9deaa%7C0%7C0%7C637353055515195001&sdata=vn%2FRiLrZX9epCLpmNEerDXEBe4Dp43Dwdc4DJ9HmSok%3D&reserved=0)

Associate Editor, Annals of GIS, publishing in an open access journal with fee pre-paid.

For more visit [https://www.tandfonline.com/toc/tagi20/current](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.tandfonline.com%2Ftoc%2Ftagi20%2Fcurrent&data=02%7C01%7Cdchacret%40usf.edu%7C39236703b9e54ec5088c08d8553a2518%7C741bf7dee2e546df8d6782607df9deaa%7C0%7C0%7C637353055515195001&sdata=McS7INjGxtrmtW2fIDlLheqnI11fm68dcjvxpB9XmzI%3D&reserved=0)

* 1. Imai C, Armstrong B, Chalabi Z, Mangtani P, Hashizume M. Time series regression model for infectious disease and weather. *Environmental Research* 2015; **142**: 319-27.