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| --- | --- |
| ***Data*** | ***Description*** |
| **./data/[city\_name]imputed13.csv** | Weekly time series data for each city. Contains variables for reported typhoid deaths, births, year, week, (4 week = typhoid generation interval) month, cumulative (typhoid generation interval) month, and season. Reported deaths due to typhoid in each city have missing values imputed if more than 13 weeks of data were missing. |
| **./monthly pops/monthlypop\_[city\_name].csv** | Monthly population counts in each city, extrapolated from yearly estimates from the U.S. Census Bureau. |
| **./per capita financial data/[financial\_variable]** **\_percap.csv** | Annual per capita financial variable values from 1902-1931, by city. Variables include sewer system expenses, sewer system funded debt, sewer system outlays, water supply expenses, water supply funded debt, water supply outlays, water supply receipts, and water supply overall value. |

All analyses were conducted using R version 1.0.153.

*Data used for this analysis:*

*Code in this analysis:*

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| --- | --- | --- |
| ***File Name*** | ***Description*** | ***Outputs*** |
| **./TSIR models/TSIR [city\_name].R** | R script to run entire Time-Series Susceptible-Infectious-Recovered model, with or without leave-one-out cross-validation. | Long-term transmission rate estimates (not per capita yet), seasonal transmission rate estimates, model parameters (including R2), and both observed and fitted *I(t)* (number of people infectious at time *t*). Produces plots of each of these values. |
| **./per capita beta.lts.R** | R script to adjust long-term transmission rate estimates to be per capita for all cities. | Per capita long-term transmission rate estimates by city. Produces **Figure 2** (without interventions). |
| **./regression/[city\_name] regression.Rs** | R script to run linear regression for each city between long-term transmission rate and each financial variable (all per capita). | Intercept, slope, slope standard error, slope *t* statistic, slope p-value, and R2 estimates for each regression model fit (every financial variable by city). |

*Instructions to reproduce estimates and figures from manuscript:*

1. Run TSIR model code (“**./TSIR models/TSIR [city\_name].R**”) for all cities, making sure that you set your working directory to the “Historical-Typhoid-master” folder.
2. Adjust long-term beta estimates to be per capita using “**./per capita beta.lts.R**” code, making sure that you set your working directory to the “Historical-Typhoid-master” folder.
3. Fit linear regression models for each city using “**./regression/[city\_name] regression.R**”, making sure that you set your working directory to the “Historical-Typhoid-master” folder.