**Variables**

ORI: Originating Agency Identifier
AgencyName: Agency name assigned by State Police
m1: crime count total from January1 to January31
m2: crime count total from February1 to February28
m3: crime count total from March1 to March31
m4: crime count total from April1 to April30
m5: crime count total from May1 to May31
m6: crime count total from June1 to June30
m7: crime count total from July1 to July31
m8: crime count total from August1 to August31
m9: crime count total from September1 to September30
m10: crime count total from October1 to October31
m11: crime count total from November1 to November30
m12: crime count total from December1 to December31
Total: annual crime total January1 to December 31
IBRSAbbrevName: Abbreviated name for AgencyName (to match with PopMunName)
IBRSAgType: One word description of agency type based on AgencyName ("PD", “Task Force”, “SP”, “County”, “HigherEd”, “DNR”, “Turnpike”)
Pop: Covered by Agency population (relevant to “County” and “PD” agency types)
PopName: Name of municipality (i.e., county of city/town/village) listed in U.S. Census data
PopMunName: Abbreviated name for PopName (to match with IBRSAbbrevName)
PopMunType: One word description of municipality (i.e., county of city/town/village) based on PopName
MSA_Status: Metropolitan statistical area designation (i.e., “MSA” or “NonMSA”)

**Steps for using the “Simulation & Imputation” macro-enabled Excel workbook.**

**Step1: Enter data**

Step1a: Obtain the data for variables listed above and enter or paste data in the “data” worksheet of the “Simulation & Imputation” workbook.

Step1b: Select the “data” worksheet and run the “A1aStep1aaA1aaCOPYMultiSheets_make_copies_of_ws_named_data_____RUN_ME_1st” macro to copy data specified number of times for simulation.

Step1c: Select the “rs” worksheet and run the “A1aStep2aaaRandomnumbers_make_sure_you_are_on_ws_name_rs_____RUN_ME_2nd” macro to create random number for simulation.

**Step2: Simulate missing data**

Step2a: Select any worksheet and run the “A1aStep3aaaSimulate__________________________________________RUN_ME_3rd” macro to simulate missing values.
Step3: Impute for missing data

Step3a: Select any worksheet and run the
“A1aStep6aaaDataImputationPartial_Nonreporting____________________RUN_ME_4th” macro to
impute for missing values.

Step4: Compare summary statistics

Step3a: Select any worksheet and run the
“A1aStep6aaSummarySheets__________________________RUM_ME_last” macro to
compute summary statistics for each method and determine best method.