**User Guide for Speeding Ticket Program:**

**Purpose:**

My target audience for this program is for the police’s and others alike. The problem to be solved by my program is to develop a program to help accurately assist the new method of image identifying speeding cars to help catch and fine those who are speeding. The purpose of my program will take data provided by the speeding cameras which provide the data in the form of a text file, the data in the file is then processed and used by the program to calculate and identify the average speed of which a car is travelling through the tunnel. After the speed has been calculated the program will decide whether the car is speeding or not. If the car is speeding the program will calculate how much the car is speeding above the zone limit and with that, the program will issue a speeding ticket associated with how much the car is speeding above the limit. The outcome of whether a driver is fined will be omitted to the screen so it can be read by an operator to see who is speeding so that the operator can send out speeding tickets accordingly. My program will also flag any invalid inputs such as a negative speed or invalid data from the data source to alert the operator whether there is an accident or an issue that the car is still in the tunnel or that the car has been missed by the system. It will omit the fines and all warnings to an output file.

**Format of data accepted:**

The format of which the fine speed ranges and associated fine is as follows:

*LowerLimit****-****UpperLimit****-****Fine*

Each fine range is on a newline and values are separated by a an hyphen (with no spaces in between)

**The format of which the speeding data accepted is as follows:**

*CarLicensePlate,TimeEnteredORExited*

Each line of data is separated by a newline and a comma (with no spaces in between)

If the format were to be invalid or incorrect the program will prompt you which lines are invlid and prompt you to fix it, continue the calculations or abort the process.

Before use, check that there are 2 files named: “Main.py” and “SpeedingModules.py” along with any other speeding data that are in the same folder.

**How to use:**

1. Open the main.py script (if this is the first time launching this script it will detect there is no “fines\_rates.txt” and will automatically create one.)
2. Press Enter to start the program when prompted.
3. Enter the file name containing the speeding data.
4. Pick a name for the output file (this is contain all the warnings and fines)
5. If there are any formatting errors the program will prompt which lines are at fault and will ask you, whether you would like to continue or abort the calculations. It will give you a warning if you are to continue that there will be missing data or miscalculated values.
6. Once you have chosen “continue” (or no errors have been found) the program will then print out the raw output of the fines and warnings, including the car license plate, entry and exit times, speed and fines (including those who haven’t been fined, but their fine will be shown as “None”) as well as the total number of tickets issued and the sum of fines issued. All the about excluding the cars which aren’t fined are also outputted to the output file.
7. The program will then prompt the user if they’d like to start the program again or exit. Selecting exit will exit the program and pressing enter will repeat steps 2 - 7.