Crisis Intervention Planning Tool: Oahu Case Study

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Introduction:

- The purpose of this project is to create an online tool that can be used by first responder jurisdictions worldwide, providing an outlet of data to develop an efficient system that responds to mental and behavioral health crisis calls.

- The main function of this tool will allow jurisdictions to enter data that reflects their community and give back results that show how their community would react to a variety of crisis response policies.

- A dataset and analysis of crisis response in Seattle currently is the backbone of the future online tool for jurisdictions [2].

- Part of our research will include the dataset creation and analysis, crisis tool development, and the creation of the conference paper which will be presented at a future simulation conference [3].

- The poster will cover the team that involves creation and analysis of the dataset, which includes creating multiple case studies similar to the Seattle case study that would be fostered through the tool's system.

- The culmination of research and effort in creating the crisis intervention planning tool will formulate a product that will have an immense impact on communities throughout the United States.
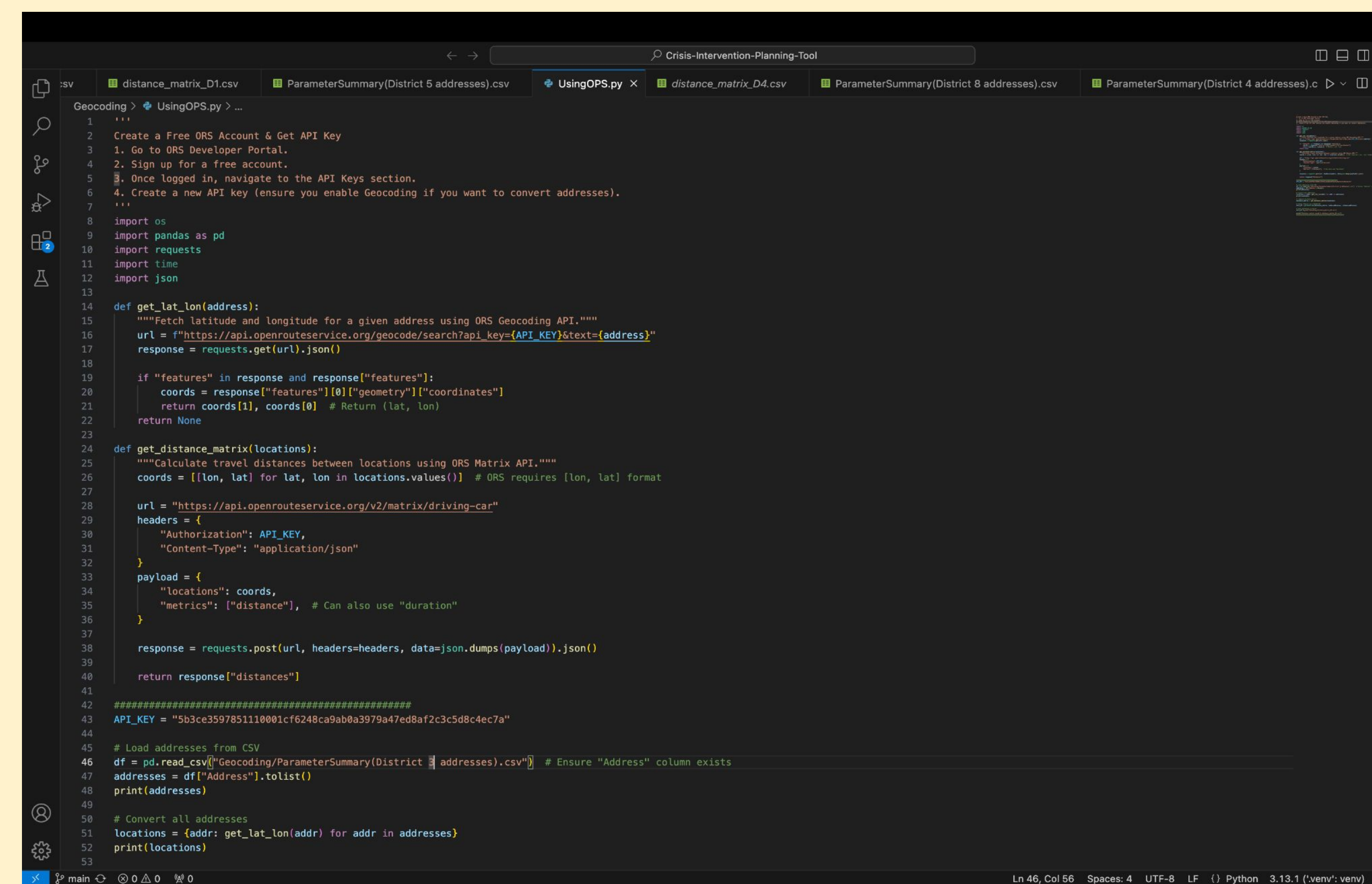
Methods:

- The research involved the collaboration of three different groups; outreach and conference paper team, the dataset creation and analysis team, and the crisis tool development team.

- I am part of the dataset creation and analysis team. The research and activity was performed through the use of Visual Studio Code, GitHub, and Microsoft Teams.

- The data that we collected from our case studies were implemented into visual studio code and was transferred to the FSU High Performance Computing center where the data is analyzed and processed for use into the tool.

- Figure 1 shows the map of Oahu that was used to create a secondary case study of the Honolulu Police Department [1].
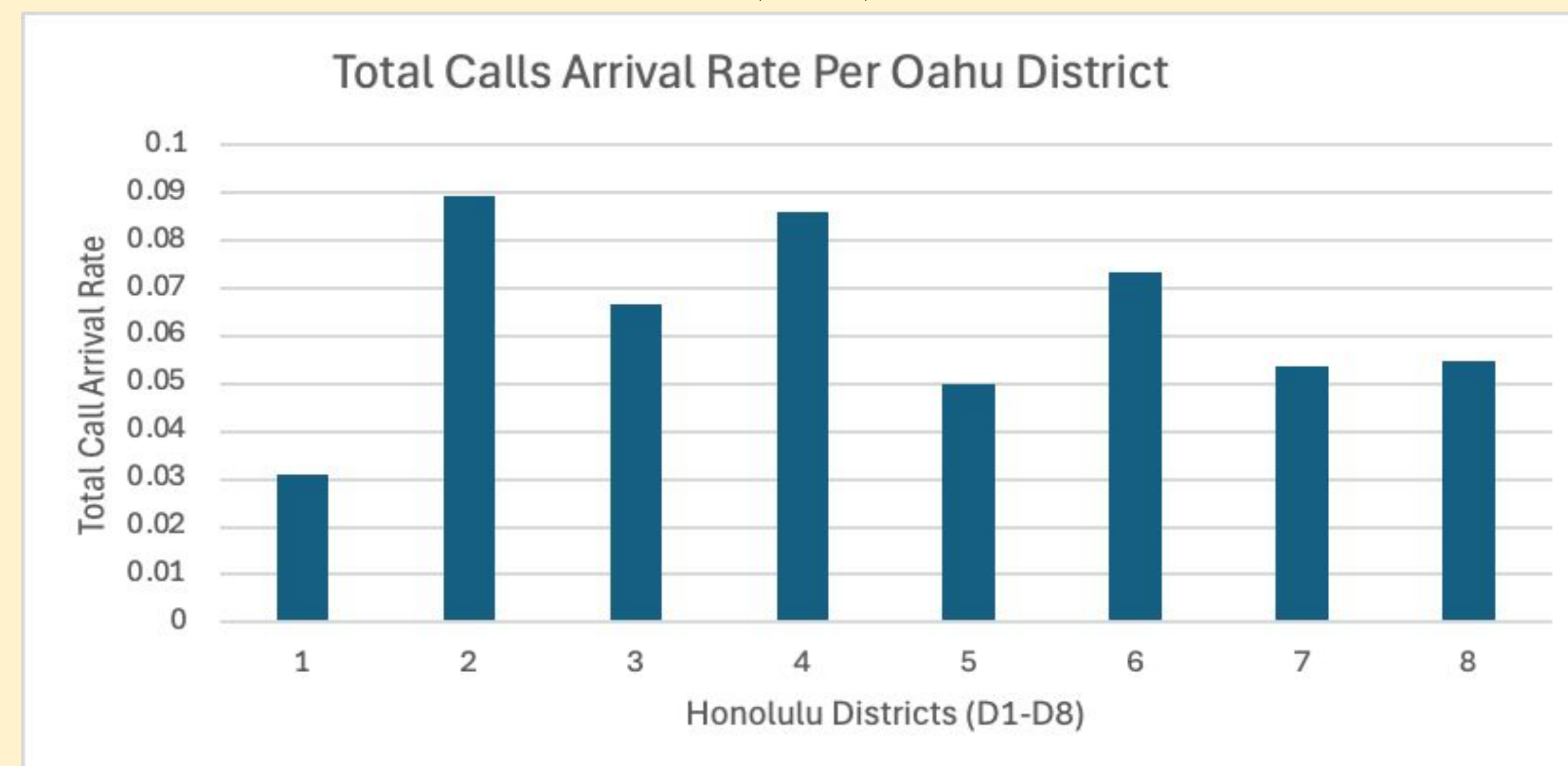
Figure 1: District Map of Oahu (2023 Annual Report HPD)

Figure 2: Code in Visual Studio Code used to Determine Driving Distance of Locations Within the Oahu Districts

Figure 3: The Total Call Arrival Rate of all Eight Oahu Districts (2023)

Methods Continued:

- Locations were determined by the boundaries established by the Oahu districts shown in figure 1, and by determining these locations we could thus find the driving times of law enforcement from the dispatch station to the specified location [1].

- The data that was collected from the case studies were implemented into visual studio code and was transferred to the FSU High Performance Computing center where the data is analyzed and processed for use into the tool.

- Figure 2 shows the code that was used to implement an API key to formulate distances within the Oahu districts.

Results:

- The expected results of the project is to create a fully-functional free online tool to use for jurisdictions nationwide. The product will be able to filter data to jurisdictions using crisis-response policies to formulate an effective dispatch.

- The results we have now include the creation of the Honolulu case study which reflect the analysis done of the Seattle case study, including files such as arrival rate crisis calls, arrival rate non crisis calls, and driving times.

- Figure 3 shows the total call arrival rate of all eight Oahu districts, which was calculated from gathering total crisis calls from each district divided by days of the year.

- So far the expected result of this tool will be in the winter of 2025, where it will be presented at a future Winter simulation conference [3], with an initial version of the tool expected to be completed by the end of summer 2025, and the Oahu dataset is expected to be completed by the end of April.

Future:

- The next steps that will be involved in the research will be using the simulation model on the Oahu case study which will help to broaden the existing crisis response dataset for the online tool.

- Not only will this online tool ensure the best possible approach to varying situations, but it will improve the safety and protection of communities who struggle with interactions with law enforcement.

References:

[1] *Home*. Honolulu Police Department. (2024a, February 26). https://www.honolulupd.org/

[2] White, V. & Albert, L. (2024). Evaluating co-response models for crisis calls. *INFORMS, Vol. 00, No. 0, pp. 1-29.* http://pubsonline.informs.org/journal/msom

[3] Winter Simulation Conference 2025. (2025, February 11). https://meetings.informs.org/wordpress/wsc2025/