**Finding Optimal Locations for Food Truck Operators in San Francisco during Covid-19 Pandemic**

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**1. Introduction**

* 1. **Background**

The Covid-19 pandemic continues to cause widespread economic disruption leading to the permanent closure of thousands of businesses. Now an increasing number of people have difficulty procuring food supplies as many eateries are shutting down. Restaurants are trying to remain profitable despite losing a significant amount of business due to stay-in-shelter, no indoor seating, and social distancing amid health and safety concerns. However, some alternative eateries are continuing to operate and doing better than they imagined: food trucks. These services provide meals from motorized vehicles or carts.

Food trucks also experience lower sales due to the absence of office workers and large decline of street traffic. However unlike restaurants that are fixed facilities, food trucks can quickly change location, menu and market. Operators have adapted by branching out into residential areas to capitalize on the large portion of people staying at home or nearby essential businesses such as hospitals.

* 1. **Problem**

Food truck sales fluctuate wildly depending on a number of factors, most of which depend on location. This report uses machine learning tools to assist food trucks operators looking for the best locations in San Francisco. Due to the absence of office workers, we will try to detect locations near residential areas. We are also interested in locations near the workspaces of essential workers. The report will use data science analysis to generate promising San Francisco neighborhoods based on these criteria. Advantages of each venue will be expressed so that the best location can be chosen by stakeholders.

**2. Data acquisition and cleaning**

**2.1 Data Sources**

In San Francisco, food trucks must satisfy [DPW Order 182,101](https://www.sfpublicworks.org/sites/default/files/3858-DPW%20Order_182101-MFF.pdf) requirements to be a legal street-food vendor. Hence, they can only operate in the approved zones shown in red on Fig. 1.

Map

Description automatically generated

Fig. 1 Mobile Food Facility Permits Map of San Francisco California.

The report will look at areas that are approved for food trucks by using the latest [Mobile Food Facility Permits data](https://data.sfgov.org/Economy-and-Community/Mobile-Food-Facility-Permit/rqzj-sfat) provided by San Francisco Department of Public Works on DataSF.

Work Cited

*DPW Order No: 182101.* San Francisco Department of Public Works. Jan 22 2014. <https://www.sfpublicworks.org/sites/default/files/3858-DPW%20Order_182101-MFF.pdf> Accessed Jan 19 2020.