Research Data Scientistvictim-- Data Challenge

The dataset can be accessed at: https://policefoundation.box.com/s/msashllwzdev3q9c61xoe3n0dj8j0cb6

* Source: Baltimore Police Department
* Data Type: Part I Victim-based crime data
* Variable list
  + Crime date (string)
  + Crime time (string)
  + Crime code (string, corresponds to UCR)
  + Location (string, 100-block address)
  + Description (string, text description of crime)
  + Inside/outside (string, inconsistent coding, some missing data)
  + Weapon (string)
  + Post (string, numeric 3-digit code. Posts fall within districts)
  + District (string, includes all 9 districts)
  + Neighborhood (string, some missing)
  + Latitude & longitude (numeric)
  + Location1 (all missing, the actual address of incident)
  + Premise (string)
  + Vri\_name1 (string, mostly missing)
  + Totalincidents (numeric, all coded as 1)
* N=308,862
* Data date range from 2014 – 2020; although there are some incidents with the years 1963-2013

Address the following issue

* A law enforcement agency has asked the NPF for recommendations on when to deploy a strategy to reduce shootings.
  + Describe a space-time analysis strategy that could be used to inform police deployment
  + Produce an effective way of conveying this information to agency leadership
* Select a crime types and answer the following questions
  + Is there day-to-day, month-to-month, or seasonality present in the trends?
    - How did you test for these trends?
  + On November 20, 2019, a policing strategy was implemented with the goal of reducing one of the crimes you selected. You are tasked with evaluating the effectiveness of this intervention.
    - Describe an analytical method and strategy that would account for spatial and/or temporal dependency or serial autocorrelation in the data.