Introduction to Geographic Information Science
Lab 12

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Directions

This lab asks you to edit data related to motor vehicle accidents in New York City. You will need to use data from the New York City Public Saftey geodatabase that we have worked with before, including the 2015 motor vehicle accidents feature class we created several weeks ago. You will also need to download street data from Blackboard. It is saved in a `.zip` file named `nyc_lion16a.zip`.

Once you are done, submit a copy of your map via email. This should be submitted by Wednesday, April 6th at 4:20pm.

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1 Geoprocessing Data for New York City

1. Begin by using the New York Police Department (NYPD) Precinct feature class in ArcCatalog. Duplicate this feature class (copy and paste) and edit its name. If there are any issues with the subsequent steps, this preserves the original data.

2. In ArcMap, add the precinct feature class. Open its attribute table and create a new text variable/attribute named "division". For the precincts located in Manhattan South (see figure below), enter "Manhattan South" in this new variable/attribute. Remember to save changes.

Figure 1: NYPD Patrol Divisions (via Wikipedia)

Manhattan South	Manhattan North	The Bronx	Brooklyn South	Brooklyn North	Queens South	Queens North	Staten Island
1st Precinct[1]	19th Precinct[2]	40th Precinct[3]	60th Precinct[4]	73rd Precinct[5]	100th Precinct[6]	104th Precinct[7]	120th Precinct[8]
5th Precinct[9]	20th Precinct[10]	41st Precinct[11]	61st Precinct[12]	75th Precinct[13]	101st Precinct[14]	108th Precinct[15]	121st Precinct[16]
6th Precinct[17]	Central Park (22nd) Precinct[18]	42nd Precinct[19]	62nd Precinct[20]	77th Precinct[21]	102nd Precinct[22]	109th Precinct[23]	122nd Precinct[24]
7th Precinct[25]	23rd Precinct[26]	43rd Precinct[27]	63rd Precinct[28]	79th Precinct[29]	103rd Precinct[30]	110th Precinct[31]	123rd Precinct[32]
9th Precinct[33]	24th Precinct[34]	44th Precinct[35]	66th Precinct[36]	81st Precinct[37]	105th Precinct[38]	111th Precinct[39]	
10th Precinct[40]	25th Precinct[41]	45th Precinct[42]	67th Precinct[43]	83rd Precinct[44]	106th Precinct[45]	112th Precinct[46]	
13th Precinct[47]	26th Precinct[48]	46th Precinct[49]	68th Precinct[50]	84th Precinct[51]	107th Precinct[52]	114th Precinct[53]	
Midtown South (14th) Precinct[54]	28th Precinct[55]	47th Precinct[56]	69th Precinct[57]	88th Precinct[58]	113th Precinct[59]	115th Precinct[60]	
17th Precinct[61]	30th Precinct[62]	48th Precinct[63]	70th Precinct[64]	90th Precinct[65]			
Midtown North (18th) Precinct[66]	32nd Precinct[67]	49th Precinct[68]	71st Precinct[69]	94th Precinct[70]			
	33rd Precinct[71]	50th Precinct[72]	72nd Precinct[73]				
	34th Precinct[74]	52nd Precinct[75]	76th Precinct[76]				
			78th Precinct[77]				

3. Dissolve the precincts layer using the "division" attribute, and then remove the precincts layer from your map.

4. Select the Midtown South polygon and create a new layer from the selection. Add this layer to your geodatabase. Removed the dissolved layer from your map.

5. Add the 2015 motor vehicle accident data to your map. Using the Midtown South polygon, select by location to isolate only accidents that occurred within the Midtown South patrol division. Remove the citywide motor vehicle accident data from your map.

6. Add street data from the New York City Lion geodatabase to your map.

7. Clip these street data so that you are left only with street features within the Midtown South patrol division. Remove the citywide street data.

8. Look through the other feature classes within your New York City Public Safety geodatabase as well as the layers included in `NYC.gdb` from Gorr and Kurland (2013). At a minimum, add the major streets and boroughs data from `NYC.gdb` and symbolize them as a ground layer. Make sure that the major streets are only visible *outside* of the Midtown South patrol division. For other layers that you add, make sure they are clipped to Midtown South, and that they are well symbolized.

9. In a second data frame, create a inset map that highlights the location of the Midtown South patrol division relative to the rest of the City.

10. Create a well formatted map that displays incident locations for motor vehicle accidents that occurred in the Midtown South patrol district in 2015. Position the second data frame as an inset map. Be sure to use the appropriate projection for the map, and include a scale bar, legend, and text indicating authorship and data sources. Export this map as a `.pdf` file at 300dpi.