

PRESENTER:

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**DISCOVERING
THE
WORLD
THROUGH
GIS**

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TOPIC:
**A Geographic Information System
Approach To Post Incident Analysis Of
The Jamaica Fire Brigade Emergency
Operations**

**Case Study: KINGSTON AND SAINT ANDREW
DIVISION**



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Mrs. Jenevy Smith, UTECH

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Mr. Floyd Mclean, Jamaica Fire Brigade

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- Research objective
- Methodology
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PROBLEM STATEMENT



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Problem Statement:

- The Jamaica Fire Brigade's inability to access geospatial data to assist in the management and prevention of avertable emergencies.

RESEARCH OBJECTIVES



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RESEARCH OBJECTIVES

- Identify the location of high risk “hot spot” locations in Kingston and Saint Andrew
- Evaluate the spatial location of Malicious False Alarms.
- Assess the spatial location of incidences.
- Identify the spatial coverage of fire stations.
- Identify communities that would benefit from mitigation measures for preventative emergencies.

METHODOLOGY



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The Project Area



Figure 4 Island of Jamaica



Figure 5 Parishes of Kingston and Saint Andrew

A GEOGRAPHIC INFORMATION SYSTEM APPROACH TO POST INCIDENT ANALYSIS OF THE JAMAICA FIRE BRIGADE EMERGENCY OPERATIONS (KINGSTON AND SAINT ANDREW DIVISION)

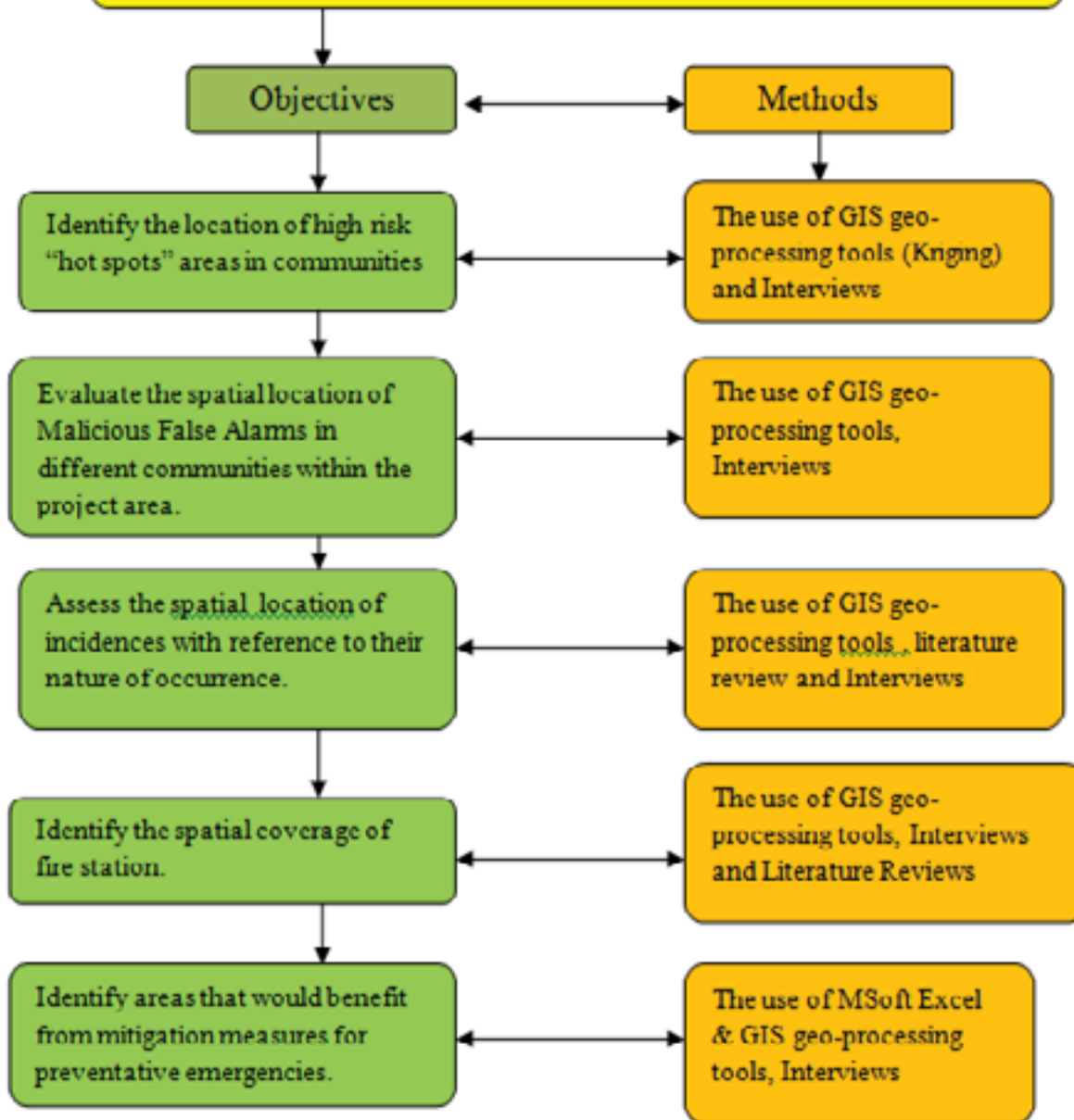
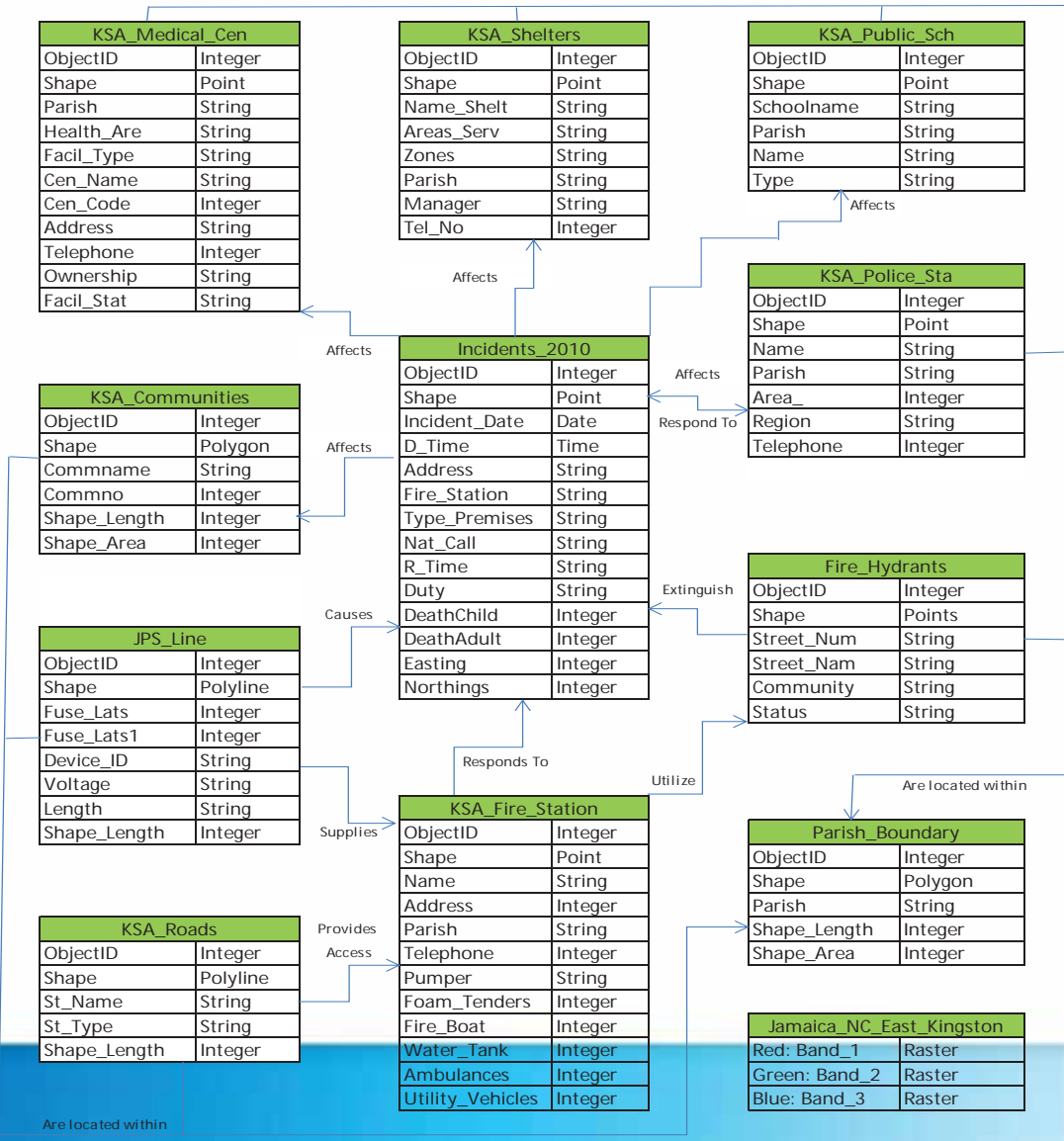
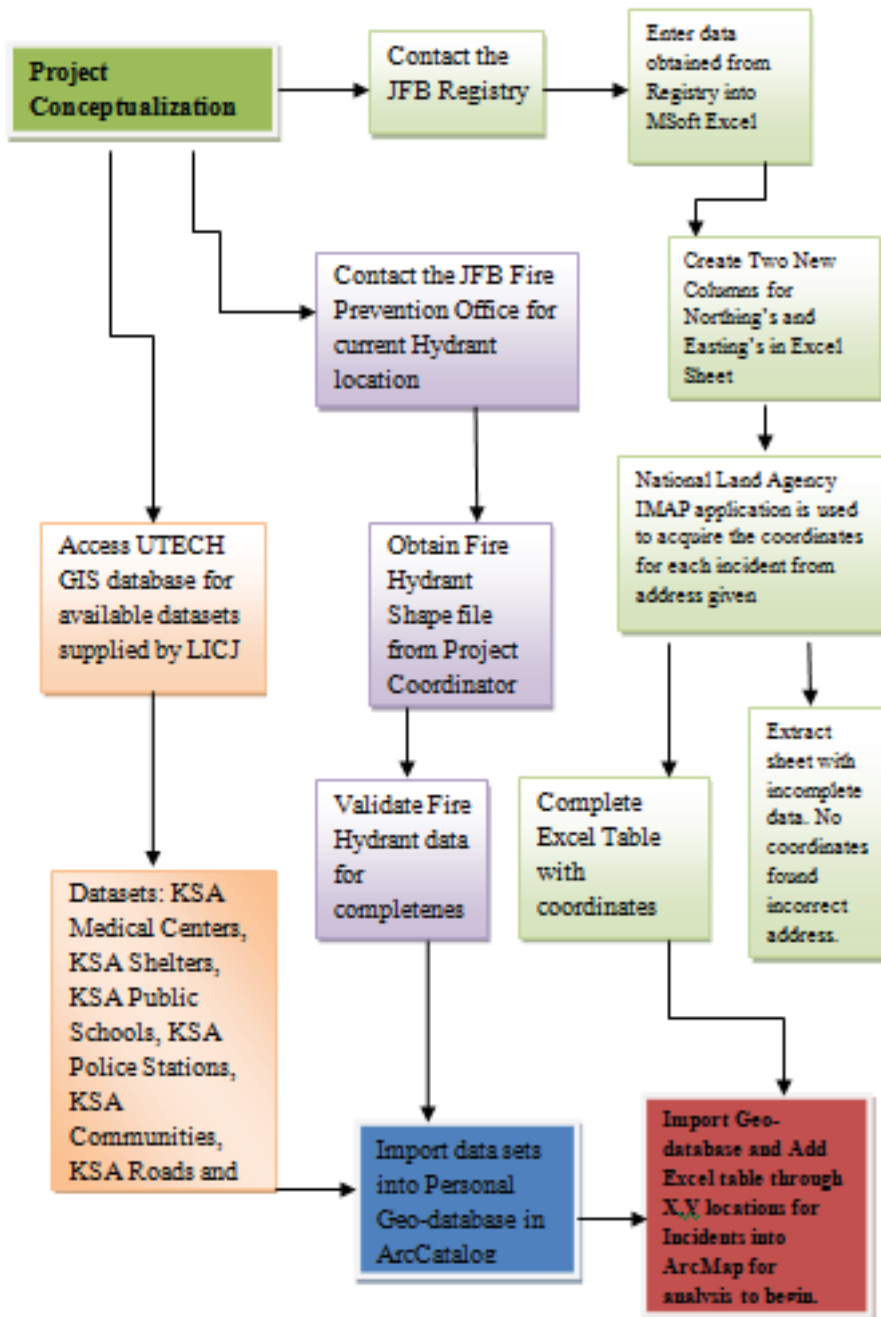


Figure 3 Methodology for Research Objectives.

Conceptual Plan



Flow Chart for Data Acquisition and Validation



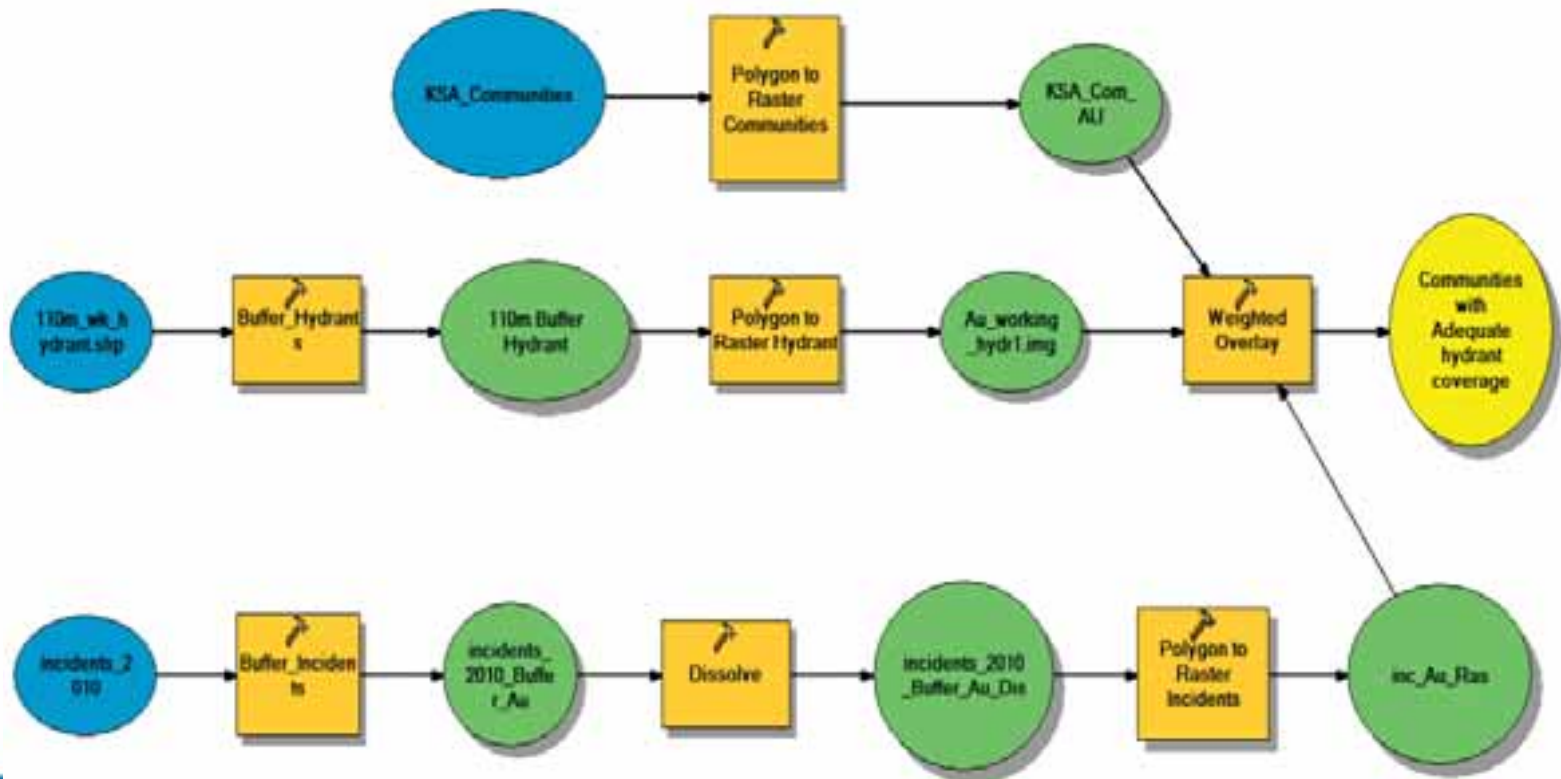
Data in Excel format

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	OBJECTID	Incident_Date	Departure_Time	Incident_Address	Responding_station	Type_of_premises	Nature_of_call	Time_of_return	Duty_Watch	Death_Child	Death_Adult	Injury	EASTING	NORTHING
2	1	1-Jan-2010	4:06:00 AM	Hart Lane off Old Hope Road	Half Way Tree	Stalls	GEN	4:42am	B	0	0	0	772897.4	649774.2
3	3	1-Jan-2010	12:53:00 PM	Beside #10 Stratfort Avenue of	Half Way Tree	Rubbish	GEN	1:24pm	C	0	0	0	769962.7	651137.4
4	4	1-Jan-2010	12:54:00 PM	#74 Mountain View Avenue	Rollington Town	Dwelling House	GEN	2:00.m	C	0	0	0	775388.2	648442.0
5	5	1-Jan-2010	1:49:00 PM	#1B South Avenue, Vinyard Town	York Park	Dwelling House	GEN	2:18pm	C	0	0	0	773660.9	647949.4
6	6	1-Jan-2010	2:20:00 PM	#57 Mannings Hill Road	Half Way Tree	MFA	MFA	2:42pm	C	0	0	0	771205.2	655024.5
7	7	1-Jan-2010	6:10:00 PM	#2 Upper Caramel Close, Chery	Half Way Tree	Rubbish	GEN	7:00pm	D	0	0	0	773897.2	655482.0
8	9	1-Jan-2010	6:42:00 PM	Riverside Drive, Harbour View	Rollington Town	Bush	GEN	7:55pm	D	0	0	0	780090.1	655024.5
9	10	1-Jan-2010	8:19:00 PM	Red Hills Road	Half Way Tree	MFA	MFA	9:11pm	D	0	0	0	771467.6	644970.7
10	11	2-Jan-2010	6:20:00 AM	Intersection of Tower Street and	York Park	Special Service	Assist Police to	7:29am	A	0	0	0	771747.9	652269.6
11	12	2-Jan-2010	8:02:00 AM	10 Bunny View Avenue off Mou	Rollington Town	Dwelling House	GEN	9:32am	B	0	0	0	775341.3	646435.5

NLA Imap being used to Locate grid coordinates



Geo-processing command in Model Builder

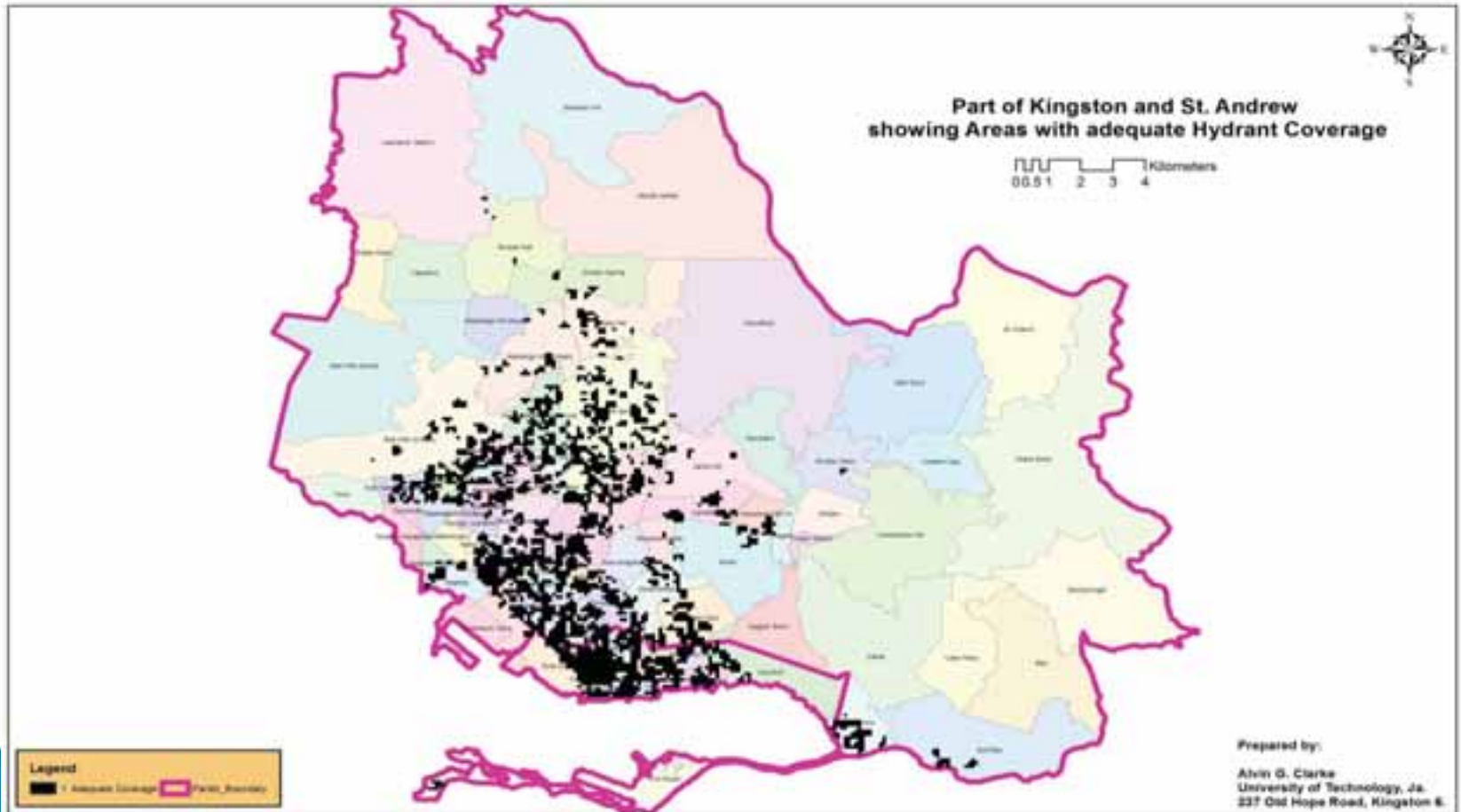


RESULTS

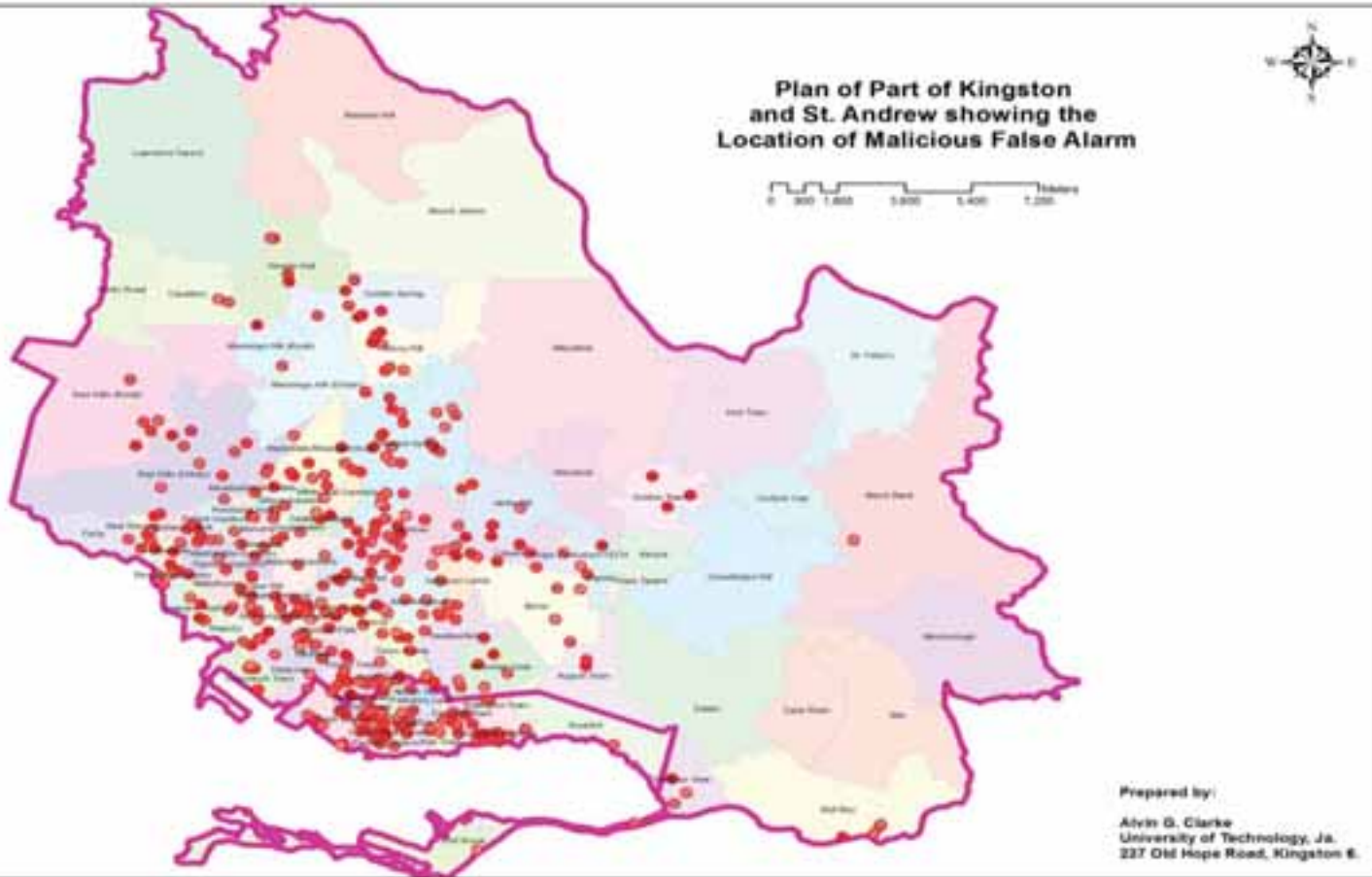


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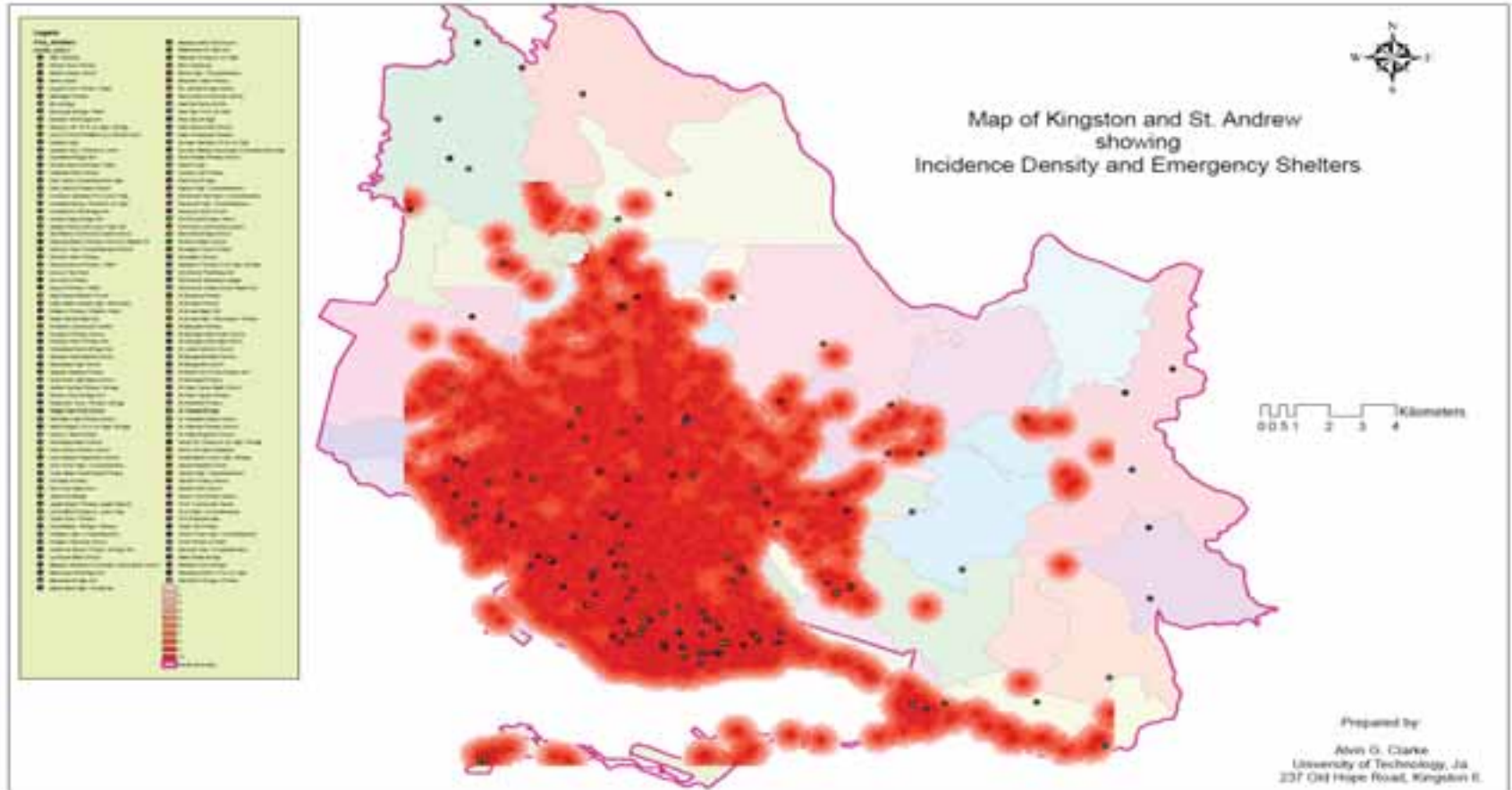
Areas with adequate Hydrant coverage



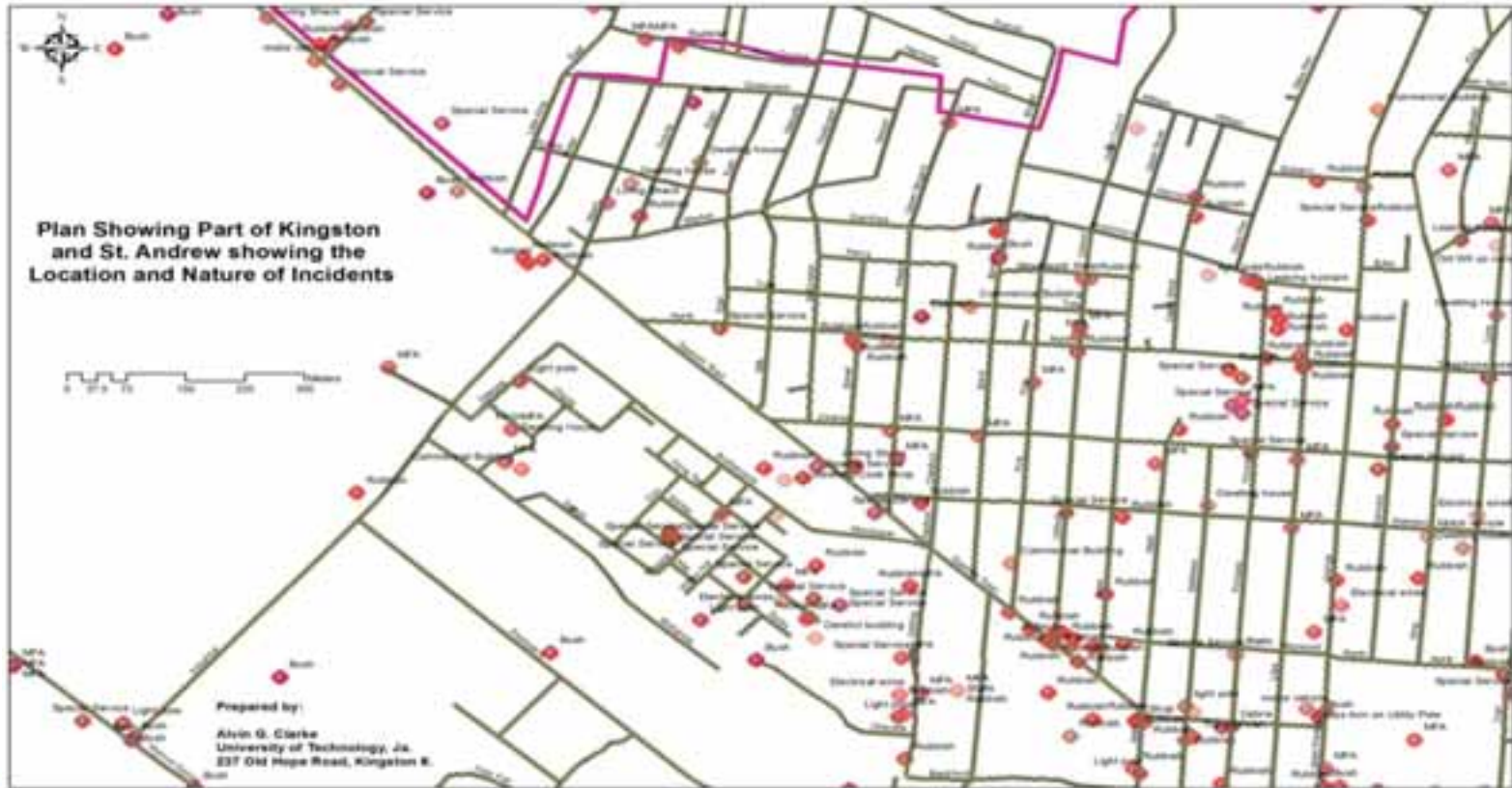
Location of Malicious False Alarm



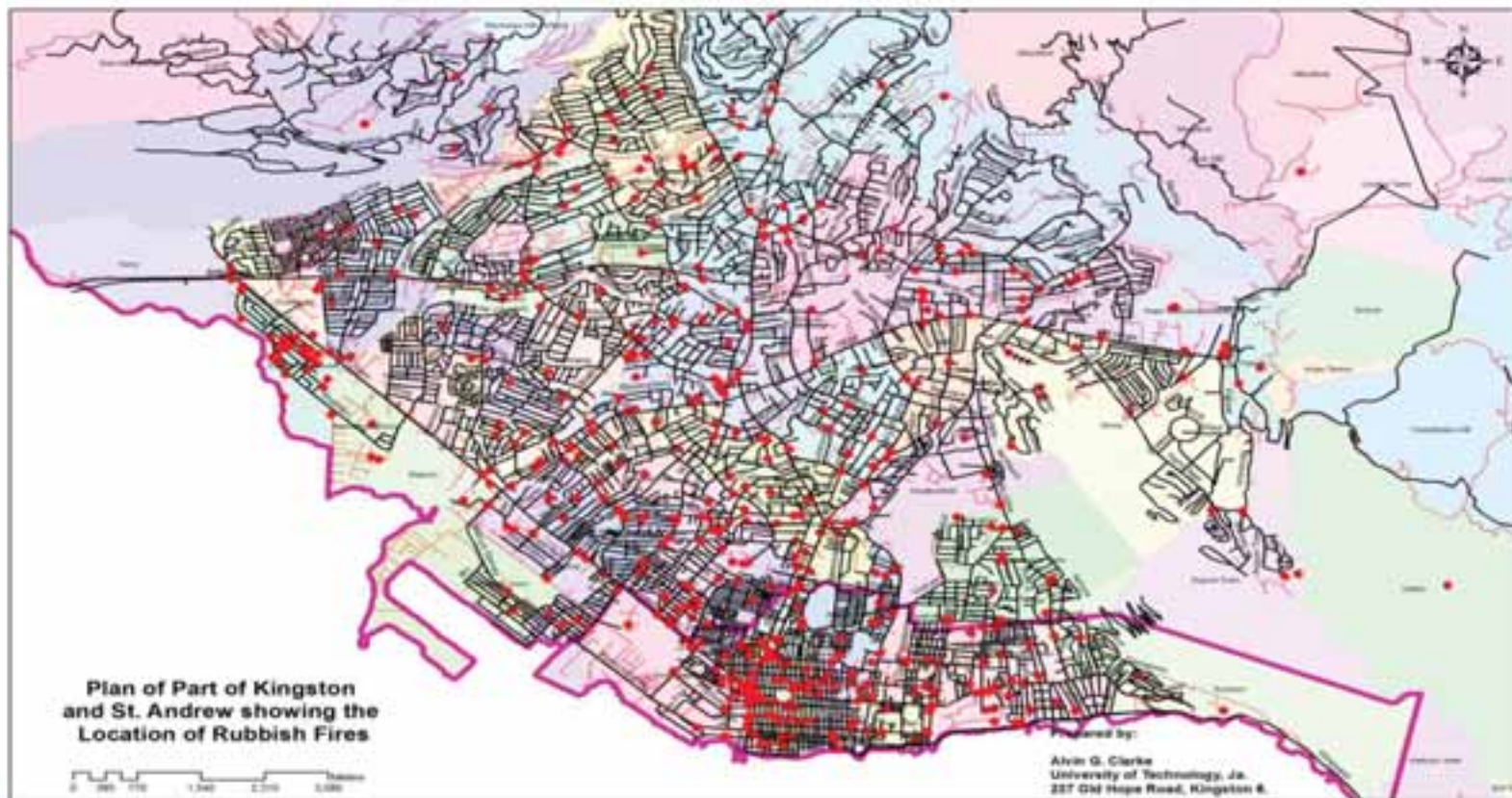
Incidence Density and Emergency Shelters



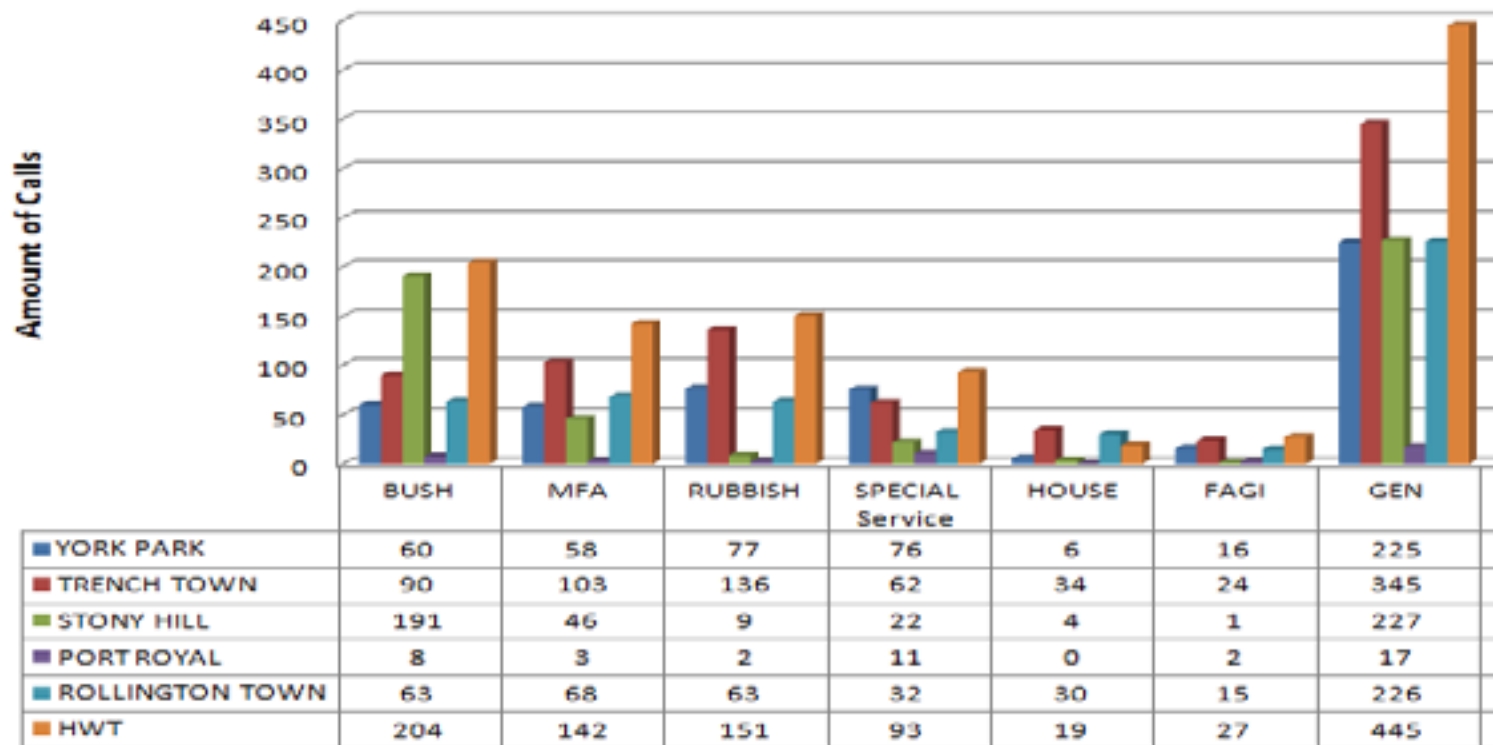
Location and Nature of Incidence



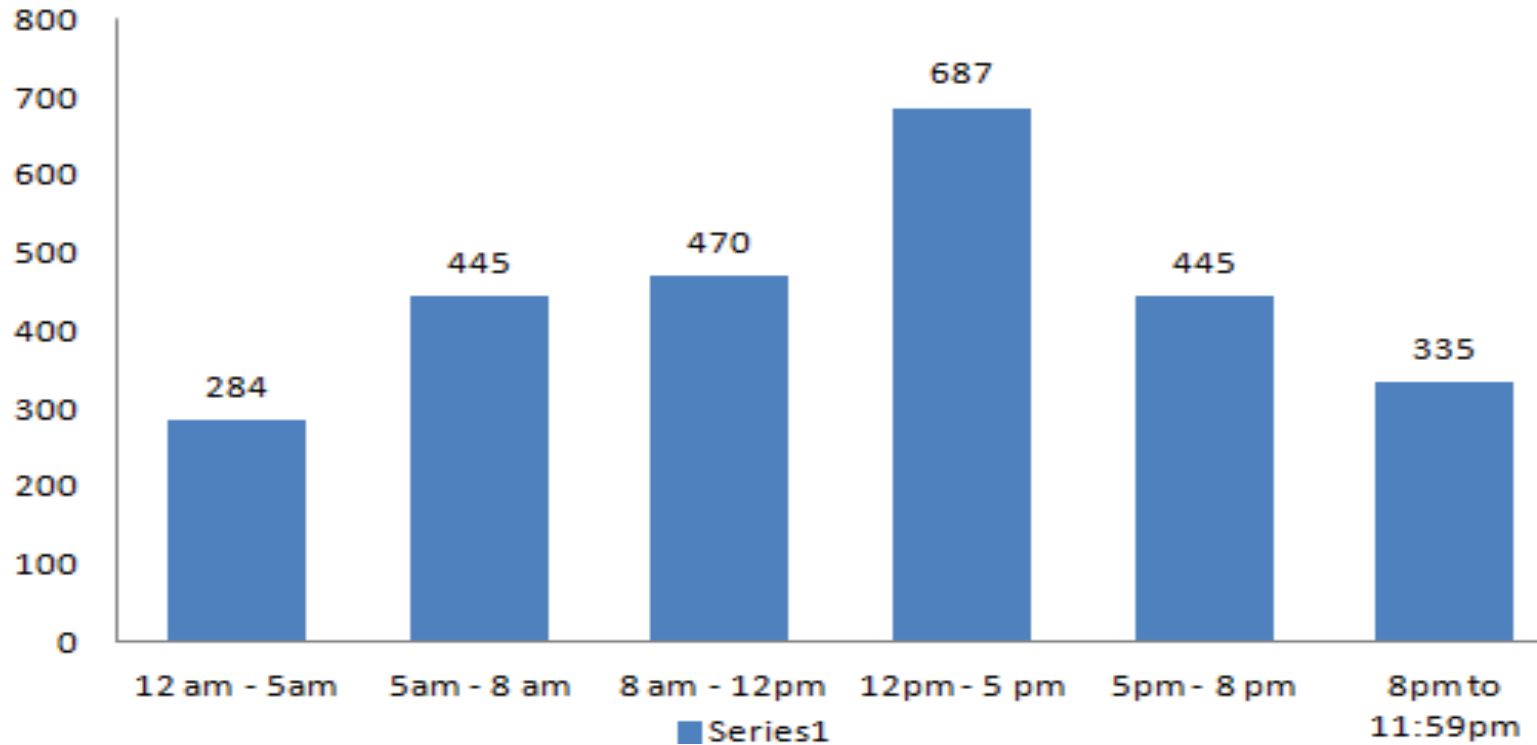
Concentration of Rubbish Fires



Nature of Calls received per Station

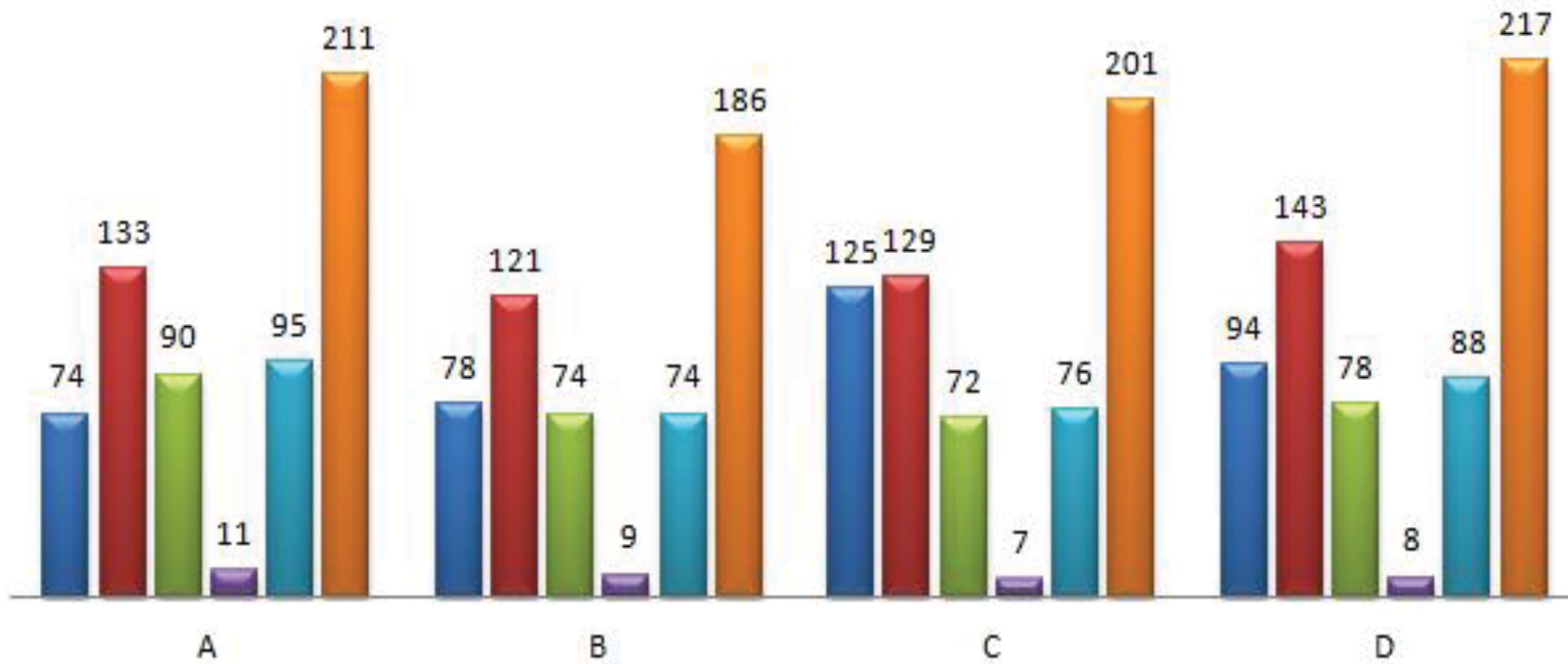


Volume of call at Varying Time intervals



Duty Watch Response per Station

■ YORK PARK ■ TRENCH TOWN ■ STONY HILL ■ PORT ROYAL ■ ROLLINGTON TOWN ■ HWT



ANY QUESTIONS:

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