

Using the SCOR model to manage forensic mapping

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Logistics and Quantitative Methods

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Background

- A soap opera that ended in tragedy.
- This based on pieces of info from the prosecutor and investigator and it is my interpretation of the events leading up to the murder.
- Just over 10 years ago Najwa befriended the then wife of Taliep Petersen and managed to get him to divorce her and to marry her. In Afrikaans: “Sy het hom van sy vrou afgevry.”
- A motivating factor was prestige. Taliep was notoriously bad in handling his finances and she then persuaded him to allow her to handle the finances. He earned between 800k and a million per annum from his music and plays.
- She made “investments” in her family businesses in South Africa and Namibia. It was also rumoured that the deals were not always above suspicion. Two years before his death she took out a R5million life insurance on him and paid for it.

Background/2

- Taliep's eldest daughter from his first marriage was completing high school and he got more involved with her to prepare her for university which meant more contact with his ex-wife. That is where the trouble started.
- Najwa then started to develop some psychological symptoms such as depression for which she got prescribed medication. In April 2006 she went to stab him with a knife in his neck. Fortunately it was not fatal and she was sent to a psychiatric hospital for observation and treatment. After a few weeks she returned home, but for understandable reasons Taliep refused to share the bedroom and locked himself in his own bedroom before going to sleep.

Background/3

- The relationship deteriorated to such an extent that he wanted to divorce her. If that happens she has to give him at least 50% of the money accrued during their togetherness. Oops! In December she decided to end his life and she contacted the state witness to organise a hit in such a way that she appears to be the innocent victim.
- He organised a gang to make a hit that looked like a hijacking when Taliep Petersen returned home from London on the 14th of December 2006 between the airport and the Petersen home. Unfortunately or fortunately the hitmen's transport decided to turn belly-up and they were without transport. Frustrations. The next attempt was the following evening when the Petersen's were at the Luxurama Theatre in Wynberg, but the transport for the hitmen has still not materialised. The state witness then organised the hit with the accused on the 16th which ended in the tragic death of Taliep Petersen. These activities will be given in more detail later in the presentation.

The purpose of this presentation is to illustrate the use of mapping events in time and space as a forensic tool for prosecution purposes.

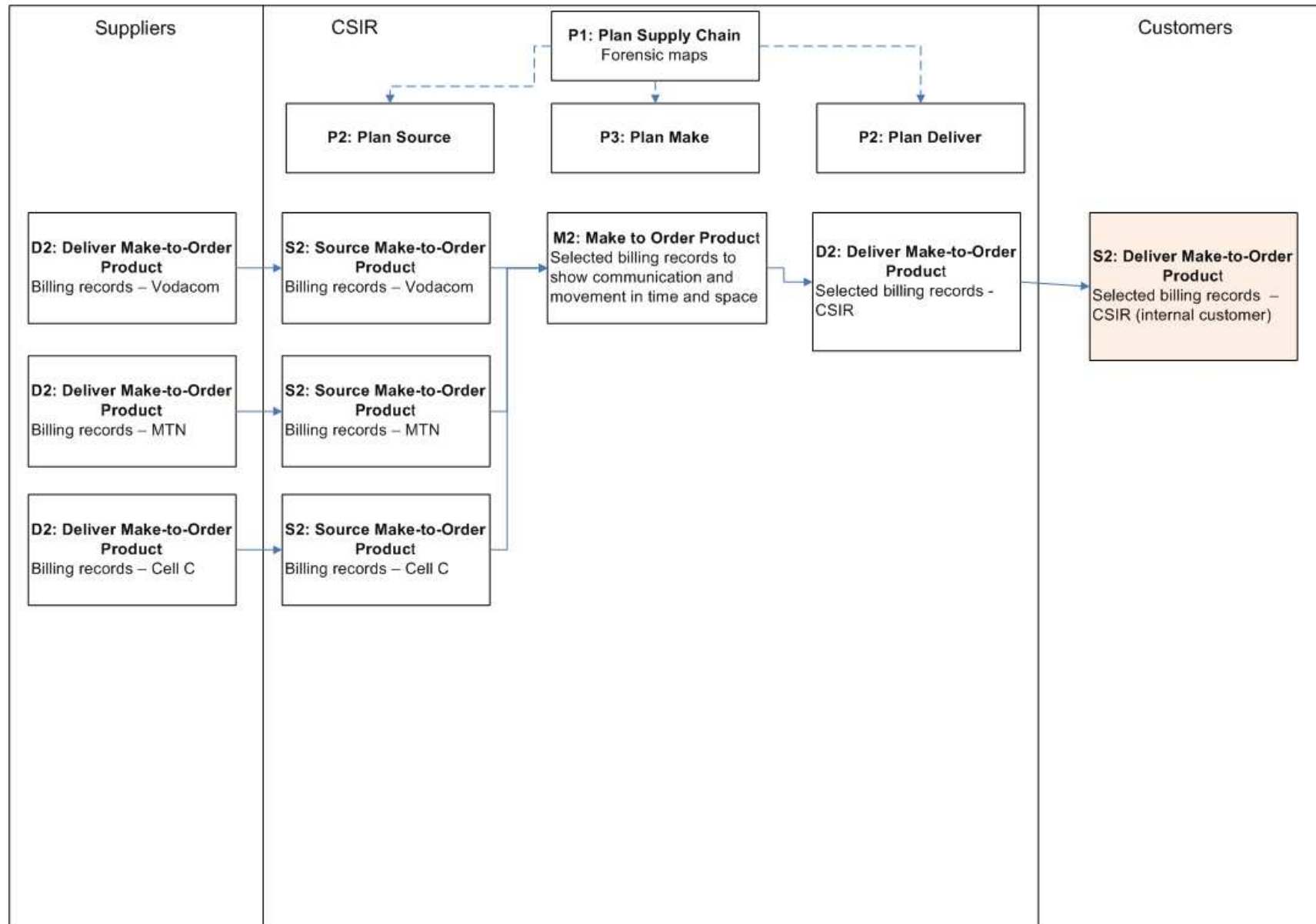
SCOR was used as project management tool.

The contributions of Adv Shareen Riley (prosecutor) and Lt Col Joe Dryden (investigating officer) are hereby acknowledged.

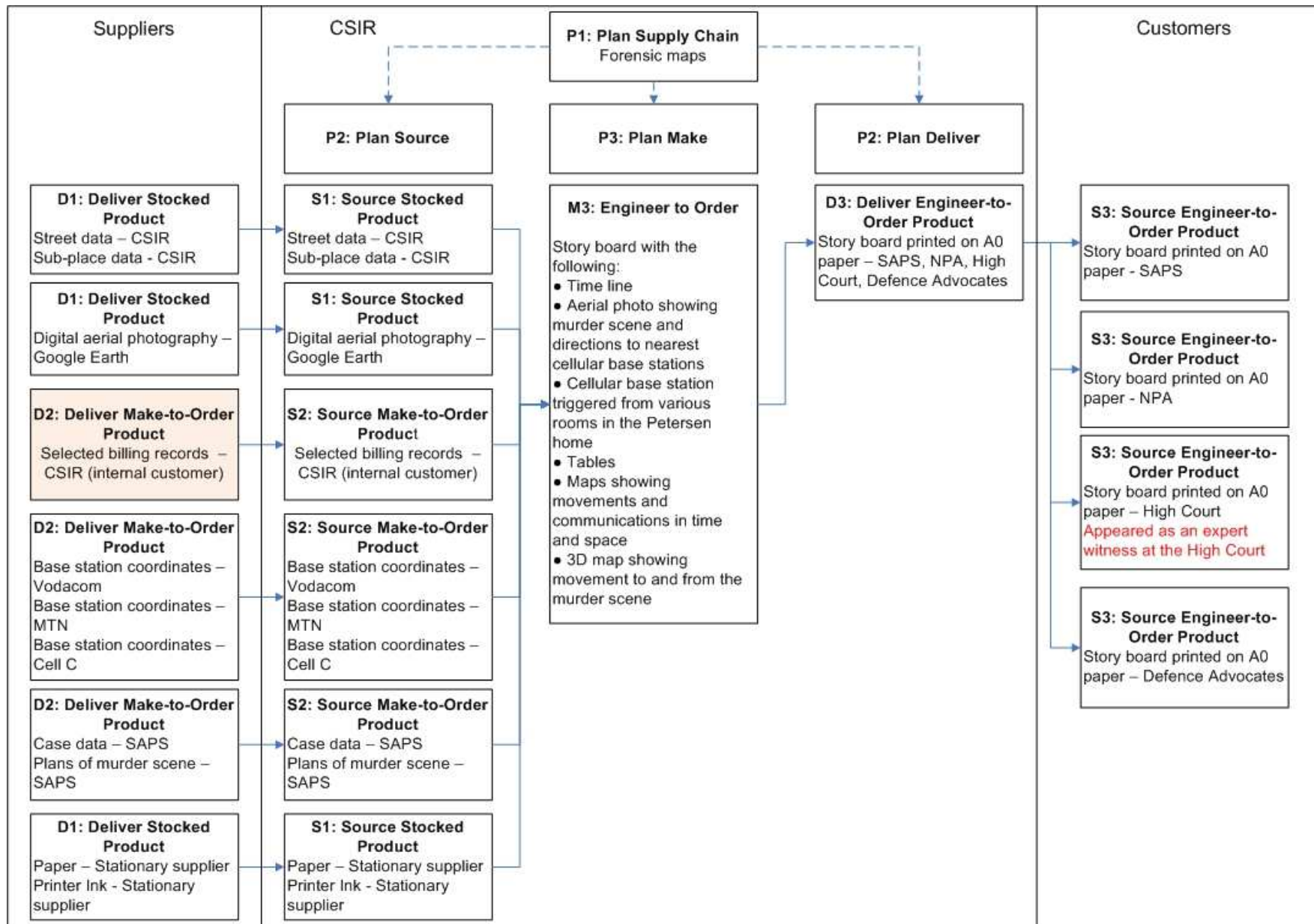
Using SCOR

- Used SCOR as project management tool.
 - It gives a structured approach to manage the project. You need to plan; source from suppliers; produce and deliver the product to a customer.
- Used SCOR Level 2 process categories to manage the project since it determines the behaviour of the project.
- SCOR Level 3 process elements were used to guide activities such as receiving, quality control, production, and determining the delivery activities

Using SCOR: Extract billing records



Using SCOR: Create forensic map



Using SCOR: Process elements

P1: Plan Supply Chain

- I did not plan the supply chain as such only that there will be some forensic mapping to be done when the request comes from the police and the prosecutors. I then slot this task into my other tasks that I am busy with.

P2: Plan SOURCE

- Here I determined what is needed, namely spatial data, billing records and cellular base station data (P2.1) and compared (P2.3) with what I already have (P2.2).
- Billing records are unique to a specific case and thus need to be sourced from the service providers via SAPS. Missing cellular base station location data are sourced in a similar fashion.
- Spatial data such as suburbs and roads are in my data warehouse.
- Paper and ink for the plotter is sourced when needed.

Using SCOR: Process elements

P3: Plan MAKE

- The only planning done here is to ensure that I have the necessary software available to produce the product. The software required was:
 - MS Excel – Cellular telephone data analysis
 - ArcGIS – Maps
 - MS Visio – Time line
 - Google Earth – Areal photography
- That plotter has paper and ink to print the story board.

P4: Plan DELIVER

- The planning activities was restricted to establish the format in which the product needs to be delivered to customer and that I needed to be in court to appear as an expert witness in the case.

Using SCOR: Process elements

S1: Source Stocked Product

- S1.1: Schedule product deliveries.
 - With regards to the street and sub-place data, it is on a data warehouse linked to my PC. Paper and ink it was ordered through the CSIR procurement system thus not possible for me to schedule the delivery.
- S1.2: Receive product.
 - Paper and ink received from supplier. Data downloaded it from my data warehouse into a directory created specifically for this project.
- S1.3: Verify product.
 - Checked whether it was the right paper and ink and signed the receipt. Data checked that all the files were copied into the directory.
- S1.4: Transfer product – Not applicable
- S1.5: Authorise supplier payment.
 - It was done by the CSIR procurement for the paper and ink based on my signing of the receipt.

Using SCOR: Process elements

S2: Source Make-to-Order Product

- S2.1: Schedule product deliveries.
 - Very difficult to organise with cellular service providers. They receive a court order to supply the data but cannot schedule the delivery. SAPS faxed or e-mailed their information with 24 hours.
- S2.2: Receive product.
 - Billing records and cellular base station locations via SAPS in MS Excel or PDF. SAPS: acknowledge that the fax or e-mail was received by me.
- S2.3: Verify product.
 - Billing records are checked for completeness by cross checking it with other billing records. Base stations are mapped to verify locations. Found that some of them were in the ocean and others in Europe. SAPS: check whether the sent the correct information.
- S2.4: Transfer product – Not applicable.
- S2.5: Authorise supplier payment – Not applicable.

Using SCOR: Process elements

M3: Engineer to Order

- M3.1: Finalise production.
 - Decide the content of the story board.
- M3.2: Schedule production activities.
 - The SAPS and NPA provide a deadline and the activities are scheduled accordingly.
- M3.3: Issue material.
 - Paper and ink loaded into the plotter. Data available in the directory
- M3.4: Produce and test.
 - Create the time line, tables and maps. The verification of the product with the investigators is the testing part of the production
- M3.5: Transfer product – Not applicable
- M3.6: Release product.
 - Have it ready in a printable format.
- The production will be discussed in more detail

Objectives with regards to mapping the events in time and space using cellular telephone data

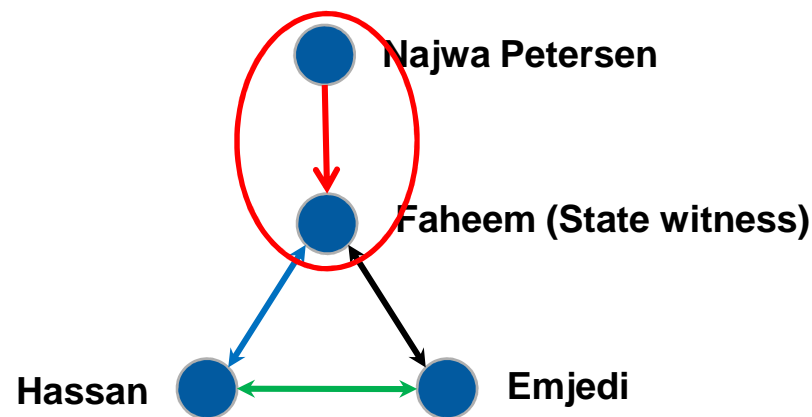
- The state witness in this case was an accomplice witness. An accomplice witness is one that through his/her own admission has participated in a crime and is willing to testify regarding the role of the co-conspirator. It is the role of the prosecutor to provide independent corroborating evidence to prove the evidence of the accomplice witness. In order to achieve this, the independent corroborating evidence must directly implicate the accused in the commission of the offence (Desai, 2008).
- The first objective was to indicate to the court through the use of mapping of time and space as a forensic tool to map the movement and communication between the suspects to illustrate that there was collaboration between the accused and the state witness that the deceased should be killed.

Objectives (continue)

- The second objective was to use the same maps to contradict the evidence given by Accused #1.
- The third objective was to create the maps in such a manner that it was easily understood by the court. The methodology used to achieve these objectives will be discussed in the next few slides.

- The analysis of the cellular telephone records of the accused and the state witness and the isolation of the relevant calls to the case from the other calls.
- The sequencing of the isolated calls to determine the chronological movement through time and space.
- A time line was developed based on the previous activity.
- Determining the nearest cellular base stations to the murder scene.
- Illustrating the various cells that could be triggered from the murder scene.
- Determining the various cellular base stations used when the calls were made or received.
- The creation of tables and maps for each day based on the time line information.
- A 3-D map showing movement of the suspects during the night of the 16th and 17th December 2006.

- **Software used:**
 - MS Visio – Time line
 - MS Excel – Cellular telephone data analysis
 - ArcGIS – Maps
 - Google Earth – Digital aerial photograph of murder scene
- Main aim is to identify patterns and anomalies in cellular telephone usage and the mapping of these. E.g. the communication pattern between the accused and state witness was identified as follows:



M3: Engineer to Order

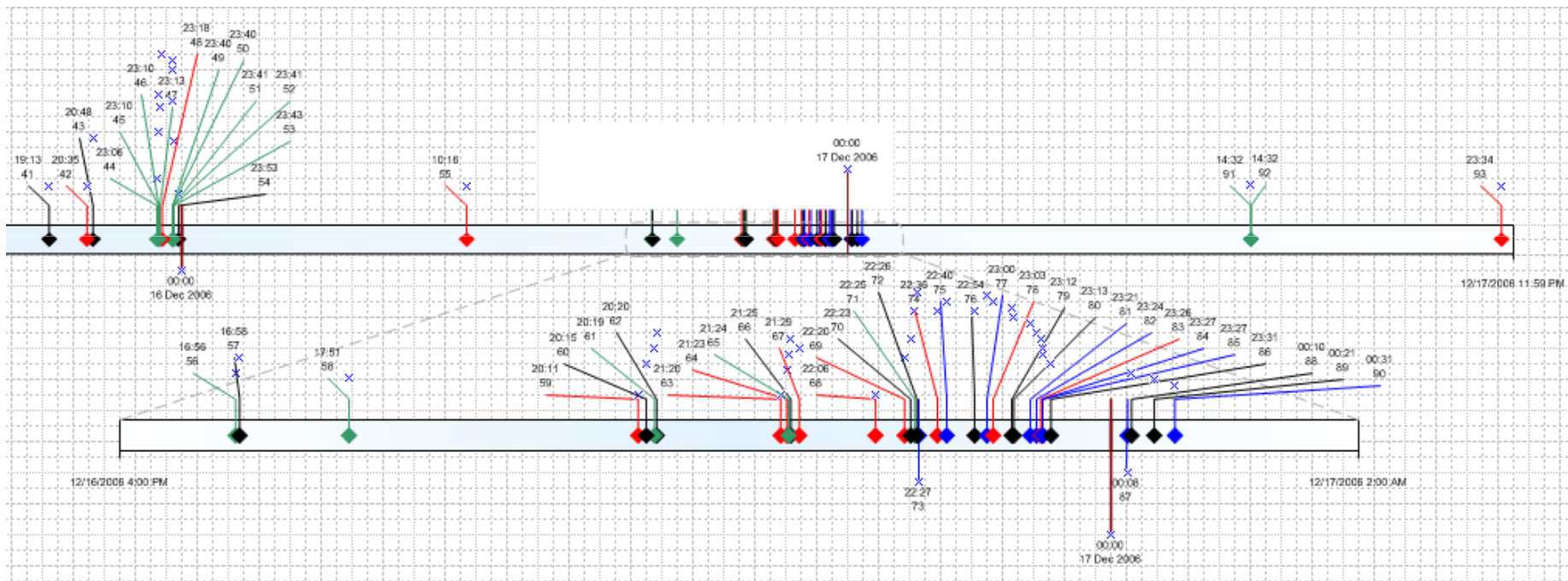
The analysis of the cellular telephone records of the accused and the state witness and the isolation of the relevant calls to the case from the other calls.

Sequence ID	Date	Time	Communication activity	Cells used Najwa	Faheem	Emjedi	Hassan
55	16/12/2006	10:16	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Kewtown 3	Sand Industria 1		
56		16:56	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			Grassy Park 3	Symphony Secondary 3
57		16:58	Emjedi (072 010 9819) contacts Faheem (072 922 9617)		Mandalay 2	Retreat 1	
58		17:51	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			Rylands 3	Symphony Secondary 3
59		20:11	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Kewtown 3	Westridge School 1		
60		20:15	Faheem (072 922 9617) contacts Emjedi (072 010 9819)		Westridge School 2	Ottery DCS 6	
61		20:19	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			Neumans Farm 1	Symphony Secondary 3
62		20:20	Emjedi (072 010 9819) contacts Faheem (072 922 9617)		Rocklands 1	Neumans Farm 1	
63		21:20	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Kewtown 3	Mitchells Central 3		
64		21:23	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Rocklands 1		
65		21:24	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			Rylands 3	Symphony Secondary 3
66		21:25	Emjedi (072 010 9819) contacts Faheem (072 922 9617)		Mitchells Central 3	Rylands 3	
67		21:29	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Mitchells Central 3		
68		22:06	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Kewtown 3	Mitchells Central 3		
69		22:20	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Schaapskraal 1		
70		22:23	Faheem (072 922 9617) contacts Emjedi (072 010 9819)		Sand Industria 3	John Power Holiday Camp 3	
71		22:25	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			John Power Holiday Camp 3	Symphony Secondary 3
72		22:26	Emjedi (072 010 9819) contacts Faheem (072 922 9617)		Lansdowne 1	John Power Holiday Camp 3	
73		22:27	Faheem (074 340 2038) contacts Hassan (078 169 8347)		Ellen Arthur Clothing		
74		22:36	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Kewtown 2	Rylands 1		
75		22:40	Faheem (074 340 2038) contacts Hassan (078 169 8347)		Rylands Primary School		Symphony Secondary 3
76		22:54	Faheem (074 340 2038) contacts Emjedi (072 010 9819)		Sunnyside Sportsfield	John Power Holiday Camp 3	
77		23:00	Hassan (078 169 8347) contacts Faheem (074 340 2038)		Sunnyside Sportsfield		Cravenby High School 3
78		23:03	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Kewtown 3	Crawford 1		
79		23:12	Faheem (074 340 2038) contacts Emjedi (072 010 9819)		Sunnyside Sportsfield	John Power Holiday Camp 3	
80		23:13	Emjedi (072 010 9819) contacts Faheem (072 922 9617)		Rylands 1	John Power Holiday Camp 3	
81		23:21	Faheem (074 340 2038) contacts Hassan (078 169 8347)		Sunnyside Sportsfield		Valkenberg Hospital
82		23:24	Hassan (078 169 8347) contacts Faheem (074 340 2038)		Sunnyside Sportsfield		Ledger House
83		23:26	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Rylands 1		
84		23:27	Faheem (074 340 2038) contacts Hassan (078 169 8347)		Sunnyside Sportsfield		
85		23:27	Faheem (074 340 2038) contacts Hassan (078 169 8347)		Sunnyside Sportsfield		
86		23:31	Faheem (074 340 2038) contacts Emjedi (072 010 9819)		Sunnyside Sportsfield	John Power Holiday Camp 1	



The sequencing of the isolated calls to determine the chronological movement through time and space.

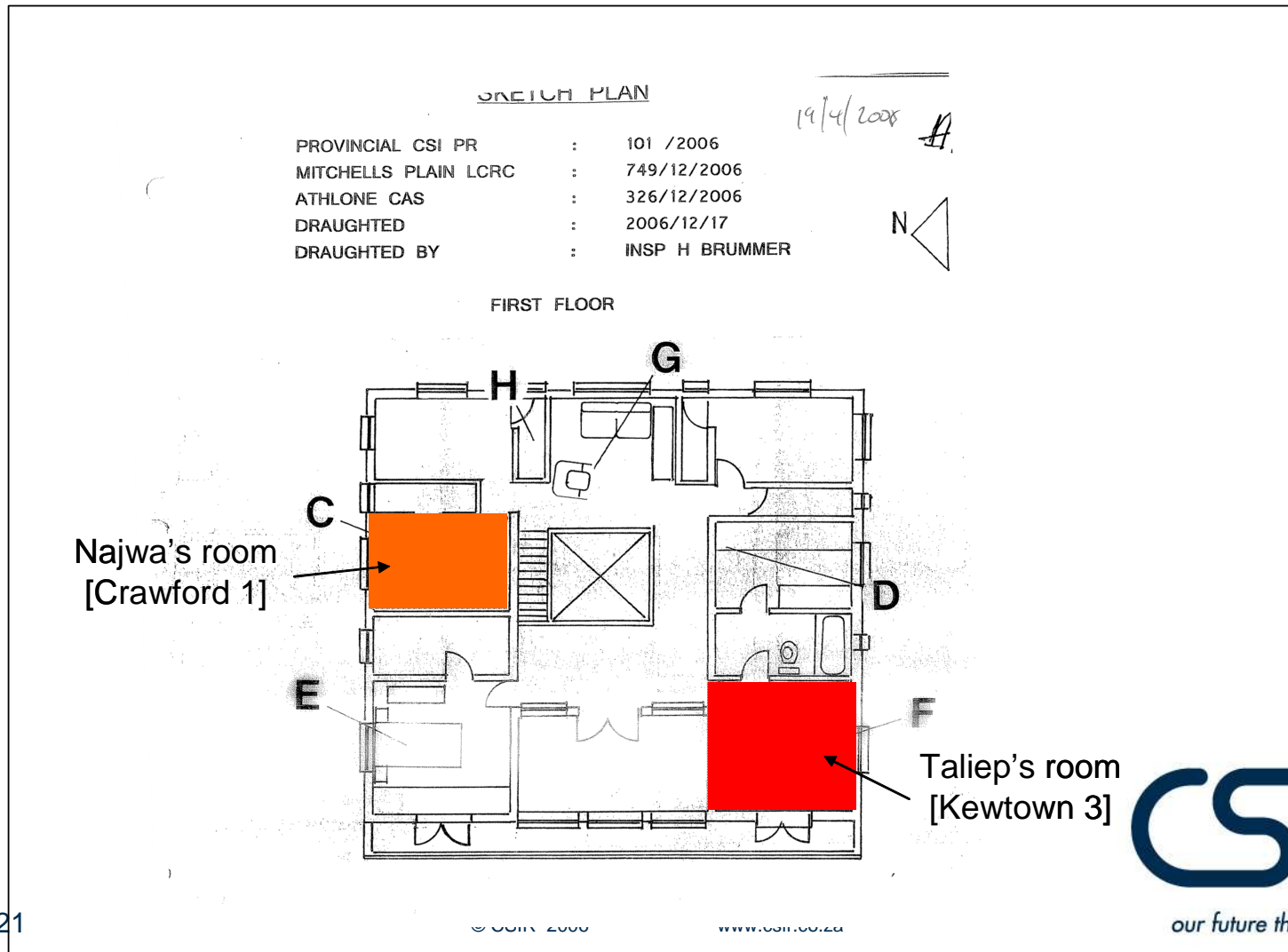
A time line was developed based on the above.



Determining the nearest cellular base stations to the murder scene.



Illustrating the various cells that could be triggered from the murder scene.

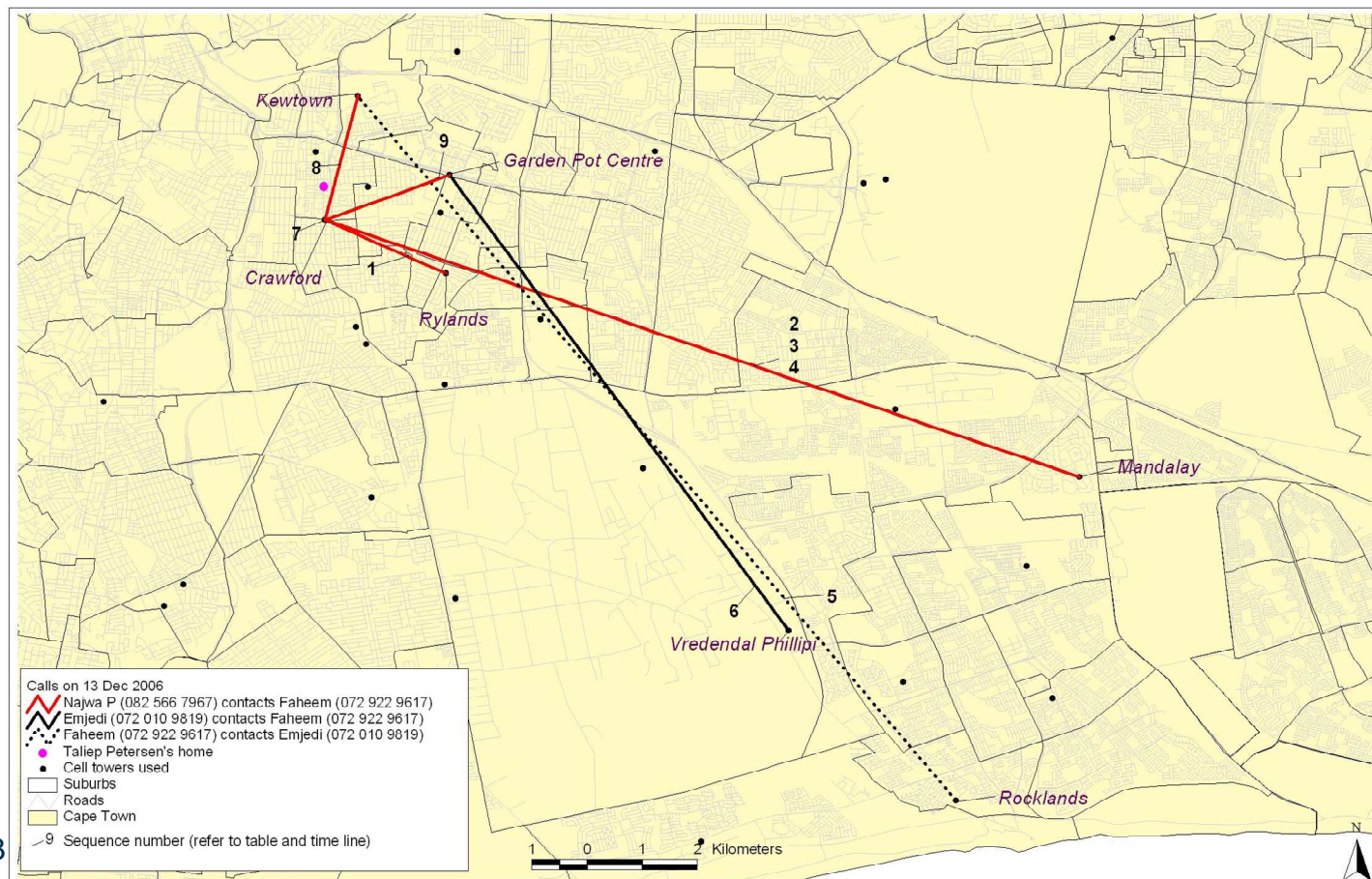


Determining the various cellular base stations used when the calls were made or received.
The creation of tables and maps for each day based on the time line information.

This was done for the 13th, 14th, 15th, 16th and 17th of December 2006.

13 December 2008

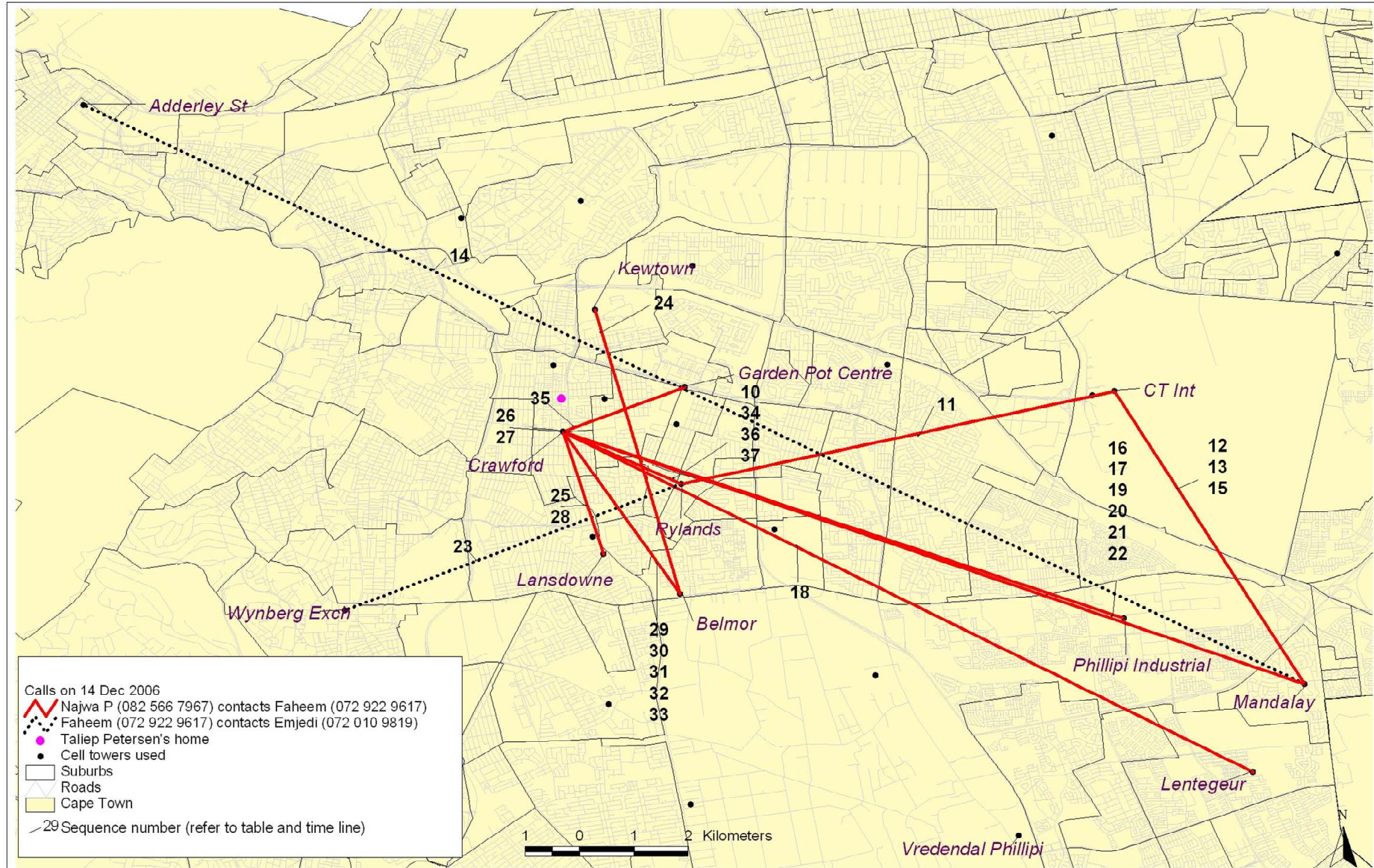
Sequence ID	Date	Time	Communication activity	Cells used Najwa	Faheem	Emjedi	Hassan
1	13/12/2006	10:27	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Rylands 1		
2		18:29	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Mandalay 2		
3		18:55	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Mandalay 2		
4		19:43	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Mandalay 2		
5		19:52	Faheem (072 922 9617) contacts Emjedi (072 010 9819)		Rocklands 3	Kewtown 2	
6		19:54	Emjedi (072 010 9819) contacts Faheem (072 922 9617)		Vredendal Phillipi 2	Garden Pot Centre 1	
7		20:44	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Crawford DCS 6		
8		20:45	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Kewtown 3	Crawford DCS 6		
9		20:48	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Garden Pot Centre 2		



14 December 2006: First attempt

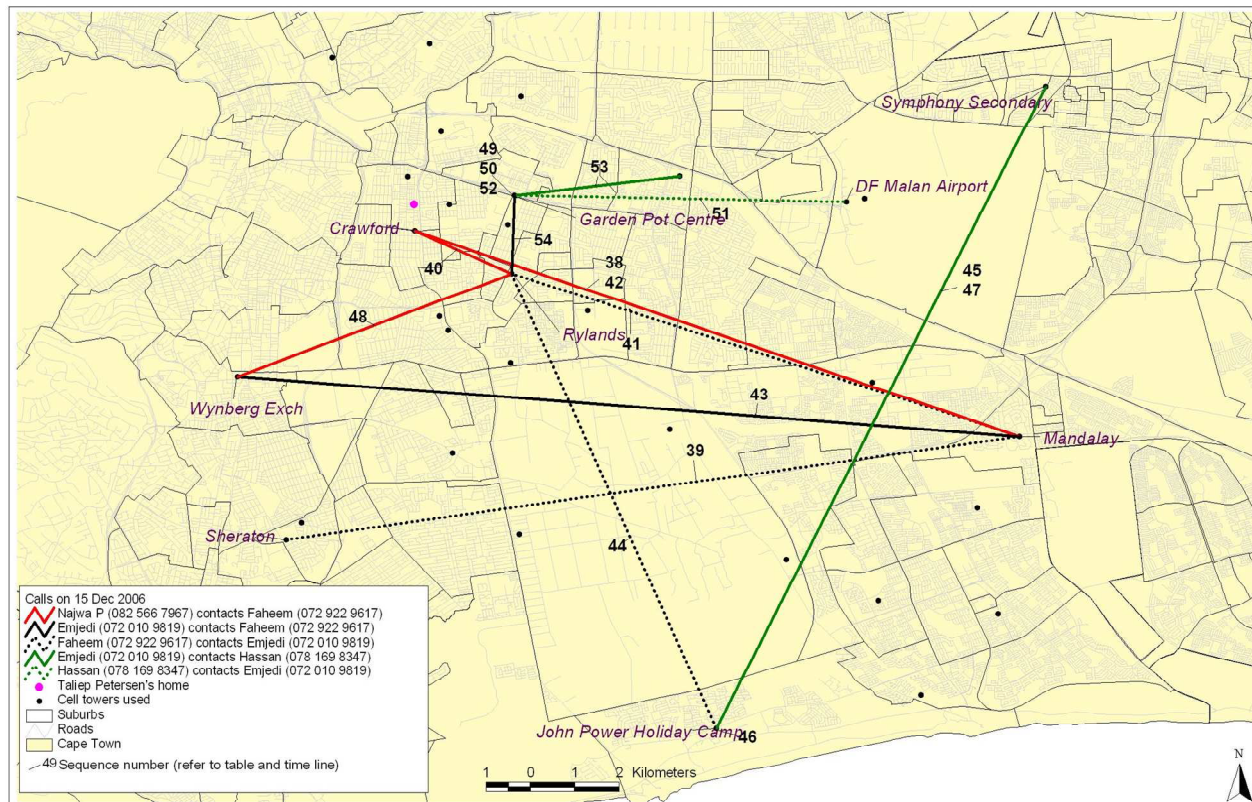
Sequence ID	Date	Time	Communication activity	Cells used Najwa	Faheem	Emjedi	Hassan
10	14/12/2006	09:31	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Rylands 1		
11		10:01	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	CT Int 1	Rylands 1		
12		11:17	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	CT Int 1	Mandalay 2		
13		11:51	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	CT Int 1	Mandalay 2		
14		11:52	Faheem (072 922 9617) contacts Emjedi (072 010 9819)		Mandalay 2	Adderley St 3	
15		12:02	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	CT Int 1	Mandalay 2		
16		12:36	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Phillipi Industrial 1		
17		12:44	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Phillipi Industrial DCS 6		
18		13:37	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Lentegeur 3		
19		14:09	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Mandalay 2		
20		15:35	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Mandalay 2		
21		15:49	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Mandalay 2		
22		17:54	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Mandalay 2		
23		19:31	Faheem (072 922 9617) contacts Emjedi (072 010 9819)		Rylands 3	Wynberg Exch 2	
24		20:16	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Kewtown 3	Belmor 1		
25		20:31	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Lansdowne 1		
26		20:32	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Crawford 2		
27		20:42	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Crawford 3		
28		20:50	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Lansdowne 1		
29		20:56	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Belmor 1		
30		21:09	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Belmor 1		
31		21:38	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Belmor 1		
32		21:51	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Belmor 1		
33		22:00	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Belmor 1		
34		22:12	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Rylands 1		
35		22:12	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Garden Pot Centre 2		
36		23:09	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Rylands 1		
37		23:09	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Rylands 1		

14 December 2006: First attempt



15 December 2006: Second attempt

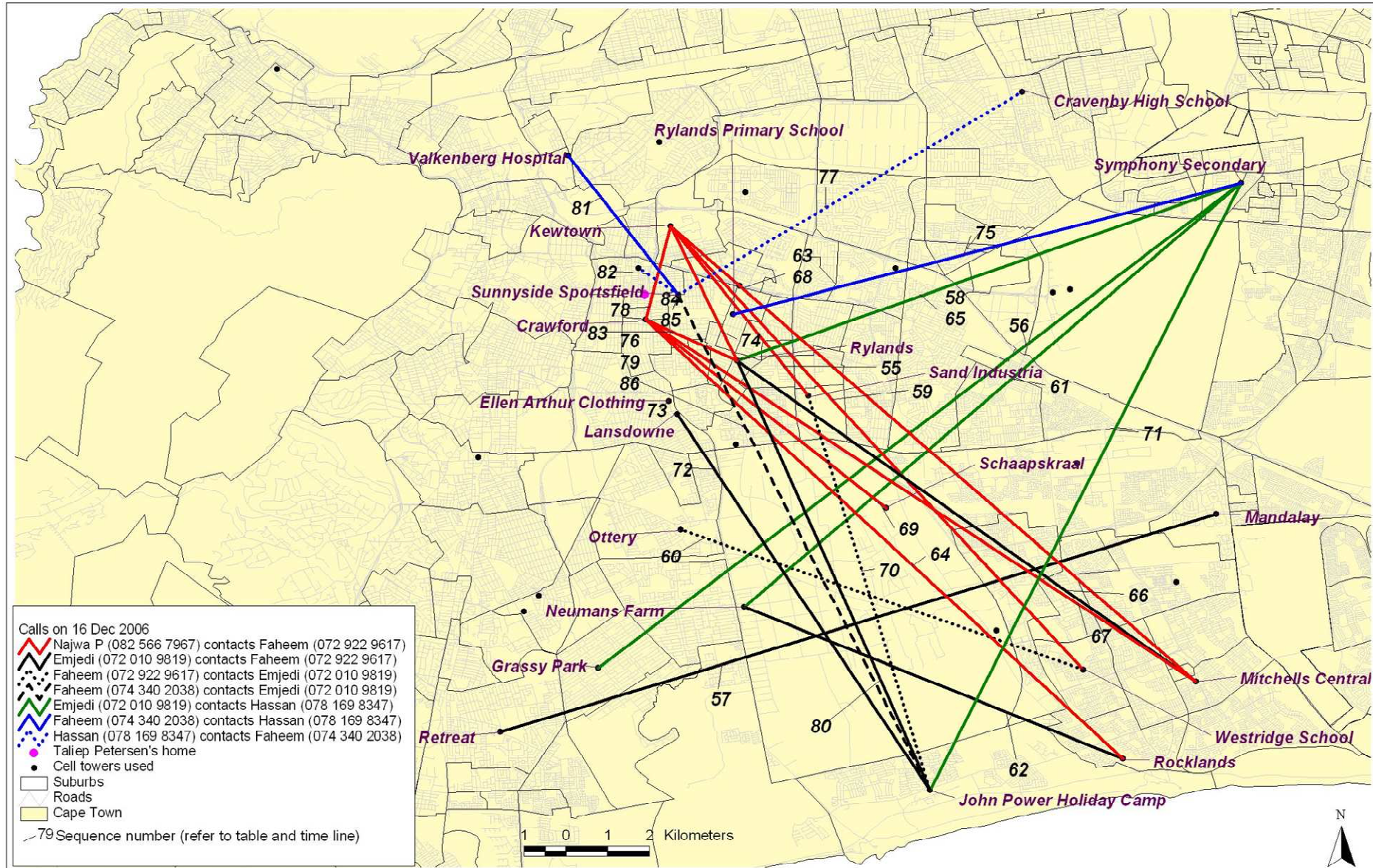
Sequence ID	Date	Time	Communication activity	Cells used Najwa	Faheem	Emjedi	Hassan
38	15/12/2006	11:07	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Mandalay 2		
39		12:24	Faheem (072 922 9617) contacts Emjedi (072 010 9819)		Mandalay 1	Sheraton 1	
40		14:09	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Rylands 1		
41		19:13	Faheem (072 922 9617) contacts Emjedi (072 010 9819)		Mandalay 2	Rylands 3	
42		20:35	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Mandalay 2		
43		20:48	Emjedi (072 010 9819) contacts Faheem (072 922 9617)		Mandalay 2	Wynberg Exch 2	
44		23:06	Faheem (072 922 9617) contacts Emjedi (072 010 9819)		Rylands 1	John Power Holiday Camp 2	
45		23:10	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			John Power Holiday Camp 2	Symphony Secondary 3
46		23:10	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			John Power Holiday Camp 2	
47		23:13	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			John Power Holiday Camp 2	Symphony Secondary 3
48		23:18	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Wynberg Exch 2	Rylands 1		
49		23:40	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			Garden Pot Centre 2	
50		23:40	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			Garden Pot Centre 2	
51		23:41	Hassan (078 169 8347) contacts Emjedi (072 010 9819)			Garden Pot Centre 2	DF Malan Airport 1
52		23:41	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			Garden Pot Centre 2	
53		23:43	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			Garden Pot Centre 2	Heideveld VC 1
54		23:53	Emjedi (072 010 9819) contacts Faheem (072 922 9617)		Rylands 1	Garden Pot Centre 2	



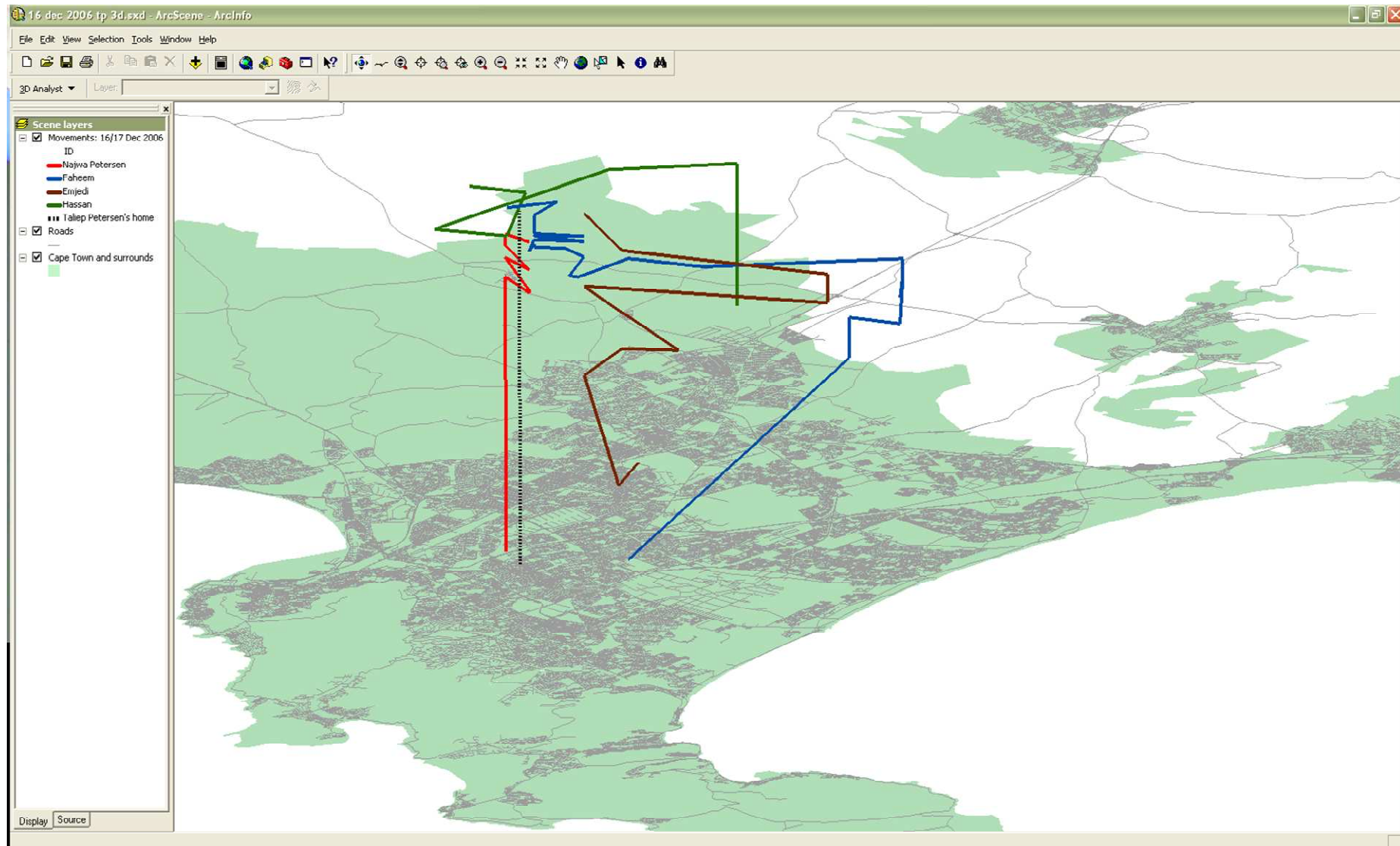
16 December 2006: The Murder

Sequence ID	Date	Time	Communication activity	Cells used Najwa	Faheem	Emjedi	Hassan
55	16/12/2006	10:16	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Kewtown 3	Sand Industria 1		
56		16:56	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			Grassy Park 3	Symphony Secondary 3
57		16:58	Emjedi (072 010 9819) contacts Faheem (072 922 9617)		Mandalay 2	Retreat 1	
58		17:51	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			Rylands 3	Symphony Secondary 3
59		20:11	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Kewtown 3	Westridge School 1		
60		20:15	Faheem (072 922 9617) contacts Emjedi (072 010 9819)		Westridge School 2	Ottery DCS 6	
61		20:19	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			Neumans Farm 1	Symphony Secondary 3
62		20:20	Emjedi (072 010 9819) contacts Faheem (072 922 9617)		Rocklands 1	Neumans Farm 1	
63		21:20	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Kewtown 3	Mitchells Central 3		
64		21:23	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Rocklands 1		
65		21:24	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			Rylands 3	Symphony Secondary 3
66		21:25	Emjedi (072 010 9819) contacts Faheem (072 922 9617)		Mitchells Central 3	Rylands 3	
67		21:29	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Mitchells Central 3		
68		22:06	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Kewtown 3	Mitchells Central 3		
69		22:20	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 3	Schaapskraal 1		
70		22:23	Faheem (072 922 9617) contacts Emjedi (072 010 9819)		Sand Industria 3	John Power Holiday Camp 3	
71		22:25	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			John Power Holiday Camp 3	Symphony Secondary 3
72		22:26	Emjedi (072 010 9819) contacts Faheem (072 922 9617)		Lansdowne 1	John Power Holiday Camp 3	
73		22:27	Faheem (074 340 2038) contacts Hassan (078 169 8347)		Ellen Arthur Clothing		
74		22:36	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Kewtown 2	Rylands 1		
75		22:40	Faheem (074 340 2038) contacts Hassan (078 169 8347)		Rylands Primary School		Symphony Secondary 3
76		22:54	Faheem (074 340 2038) contacts Emjedi (072 010 9819)		Sunnyside Sportsfield	John Power Holiday Camp 3	
77		23:00	Hassan (078 169 8347) contacts Faheem (074 340 2038)		Sunnyside Sportsfield		Cravenby High School 3
78		23:03	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Kewtown 3	Crawford 1		
79		23:12	Faheem (074 340 2038) contacts Emjedi (072 010 9819)		Sunnyside Sportsfield	John Power Holiday Camp 3	
80		23:13	Emjedi (072 010 9819) contacts Faheem (072 922 9617)		Rylands 1	John Power Holiday Camp 3	
81		23:21	Faheem (074 340 2038) contacts Hassan (078 169 8347)		Sunnyside Sportsfield		Valkenberg Hospital
82		23:24	Hassan (078 169 8347) contacts Faheem (074 340 2038)		Sunnyside Sportsfield		Ledger House
83		23:26	Najwa P (082 566 7967) contacts Faheem (072 922 9617)	Crawford 1	Rylands 1		
84		23:27	Faheem (074 340 2038) contacts Hassan (078 169 8347)		Sunnyside Sportsfield		
85		23:27	Faheem (074 340 2038) contacts Hassan (078 169 8347)		Sunnyside Sportsfield		
86		23:31	Faheem (074 340 2038) contacts Emjedi (072 010 9819)		Sunnyside Sportsfield	John Power Holiday Camp 1	

16 December 2006: The Murder

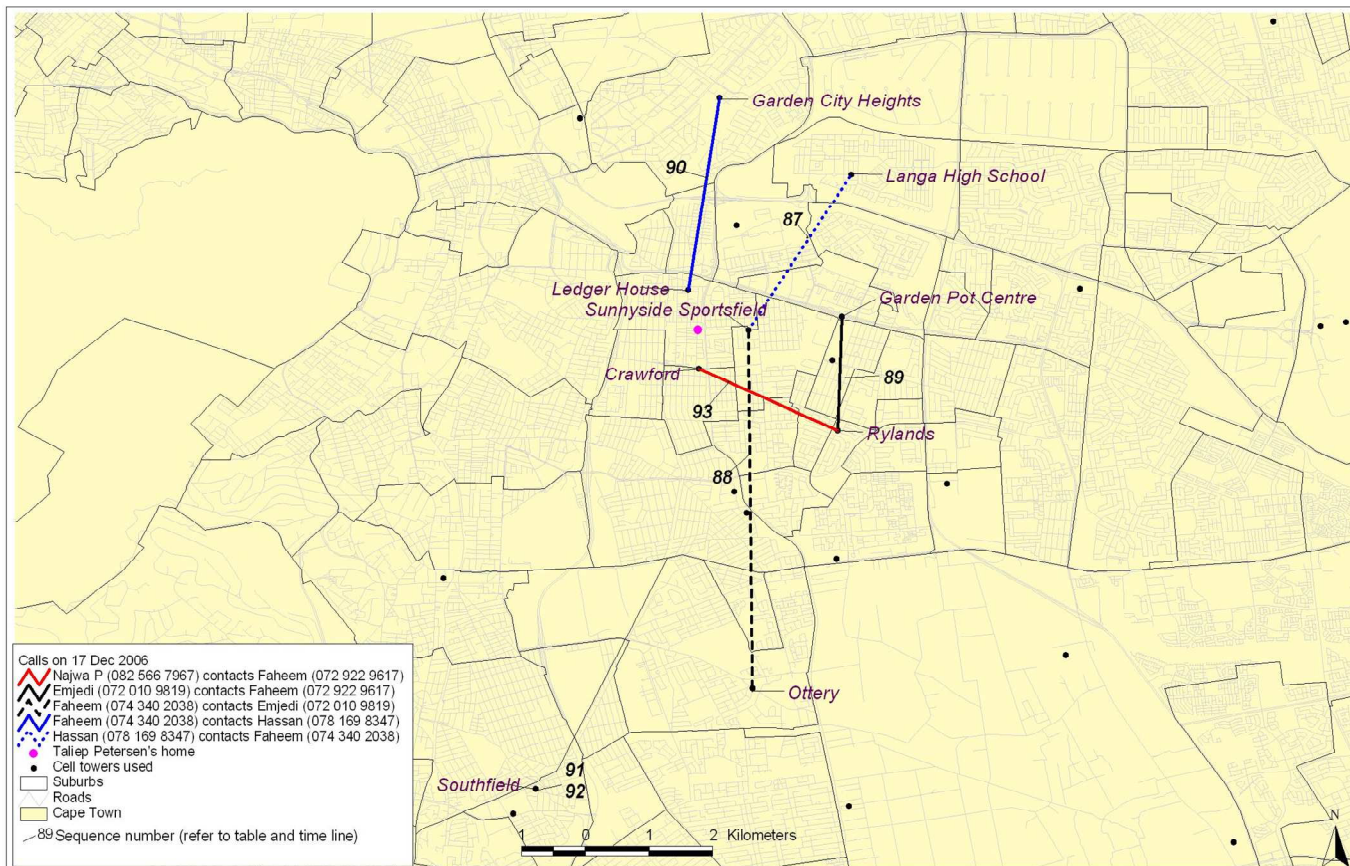


16 December 2006: The Murder



17 December 2006: After the murder

Sequence ID	Date	Time	Communication activity	Cells used Najwa	Faheem	Emjedi	Hassan
87	17/12/2006	00:08	Hassan (078 169 8347) contacts Faheem (074 340 2038)		Sunnyside Sportsfield		Langa High School
88		00:10	Faheem (074 340 2038) contacts Emjedi (072 010 9819)		Sunnyside Sportsfield	Ottery 3	
89		00:21	Emjedi (072 010 9819) contacts Faheem (072 922 9617)		Garden Pot Centre 2	Rylands 3	
90		00:31	Faheem (074 340 2038) contacts Hassan (078 169 8347)		Ledger House		Garden City Heights
91		14:32	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			Southfield 1	
92		14:32	Emjedi (072 010 9819) contacts Hassan (078 169 8347)			Southfield 1	
93		23:34	Najwa P (082 566 7967) contacts Faheem (072 922 9617)		Rylands 1		



Using SCOR: Process elements

D3: Deliver Engineer-to-Order product

- **D3.1: Obtain and respond to RFQ.**
 - Sent a quote to SAPS based on the brief received.
- **D3.2: Negotiate and receive contract.**
 - The SAPS sends a purchase order to the CSIR
- **D3.3: Enter order, commit resources and launch programme.**
 - A project is registered upon receiving the purchase order.
- **D3.4: Schedule installation.**
 - The prosecutor advises the court date when I have to appear as an expert witness.
- **D3.5: Select shipment mode.**
 - Airline
- **D3.6: Route shipment and select carrier.**
 - Book airline ticket

Using SCOR: Process elements

D3: Deliver Engineer-to-Order product

- D3.7: Select carries and rate shipments.
 - Selected the cheapest available flight between Johannesburg and Cape Town.
- D3.8: Receive product from Source or Make.
 - Printed the story board on A0 paper.
- D3.9: Pick product – Not applicable.
- D3.10: Pack product.
 - Placed the printed story board in a tube.
- D3.11: Load product and generate shipping documents
 - I took it with me on the plane.
- D3.12: Ship product.
 - It had an enjoyable flight to Cape Town 😊

Using SCOR: Process elements

D3: Deliver Engineer-to-Order product

- **D3.13: Receive and verify product by customer.**
 - The story board was discussed with the prosecutor and investigator before the trial started
- **D3.14: Install product.**
 - Presented the story board at the High Court in Cape Town
- **D3.15: Invoice.**
 - Sent invoice to SAPS after presenting the story board.

Conclusions

- The final presentation to court was in the form of a story board starting with the time line, then followed by the aerial photograph, the rooms that triggered the various cells ending with the tables, maps and the space-time graph. I subsequently testified in court as an expert witness guiding the court through the presentation and how each element of the story board linked to each other. This approach was very successful in showing the collusion between the accused and state witness to commit the murder.
- Using SCOR as a project management tool when creating the story board gave the project structure and direction.
- I did not use SCOR speak when I spoke to the investigator and the prosecutor, but used it mentally as a guide with regards to what was required to the project (SOURCE), some ideas on the content and how the maps, etc will be created (MAKE) and the format of the product that will be used in court (DELIVER).
- SCOR is a nifty model, no matter how small and simple or large and complex the supply chain is.

Conclusions

- This use of the mapping of time and space as a forensic tool contributed significantly to the guilty verdict and sentencing of the accused, since it corroborated the evidence led by the state witness, thus achieving the first objective. This is clearly illustrated by the judgement delivered by Judge Desai (Desai, 2008:184): [Paragraph] 378. *The cell phone records afford compelling corroboration of the State's case. It supports the evidence of Hendricks in several material respects. Its impact emerges graphically from the evidence of Peter Schmitz, a very competent witness whose evidence was not seriously challenged.* This also indicates that the maps were presented in such a way that it was easily understood by the court thus achieving the third objective.

Conclusions

- With regards to the second objective, the state through the use of the time-line in Figure 1 managed to contradict the evidence given by Accused #1. Accused #1 indicated in her evidence that she took medication on the evening of the 16th. The medication causes heavy sedation and she indicated that she went to bed at around 9 o'clock that evening. Her cellular telephone activity clearly contradicted her evidence since the cellular base station usage indicated that she moved around the house until up to the murder of the deceased as illustrated in the above slides.
- Najwa Petersen was sentenced to 28 years in prison. She lost her appeal is currently carrying out her sentence. Hassan (Accused #2) sentenced for 25 years; Emjedi (Accused #3) for 24 years and Snyders (Accused #4) for 7 years.

- **References:**

- Desai, 2008: Judge Desai's of the High Court of South Africa (Cape of Good Hope Provincial Division) judgement on matter State vs. N Petersen and 3 other, Case No 02/08. The judgement was delivered in the High Court on the 1st of December 2008.

Acknowledgements

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Thank you!



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