The following is the breakdown of schools per town within the municipality:

School name	Location
1. Johnson Nqonqoza High School 2. Aeroville High School 3. Gilbert Xuza Primary School 4. St' Teresa Primary School 5. Nojoli Junior Primary School 6. Nonzwakazi Primary School 7. William Oates Primary School 8. W.G Olivier Primary School 9. Gill Primary School 10. Gill College	Somerset East
1. Cookhouse Primary School 2. Visrivier Primary School 3. Msobomvu Junior Primary School 4. Cookhouse High School	Cookhouse
1. Pearston High School 2. Pearston Primary School 3. Lukhanyiso Primary School	Pearston
1. De Hoop Primary School 2. Lushof Primary School 3. Bracefield Primary School 4. Golden Valley Primary School 5. Hambakuhle Farm 6. Kommadagga Primary 7. Middlewater DRC Primary 8. Verdun 9. Witmos Primary 10. Grootvlakt	Farm Area

Table 8: Crime Statistics for BCRM

CRIME STATISTICS	Somerset East	Cookhouse	Pearston	Total
Crime Category				
Contact Crimes (Against the person)				
Assault with the intent to inflict grievous bodily harm	98	54	38	**190**
Common Assault	91	49	16	**156**
Common Robbery	10	2	4	**16**
Murder	7	6	5	**18**
Attempted murder	7	1	0	**8**
Sexual Offences	33	15	10	**58**
Robbery with aggravating circumstances	24	12	3	**39**
Contact Related Crimes				
Arson	3	0	0	**5**
Malicious damage to property	28	27	15	**70**
Property Related Crimes				
Burglary at non-residential premises	47	13	7	**67**
Burglary at residential premises	124	41	34	**199**
Theft of motor vehicle and motorcycle	10	1	2	**13**
Theft out of or from motor vehicle	16	19	6	**41**
Stock theft	50	44	20	**114**
Crime Detected as result of Police Action				
Illegal possession of firearms and ammunition	1	1	2	**4**
Drug related crime	34	111	32	**177**
Driving under the influence of alcohol or drugs	9	26	0	**35**
Other Serious Crimes				
All theft not mentioned elsewhere	124	68	31	**223**
Commercial Crime	12	3	0	**15**

CRIME STATISTICS	Somerset East	Cookhouse	Pearston	Total
Crime Category				
Shoplifting	12	0	0	**12**
Subcategories of Aggravated Robbery				
Carjacking	2	0	0	**2**
Truck hijacking	0	1	0	**1**
Robbery at residential premises	2	1	0	**3**
Robbery at non-residential premises	4	1	3	**8**
Crime Detected as a Result of Police Action				
Sexual offences detected as a result of police action	0	0	0	**0**
Bank Robbery	0	0	0	**0**
Robbery of cash in transit	0	0	0	**0**
Sexual Offences				
Rape	26	14	9	**49**
Sexual Assault	3	0	1	**4**
Attempted Sexual Offences	3	0	0	**3**
Contact Sexual Offences	1	1	0	**2**
Other Serious Crimes				
Community reported serious crimes	781	517	240	**1538**

Source: SAPS 2019

Crime statistics in the table above indicates the levels of crimes during the period of 2019. The list above indicates crime in terms of frequency from high to low. Common assault, assault with intent to inflict grievous bodily harm, theft and stock theft and other crimes reported by the community seem to be the dominating crimes in all three areas especially in Somerset East. Theft and assault are dominating in Somerset East followed by drug related crimes. Driving under the influence of alcohol and drug related crimes are prevalent in Cookhouse. Crime levels in Pearston are low compared to other towns within the municipality; however, community reported serious crimes are taking a lead in the area.

2.4 INFRASTRUCTURE DEVELOPMENT DIMENSIONS

2.4.1. Water and Sanitation

The Blue Crane Route Municipality is the Water Services Authority (WSA) and the Water Services Provider (WSP). The municipality has achieved marked improvements in both the provision of water and sanitation. The number of households with water on site is almost double the Eastern Cape provincial average. The Blue Crane Route Local Municipality like other municipalities in the country is faced with challenges related to the stagnation and / or decline in national grants allocations. The Municipality received ±R34 million funding from the Department of Water and Sanitation under the Water Services Infrastructure Grant (WSIG) for financial year 2019/2020. This funding was used to construct Pearston WTW and Pearston WWTW phase 3, which is still in progress.

BCRM challenges are high water losses which are 29% during financial year 2019/2020. This is a result of ageing infrastructure, internal pipe leakages at the indigent households and incomplete water metering. The Municipality is currently busy preparing business plans to source funding to reduce these water losses and will be submitted to various relevant sector departments to assist on funding.

BCRM has experienced several challenges with regards to water services of these include the following:

- Pearston obtains its water from boreholes only. The augmented water supply in Pearston ensure that the town has constant and sustainable water supply. However, under the project to augment Pearston water supply, out of five (5) boreholes, two boreholes were not functional due vandalism, theft, lack of electrical connection and budget constraints and therefore a follow up project has been initiated to complete phase two of water supply in Pearston. Pearston does not have surface water and entirely relies on borehole water, this means that the water supply in Pearston is dependent on underground water to abstract the water and a MIG funding for a bulk water supply is being sourced from CoGTA and DWS. BCRM is sourcing funding to drill boreholes (2x) to augment the water supply.
- Somerset East Water is obtained from surface water that is seasonal and rainfall dependent, as well as water from the Orange/Fish Irrigation Scheme. The town is dependent on the only reliable source, being the Orange/Fish Canal supply, which is utilised by various farmers and other water consumers. BCRM is sourcing funding to drill boreholes (2x) to augment the water supply.
- Since Cookhouse was administered by the old Transnet, all assets and rights still reside with Transnet. The town is dependent on water from the Orange/Fish Irrigation Scheme and has no surface or borehole sources. The present water supply to the town is not reliable, and a pipeline is required from the Orange-Fish Scheme / canal to secure sustainable water to the town. A project is

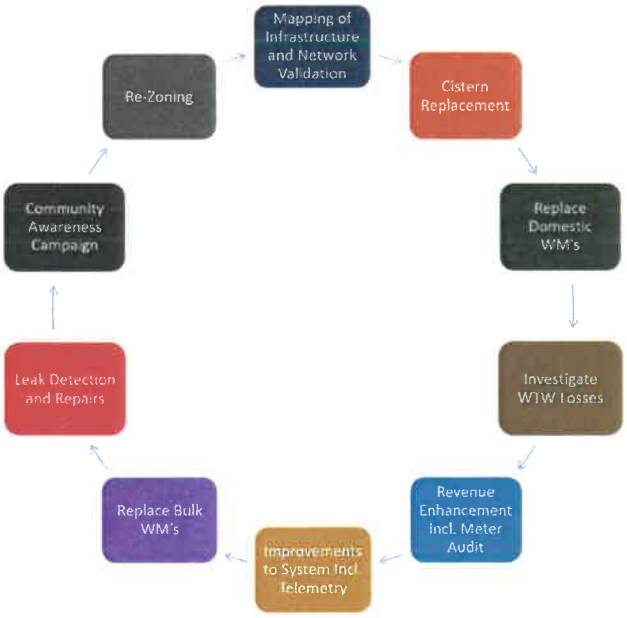
in progress for Bulk water supply to Cookhouse, anticipated to be complete by FY2021/2022. BCRM is sourcing funding to drill boreholes (2x) to augment the water supply.

Pearston is the only town in BCRM that depends fully on ground water for human consumption and agricultural activity, which is one of the drivers of the economy in the area.

The low inland rainfall results in sporadic droughts consequently drying up supply boreholes to towns and villages. The water quality during these periods deteriorates to levels that are unsafe for human consumption. Because of water being a scarce resource in Pearston, there are competing demands between servicing the community and servicing agricultural production.

Bulk water services in the BCRM are under pressure due to overloading or high demand (needs upgrading) and the lack of on-going maintenance due to inadequate budget provision for Operation and Maintenance. BCRM does not have a Water Services Development Plan (WSDP) that is a strategic document that guides the water business.

The BCRM launched a Water Conversation and Demand Management project or water loss audit project to establish non-revenue water, water leaks which contribute greatly to water losses. The following tasks were also done under the project:



The project has the following successes:

- Domestic Water Meters are to be replaced every 7 to 10 years;
- Bulk water meter to be replaced every 5 years;

- All Domestic users have received a Water Meter;
- All Masakhane users are equipped with a functioning standpipe;

2.4.1.1 Construction of Pearston Water Treatment Works (1.5 Ml/day)

The Pearston is solely dependent on boreholes, the chlorination room used was bot effective and the water produced did not meet SANS 241 standards. There was a need to construct a conventional WTW to ensure the water supplied to communities is fit for use. The project entailed construction of 1.5 Ml/day WTW in Pearston. The project scope entails:

- Existing Services;
- New Infrastructure:
  - Security Fencing
  - Platform for Water Works
  - Sludge Ponds
  - Pipework – Water & Sewers
  - Roadworks
  - Building Works
  - Mechanical Works
  - Other Services

2.4.1.2 Augmentation of Cookhouse Bulk Water Supply Phase 2B

Phase 2B of the Augmentation of the Cookhouse Bulk Water Supply Scheme, consists of an original total length of 2.7 kilometres of 315 mm diameter, class 12, uPVC pipe with all the associated chambers for air valves, scour valves and isolating valves.

Table 9: Major Predominant Dams in BCR

MAJOR DAM	MAJOR RIVER	MUNICIPALITY	USE
• Van Der Walt Dam • Bestershoek Dam • Cookhouse Dam • Lake Bertie • Berg Dam	ORANGE RIVER via FISH RIVER INTO SUNDAYS RIVER	BLUE CRANE	DOMESTIC & IRRIGATION

The table overleaf illustrate the rainfall figures per town as captured and recorded by the South Weather Services.

Table 10: Water and Sanitation Provision

BASIC SERVICE / INFRASTRUCTURE	BLUE CRANE ROUTE AREA (STATSSA 2001)	BLUE CRANE ROUTE AREA (STATSSA 2011)	%	GROWTH % p.a.	BLUE CRANE ROUTE AREA (CS 2016)	%
Total number of households	**9 595**	**9 761**		**1.7%**	**9876**	
Sanitation	9 470	9 760		3.06%		91.2
Flush toilets	4439	7856	80.5	7.7	8731	88.4
Flush septic tank	390	395	4.0	0.1	-	-
Chemical	244	25	0.3	-9.0	12	0.1
VIP	127	83	0.9	-3.5	-	-
Pit latrines without ventilation	752	327	3.4	-5.7	403	4.1
Bucket latrine	1921	277	2.8	-8.6	286	2.9
None	1597	617	6.3	-6.1	347	3.5
Other		180	1.8	-	-	-

Water – Access to piped water	**8 530**	**9 740**		**12.4%**	**9003**	**91.2**
Household	2289	5022	51.5	11.94	-	-
In yard	5027	3903	40.0	-2.24	-	-
Community stand <200 m	526	323	3.3	-3.86	-	-
Community Stand >200m	688	172	1.7	-7.50	-	-
No access to piped (tap) water		340	3.5	-	873	8.8
Water – Source of water		**9 760**				
Water scheme operated by municipality or other WSP		7830	80.2	-	-	-
Borehole	128	955	9.8	64.6	-	-
Spring	5	30	0.3	50.0	-	-
Rain tank	196	275	2.8	4.0	-	-
Dam/stagnant water	207	317	3.2	5.3	-	-
River/stream	201	53	0.5	-7.4	-	-
Water vendor	17	31	0.3	8.2	-	-
Water Tanker		132	1.4	-2.7	-	-
Other	180	137	1.4	-	-	-

***Source**: StatsSA 2011 and CS 2016*

The level of waterborne system/connection shows a growth of 7.7% p.a. over a period of 10 years (2001 to 2011). The number of bucket latrines reflects a negative growth of -8.6% p.a. over the same period which in effect means that bucket toilets have been reduced by 85.6% from 20.3% in 2001 to 2.8% in 2011. The standard and provision of

sanitation and water shows a significant improvement from 2001 to 2011. The BCRM has a total of 8929 houses which has access to drinking water and basic level of sanitation. Three hundred and fifty (350) households which make (4%) of the households are people living in the informal settlements, their access to sanitation is in a form of bucket system and have access to drinking water in a form of community stand pipes which are within 200m walking distance from the households.

Statistics on Water and Sanitation Provision:

Water and Sanitation Provision

Cookhouse (Ward 1 & 6)

No. of House Holds Serviced = 1546
Bongweni 3 – 523
Bongweni 4 – 653
Business – 22
Cradock Place – 57
Newtown – 153
Station – 138

Pearston (Ward 4)

No. of House Holds Serviced = 1944
Pearston Town – 1022
Nelsig – 433
Khanyiso – 489

Somerset East (Wards 2, 3 & 5)

No. of House Holds Serviced = 5068
Somerset East Town – 971
Aeroville – 1174
New Brighton – 323
Old Location – 354
Glen Avon – 23
Mnandi – 1169
Chris Hani – 416

Francisvale – 245

Vosloodal – 39

West View – 354

2.4.2 Electricity and Energy

- Blue Crane Route is the licensed distributor of electricity and buys in bulk for distribution within its approved area of supply. Services in the rural areas are rendered by the municipality.
- The electrical network is ±45-year-old, and has passed its lifespan, which is unreliable and causes a lot of outages in rural and urban areas;
- Notified Maximum Demand (NMD) from ESKOM, is 18MVA. This needs to be increased, to cater future development within BCRM;
- Electrical master plan needs to be done to ensure electricity within BCRM is reliable, cost estimated, and caterers for future development;
- SDF and SPLUMA needs to be finalised in order to deal with proper development nodes within BCRM and in order to have proper electricity reticulation plan for such developments.

Table 11: Energy for Lighting

BASIC SERVICE / INFRASTRUCTURE	BLUE CRANE ROUTE AREA (STATSSA 2001)	BLUE CRANE ROUTE AREA (STATSSA 2011)	%	GROWTH % p.a.	BLUE CRANE ROUTE AREA (CS 2016)	%
Total number of households	**9 595**	**9 761**			**9876**	
Energy (Access)	9 470	9 760		3.06%		
Electricity	6 161	8 486	86.9	3.8	8759	88.9
Gas	23	17	0.2	-2.6		-
Paraffin	2 135	306	3.1	-8.6		-
Candles	1 057	876	9.0	-1.7		-
Solar	34	36	0.4	0.6		-
Other	60	0	0.0	-10.0	1247	12.1
None		39	0.4			-

Source: StatsSA 2011 and Community Survey 2016

Access to electricity has improved from 65.1% in 2001 to 86.9% in 2011. Community survey conducted in 2016 also shows a slight increase from 86.9% to 88.9%. The dependency on paraffin and candles was reduced from 22.5% and 11.2% in 2001 to 3.1% and 9.0% in 2011.

Electricity Supply:

No. of HH supplied with electricity

Cookhouse (Ward 1&6) = 1614

Bongweni 3 – 523

Bongweni 4 – 653

Business – 22

Cradock Place – 57

New Town – 153

Station – 138

Noxolo Kiviet (informal settlements) – 68

Pearston (Ward 4) = 2027

Pearston Town – 1022

Nelsig – 433

Khanyiso – 489

Millenium Park – 83

Somerset East (Ward 2, 3 & 5) = 5131

Somerset East – 971

Aeroville – 1174

New Brighton – 323

Old Location – 354

Glen Avon – 23

Mnandi – 1169

Chris Hani – 416

Francisvale – 245

Vosloodal – 39

Westview – 354

Nkqantosi – 63

BCRM also supply farming community that is >100km radius. The current backlog in those different lines are the rotten / old network, with falling poles due to its life span. Regular routine maintenance is done but due financial constraint this exercise is not improving in most areas but in some areas, it is improving. There are constant power failures occurring in those lines. The municipality had approved ring-fence of basic charge to cater for operation and maintenance of electrical network, this will be utilised during FY2020/2021.

Electricity is supplied to all schools, hospital (Andre Vosloo and Somerset East correction services.

Rating of quality of municipal services	2011		2016	
	Number	Percent	Number	Percent
Water (good)			6 437	65.9
Electricity supply (good)			5 994	65.3
Sanitation (good)			5 169	55.3
Refuse removal (good)			7 439	77.7

Ratio	2011		2016	
	Number	Percent	Number	Percent
Dependency ratio		56.7		64.7
Poverty head count ratio		0.0		0.0
Sex ratio		96.5		97.9

2.4.3 Roads and Stormwater

SBDM appointed agents to assist in road classification, condition assessment, and audit on road furniture. A program called Rural Road Asset Management System is being used to analyse the road network. The total municipal road network is 169,341km. BCRM roads network information is as follows, the source of information is RRAMS.

Table 12: Road length by surface type

Municipal Road Length (km) by Surface Type

Ward	Paved Roads				Unpaved Roads				Other	Total	%
	Flexible	Concrete	Block	Sub-Total	Gravel	Earth	Track	Sub-Total			
Ward 1 (Blue Crane Route)	3.06	0.00	2.48	5.54	6.21	0.47	0.17	6.85	0.00	12.39	7.32
Ward 2 (Blue Crane Route)	20.97	0.00	3.05	24.02	15.63	0.00	0.65	16.28	0.09	40.39	23.85
Ward 3 (Blue Crane Route)	3.92	0.05	4.76	8.73	14.27	0.00	0.17	14.44	0.00	23.17	13.68
Ward 4 (Blue Crane Route)	0.82	0.07	6.02	6.91	35.99	0.10	1.15	37.24	0.00	44.15	26.07
Ward 5 (Blue Crane Route)	9.93	0.00	5.71	15.64	13.80	0.55	0.89	15.24	0.00	30.88	18.23
Ward 6 (Blue Crane Route)	1.85	0.00	1.68	3.53	5.14	0.29	3.98	9.41	5.43	18.37	10.85
Total	**40.55**	**0.12**	**23.70**	**64.37**	**91.04**	**1.41**	**7.01**	**99.46**	**5.52**	**169.35**	
%	**23.94**	**0.07**	**13.99**	**38.01**	**53.76**	**0.83**	**4.14**	**58.73**	**3.26**		

Ward	Paved Roads				Other	Total	%
	Flexible	Concrete	Block	Sub-Total			
Ward 1 (Blue Crane Route)	3.06	0.00	2.48	5.54	0.00	12.39	7.56
Ward 2 (Blue Crane Route)	20.97	0.00	3.05	24.02	0.00	40.30	24.60
Ward 3 (Blue Crane Route)	3.92	0.05	4.76	8.73	0.00	23.17	14.14
Ward 4 (Blue Crane Route)	0.82	0.07	6.02	6.91	0.00	44.15	26.95
Ward 5 (Blue Crane Route)	9.93	0.00	5.71	15.64	0.00	30.88	18.85
Ward 6 (Blue Crane Route)	1.85	0.00	1.68	3.53	0.00	12.94	7.90
Total	**40.55**	**0.12**	**23.70**	**64.37**	**0.00**	**163.83**	
%	**24.75**	**0.07**	**14.47**	**39.29**	**0.00**		

Ward	Unpaved Roads				Other	Total	%
	Gravel	Earth	Track	Sub-Total			
Ward 1 (Blue Crane Route)	6.21	0.47	0.17	6.85	0.00	12.39	7.32
Ward 2 (Blue Crane Route)	15.63	0.00	0.65	16.28	0.09	40.39	23.85
Ward 3 (Blue Crane Route)	14.27	0.00	0.17	14.44	0.00	23.17	13.68
Ward 4 (Blue Crane Route)	35.99	0.10	1.15	37.24	0.00	44.15	26.07
Ward 5 (Blue Crane Route)	13.80	0.55	0.89	15.24	0.00	30.88	18.23
Ward 6 (Blue Crane Route)	5.14	0.29	3.98	9.41	5.43	18.37	10.85
Total	**91.04**	**1.41**	**7.01**	**99.46**	**5.52**	**169.35**	
%	**53.76**	**0.83**	**4.14**	**58.73**	**3.26**		

Table 13: Road class

Municipal Road Length (km) by Road Class

Ward	Class 1		Class 2		Class 3		Class 4		Class 5		Total	%
	Paved	Unpaved	Paved	Unpaved	Paved	Unpaved	Paved	Unpaved	Paved	Unpaved		
Ward 1 (Blue Crane Route)	0.00	0.00	0.00	0.00	0.00	0.00	10.30	0.00	4.74	6.84	21.88	**10.89**
Ward 2 (Blue Crane Route)	0.00	0.00	0.00	0.00	0.00	0.00	7.69	0.00	17.12	16.37	41.18	**20.49**
Ward 3 (Blue Crane Route)	0.00	0.00	0.00	0.00	0.00	0.00	3.27	0.57	5.46	13.86	23.16	**11.52**
Ward 4 (Blue Crane Route)	0.00	0.00	0.00	0.00	0.00	0.00	3.57	1.32	3.35	35.92	44.16	**21.97**
Ward 5 (Blue Crane Route)	0.00	0.00	0.00	0.00	0.00	0.00	0.75	1.02	14.88	14.22	30.87	**15.36**
Ward 6 (Blue Crane Route)	0.00	0.00	0.00	0.00	0.00	0.00	21.35	0.00	3.53	14.85	39.73	**19.77**
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**46.93**	**2.91**	**49.08**	**102.06**	**200.98**	
%	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**23.35**	**1.45**	**24.42**	**50.78**		

Table 14: Municipal Road Length by Authority

Municipal Road Length (km) by Authority

Ward	National	Provincial	Municipal	Total	%
Ward 1 (Blue Crane Route)	54.26	488.77	12.37	555.40	19.72
Ward 2 (Blue Crane Route)	12.81	0.79	40.39	53.99	1.92
Ward 3 (Blue Crane Route)	0.69	0.00	23.16	23.85	0.85
Ward 4 (Blue Crane Route)	96.02	619.17	44.15	759.34	26.97
Ward 5 (Blue Crane Route)	0.71	0.00	30.88	31.59	1.12
Ward 6 (Blue Crane Route)	114.44	1 258.83	18.38	1 391.65	49.42
Total	**278.93**	**2 367.56**	**169.33**	**2 815.82**	
%	**9.91**	**84.08**	**6.01**		

Source: RRAMS

Table 15: Road condition by ward

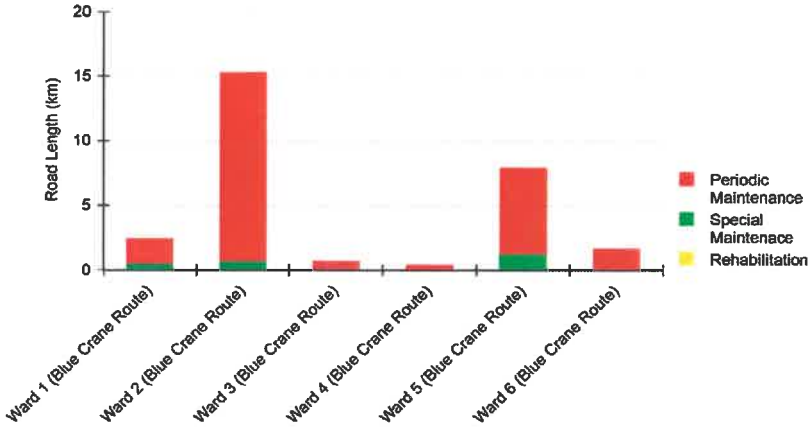
Municipal Road Condition Length (km) by Ward

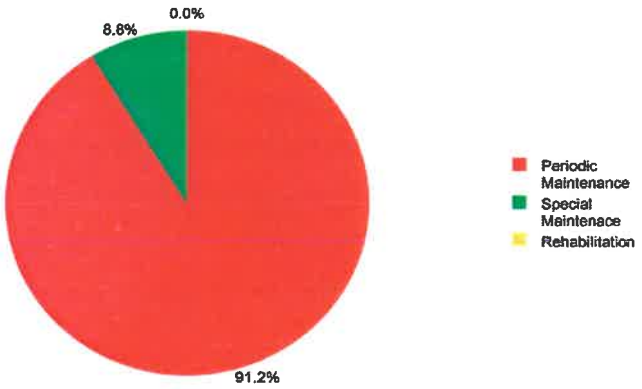
Ward	Very Good	Good	Fair	Poor	Very Poor	Total	%
Ward 1 (Blue Crane Route)	0.00	3.32	2.22	0.00	0.00	5.54	**8.63**
Ward 2 (Blue Crane Route)	0.32	13.47	10.02	0.22	0.00	24.03	**37.42**
Ward 3 (Blue Crane Route)	0.00	5.89	2.78	0.06	0.00	8.73	**13.60**
Ward 4 (Blue Crane Route)	0.91	4.93	1.08	0.00	0.00	6.92	**10.78**
Ward 5 (Blue Crane Route)	0.00	6.06	8.63	0.95	0.00	15.64	**24.36**
Ward 6 (Blue Crane Route)	0.33	0.99	2.03	0.00	0.00	3.35	**5.22**
Total	**1.56**	**34.66**	**26.76**	**1.23**	**0.00**	**64.21**	
%	**2.43**	**53.98**	**41.68**	**1.92**	**0.00**		

Table 16: Road maintenance by ward

Municipal Road - Needs by Ward

Ward	Rehabilitation		Special Maintenance		Periodic Maintenance		Total
	Length (km)	% of District	Length (km)	% of District	Length (km)	% of District	
Ward 1 (Blue Crane Route)	0.00	0.00	0.49	20.08	1.95	79.92	2.44
Ward 2 (Blue Crane Route)	0.00	0.00	0.70	4.58	14.58	95.42	15.28
Ward 3 (Blue Crane Route)	0.00	0.00	0.06	8.45	0.65	91.55	0.71
Ward 4 (Blue Crane Route)	0.00	0.00	0.00	0.00	0.41	100.00	0.41
Ward 5 (Blue Crane Route)	0.00	0.00	1.25	15.78	6.67	84.22	7.92
Ward 6 (Blue Crane Route)	0.00	0.00	0.00	0.00	1.67	100.00	1.67
Total	**0.00**		**2.50**		**25.93**		**28.43**
% of Treatment	**0.00**		**8.79**		**91.21**		





According to the latest version of the Sarah Baartman/ Cacadu Intergraded Transport Plan (2011/12), the maintenance of roads throughout the entire Blue Crane Route Municipal Area is inadequate due to lack of funding. Urgent attention and funding are required. The upgrading of gravel roads to surfaced standard (and with suitable stormwater drainage) in residential areas is one of the key priorities.

As much as the BCRM is on target in implementing its strategy (Upgrading of Gravel Roads), the objective and strategies for facilitation of an efficient and effective public transport system are still lacking (Cacadu ITP 2011/12).

⇨ **Road Infrastructure and Transport Modes**

Table 17: Road Infrastructure and Transport Modes

BASIC SERVICE / INFRASTRUCTURE	Municipal Roads	Dept of Roads
Transport Modes	StatsSA 2001	%
On foot	14348	41.0
By bicycle	177	0.5
By motorcycle	36	0.1
By car as a driver	848	2.4
By car as a passenger	1093	3.1
By minibus/taxi	979	2.8
By bus	195	0.6
By train	26	0.1
Other	41	0.1
Not applicable	17264	49.3
	35007	

⇨ **Non-motorised transport**

a. Bicycle transport & facilities

There is a minimal provision for bicycle travel within the BCR. Cyclists share the travelled way with motorized traffic. Cycling, however, is not a prevalent form of transport in the BCRM but is predominantly a creational sport activity.

b. Sidewalks and walkways

Visual assessment was done on the primary transport corridors in the BCR which indicated a dire need for the provision of sidewalks and walkways. Given the limited income profile of the rural population, and the proximity of residential townships to the business nodes in most of the towns, walking is one of the main transport modes in the BCR. Based on the above, sidewalks and a pedestrian bridge have been constructed from Somerset East town to Aeroville. In Somerset East town, sidewalks have been constructed in Nojoli and Charles Streets.

The length of sidewalks and walkways constructed is as follows:

- Length of sidewalks (km)
  From Somerset East (Nojoli Street) to Aeroville – 2.8 km
  Nojoli Street – 1.7 km

- Length of walkways (km)
  Aeroville – 450 m
- Length of the pedestrian bridge constructed from Somerset East to Aeroville is 35m long.

⇨ **Scholar transport**

Most scholars walk to school. In the urban areas, more than 80% walk, whilst this percentage is slightly lower in the rural areas, with a higher percentage using public transport (bus and taxi) than in the urban areas. This can probably be attributed to the fact that scholar transport contracts are in place in some of the rural areas.

Table 18: Modal Split for Scholars per School Type (Urban/Rural)

Mode	Percentage of Scholars per School Type	
	Urban (within town or township)	Rural
Walking	80.2	69.1
Car	5.6	0.2
Bus	5.9	14.5
Taxi	5.9	11.3
Bicycle	1.1	1.5
Other	1.4	3.4
Total	100.0	100.0

Source: *Integrated Transport Plan*

⇨ **Public transport**

- Taxi Services

There are nine registered taxi associations in the BCR. The OLAS indicates a registered membership of 749 persons, who operate a total of 473 vehicles that have operating licenses and are operating legally.

Table 19: Taxi Associations and Membership

Association name	Abbreviated name	Claimed numbers	Members with OL's	Vehicles
Norwich Long Distance Taxi association	NOLDTA (Somerset East)	238	58	102

Source: *Integrated Transport Plan*

There is one registered taxi association in the BCRM. The OLAS indicates a registered membership of 238 persons, who operate a total of 102 vehicles that have operating licenses and are operating legally. BCRM has a functional transport forum which is championed by the Portfolio Head of the Technical Services Department. This forum is co-ordinated by the Department of Public Works for the implementation of projects in the area. Councilors and farmers also form part of the steering committee where all roads related projects for farmers and national roads are addressed as well as the needs of the community. The forum sits by-monthly due to the nature of projects implemented in the area.

Table 20: Taxi facilities in the BCR

Municipality	Formal	Informal	Stops
BCR	2	1	0

Source: *BCR Integrated Transport Plan*

Table 21: Summary of taxi routes operated in BCRM

Municipality	Local/ Commuter	inter-town (within CDM	Inter-town (Outside CDM)	Total
Blue Crane Route	6	1	6	13

Source: *BCR Integrated Transport Plan*

- **Bus Services**

No subsidized bus services are provided within the Sarah Baartman District. Bus services in the district are therefore limited to long distance bus operations on the main routes through the district, and one private operator who is based in Jansenville and own seven buses that run from Jansenville via Uitenhage to Port Elizabeth three times per week. The routes stops and schedule for the long-distance buses that operate within the Sarah Baartman are indicated in table below.

Long distance buses stop at the entrance to Cookhouse Caltex Garage off the N10. These informal facilities at the Subway service station are in a fair condition.

- Somerset East

Long distance buses stop at the taxi rank on the corner of Francis Street and Worcester Street. There is no shelter available.

Table 22: Long Distance Bus Operations

Operator	Route	Road	Stops
City to City / Translux	Durban / Cape Town	N2	Grahamstown, PE, Humansdorp, Storms River
	Cape Town / Durban	N2	Storms River, Humansdorp, PE, Grahamstown
	PE / Johannesburg	N2, R67	Grahamstown
	Johannesburg / PE	R67, N2	Grahamstown
	Johannesburg / Cape Town	N9(R57), R61	Graaff-Reinett, Aberdeen
	Cape Town / Johannesburg	R61, N9(R57)	Aberdeen, Graaff-Reinett
Greyhound	Durban / Cape Town	N2	Grahamstown, PE, Humansdorp, Storms River
	Cape Town, Durban	N2	Storms River, Humansdorp, PE, Grahamstown
	PE / Johannesburg	N2, R67	Grahamstown
	Johannesburg / PE	R67, N2	Grahamstown
Intercape	PE / Johannesburg	N2, N10	Cookhouse
	Johannesburg / PE	N10, N2	Cookhouse
	George / Johannesburg	N9(R57)	Willowmore, Aberdeen, Graaff-Reinett
	Johannesburg / George	N9(R57)	Graaff-Reinett, Aberdeen, Willowmore
	PE / Cape Town	N2	Humansdorp, Storms River
	Cape Town / PE	N2	Storms River, Humansdorp
SA Roadlink	Durban / Cape Town	N2	Grahamstown, PE, Humansdorp, Storms River
	Cape Town / Durban	N2	Storms River, Humansdorp, PE, Grahamstown
	PE / Johannesburg	N2, N10	Cookhouse
	Johannesburg / PE	N10, N2	Cookhouse
DMJ Tours	Umtata / Cape Town	R63, N9(R57), R61	Cookhouse, Somerset East, Pearston, Graaff-Reinett, Aberdeen
	Cape Town / Umtata	R61, N9(R57), R63	Aberdeen, Graaff-Reinett, Pearston, Somerset East, Cookhouse

Source: ITP data surveys 2010

Table 23: Long Distance Bus Operations per Route/corridor

Route/ Corridor	Average No of Buses/ day (both directions)
Corridor 2 (PE, Cookhouse, Johannesburg)	**4**

- **Bus Transport Infrastructure**

Long distance bus operators operate from areas close to a service station where parking is available for persons who are dropping off or picking up passengers, and where passengers can disembark during stop overs to use cafeteria facilities.

Long distance buses stop at the Caltex Garage off the N10 at the entrance to Cookhouse. These informal facilities at the Subway service station are in a fair condition.

⇨ **Maintenance of Roads**

The maintenance of roads throughout the entire Blue Crane route Municipal Area (urban and rural) is not ideal due to the lack of enough funding. Urgent attention and funding are needed to address this problem. The upgrading of gravel roads to surfaced standard (and with suitable storm water drainage) in residential areas is one of the key priorities.

There is a huge challenge within the BCRM of no suitable quarry available to source the materials in a commercial quarry for the maintenance of roads. Priority needs to be given to obtaining a licensed quarry where suitable materials will be obtained.

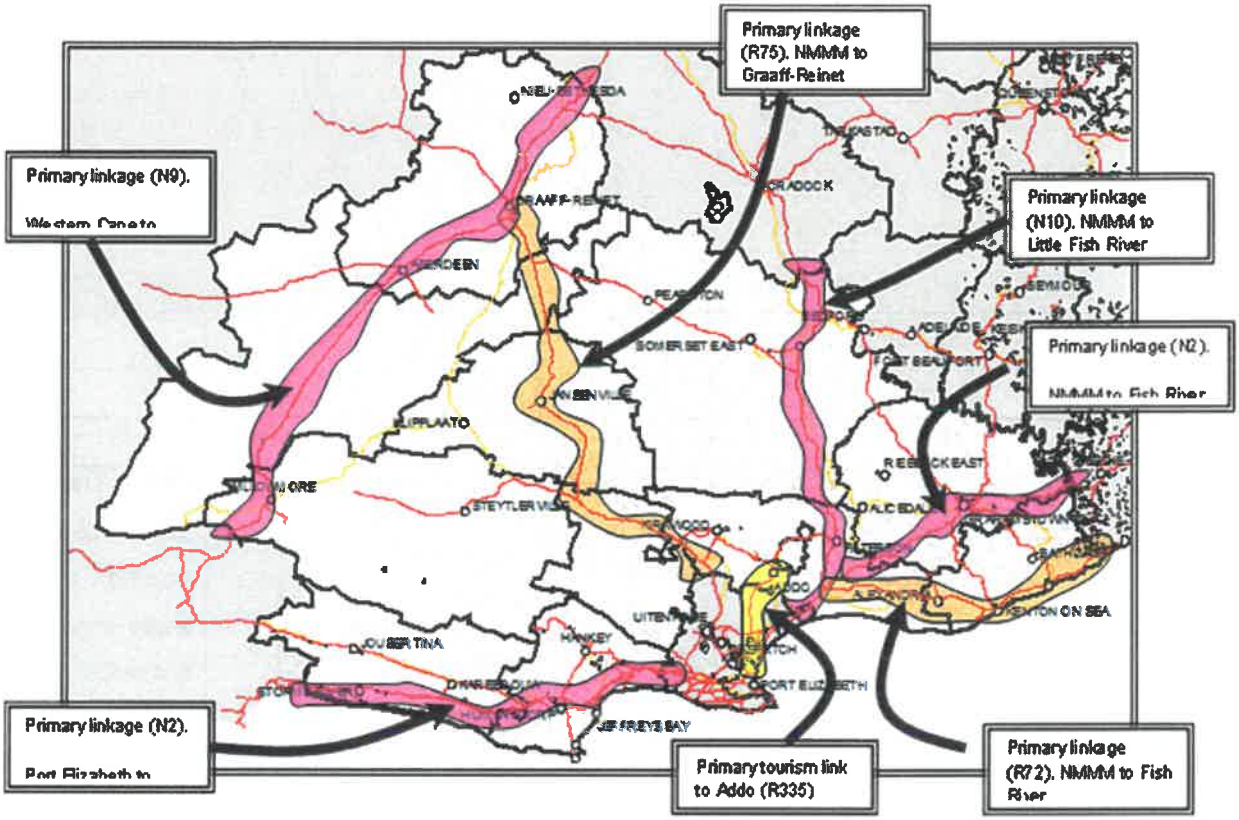
The IDP recognises that its adopted strategy for the upgrading of gravel roads is predominantly on target, but that its objective and strategies for the facilitation of an efficient and effective public transport system are lacking.

BCRM does have Rural Roads Asset Management (RRAMS) and information pertaining to BCRM was sent and a system was provided. The Rural roads are currently managed by the DRW&I. BCRM is planning a phase in approach regarding the maintenance of these roads. Paving of streets, is being prioritised as a surface type due to its low maintenance and sustainability.

⇨ **Roads and stormwater master plan**

Weightings can be assigned to each of these factors, from which an algorithm is then generated, and prioritization can then be done. Prioritization can therefore be determined for various scenarios, depending on the focus/aim of the exercise.

Map 4: Significant Primary Linkages



⇨ Rail Infrastructure

The rail network that used to be a vibrant backbone to the economy of the District has been neglected and is in a state of dilapidation resulting in the collapse of towns like Cookhouse (Blue Crane Route).

The ECDOT recently completed a 10 Year Rail Plan which included a status quo assessment of rail infrastructure in the Eastern Cape. The following services are provided on the branch lines in the BCR:

Load: Track warrant

Lines: Cookhouse – Blaney

The following low axle load branch lines have been abandoned for a number of years already and a lack of maintenance has led to a serious decline in the line infrastructure, invasions of the reserves and vandalization of the building structures.

- Cookhouse – Somerset East
- Cookhouse – Fort Beaufort – Blaney branch line

Between Blaney and Fort Beaufort, 11 wagon trains move in each direction at a frequency of 1,3 per day. Between Fort Beaufort and Cookhouse, the frequency drops to half this number. Only freight is transported.

2.4.4 Solid Waste Management

Table 24: Refuse Removal Services

BASIC SERVICE / INFRASTRUCTURE	BLUE CRANE ROUTE AREA (STATSSA 2001)	BLUE CRANE ROUTE AREA (STATSSA 2011)	%	BLUE CRANE ROUTE AREA (CS 2016)	%
Total number of households	**9 595**	**9 761**		**9876**	
Refuse Removal	9 467	9 761	%		%
How often by municipality?					
a) @ least once a week	6351	7842	80.3	8505	86.1
b) Less often	28	51	0.5	37	0.4
How often is refuse bags provided	Once in 3 months	Once in 3 months		Once in 3 months. Each household is supplied with 18 refuse bags during that period.	
Mode Disposal					
i) Communal dumping	59	78	0.8	426	4.3
ii) Own dump	2440	1444	14.8	637	6.4
iii) No disposal	589	195	2.0	258	2.6
Other	0	151	1.5	-	0.1
No of Licensed Landfill sites		3			
No of un-licensed landfill sites		0			

***Source**: StatsSA 2011 and CS 2016*

In 2011, 80.3% of households had access to a weekly refuse removal service as opposed to only 67.1% in 2001.In 2016 it has increased to 86.1.

In BCRM all residential areas, except farms, have access to refuse removal services. There is a fixed schedule for household and business refuse collection. Both household and business refuse are collected once a week while garden refuse is collected at least once in two months, even though there are instances where collection of garden refuse takes longer than the stipulated timeframes due to aging fleet or mechanical breakdowns. During those instances it gets collected once a month. A partnership has been developed with Community Works Programs (CWP) to conduct on-going clean up campaigns and beautification of spots where illegal dumping has been identified. Twenty (20) casuals have been appointed for this financial year for a period of 6 months under the EPWP grant to assist with the cleaning of towns. Since this partnership was formed, there has been a significant reduction

of illegal dumping and in all spots where beautification had been done there is improvement in environmental awareness amongst the residents as they no longer dump on those spots.

2.4.5 Human Settlement

Table 25: Dwelling type and Tenure status

BASIC SERVICE / INFRASTRUCTURE	BLUE CRANE ROUTE AREA (STATSSA 2001)	BLUE CRANE ROUTE AREA (STATSSA 2011)	%	GROWTH % p.a.
Total number of households	9 595	9 761		
Dwelling Type	9 468	9 761		3.10%
House or brick structure on a separate stand, yard or farm	8 219	8 537	87.5	0.39
Mud/Traditional Dwelling	221	64	0.7	-7.10
Flat in block of flats	93	145	1.5	5.59
Town/cluster/semi-detached house (simplex: duplex: triplex)	70	541	5.5	67.29
House/Flat in back yard	92	127	0.2	3.80
Informal shack in yard	317	90	5.2	-7.16
Informal shack not in back yard e.g. in an informal settlement	409	196	1.3	-5.21
Room/flatlet not in back yard but on a shared property	32	7	0.9	-7.81
Caravan or tent	11	4	2.0	-6.36
Private ship/boat/Other	4	50	0.1	115.00
Tenure Status		9 760		
Occupied rent-free		1 760	18.03	
Rented		2 550	26.13	
Owned and fully paid off		4 489	45.99	
Owned but not yet paid off		611	6.26	
Other		350	3.59	
Not applicable		0		

***Source**: StatsSA 2011*

The number of traditional dwellings significantly decreased, by -71%, over the last ten years (2001 to 2011). There has also been a significant decline in both the number of informal shacks in the yard and those not in the back yard since 2001. This could imply that the potential for spontaneous development of informal settlements are limited and that the urban housing demand is more than likely determined by backlogs and population growth factors rather than pressure from urban influx. The high number of rent-free occupations could signify that there is a still a growing need to address the provision of housing for farm workers.

2.4.6 Land Information System

Blue Crane Route Municipality has entered an exploratory interaction with Sarah Baartman Municipality in order to acquire the expertise knowledge, resources and expertise that currently exist at District level which is not available at Local Municipality in this instance. The exploratory discussions are intended to design land information system that will assist the municipality to effectively manage its land resources focusing on;

a. Location
b. Services required
c. Land use schemes applicable
d. Zoning and valuation details

This will ensure that the provision of land resources to the local population will be manageable. The use of GIS will allow users to graphically display information. This will create understanding as trends and key areas are more easily identified and managed.

The system will assist the municipality to keep track of all properties within its area of jurisdiction in order to ensure that;

i. Proper income is generated from these properties
ii. Services need to be rendered to these properties
iii. Consumers of these services are located at these properties and are correctly billed.
iv. Is compliant with relevant legislation

The intervention will address the following key deliverables:

a. Land management

To allow landowners and users to access all the information required on land parcels. This will provide exceptional results for speeding up decision making as well as making these decisions far more effective.

b. Town planning

This will assist in the administration and management of town planning with regards to consent use, consolidations, subdivisions, encroachment and a myriad of other related operations.

c. Valuation

Valuation of erven within their jurisdiction and ensuring that valuation roll is compiled and edited

2.4.6.1 Policy and bylaw formulation

The outcome of this process will influence policy and bylaw formulation on land use options and the following:

a. Housing
    i. low cost housing
    ii. Gap housing
    iii. Social Housing
    iv. High density housing
    v. Farm workers housing
    vi. Middle to high cost housing
    vii. Transit zones to deal with informal settlement
    viii. Land invasion

b. Private developments
    i. Industrial and light industrial development
    ii. Business (Small, Medium and Big Business) Development

c. Agriculture
    i. Support for development of Emerging Agricultural Sector
    ii. Support for sustainability of Commercial Agricultural Activities

d. Public open spaces
    i. Proper utilization of public open spaces to alleviate the threats of illegal invasions
    ii. Development of parks and other public facilities

e. Cemeteries
    i. Proper location and utilization of cemeteries

f. Conversation areas
g. Alignment with the migration plans of the municipality

2.4.6.2 Land audit

The need for a complete and accurate GIS cadastral database has never been greater than the present time when municipalities must compile municipal valuation rolls in terms of the new Municipal Property Rates Act (MPRA). A registered cadastral dataset contains only properties that are registered at the office of the Registrar of Deeds (Deeds Office) and differs from the Surveyor General (SG) cadastral dataset which contains all properties approved at the SG Office irrespective of whether the property is registered or not. A registered cadastral dataset should be compiled by using information from both the SG Office and the Deeds Office.

The municipality will conduct a comprehensive land audit during next financial year and will cover the following aspects:

a. Identify vacant public land parcels owned by the Blue Crane Route Municipality and where possible by other government departments. This will be done through a comparative analysis with other databases currently available namely;
    i. Provincial land audit study
    ii. District land audit study which consists of GIS based information regarding land in public ownership.
    iii. Various studies commissioned by the municipality.
b. Identify appropriate and sustainable uses for the land parcels, based on;
    i. Public policy ranging from National Spatial Development Plan, Provincial and local SDF.
    ii. National, Provincial, District and Municipal Planning Policies.
    iii. The needs for various uses as expressed by communities and articulated in planning documents.
    iv. The bio-physical suitability of the land;
    v. The serviceability of the land;
    vi. Legal constraints specifically related to leases on the land
    vii. Constraints as a result of land claims and other similar government sponsored programs. The current land claims fall outside the municipal development zone and delays in resolving them does not hinder municipal development plans.
c. A desktop study of relevant policy documents to guide the allocation of proposed land uses to vacant public land parcels.
d. An analysis of the suitability of the land parcels identified above for development. The analysis is to consider the location, size. Topography, ownership, geo-technical conditions (at a superficial level), agricultural potential, accessibility, availability of civil services to the sites and any other relevant constraints or opportunities namely the presence of valuable biodiversity resources, the conservation status of the land holding, and any leases registered against the land parcel.

Overview of Town Infrastructures

Cookhouse

Description	Yes	No
Low cost housing settlements	X	
Formal housing suburbs	X	
Central business district / area		X
Light industrial area		X
Heavy industry		X
Hospitals / clinics	X (Clinic)	
Petrol stations	X	
Bulk fuel depots		X
Schools	X	
Large Shopping Centres		X
Railway lines	X	
National roads (e.g. N2)	X	
Airfields		X

Pearston

Description	Yes	No
Low cost housing settlements	X	
Formal housing suburbs	X	
Central business district / area		X
Light industrial area		X
Heavy industry		X
Hospitals / clinics	X (Clinic)	
Petrol stations	X	
Bulk fuel depots		X
Schools	X	
Large Shopping Centres		X
Railway lines		X
National roads (e.g. N2)	X	
Airfields		X

Somerset - East

Description	Yes	No
Low cost housing settlements	X	
Formal housing suburbs	X	
Central business district / area	X	
Light industrial area	X	
Heavy industry		X
Hospitals / clinics	X	
Petrol stations	X	
Bulk fuel depots		X
Schools	X	
Large Shopping Centres	X	
National roads (e.g. N2)	X	
Airfields	x	

2.4.7 SERVICES RENDERED TO SECTOR DEPARTMENTS

- Adries Vosloo Hospital is supplied with water, sanitation, and electricity. It is linked in the Hospital Street access road and R63 main road.
- Correctional Services is supplied with water, sanitation, electricity and access road.
- Schools receive the basic services (water, sanitation, access road and electricity). The schools are as follows:

	Somerset East		Cookhouse		Pearston		Farm Areas
1	Johnson Nqonqoza High School	1	Cookhouse Primary School	1	Pearston High School	1	De Hoop Primary School
2	Aerovill High School	2	Visrivier Primary School	2	Pearston Primary	2	Lushof Primary School
3	Gilbert Xuza Primary School	3	Msobomvu Junior Primary School	3	Lukhanyiso Primary	3	Bracefield Primary School
4	St. Teresa Primary School	4	Cookhouse High School				
5	Nojoli Junior Primary School						
6	Nonzwakazi Primary School						
7	William Oats Primary School						
8	W.G. Olivier Primary School						