

Local Government & Community Development Department



Punjab Cities Program

Gap Analysis

of

Municipal Services infrastructure & service delivery

in

Muridke City



Punjab Municipal Development Fund Company

Section-1 City Background

1. Tehsil Status

Muridke is a city and headquarters of Muridke Tehsil in Sheikhpura District. It is situated at an elevation of 216 m (710 ft) and is situated on the Grand Trunk Road. It became the headquarters of the newly created Muridke Tehsil in the year 2005.

1.1. Location

The city of Muridke is located at 74°-15' East and 31°-48' North at Main GT Road (N-5) at a distance of 33 km from Sheikhpura at its north east, 28 km from Lahore at its north and 40 Km from Gujranwala at its south. It is a railway station on Lahore Rawalpindi section and is connected with entire province through rail and road links.

1.2. Climate

a) Weather

The city has extremes of climate. The summer season starts from the month of April and continues till October. May and June are the hottest months with day temperature usually ranging from 39 to 45 degree centigrade. The winter season begins from the month of November and continues till March. January is the coldest month with a mean minimum temperature of 5 degree centigrade. Dust storms occur occasionally during the hot season relieving temporarily the intensity of heat. Towards the end of June monsoon conditions appear and during the following two and half months spell of rainy season alternates with intervals of sultry weather.

b) Rain fall

Most of rain falls in July, August and September during summer months and in January, February and March during the winter months. The average rain fall in the district is about 635 millimeters.

1.3. Demographic status

The District Population Census Reports of the year 2017 have not been published by Government of Pakistan as yet. However the provisional results published by Government for census 2017 for the Punjab Cities show the population of 166,652 persons for Muridke city. As per land scan process conducted by PMDFC Muridke city had the population of 235659 in the year 2017 with an annual growth rate of 2.56 % and it is expected to rise to 303,433 persons in the year 2027.

1.4. Data collection

The formats for the data collection about the municipal services were designed by PMDFC and sent to the Municipal Committee. After receipt of these formats from MC, the municipal committee was visited to;

- 1) Verify and correct the data provided by the municipal committee.
- 2) Update the descriptive maps of all the services by consultation with MC staff.
- 3) Identify the required improvements and extension of the municipal services infrastructure.

- 4) Identification of Public Private Partnership projects already executed
- 5) Identify the capacity of the key officers to undertake the PPP projects and collaborative projects with other government agencies and MCs
- 6) Public opinion surveys regarding the delivery of municipal services.

1.5. Situation analysis and Gap analysis

Situation analysis of the existing municipal services infrastructure and the quality of service delivery was done. Gap analysis was done to identify the problems, bottlenecks and shortcomings in the infrastructure itself and its operation & maintenance for each municipal service along with the correction/updating of descriptive maps which has been described in the following sections.

Section-2 Water supply system

2.1. Existing situation

The city is considered as a single unit or zone with respect to water supply. Ground water was extracted by the tube wells for the purpose of water supply. Direct water supply systems are operating here.

There are sixteen numbers of total tube wells. Fifteen of them are operated by MC, one of them is non-operational. PHED is executing a project of water supply in city to cover the water shortage area as well as un-served area.

2.2. Water sources

2.2.1. The existing water sources

Out of 18 tube wells installed in the city, 13 tube wells are being operated by MC. The detail of these tube wells along with their present capacity is given below;

S. No.	Location	Year of Installation	Present Discharge measured by PITCO		Present status	Reasons	Action required
			M ³	Cusecs			
1	Lorri Adda	2000	0	0	Non functional	Reduction in discharge (abandoned)	Replacement
2	Canal park	1987	95.99	0.94	Functional		
3	Basra Colony	1990	Not measured		Functional	Reduction in discharge	Replacement
4	Bilal Park	1987	-	-	Non functional	Reduction in discharge (abandoned)	Replacement
5	Qaddaf Park	2001	102.76	1.01	Functional	Sand Blowing	Replacement
6	Hasan Park	1987	163.7	1.61	Functional		
7	Shareef Park	1990	0	0	Non Functional	Reduction in discharge - abandoned	Replacement
8	Rehmanpura	2000	13.06	0.13	Functional	Reduction in discharge	Replacement
9	Hodoky	2008	140.34	1.38	Functional	-	-
10	Nizam Park	2008	140.77	1.38	Functional	-	-
11	Old Committee office	2009	100.45	0.99	Functional	-	-
12	Old Daoke	2008	113.18	1.11	Functional	-	-
13	Piraan Mandi	1987	0	0	Abandoned	Reduction in discharge	It will be replaced by PHED
14	Ahmadpura	2017	136.66	1.34	Functional		Already replaced by PHED
15	Muhallah shaikhan	1987	0	0	Abandoned	Reduction in discharge	It will be replaced by PHED

16	Rehmania colony	2009	138.86	1.36	Functional	-	-
17	Ittehad colony	2016	164.51	1.61	Functional	-	-
18	Municipality office	2009	73.15	0.72	Functional	-	-
Total existing source capacity			13.58				

2.2.2. Pumping machinery of tube wells

The status of pumping machinery installed in these tube wells is given below;

S. No.	Location	Year of Installation	Present Discharge measured by PITCO		Present Status of pumping machinery	Reasons	Proposed action
			M ³	Cusecs			
1	Lari adda	2000	0	0	Non-functional	Excessive repairs already done	Replacement
2	Canal park	1987	95.99	0.94	Functional	-do-	Replacement
3	Basra Colony	1990	0	0	Functional	-do-	Replacement
4	Bilal Park	1987	-	-	Non-functional	-do-	Replacement
5	Qaddaf Park	2001	102.76	1.01	Functional	-do-	
6	Hasan Park	1987	163.7	1.61	Functional		Replaced by PHED
7	Shareef Park	1990	0	0	Functional	T/well to be replaced	Replaced by PHED
8	Rehmanpura	2000	13.06	0.13	Functional	do	Replaced by PHED
9	Hodoky	2008	140.34	1.38	Functional	Excessive repairs already done	Replacement
10	Nizam Park	1987	140.77	1.38	Functional	Requires repairs	Repair
11	Old Committee office	1987	100.45	0.99	Functional	Excessive repairs already done	Replacement
12	Old Daoke	1987	113.18	1.11	Functional	do	Replacement
13	Piraan Mandi	1987	0	0	Functional	Will be replaced by PHED	
14	Ahmadpura	2017	136.66	1.34	Functional	Already replaced by PHED	
15	Muhallah shaikhan	1987	0	0	Functional	Will be replaced by PHED	
16	Rehmania colony	2009	138.86	1.36	Functional	-	-
17	Ittehad colony	2018	164.51	1.61	Functional	-	-
18	Municipality office	2009	73.15	0.72	Functional	-	-

2.2.3. Total present water production

As per above inventory the overall water production is given below;

No. of tube wells	Abandoned	Functional	Designed Capacity each (cusecs)	Total present capacity (cusecs)	Working hours per day	Daily water production (mgd)	
						Present with 8 hours pumping	Possible with 15 hours pumping
17	6	11	1.0	13.58	11	3.36	4.58
Present population of the city						235,659	Persons
Present water production per capita per day with 11 hours pumping per day						14	Gallons
Possible water production per capita per day with 15 hours pumping per day						19	Gallons

The quantity of water per capita per day was not sufficient for the city. Hence PHE Department is executing a water supply scheme to meet the water shortage. The scope of this scheme is given below;

2.2.4. Scope of the ongoing scheme

Scope of the scheme being executed by PHED is described below;

Scope of work of the scheme being completed by PHED

1	NAME OF SCHEME	Urban Water Supply Scheme Muridke District Sheikhpura.
2	ADP / G.S No.	2127
4	A.A. cost	Rs.450.00-Million
5	Technical sanction	Rs.446.177-Million
9	PHYSICAL PROGRESS	
	Sr. #	Item of Work
		Quantity being executed
	1	Tubewells 2.0 cusec capacity
		13 Nos.
	2	Pumping Chamber (12'x12')
		13 Nos.
	3	Pumping Machinery
		2 Cusec Discharge
		13 Sets
		1 Cusec Discharge
		6 Sets
	4	Const: of OHR (100,000 Gallons)
		2 Nos.
	5	Distribution System
		18" i/d A.C Pipe
		2235 Rft
		16" i/d A.C Pipe
		6670 Rft
		14" i/d A.C Pipe
		8020 Rft
		12" i/d A.C Pipe
		23963 Rft
		10" i/d PVC Pipe
		44961 Rft
		8" i/d PVC Pipe
		47140 Rft

	6" i/d PVC Pipe	36500 Rft
	4" i/d PVC Pipe	98300 Rft
	3" i/d PVC Pipe	197897 Rft
	4" i/d G.I Pipe	3313 Rft
	3" i/d G.I Pipe	6237 Rft
	2" i/d G.I Pipe	18980 Rft
6	External Electrification	13 Jobs

2.3 Storage Capacity:

Water supply system of city is operated by direct pumping method; One existing OHR has been abandoned.

2.4 Situation After completion of the scheme

After completion of the ongoing scheme by PHED the position of the source capacity and per capita water production will be as under;

Tube well status	No. of tube wells	Abandoned	Functional	Designed Capacity each (cusecs)	Total present capacity (cusecs)	Working hours per day	Daily water production (mgd)	
							With 8 hours pumping	Possible with 14 hours pumping
Old	17	6	11	1.0	13.57	11	3.36	4.27
New	13	0	13	2.0	26.0	11	6.43	8.19
Total	30	6	24	-	39.57		9.79	12.46
Present population of the city							235,659	Persons
Water production per capita per day with 11 hours pumping per day							42	Gallons
Possible water production per capita per day with 15 hours pumping per day							53	Gallons

This shows that after commissioning of the on-going scheme, the source capacity of the system in the served areas will be quite enough and no need for augmentation of the source capacity in the presently served areas is there. However for serving the left over areas within the municipal limits and those outside the present municipal limits but presently part of the city new sources will have to be developed.

2.5 Problems and gaps in the system

2.5.1 Water shortage

After completion of on-going project of water supply by PHED, there should be no water shortage in served areas of the city. However the tubewells which have failed or abandoned due to sand blowing and chocking of strainers will have to be replaced.

2.5.2 Un-Served Areas

Under mentioned areas of the city have not been provided with the pipes water supply facility even in the on-going scheme.

1. Mohallah Hayat Town	2. Hospital Colony	3. Mohallah Rakh Bholi
4. Salamat Pura	5. Siddique Abad	6. Abbas Pura
7. Gulberg Town	8. Rakh Boli	9. Fazal Pura

Extension of the water supply facilities will be needed in these parts of the city.

2.5.3 Areas with abandoned water supply system

No portion of the water supply system has been abandoned and all served areas are operational.

2.6 Water supply hours and consumer connections

Water Supply hours				Consumer connections			
Morning	Midday	Evening	Total	Domestic	Commercial	Industrial	Total
3.5	3	4.5	11	5446	06	Nil	5452

2.7 Total coverage of the city

After completion of the ongoing scheme the total coverage of the city will reach 85% within the present municipal limits. The city is surrounded by all types of industry and hence handsome portion of the population is living outside the municipal limits of the city which requires extension of the municipal limits. If overall population of the city is considered then overall coverage may be to the extent of 70%

2.8 Tariff structure

The consumer connections are not metered and hence water wastage should be predominant over here. The tariff comprises of flat rates not even levied according to the area of houses. The water rates are given below;

Tariff Rates per month		
Domestic	Commercial	Industrial
Rs. 100	Rs. 500	Nil

2.9 Required rehabilitation of the old water supply system

Under mentioned components of the existing system need rehabilitation. Component wise details are given below;

2.9.1 Tube wells & Pumping machinery

The report of the Energy Audit has been received. The repair and replacement of tube wells and pumping machinery of all tube wells was considered in detail along with extensive consultations with MC Muridke staff. The decision about the repairs and replacement of tube wells and pumping machinery has been made accordingly.

a) Replacement of tubewells

The tubewells at the under mentioned locations will require replacement under PCP.

S. No.	Location	Year of Installation	Reasons
1	Lorri Adda	2000	Reduction in discharge (abandoned)
2	Basra Colony	1990	Reduction in discharge
3	Bilal Park	1987	Reduction in discharge (abandoned)
4	Qaddaf Park	2001	Sand Blowing
5	Shareef Park	1990	Reduction in discharge -abandoned
6	Rehmanpura	2000	Reduction in discharge

b) Repairs or Replacement of pumping machinery of tubewells

S. No.	Location	Year of Installation	Reasons	Proposed action
1	Lari adda	2000	Excessive repairs already done	Replacement
2	Canal park	1987	-do-	Replacement
3	Basra Colony	1990	-do-	Replacement
4	Bilal Park	1987	-do-	Replacement
5	Huddoky	2008	-do-	Replacement
6	Nizam Park	1987	Requires repairs	Repair
7	Old Committee office	1987	Excessive repairs already done	Replacement
8	Old Daoke	1987	do	Replacement

c) Power factor improvement

As per Energy Audit report, power factor at 10 Nos tube wells is below 0.8 and for this purpose power factor improvement equipment is required to be installed to improve the power factor for saving the power and the penalties being imposed by power Distribution Company.

d) Repair and replacement of sluice & Non- return valves

Sluice and non-return valves of all tube wells are out of order. Some of them are required to be repaired and remaining should be replaced.

e) **Bulk water meter**

There are no discharge measuring devices available with pumping units. For monitoring the tubewell discharge bulk water meters should be installed on all tube wells.

2.9.2 Distribution system:

In the served areas the distribution system will be quite enough after completion of the ongoing scheme. However the system will have to be laid in the unserved areas.

2.9.3 Water wastage & Water management

Lot of water wastage is occurring in the water supply system in below given ways;

- a) Some consumer connections have no taps.
- b) Some consumers keep the taps open in all water supply hours although they do not need water.
- c) Most of the overhead tanks of the consumers have no float valve and when their tank is full, the water flows down to the drains continuously during the supply hours.

The water wastage requires excessive water production and high electricity consumption. It is exerting a large pressure on the municipal budget. Large savings in the electricity bills and ultimately the O&M cost, can be affected by reducing the water wastage at the consumer ends. It will save lot of water and water shortage can be addressed by conservation of water being wasted at present. The best and efficient way to save water and reduce O&M cost is the **consumer metering**.

Installation of consumer meters on 5452 Nos consumer connections is required.

2.10 O&M Charges and revenue recovery

The operation & maintenance charges and the revenue recovered during the last four years is given below;

Year	2014-15	2015-16	2016-17	2017-18	2018-19	Total for five years
O&M charges (million Rs.)	10.8	18.7	10.7	10.2	9.247	59.647
Revenue recovery (million Rs)	3.877	3.332	4.519	4.39	4.667	20.785
Recovery % as compared with O&M exp.	36%	18%	42%	43%	50%	35%
Subsidy injected (million Rs)	6.923	15.368	6.181	5.81	4.58	38.862

The above mentioned data shows better revenue recovery as compared other peers. However the billing & recovery system needs to be improved further to cut down the heavy subsidies being injected.

2.11 Manpower deployment

Slot	Sanctioned strength	Existing strength	Vacant post	Manpower on daily wages	Total man power deployed
Tube well operators	18	11	07	0	11
Chowkidars	0	0	0	0	0
Electricians	1	1	0	0	0
Plumbers	4	0	4	0	0
Clerks	2	2	0	0	0
Total	25	14	11	0	11

Additional demand has been put forward by the MC for the new tubewells being installed by PHED.

2.12 Service delivery

1. After completion of the ongoing water supply system by PHED, the quantity of water production will rise to 42 GPCD with present 11 pumping hours. However it can be increased to 53 GPCD if the pumping hours are increased to 15 per day. This water production will be quite enough for served areas because of fair supply hours which need to be maintained. The water pressure in some of the areas with damaged/abandoned tube wells is not enough and six tube wells are required to be replaced.
2. However some areas mentioned above within the municipal limits will remain un-served for which new water supply system will be required.
3. None of the consumer connection is metered and it is proposed to meter all the consumer connections to reduce the water wastage to conserve fresh water and to save the electricity cost being incurred on production of water and pumping the waste water from sewerage systems.

Section-3 Sewerage system

3.1. Existing situation

3.1.1. Coverage

The rehabilitation and extension of the sewerage system in Muridke has been completed by PHED. Entire system is in good condition and almost all the areas within the limits of MC boundary are served with the facility.

3.1.2. Pumping / disposal station

Entire city is being served by gravity into the Daig Nallah through a trunk sewer of 72" diameter. During floods in Daig Nallah, the water level in this Nallah rises and to avoid the backlash in the city the waste water is pumped in the Daig Nallah through a disposal works located near the Daig Nallah. The details of this disposal works is given below;

Location	Nos of collect. tanks	Nos of pumps	Discharge each (cusecs)	Total discharge (cusecs)	Motor BHP	working status	Force main/S. Carrier			Ultimate disposal
							Size (inch)	Length (ft)	Condition	
Near Ravi Rayon	2	2	10	20	100	Working	60	50	Good	Nala Daigh
		2	05	10	50	Working				

3.2. The main issues and problems in the system

The main problems and bottlenecks confronted by the city are given below;

3.2.1. Areas flooded with storm/waste water

Under mentioned areas of the city located between the GT Road (N-5) and railway track are flooded with waste/ storm water during rains but as soon as the storm water subsides the sewers are normally functional. Investigations are required to be constructed to see as to which components i-e sewers or storm water drains need to be rehabilitated or extended to reduce the stagnation period of the storm water.

1. Mohallah Sheikhan	2. Mohallah Kocha Ghousia	3. Mohallah Sharif Park
4. Mohallah Ahmad Pura	5. Mohallah Nizam Park	6. Chahul Road
7. Main Bazar		

3.2.2. Un-served areas

Very few areas within the limits of the MC are unserved. However the city has extended far from the municipal limits and the limits need to be extended to provide the municipal services to the entire city.

3.3. Waste water treatment

Waste water from the trunk sewer is and even from disposal works during flood, is being discharged into the Daigh Nallah without treatment. Waste water treatment plants are required to be constructed to lower down the BOD/COD level as per National Environmental Quality Standards (NEQS).

3.3.1. Consumer connections

No consumer sewer/drain connection survey in the city has been conducted by this time. Hence the exact number of these connections cannot be estimated at this stage.

3.3.2. Tariff structure

The liquid waste user charges were implicated in city before 2017-18.

3.3.3. Operation & maintenance cost vs. revenue recovery

The operation & maintenance cost of the sewerage system for the last five years along with the revenue recovery is given below;

O&M Expenditure vs Revenue Recovery (million Rs) (includes manpower, electricity, repairs/replacement & supplies)						
Year	2013-14	2014-15	2015-16	2016-17	2017-18	Total for 5 years
O&M expenditure	5.28	5.90	7.31	7.13	17.948	43.568
Revenue earned	-	-	-	-	-	-
Percentage recovery vs O&M cost	0	0	0	0	0	0
Subsidy given	5.28	5.90	7.31	7.13	17.948	43.568

No service charges have been levied for the liquid waste management. The billing and recovery of user charges for the liquid waste management is not being paid any attention by the key officers and the public representatives.

3.3.4. Manpower deployed

The manpower deployed for the operation & maintenance of the system is given below;

Pump operators	8
Baidars	0
Supervisors	0
Sewer men	13

MC is demanding additional manpower because of increase in population as they are serving those areas in the city which are not included within the municipal boundary.

3.4. Service delivery level

- a) The city has main and branch sewers on main roads and streets but some areas are not equipped with lateral sewers. Most of the city is being served with surface drains discharging into the sewers without gulley grating chamber which is allowing all the silt and the floating materials in the sewers and is the main reason for chocking of sewers.
- b) No effective de-silting and cleaning of sewers is being done due to shortage of staff.

Section-4 Solid waste management

4.1 Existing situation

4.1.1 Available resources

a) Equipment & machinery

Under mentioned collection and transportation machinery is available with MC to handle the solid waste.

S. No.	Equipment/machinery	Total available Nos	In working condition
1	Tractor trolleys	04	04
2	Arm rolls	0	0
3	4-5 m3 containers	08	08
4	Front blade tractors	01	01
5	Front End loader	02	02
6	Water bowsers	02	02
7	Mechanical sweepers	01	01

The containers are being used as waste bins as no Arm roll is available with the MC to lift these containers and transport to dumping sites. The existing machinery is neither sufficient nor cost effective and efficient giving rise to low efficiency of collection and disposal of the waste and as a result of that MC is facing increased waste management cost as well as complaints regarding the insanitary conditions in the city. Efficient and cost effective machinery is needed to increase the efficiency of collection and transportation for improving the sanitary conditions in the city and lower down the operational and maintenance costs.

b) Manpower Deployed

The manpower deployed for collection, transportation and disposal of the solid waste is given in the table below. As indicated by MC Officers, this manpower is not sufficient to serve the entire city at the given standards. Actual requirement will be identified after detail design and implementation of the new project.

Slot	Sanctioned strength	Existing strength	Vacant post	Manpower on daily wages	Total man power deployed
Sanitary workers	139	67	72	49	116
Vehicle drivers	10	1	9	3	4
Supervisors	6	5	1	0	5
Sanitary inspectors	1	0	1	0	0
Other	0	0	0	0	0
Total	156	73	83	52	125

The city has un-satisfactory solid waste management system. Limitation in resources is described as under

4.2 Reasons for poor service

The city has un-satisfactory solid waste management system. Resources available to handle the solid waste are limited to serve the whole area of city. Limitation in resources is described here.

- a) Shortage of sanitary workers and vehicle drivers.
- b) Shortage of equipment and machinery.
- c) No landfill site is available for dumping of solid waste. Currently waste is being dumped along the sides of roads and railway track which is totally unhygienic.
- d) No proper collection points in city are available. However at some places walled dumps exist wherefrom solid waste is collected and transported to the dumping sites.
- e) The waste is being openly dumped without compaction and provision of covers which is creating all sort of hazards say; pollution of underground water, vector and vector borne diseases, obnoxious smell and high insanitary conditions.

4.3 Un-served and partially served areas

The entire city is not served with solid waste collection and disposal. The average efficiency of the services is 63% as given below. Most of the areas of the city remain either un-served or these are partially served. The detail of these areas is given below.

a) Partially served areas

No regular service is rendered in the under mentioned areas. The main complaints are attended by sending the machinery & labor once or twice a week.

1- Muhallah New Daoke	2- Muhallah Shahbaz	3- Muhallah Hameed Park
4- Muhallah Rehman Park	5- Muhallah Dhaban Pura	6 -Mohallah Qazzafi Park
7- Mohallah Latif Park	8- Mohallah Mohammad Pura	9- Mohallah Chatian
10- Muridke Town	11- Mohallah Kocha Ghousia	12- Mohallah Sharif Park
13- Mohallah Muhammad Pura	14- Mohallah Iqbal Park	15- Mohallah Bohar Basti
16- Mohallah Bohar Basti	17- Sarab Colony	18 - Mohallah Nizam Park
19- Faisal Colony	20- Hospital Colony	21-Mohallah Rajputan
22-Rehman Pura	23-Mohallah Hassan Park	24-Canal Park Colony
25-Mohallah Faisal Pura	26-Bhutta Colony	

b) Un-served areas

Under mentioned areas are still un-served;

1- Kot Irfan Ashraf Phase 1	2- Mohallah Sultan Park	3- Mohallah Hayat Town
4- Salamat Pura	5- Siddique Abad	6- Itihad Colony
7- Labour Colony	8- Gulberg Town	9- Raheem Buksh Colony
10- Rakh Boli	11- Fazal Pura	12- Monno Colony

4.4 Solid waste Generation & Disposal

The solid waste management efficiency along with present dumping sites are given below;

Total waste generated per day		Total waste collected (Tons)		% Efficiency of disposal	Name of dumping sites
Cubic meters	Tons	Cubic meters	Tons		
138	69	88	44	63%	Along Railway track
Distance from city center (Km)					3 KM
Type of dumping					Open and uncovered

*Assumed density of loose solid waste = 500 KGs per cubic meter

4.5 Landfill Site development

Area of 18.5 Acre on Chack No-34 road for proposed landfill site is available with MC for development of the landfill. The suitability of the this area will be determined after detailed surveys and design of the project by catering for the requirement of the environmental standards in vogue in Punjab.

4.6 Vehicle parking Area:

There is no site available in the city for construction of parking area for the equipment and machinery. The vehicles are being parked in the office premises and adjoining ground.

4.7 Levying of sanitation fees

No sanitation fee has been levied by MC and the entire expenditure given below is being met from MC's own resources and the PFC share being given by Provincial government.

4.8 Solid waste management financials (million Rs.)

The annual expenditure incurred by MC for last 5 years is given below which includes manpower, energy, repairs, supplies etc.)

Year	2013-14	2014-15	2015-16	2016-17	2017-18	Total
O&M Expenditure (million Rs)	52.30	31.50	49.80	39.80	49.18	222.58

MC should levy the sanitation fee to meet the expenditure on solid waste management or at least to lower down the subsidy presently being injected.

4.9 Service delivery

The service delivery level is not good with 63% efficiency. Most of the areas in the city are either un-served or partially served because of shortage of sanitary staff and machinery & equipment whereas the existing machinery and equipment is inefficient having costly operation and maintenance.

The solid waste is being dumped along railway track because no proper landfill site is available which is creating hazards like obnoxious smell, sub soil water pollution and breeding of vectors causing water borne and vector diseases. Apart from that this is also creating insanitary conditions resulting in frustration in the citizen. MC has a proposed a land for the development of landfill site which is owned by Auqaf Department, Punjab and will have to be transferred to MC for its use.

Section-5 Roads

5.1 City Roads Hierarchy

The main roads in the city and emerging from the city have under mentioned hierarchy;

S.No	Name of the road	Owner department
1	Lahore to Islamabad (G.T Road)	National Highway
2	Muridke- sheikhupura road	District road
3	Narowal road	District road
4	Old Narowal road	District road
5	Railway Road	District road
6	All other roads	MC Muridke

All these roads have been marked on the map of the city in different colors

5.2 Existing situation

Some of the main and primary roads in MC Muridke are in good condition but some problem roads given below need treatment or reconstruction. Two roads required concrete paver on shoulders. The detail of the problem roads is given below;

5.3 Problem roads

The detail of all these roads is given on the next page.

5.4 Required interventions

A. Resurfacing of roads

Under mentioned roads require repairs and resurfacing

Sr. No.	Name of Roads	Length (Ft)
1	Chakiwala Bazar Daoky	762
2	Mian Bazar Daoky	970

B. Widening & improvement of roads

Below given roads require widening and improvement;

Sr. #	Name of road	ROW	Length	Existing Width	Proposed width	Drains Required	Shoulders Required
		Ft	Km	Ft	Ft	(YES/NO)	(YES/NO)
W1	Canal Road (Both sides of canal)	46	5.0	20+10	24+12	No	Yes
W2	Shahzad town road (Both sides of canal)	44	2	10+10	18+18	No	Yes
W3	Kala Pull to City boundary	40	2	10+10	18+18	No	Yes
W4	Sui Gas Road	25	0.5	15	18	No	Yes

C. Construction of Concrete Pavers

Sr. #	Name of road	ROW	Length	Width
		Ft	Km	Ft
C1	Main rail bazar	20	0.625	20
C2	Karkana Bazar	20	0.437	20
C3	TMA bazar	15	0.375	15
C4	Chahul Road	20	0.375	20
C5	Bismillah Service station street	15	0.625	15
C6	Masjid Muhajiran road	20	0.50	20

D. Construction of Under pass

Sr. #	Name of road	ROW	Width
		Ft	Ft
N1	Old Narowal Road below railway track	25	20

Section-6
Parks and open spaces

6.1. Existing situation

6.1.1. Existing Parks

Muridke City has three main parks as mentioned below;

S.N.	Name of park	Area	Ownership & maintained by
1	Chattha Park	4.0	Municipal Committee Muridke
2	Ladies park	4.0	do
3	Green belt Techno school	12.5 kanals	do
4	Green belt Govt. Girl high School	10 Kanals	do
5	Green Belt Imam barga	9 kanals	do

S No	Name of Park	1	2	3
		Chattha Park	Ladies park	3 Green belts Along railway track
1	Location			
2	Area of Park in Acres	4	4	3.9
3	Watering & Irrigation			
a	Tube well	Yes	Yes	No
b	Water Supply from municipal system	No	No	No
c	Underground water tank	No	No	No
d	Pumping unit	Yes	Yes	No
e	Distribution pipe lines	No	No	No
f	Valves	No	No	No
g	Sprinkler system	No	No	No
4	Landscaping & Plantation			
a	Grass beds	Average	Average	Average
b	Flower beds	Average	Average	Average
c	Hedges	Average	Average	Average
d	Plants	Average	Average	Average
5	Lights			
a	Poles and masts	Average	Average	Average
b	Cables	Average	Average	Average
c	Brackets and lights	Average	Average	Average
d	Bulbs and tubes	Average	Average	Average
e	Control units	Average	Average	Average
6	Structures			
a	Buildings	Poor	Poor	No

b	Fountains & water fall structure	No	No	No
c	Walkways	Poor	Poor	Poor
d	Bridges & culverts	No	No	No
e	Boundary wall & gate	Poor	Poor	Poor
f	Toilets	Poor	Poor	No
g	Lakes & brooks	No	No	No
7	Mechanical equipment Insert			
a	Pumping units	Poor	Poor	No
b	Swings	Poor	Poor	No
c	Children games	No	No	No
d	Fixtures	Poor	Poor	Poor
e	Benches	Poor	Poor	Poor
8	Sanitation & water supply			
a	Litter bins	No	No	No
b	Toilet fixtures	Poor	Poor	No
c	Sewerage system	Poor	Poor	No
d	Vegetation cuttings & disposal	No	No	No
e	Drinking water	No	No	No
f	Water pipes	No	No	No

6.2. Rehabilitation of the existing parks

Some of the facilities in these parks are working in good condition but some of these are in poor condition and need to be rehabilitated. On the other hand some important facilities are missing and need to be provided. The detail of all the required interventions in these parks for their upgrading is given below;

S.N.	Name of Park	Area in Acres	Detail of rehabilitation and extension of facilities
1	Chattha Park	4.00	1) Provision of sprinkler lawn watering system; 2) Replacement of park lights by LED lights; 3) Provision of benches; 4) Repair and construction of new toilets; 5) Repair of walkways; 6) Provision of swings and children outdoor games.
2	Ladies park	4.00	1) Provision of sprinkler lawn watering system; 2) Repair of boundary wall; 3) Provision of benches; 4) Replacement of park lights by LED lights; 5) Provision of swings and children outdoor games; 6) Construction of new toilets; 7) Repair of walkways; 8) Landscaping of complete park.
3	Along railway track	50Ft x 1400Ft	1) Provision of sprinkler lawn watering system; 2) Repair of boundary wall; 3) New LED Lights; 4) Provision of benches; 5) Construction of walkways;

			6) Construction of toilets; 7) Provision of swings and children outdoor games.
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6.3. Open spaces to parks

There is no open space proposed by MC.

6.4. O&M expenditure and revenue recovery

No expenditure amount was supplied by MC Muridke inspite of repeated contacts.

Section-7 Street Light

7.1. Existing situation

Existing Street light facility on some roads and streets in MC Muridke is given below;

S. No.	Name of Mohalla	No. of Street Lights	S. No.	Name of Mohalla	No. of Street Lights
1	Purana Mandi	19	13	Muridke	13
2	Ahmad Pura Mohalla	14	14	Meena Bazaar	12
3	Amambarga Road	6	15	Mohalla Ahmed Pura	9
4	Baruni bazar	6	16	Mohalla Subhan	9
5	Dawake	9	17	Muridke Bazar	8
6	Gaddafi Park	1	18	Muridke Park	40
7	Gman Barze	1	19	Muridke Town	17
8	Harjoki Canal	12	20	Nizam park	8
9	Janan Park	16	21	Porana Narg Road	13
10	Jinnah Park	5	22	Rehman Pura	10
11	Kanal Park	23	23	Town Muridke street janazga	4
12	Main Bazar	17		Total	272

7.2. Replacement of existing street light

- As per Energy Audit report, 69 Nos of lights out of total 272 Nos are operated by MC. These lights should be replaced with LED lights.
- Photo electric switches should be installed for in time switching.

7.3. Provision of new street lights

MC Muridke has proposed to provide new street light on the under mentioned 19 main roads of the city;

Sr. #	Name of road/street	Length (Km)
N1	Bangla road	0.25
N2	Gulsan zafar	0.25
N3	Hashmi Garden	0.50
N4	TMA bazar	0.25
N5	Chahal road	0.25
N6	Main rail razar road	0.5
N7	Old Narowal road	2.50
N8	Malkan wala road	0.5
N9	Qadri bazar	0.5

N10	Zaferia bagar	0.5
N11	Tanki wala road	0.5
N12	Service road	0.5
N13	Jinnah ideal high school	0.5
N14	Canal park road	0.5
N15	Muridke road	0.5
N16	Muridka town main bazar	2
N17	Thany wala road	0.50
N18	Hasan bazar	0.25
N19	Haddhoki main bazar road	1.00

7.1. Expenditure on street lights

Under mentioned expenditure on the Operation & Maintenance of the existing street lights has been incurred by MC Muridke during the last 5 years. This includes the energy cost, manpower cost and cost of repairs and replacements.

(All figures in million Rs)

Year	2013-14	2014-15	2015-16	2016-17	2017-18
O&M Expenditures	0.855	0.785	0.740	0.746	0.746

Section-8

Public Private Partnership projects & Collaborative Projects executed by MC

8.1. Planning & Execution of PPP projects

As informed by Chief Officer, no project in the Public Private Partnership Mode & Collaborative Mode has ever been executed by the Municipal Committee or defunct TMA Muridke. As such the key officers and staff have no experience as well as capacity for planning estimation and execution of such projects.

Section-9

Budgetary provisions on development of services infrastructure and O&M Cost

9.1. Development expenditure

The expenditure incurred on the development projects from year 2013-14 to the current financial year & source of financing is given below

(All figures in million Rs)

Description	2013-14	2014-15	2015-16	2016-17	2017-18
Expenditure on Development Projects	15.15	20.18	36.40	35.89	3.06
Source of Financing of Development Projects	Own source revenue and PFC share for development				
9.2. Expenditure on O&M of services and revenue generated					
Description	2013-14	2014-15	2015-16	2016-17	2017-18
<u>Water supply</u>					
Total O&M cost	10.80	18.70	10.70	10.20	9.247
Revenue earned	3.877	3.332	4.519	4.39	4.667
% revenue earned vs. O&M charges	36%	18%	42%	43%	50%
Subsidy injected	6.923	15.368	6.181	5.81	4.58
<u>Sewerage/drainage</u>					
Total O&M cost	5.28	5.90	7.31	7.13	17.948
Revenue earned	-	-	-	-	-
% revenue earned vs. O&M charges	0	0	0	0	0
Subsidy injected	5.28	5.90	7.31	7.13	17.948
<u>Solid waste management</u>					
O&M cost	52.30	31.50	49.80	39.80	49.18
Revenue earned	0	0	0	0	0
Subsidy injected	52.30	31.50	49.80	39.80	49.18
<u>Parks</u>					
O&M cost	0.00	0.00	0.00	0.00	0.00
Revenue earned	0.00	0.00	0.00	0.00	0.00
Subsidy injected	0.00	0.00	0.00	0.00	0.00
<u>Slaughter houses</u>					
O&M cost	0.616	0.746	0.50	0.619	0.347

Revenue earned	0.369	0.334	0.396	0.356	0.369
Subsidy injected (-) Income (+)	0.247	0.412	0.104	0.263	-0.022
Street Light					
Total Expenditure	0.855	0.785	0.740	0.746	0.746
Revenue earned	The service is not charged.				

Section-10 Manpower deployment & shortage

The manpower deployed by MC Muridke in various Municipal Services is given below. MC is experiencing manpower shortage in some of the services which is also explained herein.

S.No	Description	Sanctioned Regular strength	Actual Regular deployment	Regular Vacant Slots	Employed on daily basis	Shortage of regular personnel
A	Office manpower					
1	Key officers (BPS-17 & above)	7	7	0	0	0
2	Sub engineers	2	2	0	0	0
3	Support staff (BPS-16 & below)	57	42	15	0	15
	Total office manpower (A)	66	51	15	0	15
B	Municipal services					
1	Water supply	25	14	11	0	11
2	Sewerage	22	21	1	0	1
3	Solid waste management	156	73	83	52	125
4	Parks	11	0	11	0	11
5	Roads	0	0	0	0	0
6	Street lights	1	1	0	0	0
7	Slaughter houses	2	1	1	0	1
	Total municipal services (B)	217	110	107	52	149
	Grand Total (A+B)	283	161	122	52	164

Section-11
Public opinion surveys regarding the municipal service delivery

S. No.	Name of Service	Total persons interviewed	Opinion of the persons interviewed				Average consumer opinion
			Poor (Nos)	Fair (Nos)	Good (Nos)	Excellent (Nos)	
1	Water supply quantity	10	02	08	0	0	Fair
2	Water supply quality	10	06	04	0	0	Poor
3	Sewerage	10	0	10	0	0	Fair
4	Street sweeping	10	06	04	0	0	Poor
5	Solid waste collection & disposal	10	06	04	0	0	Poor
6	Condition Parks & play grounds	10	05	05	0	0	Fair
7	Slaughter house functioning	10	07	0	0	0	Poor
8	Street light functioning	10	06	04	0	0	Poor
9	General condition of roads	10	05	05	0	0	Fair
10	Complaint attending capability	10	06	04	0	0	Poor

Survey of Public general view over service delivery

S.No	Name of person interviewed	Muhallah or colony	Water supply		Sewerage	Street sweeping	Solid waste collection & disposal	Roads	Parks & play grounds	Slaughter houses	Street light	Complaint addressal
			Quantity	Quality								
1	Asif Arshid	Rehman Pura	Fair	Fair	Fair	Poor	Poor	Fair	Fair	-	Poor	Poor
2	Samiullah	Muhallah Rehman Park	Fair	Fair	Fair	Poor	Poor	Fair	Fair	-	Poor	Poor
3	Kashif rassol	Mohallah Qazzafi Park	Fair	Fair	Fair	Fair	Fair	Fair	Fair	-	Fair	Fair
4	Ali Raza	Peeran Basti	Fair	Poor	Fair	Poor	Poor	Fair	Fair	Poor	Poor	Poor
5	Shahbaz Talib	Peeran Basti	Poor	Poor	Fair	Poor	Poor	Poor	Poor	Poor	Poor	Poor
6	Abdullah	Mohallah Sultan Park	Poor	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Fair
7	Tanveer saho	Mohallah Chatian	Fair	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Fair
8	Tasawar ihsan	Sarab Colony	Fair	Poor	Fair	Poor	Poor	Fair	Fair	Poor	Poor	Poor
9	Basit	Mohallah Latif Park	Fair	Poor	Fair	Poor	Poor	Poor	Poor	Poor	Poor	Poor
10	Mussadiq	Mohallah Hassan Park	Fair	Fair	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Fair