GUNTUR
City Fact Sheet

SUSTAINABLE CITIES
INTEGRATED APPROACH PILOT (SCIAP)

APRIL 2021

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گنٹور جنکشن
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GUNTUR JUNCTION

Sustainable Cities: Integrated Approach Pilot

URBAN SUSTAINABILITY ASSESSMENT FRAMEWORK

City Fact Sheet - Guntur

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Prepared for:

 Ministry of Housing and Urban Affairs Government of India

 Guntur Municipal Corporation

Project Donors:

Prepared by:

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Date:

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About SCIAP and USAF

The Sustainable Cities Integrated Approach Pilot (SCIAP) project, funded by GEF-6, is being implemented by UNIDO and UN-Habitat, in partnership with the Ministry of Housing and Urban Affairs (MoHUA) of the Government of India in Bhopal, Guntur, Jaipur, Mysuru and Vijayawada. The main goal is to infuse sustainability strategies into urban planning and management at the city level and create an enabling climate for investments in green infrastructure that would reduce greenhouse gas emissions, improve service delivery and enhance the quality of living for all citizens, thereby building resilience and strengthening the governance capacity of the cities.

A major component of the project is to develop an Urban Sustainability Assessment Framework (USAF) for spatial planning in India which is designed as a decision support tool for municipal commissioners and urban practitioners to support sustainable and resilient urban planning and management of cities in India. Urban diagnostics based on USAF cover 12 sectors, namely, urban form-public space and safety, housing and property, water, sanitation, solid waste management, transportation, social facilities and services, environment and ecology, clean energy, disaster risk management, governance and data management and finance and economy. The performance of these sectors is measured using national and international benchmarks, further refined by consultations with the pilot cities. USAF 'spatializes' several indicators for granular planning and to identify inequalities in service delivery, resource allocation, accessibility of essential utilities, and recreational opportunities, among others, within a city.

Furthermore, giving emphasis to spatially-informed planning, USAF equips city managers to model area-based development strategies and assess their impact on improving sectoral performance against benchmarks. Area-based development strategies developed through USAF, when combined with a financing plan, lay the ground work for capital investment plans thereby providing a critical link between urban planning, finance and governance. It can also help decision-makers prioritize projects to effectively direct resources towards targeted areas for maximum impact and benefit.

About this Fact Sheet

This fact sheet showcases preliminary analysis that has emerged after applying the USAF to Guntur. It highlights how the city fares across twelve USAF sectors on its primary indicators, draws attention to where the city functions well and aspects that need attention as per the benchmarks of the USAF. For detailed strategic diagnosis for Guntur, please refer to the City Profile and Diagnostic Report.

Please note that the data reported for the city is for the year 2018-19 & 2019-20 (data sourced from GMC SLB 2018-19/ notes on GMC development activities from various stakeholders consultations (2020)/ Swachh Survekshan 2020/ Zonal Development Plan/ GMC City GIS Database/ Open StreetMap/ USGS (LandSAT Imagery)/ Global Human Settlement Layers (GHSL) from European Commission. Some of the data has also been sourced from the District Census Handbook 2011).

USAF SECTORS

01	PUBLIC SPACE, SAFETY AND URBAN FORM
02	HOUSING AND PROPERTY
03	WATER SUPPLY
04	SANITATION
05	SOLID WASTE MANAGEMENT
06	TRANSPORTATION
07	SOCIAL FACILITIES AND SERVICES
08	ENVIRONMENT AND ECOLOGY
09	CLEAN ENERGY
10	DISASTER RISK MANAGEMENT
11	GOVERNANCE AND DATA MANAGEMENT
12	FINANCE AND ECONOMY

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Framework Scoring

Each scoring range is based on benchmarks derived from national standards and linked to global standards wherever possible. For quantitative indicators, indicator value over and above the set benchmark is categorised as excellent performance. The USAF has a 7-point scoring scale (very low to excellent performance). The division of scoring range for continuous variables (or indicators) into seven defined breaks is based on equal intervals between the threshold and benchmark set for each indicator. On the other hand, indicators which are discrete or qualitative in nature are bifurcated only into three classes (very low – medium – excellent performance) and binary questions (yes/no) are classified as either very low or excellent. Indicators assessed on a 7-point scale result in a performance score which is less coarse in nature and better represents the continuum, making it more reliable than a narrower 3-point scale. Expanding the mid-range performance (lower medium to upper medium) especially, captures the variation better for average performance city values. The score of 0 (or very low performance) is considered as the threshold figure, whereas score of 6 (or excellent performance) is to be considered as benchmark for each indicator. National urban averages are used as mid-point (score 3 or medium performance) wherever either thresholds or benchmarks weren't available.

For representation, the range of performance follows a spectral colour ramp and varies from two shades of red (very low - low) to two shades of green (high - excellent) with three shades of yellow in between (lower medium - medium - upper medium).

Very Low (0)	Low (1)	Lower Medium (2)	Medium (3)	Upper Medium (4)	High (5)	Excellent (6)

There are some indicators that are not included in the performance score of the city and are labelled as 'descriptive indicators' in the benchmark column. These indicators can either be quantitative (with specified formula to measure it) or qualitative (yes or no), but do not have a set benchmark for scoring. The information from these parameters along with few other benchmarked indicators would be helpful in formulating the profile of the city.

Indicators for which data is either currently awaited or is unavailable are denoted as '--' against the depicted indicator.

Descriptive Indicator	(- -) Data awaited/unavailable

The USAF serves primarily as a guide for orienting the priorities of a city and directing its resources to meet the desired vision and goals as outlined in its master plan. The conclusions of the framework thus point to the weak spots with respect to the city's sustainable development goals and efforts to build resilience. As part of SCIAP, following the City Profile and Diagnostic Report, a Sustainable City Strategy shall also be prepared which would serve as the spatial strategic plan for the city with key actions and interventions to achieve the its vision and goals.

GUNTUR

Guntur city is in the state of Andhra Pradesh. It is located 60 km to the west of the Bay of Bengal, on the Eastern Coast of India. The city is third largest in the state in terms of population, area, and economy. The city is one of the largest trade centres for agricultural products with Asia's largest dried chilli market, and the national headquarters of Tobacco Board located within the city. Guntur is also a prominent medical and educational hub in the state.

Guntur Municipal Corporation (GMC) is the administrative body of the city. The city is divided into 62 municipal wards.

8.25 Lakhs
POPULATION
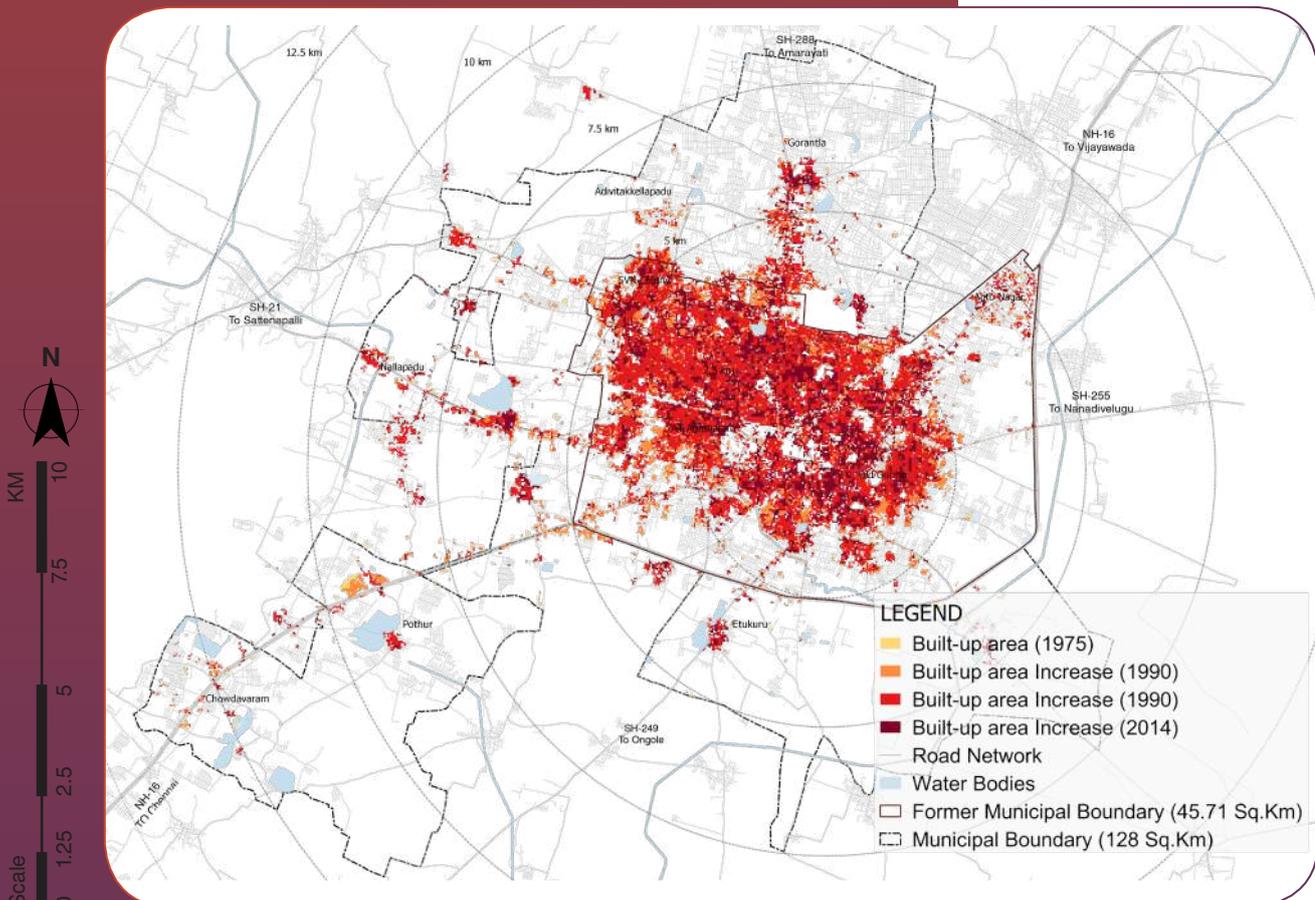
64 PPH
POPULATION DENSITY

128 SqKm
AREA

LEGEND
- Built-up area (1975)
- Built-up area Increase (1990)
- Built-up area Increase (1990)
- Built-up area Increase (2014)
- Road Network
- Water Bodies
- Former Municipal Boundary (45.71 Sq.Km)
- Municipal Boundary (128 Sq.Km)

Figure 1.1: *Multi-temporal classification of built-up presence (1975-2014)*

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Guntur had experienced a decadal population growth rate of 9% between 1991 – 2001 and 26% between 2001 – 2011. The population growth rate between 2011-2019 is estimated at around 11%. The population of the city in the year 2019 is estimated as 8.25 lakhs. Figure 1.1 shows the increase in built-up area in the city at different time points between 1975 to 2019.

In 2012, ten villages surrounding the former Guntur municipal boundary were added to the municipal limits, thus extending the ULB jurisdiction from 45.71 sq. km to 128 sq. km. About 85% of the city population reside within a 5 km radius from the city core, which falls within the former municipal limits. As shown in the Figure 1.2, the population density in the city ranges between 10 to 344 persons per hectare. The average population density of the former municipal limits area is 142 persons per

hectare, whereas the newly added area is only 12 persons per hectare. A large portion of land in the newly added area is under agricultural use. From the year 2014, an increase in the built-up area has predominantly occurred in the northern part of the city along the two major road corridors leading to Vijayawada (National Highway 16) and Amaravati (State Highway 288).
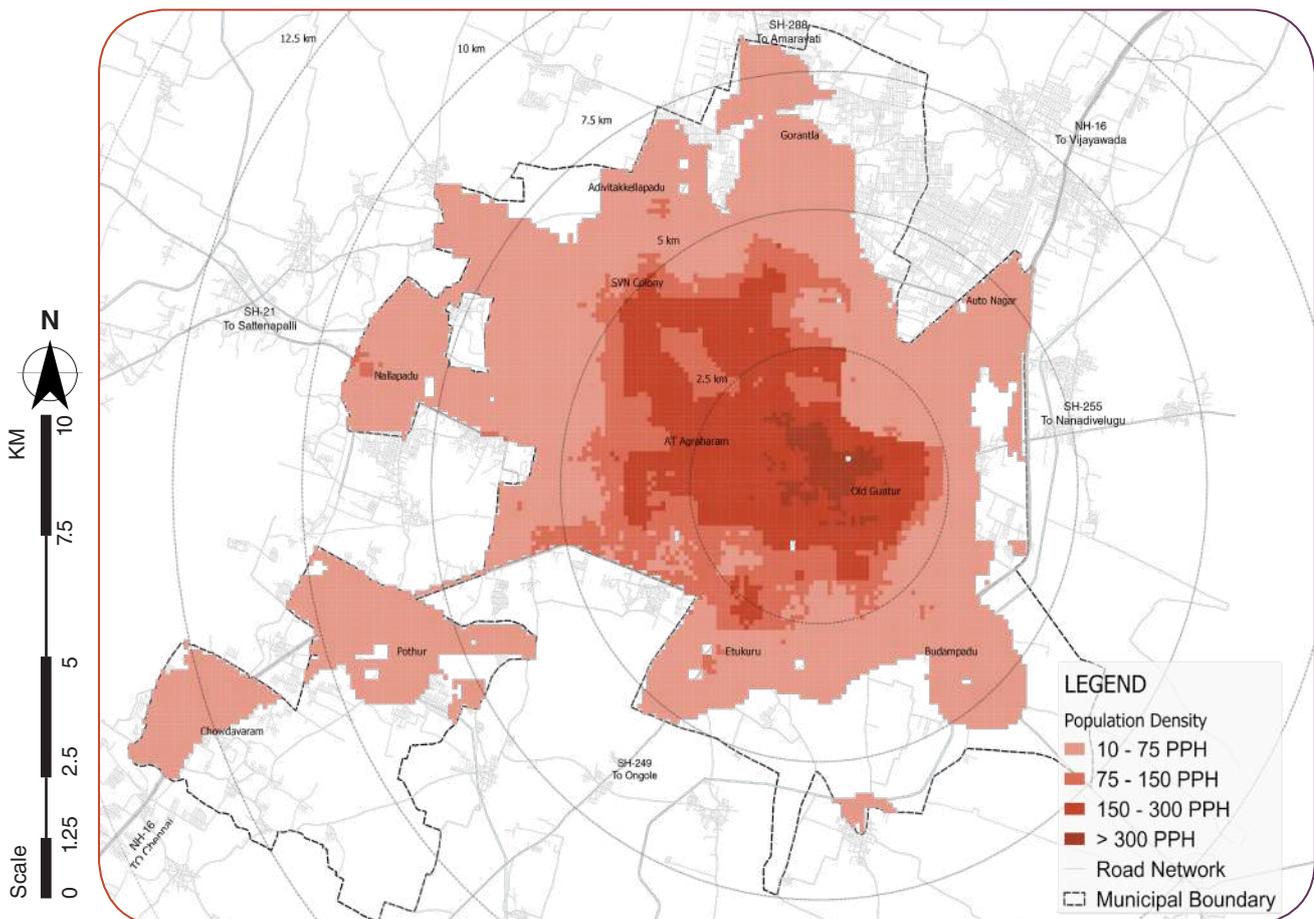
Figure 1.2: *Residential population density estimates (2015)*

Data awaited/unavailable
Descriptive Indicator
Excellent (6)
High (5)
Upper Medium (4)
Medium (3)
Lower Medium (2)
Low (1)
Very Low (0)

01
PUBLIC SPACE, URBAN FORM & SAFETY

0.92 sqm
open space per capita

32% increase
in built-up area per person in last decade

45% population
has access to parks and open spaces within a walking distance of 500m

53% reduction
in agriculture land in comparison to the last revision of master plan.

85% roads
have streetlights

The city is experiencing urban sprawl thus leading to significant loss of agriculture land.

Less than 1% of the city area is under public parks and open spaces.
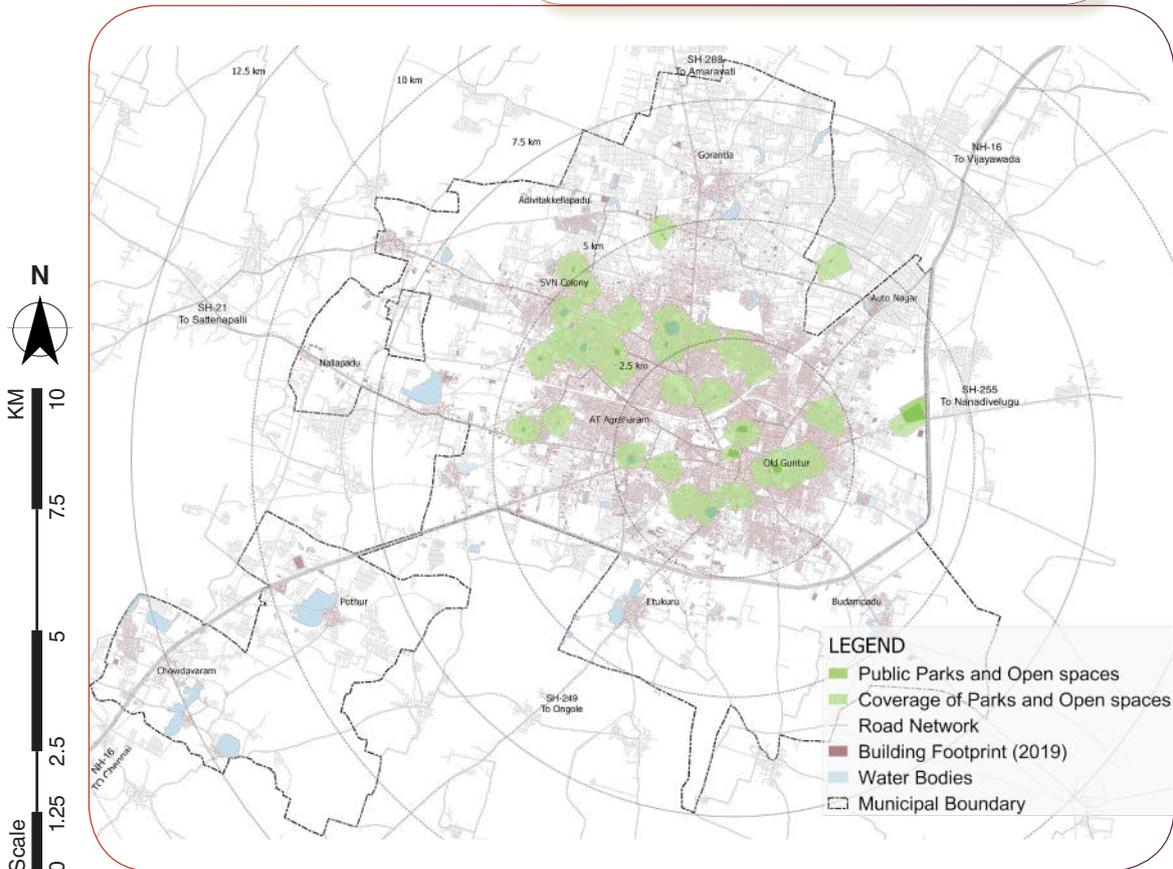
Figure 1.3: *Population catchment with access to public parks and open spaces within 500m*

LEGEND
- Public Parks and Open spaces
- Coverage of Parks and Open spaces
- Road Network
- Building Footprint (2019)
- Water Bodies
- Municipal Boundary

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Development of greenery in the city is one of the key priority areas of GMC. In addition to development of new parks, GMC has initiated a project for rejuvenating / developing seven ponds in the city that includes developing green areas / recreational spaces along the water body premises.

View of walking track along Koritepadu Pond

Source: Sajith Shaik, UN-Habitat

New Housing stock in Northern part (Gorantla) of the city

Source: Sajith Shaik, UN-Habitat

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02 HOUSING AND PROPERTY

The city has 173 slum settlements (133 notified and 40 non-notified slums). All these slums are within former municipal limits.

In 2020-21, GMC provided housing sites for 62,688 urban poor households in the city under a state government's housing programme.

28% households living in slums
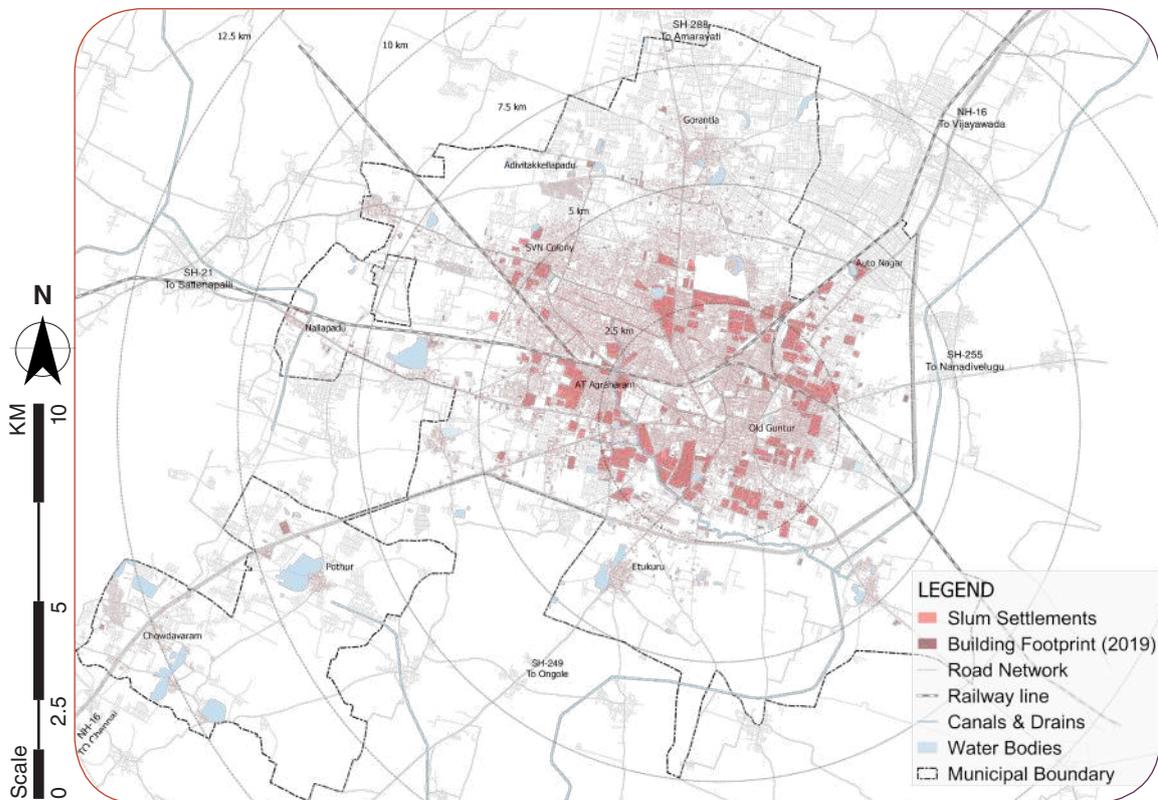
4.8% city area falls under slums/ squatter settlements

Figure 1.4: *Location of slum settlements in the city (Source: GMC)*

LEGEND
- Slum Settlements
- Building Footprint (2019)
- Road Network
- Railway line
- Canals & Drains
- Water Bodies
- Municipal Boundary

Descriptive Indicator

Excellent (6)

High (5)

Upper Medium (4)

Medium (3)

Lower Medium (2)

Low (1)

Very Low (0)

- - Data awaited/unavailable

03
WATER SUPPLY

72% households
have piped water
supply connection

31%
extent of non-revenue
water

No
water resource assessment
and management

96% water samples
comply with national potable
water quality standards

Water supply to peripheral
areas in the city (newly
added areas) is inadequate
(wards 53 to 62). Major
portion of these areas
do not have water supply
network. Potable water is
currently being supplied
through water tankers. The
current supply of water to
these areas is insufficient
with less than 50 LPCD.

04
SANITATION

21% properties
connected to sewerage
network

- -%
wastewater samples
passed the specified
secondary treatment
standards from the total
samples collected in a year

100% households
have access to toilet facilities

0% sewage
treated before discharge to
surface water bodies

The city currently does not
have an operational STP.
The sewage generated in
the city is discharged into
drains without treatment.

Under Ground Drainage
project is currently under
construction in the city.

0% wastewater
is recycled or reused after
treatment

Data awaited/unavailable

Descriptive Indicator

Excellent (6)

High (5)

Upper Medium (4)

Medium (3)

Lower Medium (2)

Low (1)

Very Low (0)

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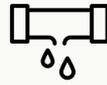FOR A BETTER URBAN FUTURE

05 SOLID WASTE MANAGEMENT

6% **dry waste** separated and classified for recycling/material recovery

64% **total waste** collected is disposed off in open dumps

54% **wet waste** collected is processed

1% solid waste used for energy recovery (incineration)

0% legacy waste remediated in the city
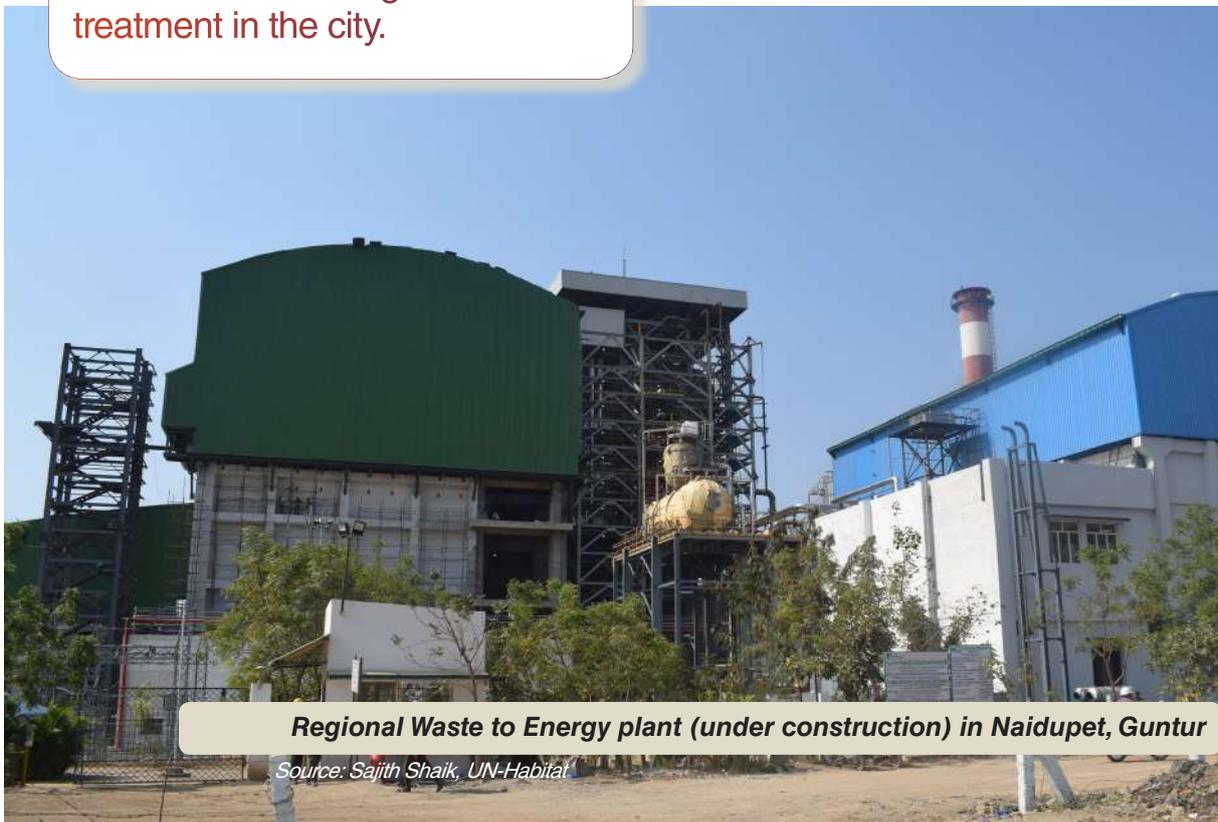
More than 4 lakh MT of legacy waste (from more than a decade) is accumulated in the city's dumping site which need immediate action.

Commencement of Waste to Energy plant in 2021 would address the challenge of waste treatment in the city.

Regional Waste to Energy plant (under construction) in Naidupet, Guntur

Source: Sajith Shaik, UN-Habitat

Data awaited/unavailable

Descriptive Indicator

Excellent (6)

High (5)

Upper Medium (4)

Medium (3)

Lower Medium (2)

Low (1)

Very Low (0)

Sidebar (vertical, left margin):

- - - Data awaited/unavailable
Descriptive Indicator
Excellent (6)
High (5)
Upper Medium (4)
Medium (3)
Lower Medium (2)
Low (1)
Very Low (0)

06
TRANSPORTATION

42% population
has access to public transport stops within 500m

13% major road
have footpaths with width more than 1.2 m

[NA] increase/decrease
in annual public transport ridership in 2019 and 2018

0 km cycle track
per 1,00,000 population

8.34 km/sqkm
road density

- - - shared vehicles
operate on clean fuels

Guntur does not have a formal intra-city public transport system. Intercity passenger bus services operated by State Road Transport Corporation also serve as the intra-city bus service. Besides this, the city has buses run by private operators.
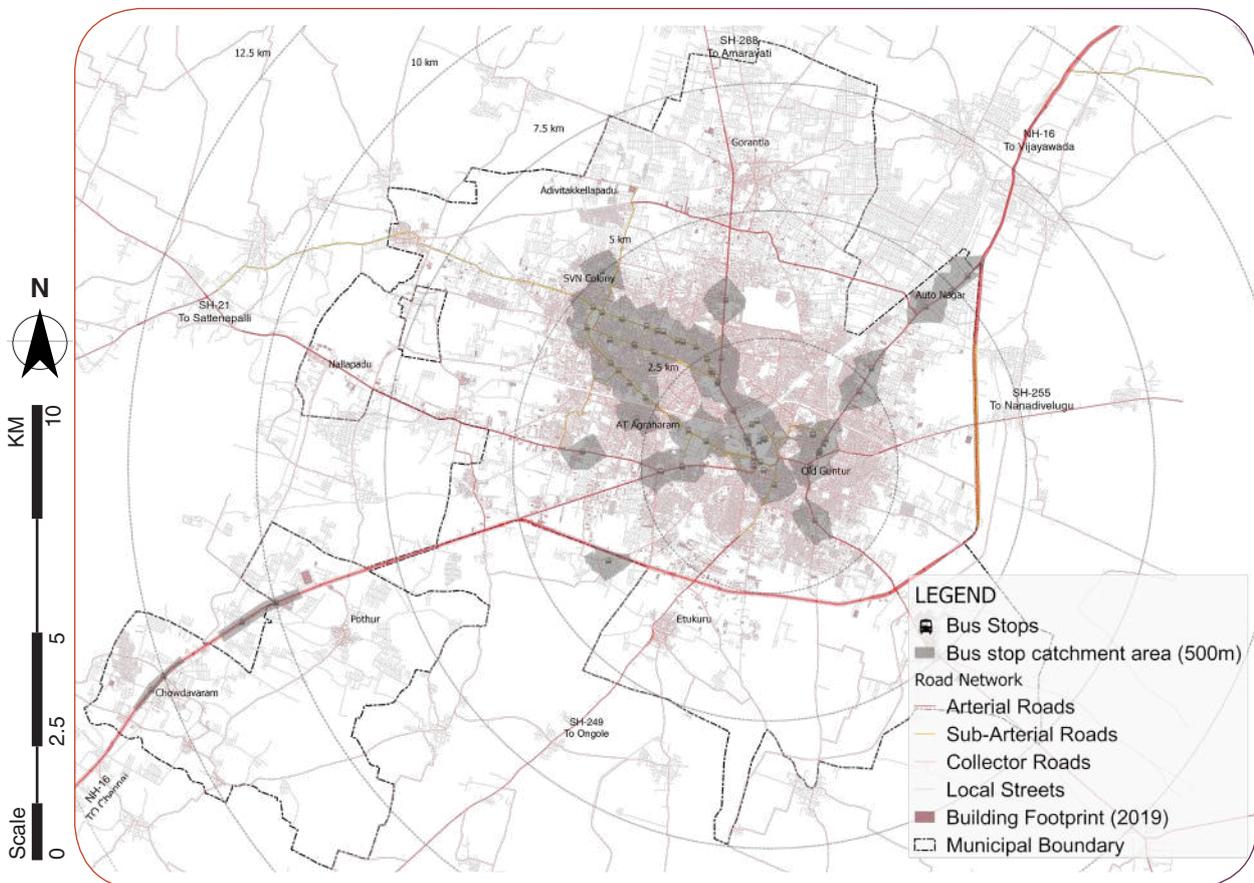

LEGEND
- Bus Stops
- Bus stop catchment area (500m)
Road Network
- Arterial Roads
- Sub-Arterial Roads
- Collector Roads
- Local Streets
- Building Footprint (2019)
- Municipal Boundary

Figure 1.5: *Population catchment with access to public transport stop within 500m*

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View of Grand Trunk Road, Guntur

Source: Sajith Shaik, UN-Habitat

07
SOCIAL FACILITIES AND SERVICES

91% population
has access to healthcare services within 800m

78%
female literacy rate

91% population
has access to primary and secondary schools withn 800m

Guntur is one of the prominent medical and educational hubs in the state.

The health and educational facilities are primarily located in the former city limits. The peripheral areas of the city have smaller number of such facilities.
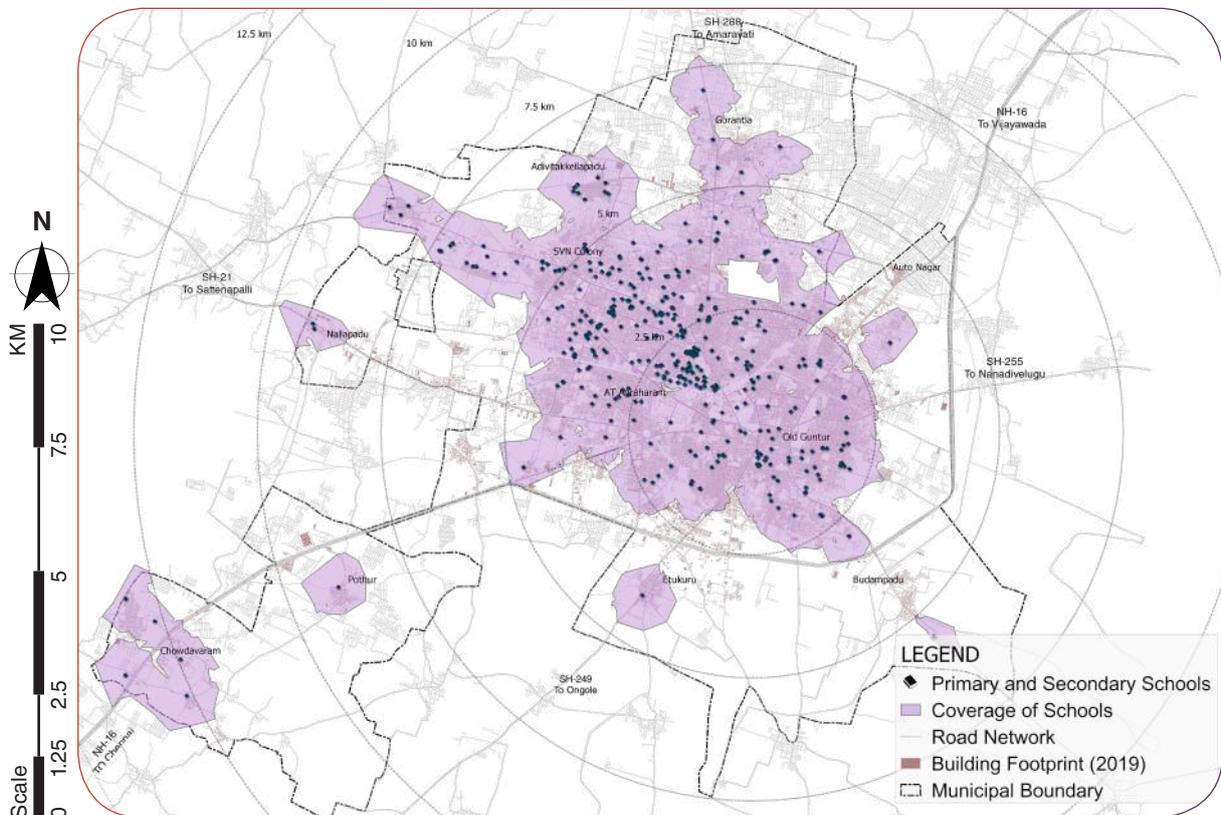

LEGEND
◆ Primary and Secondary Schools
  Coverage of Schools
  Road Network
  Building Footprint (2019)
  Municipal Boundary

Figure 1.6: *Population catchment with access to schools within 800m*

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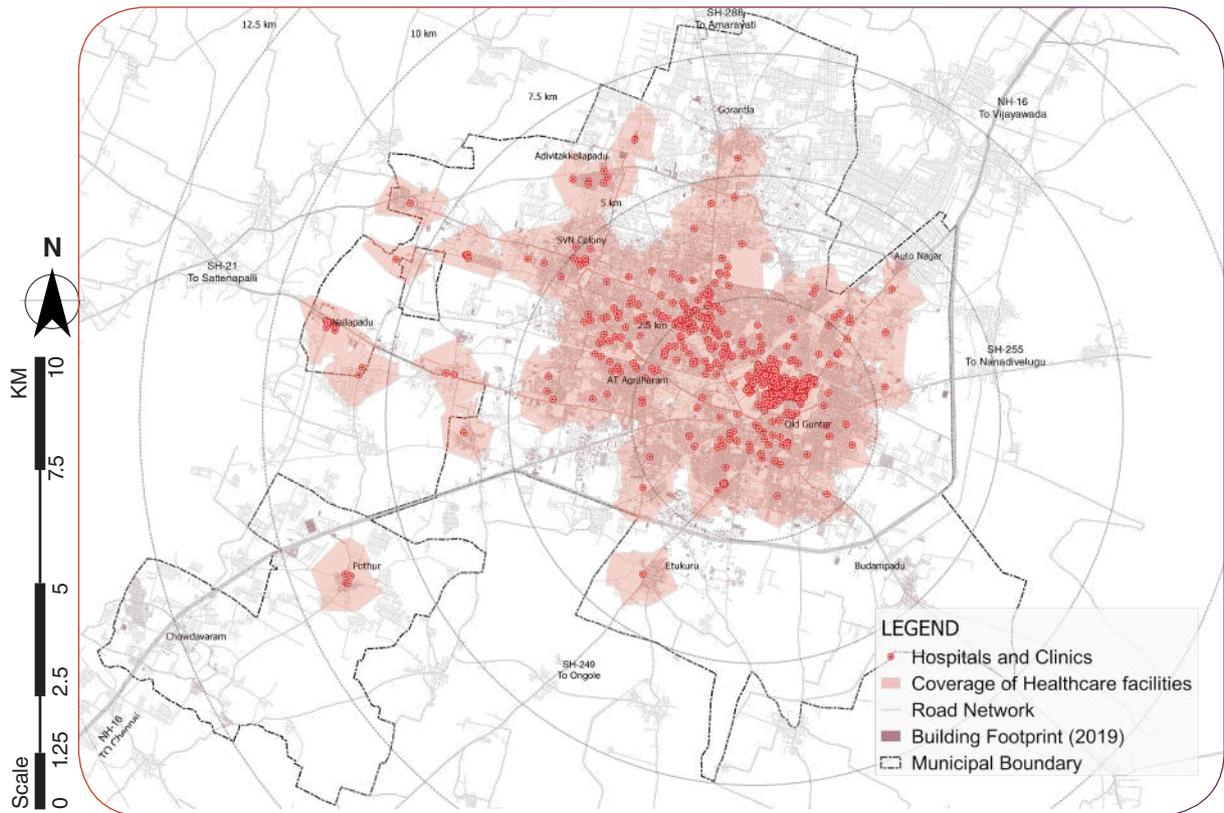
Figure 1.7: *Population catchment with access to healthcare facilities within 800m*

LEGEND
- Hospitals and Clinics
- Coverage of Healthcare facilities
- Road Network
- Building Footprint (2019)
- Municipal Boundary

Government General Hospital in Guntur,s one of the largest multi-speciality hospitals in the state

Source: Sajith Shaik, UN-Habitat

08
ENVIRONMENT AND ECOLOGY

Presence of
Clean Air Action Plan and
pollutants source identification

- -%
of ULB area with tree
canopy cover

No
GHG emission
monitoring system

One or two
structural and financial
incentives for green
buildings

- - **actions**
for protection, conservation
and management of urban
biodiversity

11,22,848 MtCO$_2$e
annual (GHG) emissions

During year 2015-16, the per
capita GHG emissions in
Guntur city is 1.44 Mt CO2eq.
The city is lowest GHG emitter
among SCIAP cities.

09
CLEAN ENERGY

- - % **households**
using LPG/PNG for cooking

—% **population**
have access to renewable
energy

- -%
electrical energy derived
from renewable soures

- - **kWh /capita**
energy use in a year

94% **streetlights**
are energy efficient

GMC has made an
agreement with M/S Energy
Efficiency Services Limited
(EESL) to replace all
conventional lights in the city
with LED streetlights.

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Data awaited/unavailable
Descriptive Indicator
Excellent (6)
High (5)
Upper Medium (4)
Medium (3)
Lower Medium (2)
Low (1)
Very Low (0)

10 DISASTER RISK MANAGEMENT

Presence
Disaster Management Plan at city level

No
hazard vulnerability maps/ risk maps (at city level)

- - % households
at risk due to placement in areas of non-mitigable risk

75% buildings
have access to emergency fire services

Guntur is moderately vulnerable to natural disasters such as cyclone, urban flooding / water logging.
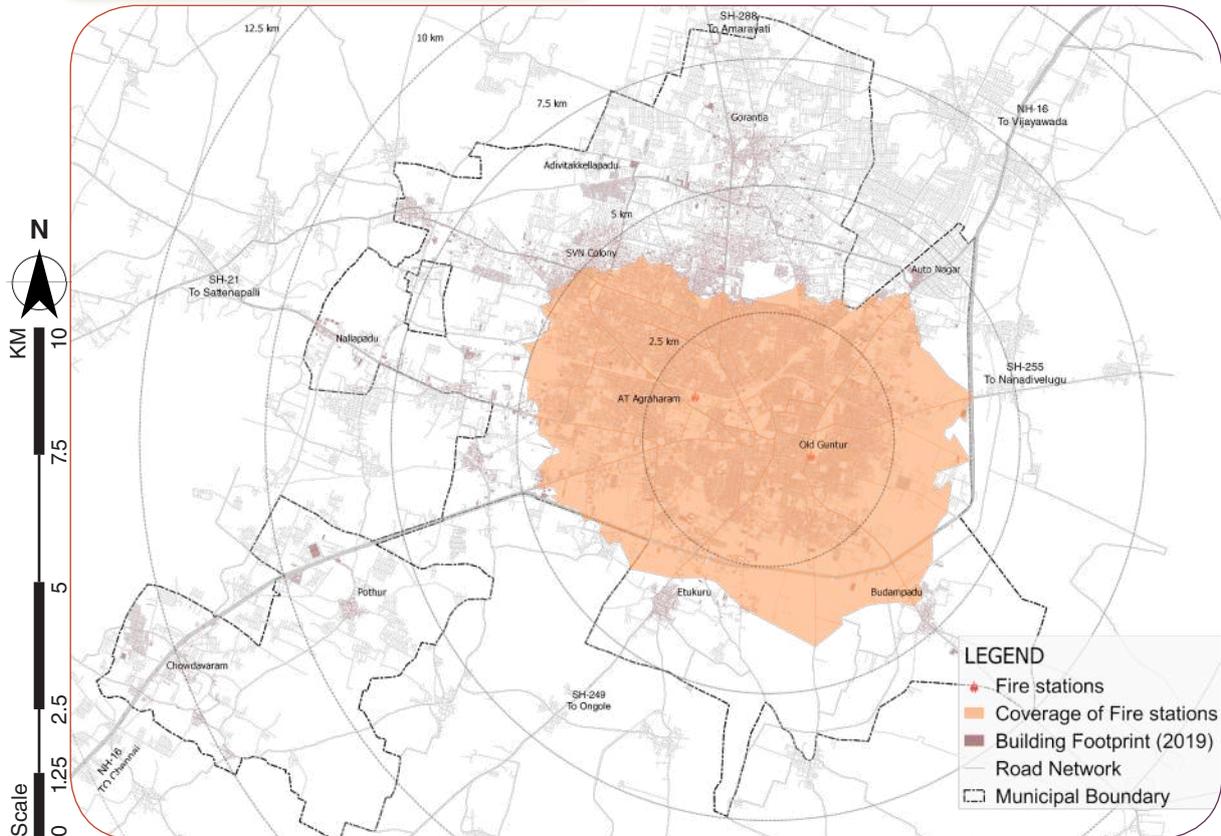
The city experiences heat waves during summer.

Figure 1.8: *Building catchment area of fire services facilities (4km distance)*

LEGEND
- Fire stations
- Coverage of Fire stations
- Building Footprint (2019)
- Road Network
- Municipal Boundary

Descriptive Indicator — — Data awaited/unavailable

Excellent (6)

High (5)

Upper Medium (4)

Medium (3)

Lower Medium (2)

Low (1)

Very Low (0)

Vertical legend (left margin):
- – – Data awaited/unavailable
- Descriptive Indicator
- Excellent (6)
- High (5)
- Upper Medium (4)
- Medium (3)
- Lower Medium (2)
- Low (1)
- Very Low (0)

11 GOVERNANCE AND DATA MANAGEMENT

17 functions
being implemented
by ULB

0 services
managed through a
command and control centre

3 planners
for every 14,000
population

Absence
of GIS based master plan
for the city

14 years
since the enforced
master plan was
updated

A 'Planning and Regulation Secretary' is appointed for each of the 207 Secretariat units in the city to monitor and implement services related to city town planning department.

GIS Base Map for Guntur city was prepared in year 2019. However, it was observed that use of GIS data base in GMC for decision making, analysis is limited.

12 FINANCE AND ECONOMY

71%
property tax collected as
a percentage of total tax
billed

– –%
growth rate of GDP/
capita

No
Credit Rating

Though Credit Rating of ULB is a key reform envisaged in AMRUT Mission, GMC has not opted for credit rating. In FY2021-22, GMC plans to obtain credit rating.

20% grants
received from central &
state governments to
total revenue

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Guntur Municipal Corporation Office, Grand Trunk Road

Source: Sajith Shaik, UN-Habitat