



TELANGANA STATE ROAD INFRASTRUCTURE ANALYSIS & APPLICATIONS

NRSC USER MEET – 29th March 2022



Lingapuram of Settipelli GP. Gundala M
17°46'32", 80°18'36", 259.0m, 330°
13/10/2017 12:37:02

STOCK MARKET

BSE

57633.65



886.51(1.56%)

NSE

17176.70

Home > States > Telangana

Telangana: Woman in labour suffers in cut-off Agency village

Due to lack of roads in remote Agency areas of Mancherial district, a pregnant woman who was in labour had to wait a for a couple of hours before she could reach the nearby hospital.



Published: 07th August 2021 08:39 AM | Last Updated: 07th August 2021 08:39 AM

Print | A+ A A-



Ambulance workers and locals shift a pregnant woman to the other side of an overflowing river on a stretcher, to take her to a nearby PHC, on Friday | EPS

PRIME ACTIVITIES

- Geospatial Database of Habitations & Road Network
- Interpretation of Road Surface details
- Identification of unconnected Habitations/Gram Panchayats
- Proposed Optimum Road Network for Connectivity
- Prioritisation of Unconnected Habitations/Gram Panchayats
- Scientific Approach Allocation of Funds



Geospatial Database of Habitations & Road Network

Namalapadu 1279559

Ravi Kunta 1279560

Ravi Kunta 1279560

Dharmapuram (Ui) 1279559





Interpretation of Road Surface details

Table Of Contents

Layers

- ☒ BEJJANKI_GP
 - ☒ District_Siddipet_GP
 - <all other values>
 - GP_Connectivity
 - ★ Connected
 - ★ Ongoing
 - ★ Unconnected
- ☐ Habitations
 - GP
 - HAMLET
 - MANDATORY(Enter GP or HAMLET)
- ☐ District_Siddipet_Proposed_PRRoads
 - <all other values>
 - ROAD_STATUS
 - <Null>
 - Existing
 - Ongoing
 - Proposed
- ☐ SIDDIPET_DISTRICT_ROADS
 - RB_Roads
 - PR_Roads
 - <all other values>
 - Surf_type
 - BT
 - CC
 - Earthen
 - Gravel
 - WBM
- ☐ SIDDIPET_RURAL_PROPOSED_ROADS
 - <all other values>
 - ROAD_STATUS
 - <Null>
 - Existing
 - Ongoing
 - Proposed
- ☐ Dist_Boundary
- ☐ Mandal_Boundary
- ☐ Village_Boundary
- ☒ Basemap
 - ☒ World Imagery

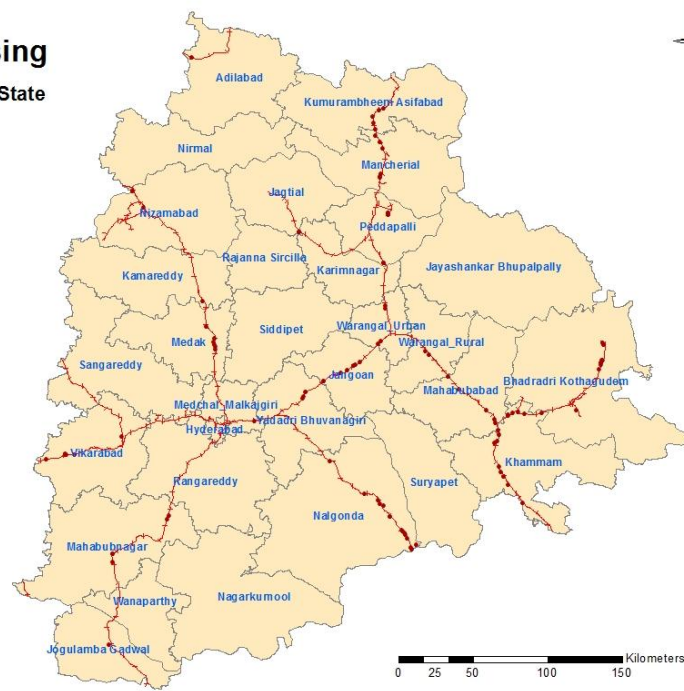


Level Crossing

PRED Telangana State

Legend

- Level Crossing (104)
- Rail Network

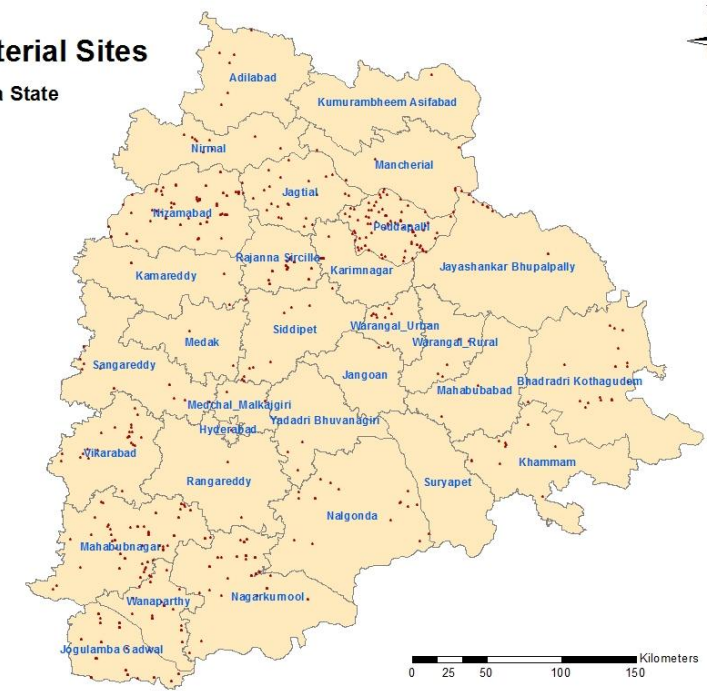


Construction Material Sites

PRED Telangana State

Legend

- Construction Material Sites (700)

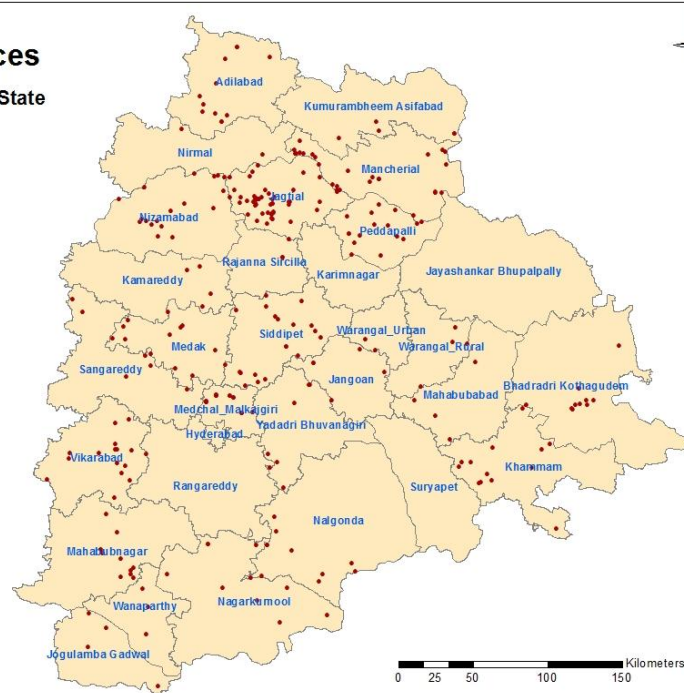


Tourist Places

PRED Telangana State

Legend

- Tourist Places (287)

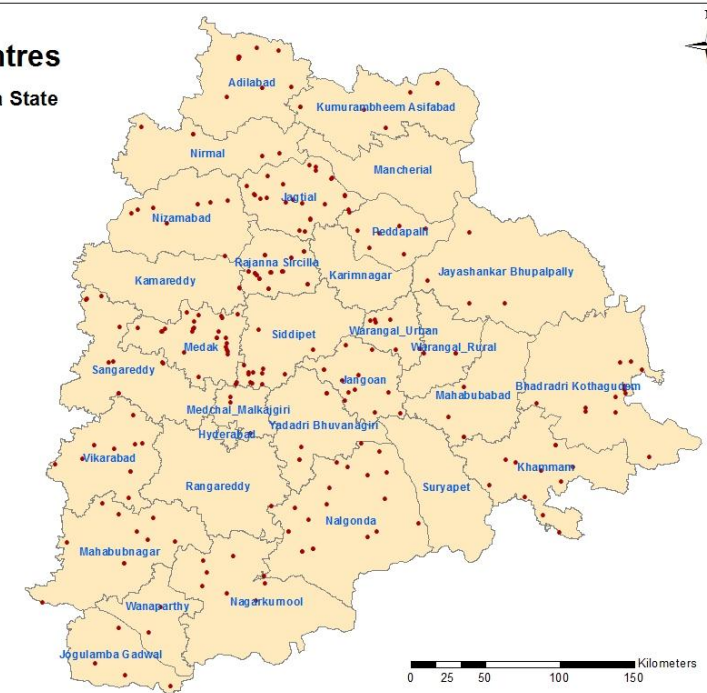


Market Centres

PRED Telangana State

Legend

- Market Centres (250)





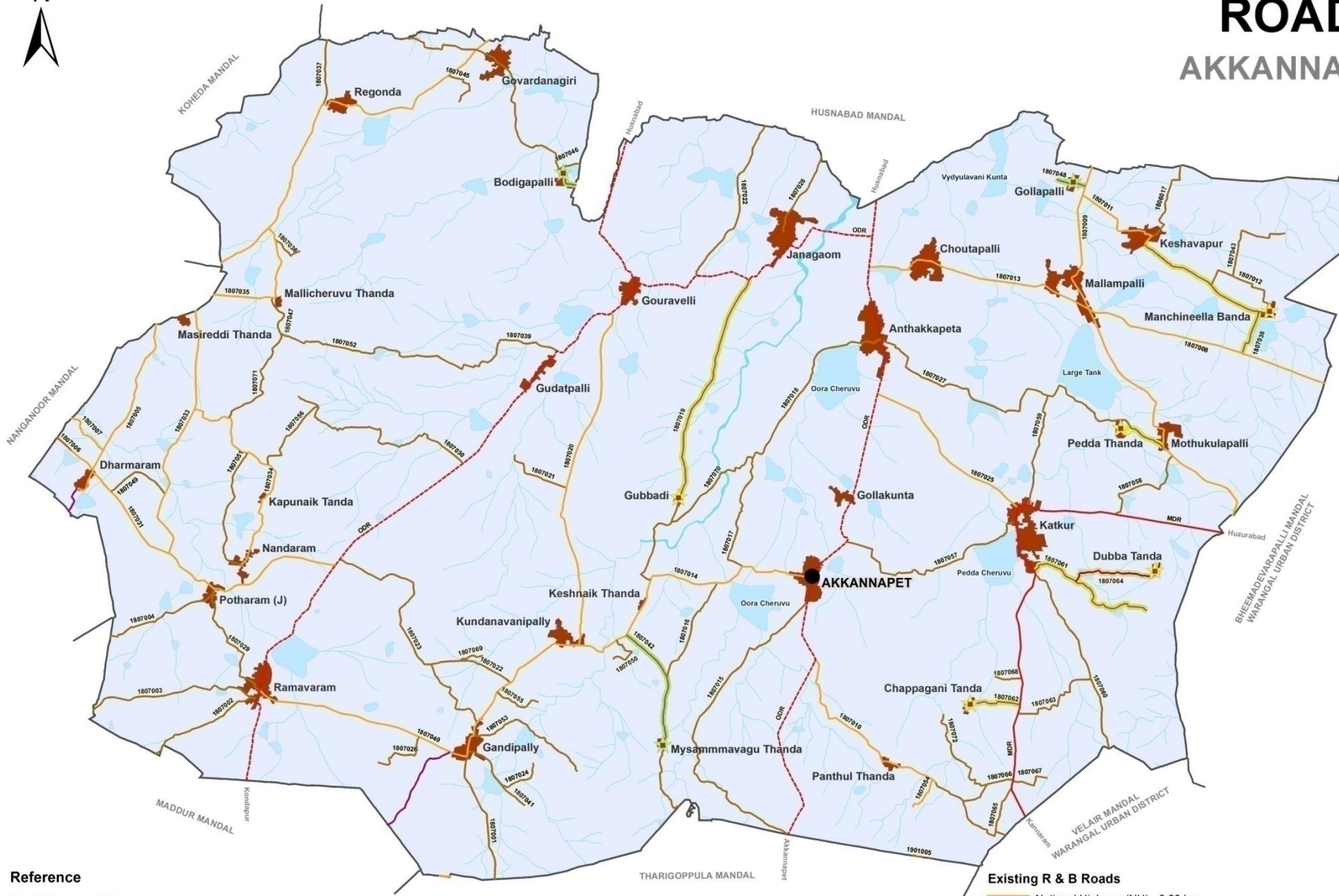
Identification of unconnected Habitations/Gram Panchayats



ROAD CONNECTIVITY MAP

AKKANNAPET MANDAL, SIDDIPET DISTRICT

0 0.5 1 2 km



Road Connectivity Maps
of 589 Mandals in
Telangana state.

Reference

Road Connectivity

- Unconnected Gram Panchayat - 3
- Ongoing Gram Panchayat - 5
- Ongoing - 11.66 km
- Proposed - 3.30 km
- Mandal Head Quarters
- Revenue Division Head Quarters
- District Head Quarters
- Gram Panchayat - 32

- Stream
- Tank
- River
- Reservoir

Existing P R Roads

- Bituminous (BT), Cement Concrete (CC) Road - 63.53 km
- Water Bound Macadam (WBM) Road - 1.52 km
- Gravel, Earthen Road - 107.21 km

Existing R & B Roads

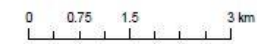
- National Highway (NH) - 0.00 km
- National Highway Proposed (NHP) - 0.00 km
- State Highway (SH) - 0.00 km
- Major District Road (MDR) - 8.13 km
- Other District Road (ODR) - 27.24 km



Proposed Optimum Road Network for Connectivity

ROAD CONNECTIVITY MAP

SULTANABAD MANDAL, PEDDAPALLI DISTRICT



Reference

Road Connectivity

- ★ Unconnected Gram Panchayat - 1
- ★ Ongoing Gram Panchayat - 0
- Proposed - 1.10 kmt
- Ongoing - 0.00 km

Existing P R Roads

- Bituminous (BT), Cement Concrete (CC) Road - 38.09 km
- Water Bound Macadam (WBM) Road - 2.21 km
- Gravel, Earthen Road - 87.46 km

Existing R & B Roads and Rail

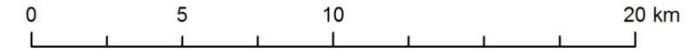
- State Highway (SH) - 16.61 km
- Major District Road (MDR) - 9.04 km
- Other District Road (ODR) - 68.39 km
- Railway Network

- Habitation
- Gram Panchayat - 27
- Mandal Head Quarters
- Revenue Division Head Quarters
- District Head Quarters
- Stream
- Tank
- River
- Reservoir
- Forest

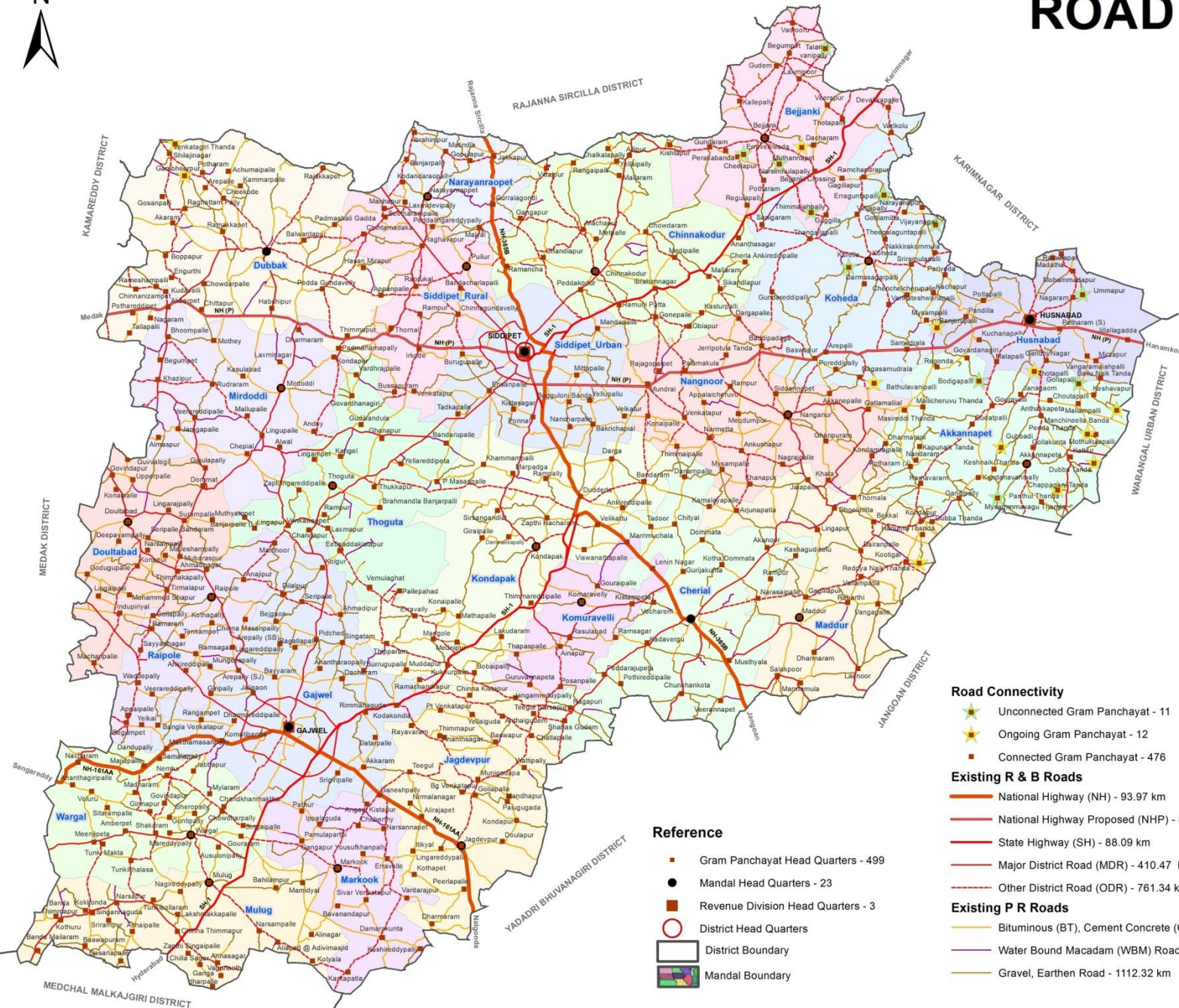


ROAD CONNECTIVITY STATUS MAP

SIDDIPET DISTRICT



Road Connectivity Maps of 33 Districts in Telangana state.



Reference

- Gram Panchayat Head Quarters - 499
- Mandal Head Quarters - 23
- Revenue Division Head Quarters - 3
- District Head Quarters
- District Boundary
- Mandal Boundary

Road Connectivity

- Unconnected Gram Panchayat - 11
- Ongoing Gram Panchayat - 12
- Connected Gram Panchayat - 476

Existing R & B Roads

- National Highway (NH) - 93.97 km
- National Highway Proposed (NHP) - 83.03 km
- State Highway (SH) - 88.09 km
- Major District Road (MDR) - 410.47 km
- Other District Road (ODR) - 761.34 km

Existing P R Roads

- Bituminous (BT), Cement Concrete (CC) Road - 1214.36 km
- Water Bound Macadam (WBM) Road - 174.29 km
- Gravel, Earthen Road - 1112.32 km

ROAD CONNECTIVITY MAP

KARIM NAGAR DISTRICT



0 4.25 8.5 17 km

Reference

Road Connectivity

- ★ Unconnected Gram Panchayat - 22
- ★ Ongoing Gram Panchayat - 01
- Connected Gram Panchayat - 290

Proposed - 32.50 km

Ongoing - 4.52 km

Existing P R Roads

- Bituminous (BT), Cement Concrete (CC) Road - 515.44 km
- Water Bound Macadam (WBM) Road - 90.56 km
- Gravel, Earthen Road - 881.49 km

Existing R & B Roads and Rail

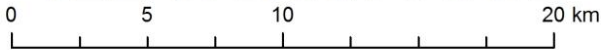
- National Highway (NH) - 70.11 km
- National Highway Proposed (NHP) - 81.09 km
- State Highway (SH) - 77.84 km
- Major District Road (MDR) - 47.64 km
- Other District Road (ODR) - 688.86 km
- ++++ Railway Network

- Gram Panchayat Head Quarters - 313
- Mandal Head Quarters - 16
- Revenue Division Head Quarters - 2
- District Head Quarters
- River
- Reservoir
- Forest
- Mandal Boundary
- District Boundary



ROAD CONNECTIVITY STATUS MAP

TELANGANA STATE



OBJECTIVE

Connectivity of 12,751 GP's in
Telangana state with BT/CC roads.

Road Connectivity

- ★ Unconnected Gram Panchayat - 839
- ★ Ongoing Gram Panchayat - 716
- Connected Gram Panchayat - 11196

Existing R & B Roads

- National Highway (NH) - 37,32.59 km
- National Highway (Proposed) - 1,567.45 km
- State Highway (SH) - 1,451.69 km
- Major District Road (MDR) - 11,585.85 km
- Other District Road (ODR) - 13,801.13 km

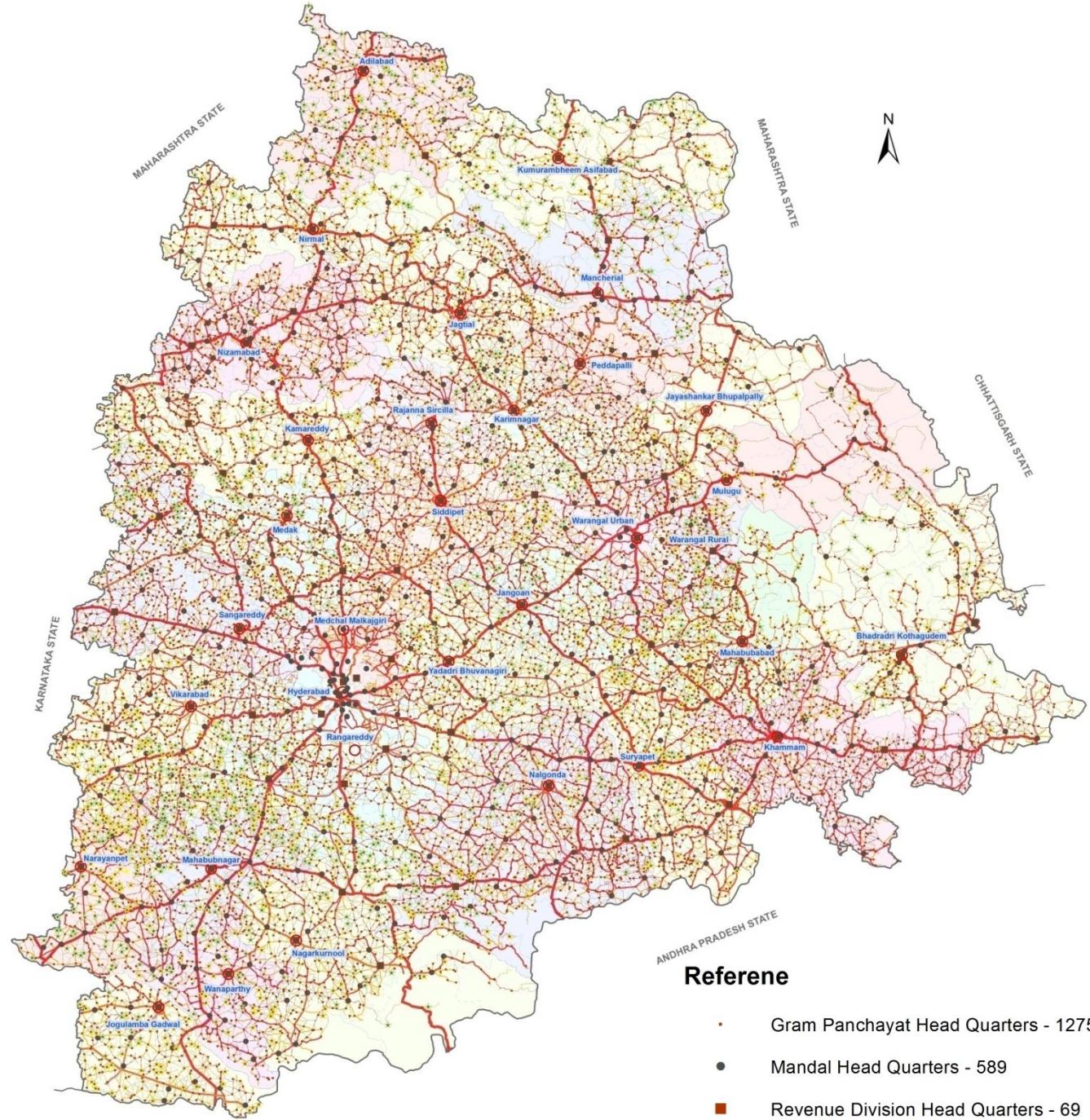
Existing P R Roads

- Bituminous (BT), Cement Concrete (CC) Road - 22,819.62 km
- Water Bound Macadam (WBM) Road - 8,379.90 km
- Gravel, Earthen Road - 28,763.08 km

Referene

- Gram Panchayat Head Quarters - 12751
- Mandal Head Quarters - 589
- Revenue Division Head Quarters - 69
- District Head Quarters - 33

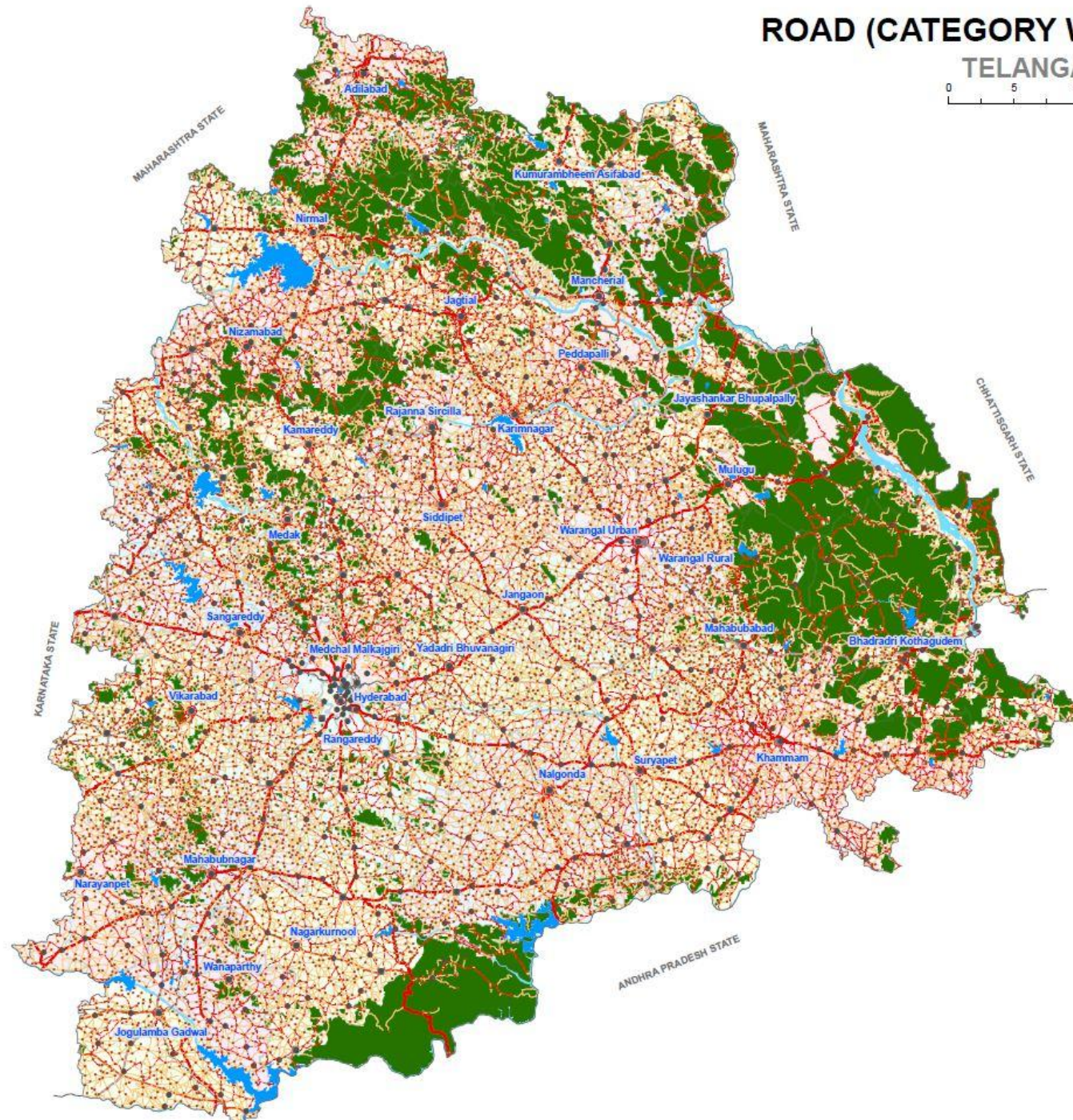
- Mandal Boundary
- District Boundary
- State Boundary



ROAD (CATEGORY WISE) NETWORK MAP

TELANGANA STATE

0 5 10 20 km



Reference

Category *

- National Highway (NH) - 3,762.16 km
- National Highway (Proposed) - 1,533.49 km
- State Highway (SH) - 1,451.71 km
- Major District Road (MDR) - 11,561.72 km
- Other District Road (ODR) - 13,783.72 km
- Rural Road - 60,161.02 km
- Railway Network
- Gram Panchayat Head Quarters - 12,761
- Mandal Head Quarters - 589
- Revenue Division Head Quarters - 72
- District Head Quarters - 33

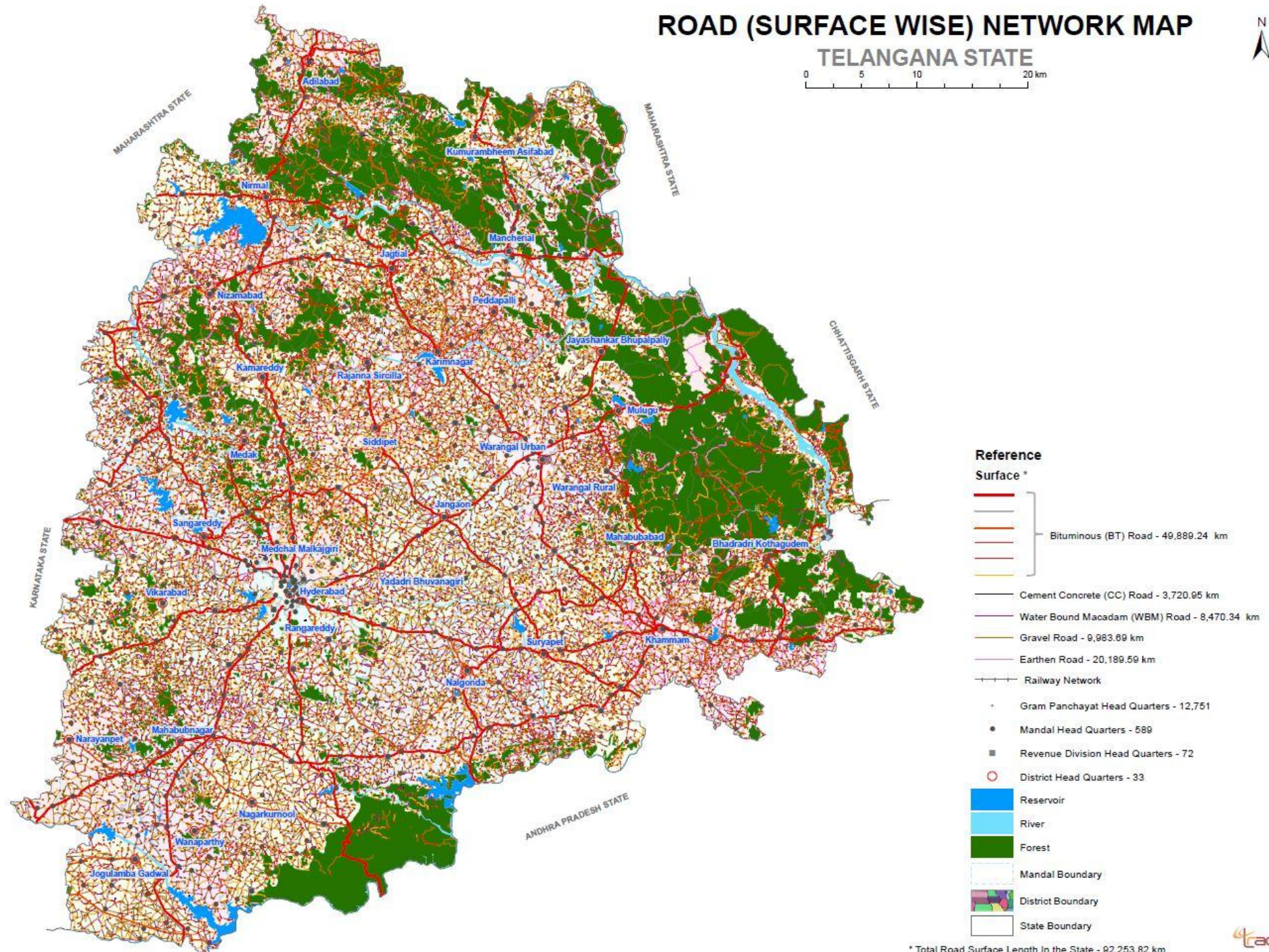
- Reservoir
- River
- Forest
- Mandal Boundary
- District Boundary
- State Boundary

* Total Road Length In the State - 92,253.82 km

ROAD (SURFACE WISE) NETWORK MAP

TELANGANA STATE

0 5 10 20 km

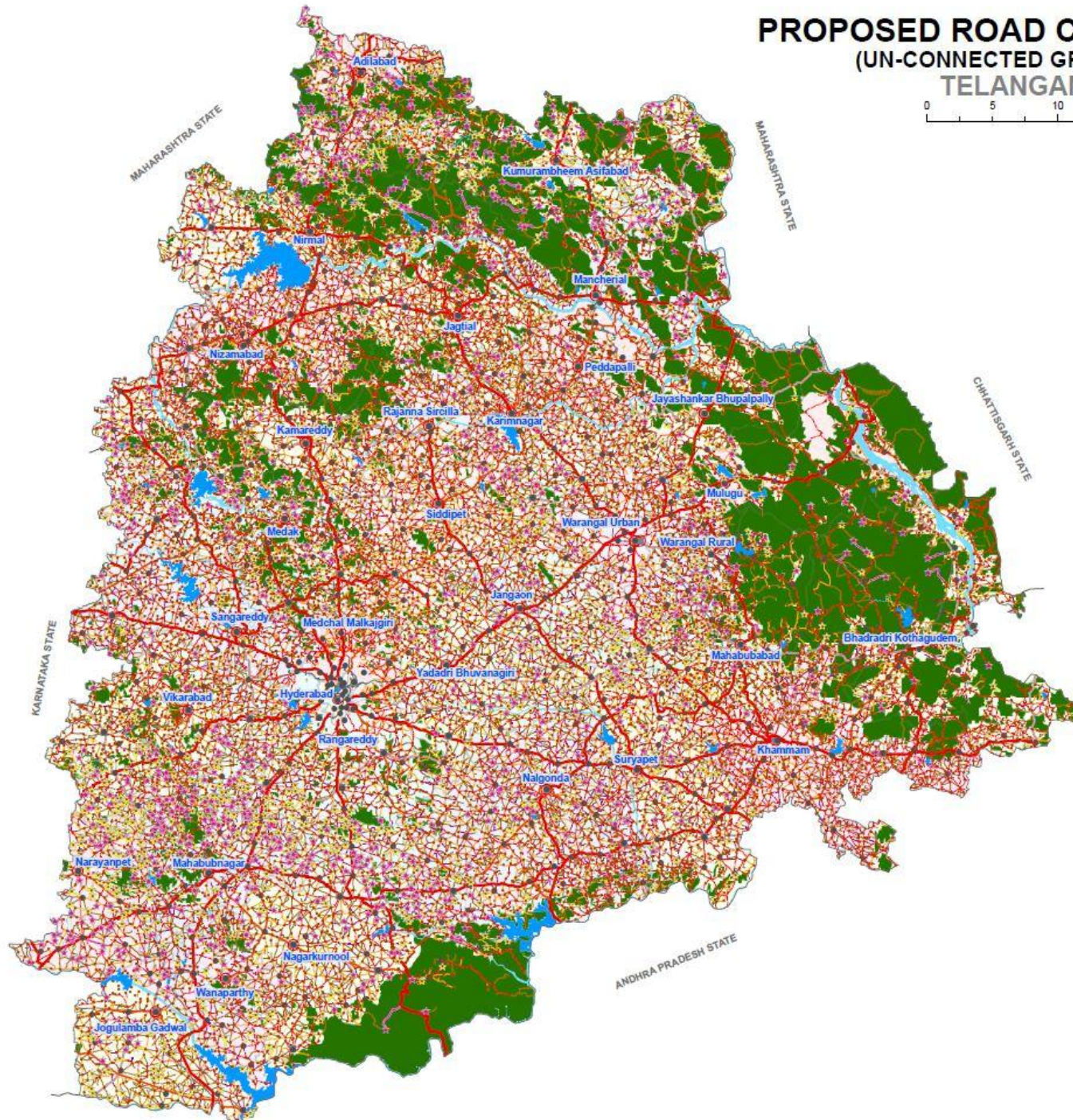


* Total Road Surface Length In the State - 92,253.82 km

PROPOSED ROAD CONNECTIVITY MAP (UN-CONNECTED GRAM PANCHAYATS) TELANGANA STATE



0 5 10 20 km



Reference

Road Connectivity

- ★ Unconnected Gram Panchayat - 839
- ★ Ongoing Gram Panchayat - 716
- Connected Gram Panchayat - 11,196

- Proposed - 1,450.56 km
- Ongoing - 1,751.62 km

Existing P R Roads

- Bituminous (BT), Cement Concrete (CC) Road - 22,813.88 km
- Water Bound Macadam (WBM) Road - 8,387.15 km
- Gravel, Earthen Road - 28,959.99 km

Existing R & B Roads and Rail

- National Highway (NH) - 3,762.16 km
- National Highway (Proposed) - 1,533.49 km
- State Highway (SH) - 1,451.71 km
- Major District Road (MDR) - 11,561.72 km
- Other District Road (ODR) - 13,783.72 km
- Railway Network

- Gram Panchayat Head Quarters - 12,751
- Mandal Head Quarters - 589
- Revenue Division Head Quarters - 72
- District Head Quarters - 33

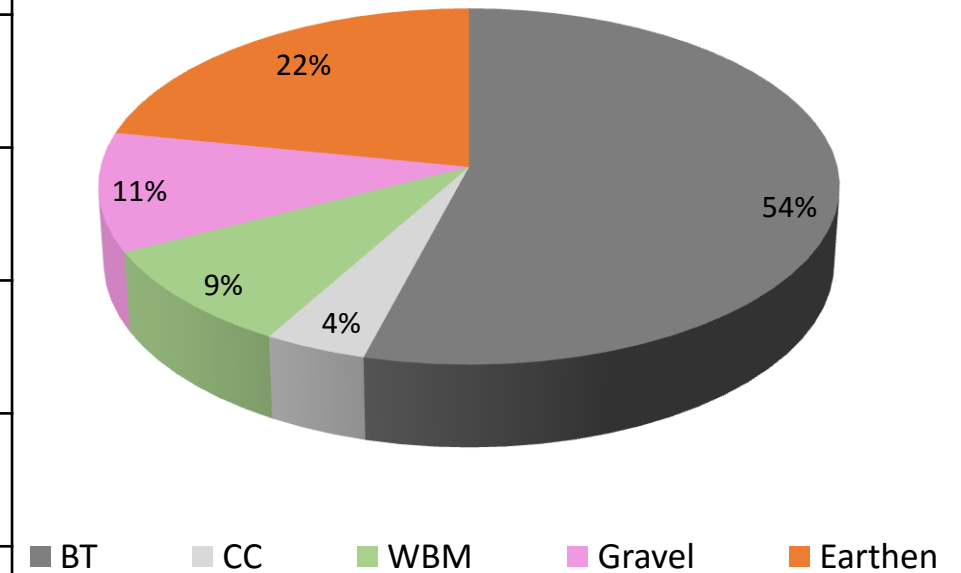
- Reservoir
- River
- Forest
- Mandal Boundary
- District Boundary
- State Boundary



Prioritisation of Unconnected Habitations/Gram Panchayats

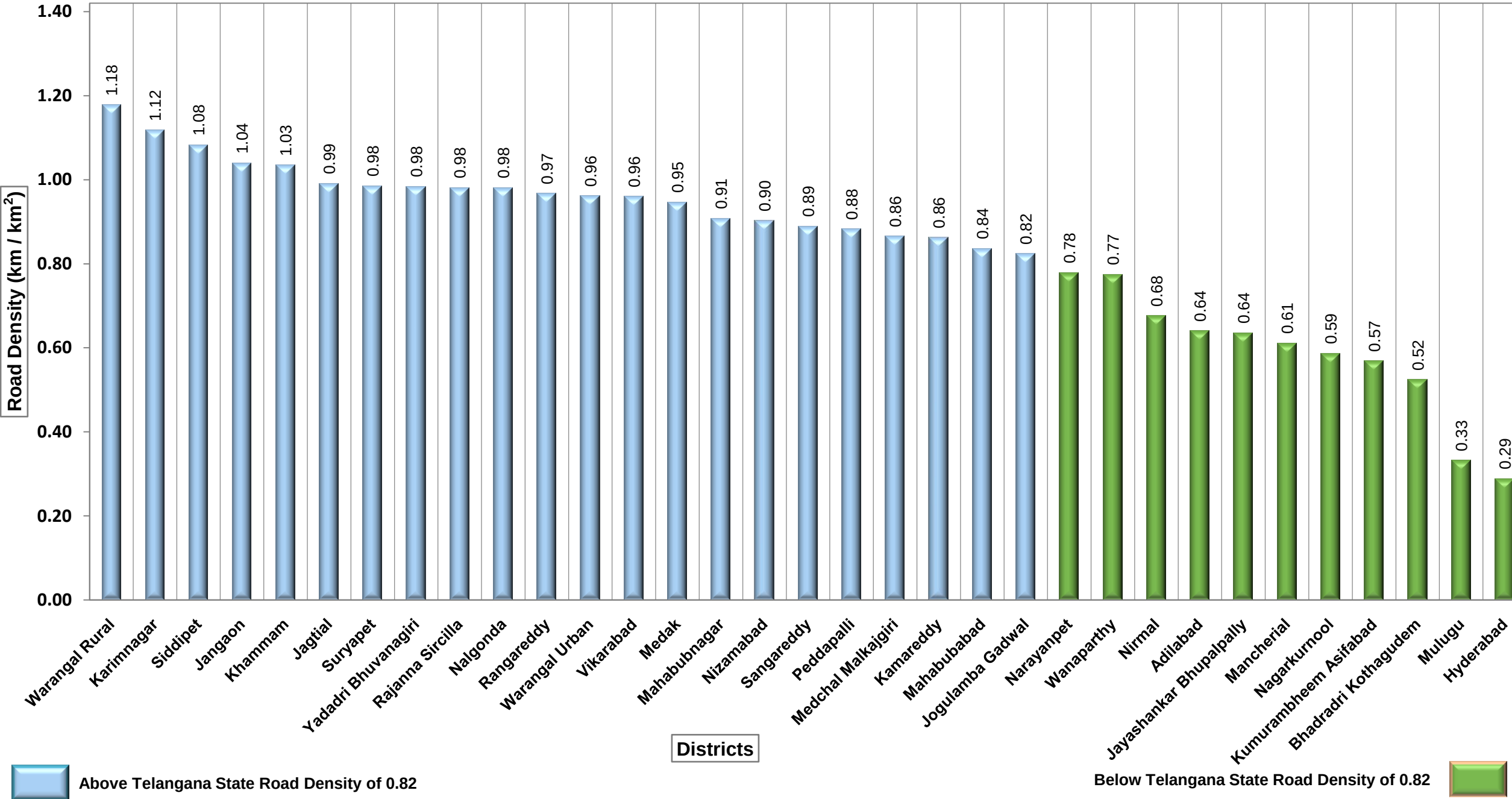
ROAD SURFACE TYPE	LENGTH (km)	PERCENT
Cement Concrete (CC)	3,716	4.03
Black Top (BT)	49,933	54.22
Paved Roads Total	53,649	58.0
Water Bound Macadam (WBM)	8,463	9.19
Gravel	9,964	10.82
Earthen	20,026	21.74
Non-Paved Roads Total	38,453	42.0
Rural Roads - Grand Total	92,101	

Unconnected GPs with BT /CC Roads – 832

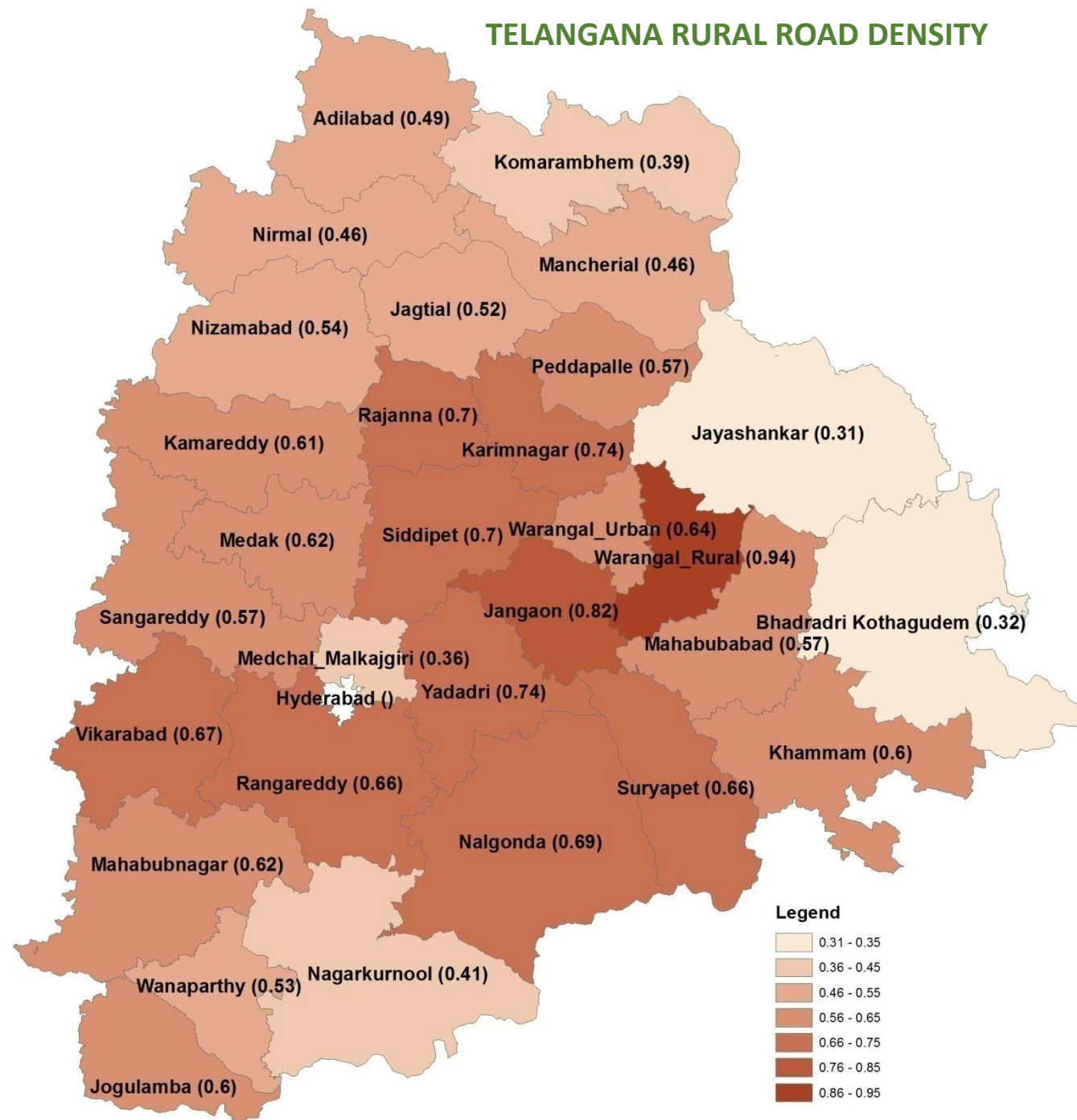


Note - The figures provided above are as per the GIS database created at TRAC, these are yet to be confirmed by PRED field Engineers.

TELANGANA STATE – DISTRICT WISE ROAD DENSITY

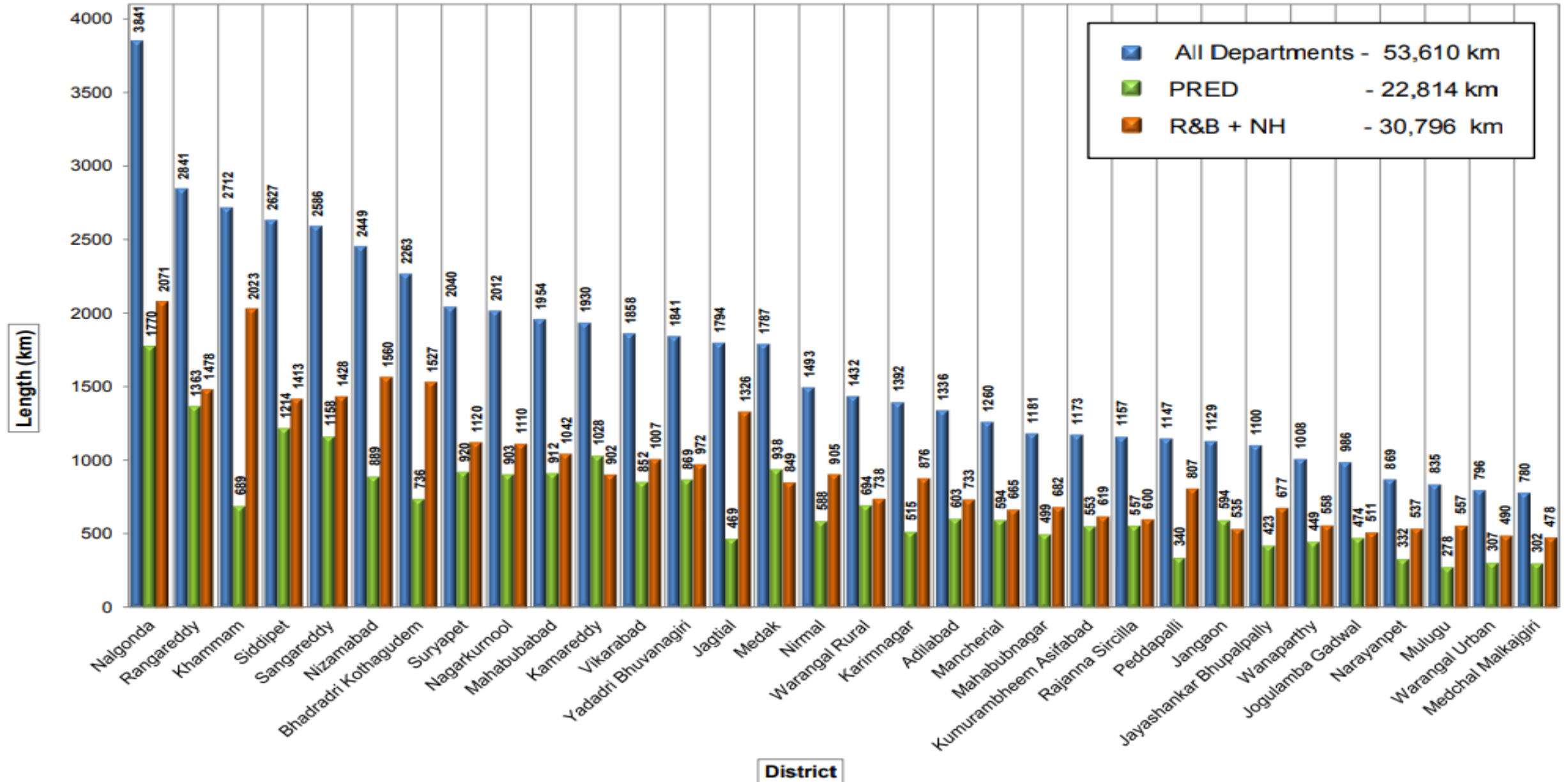


TELANGANA RURAL ROAD DENSITY



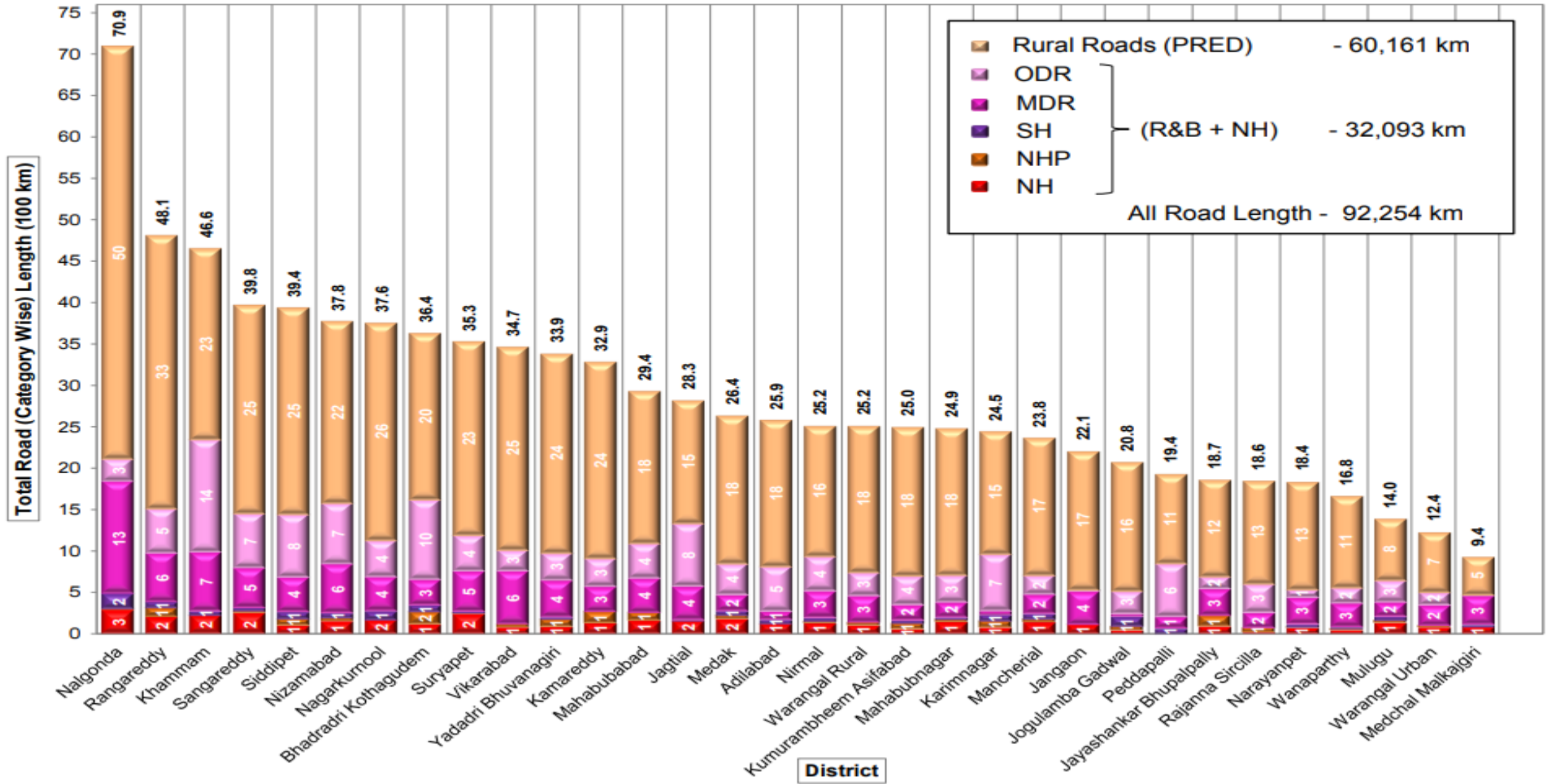
ROAD DENSITY ANALYSIS

Department wise Pucca (NH,SH,BT/CC) Road Length

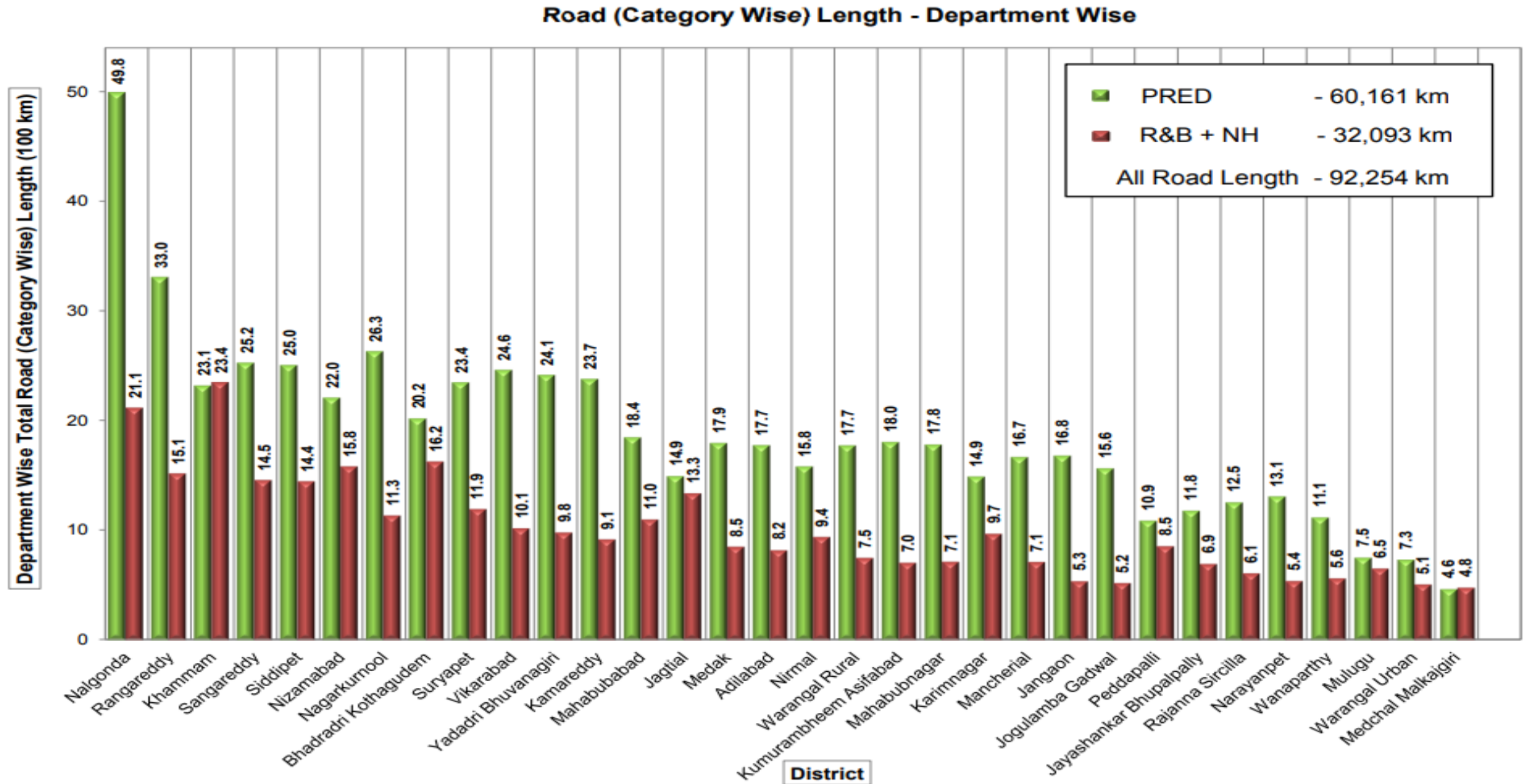


ROAD (CATEGORY WISE) NETWORK ANALYSIS

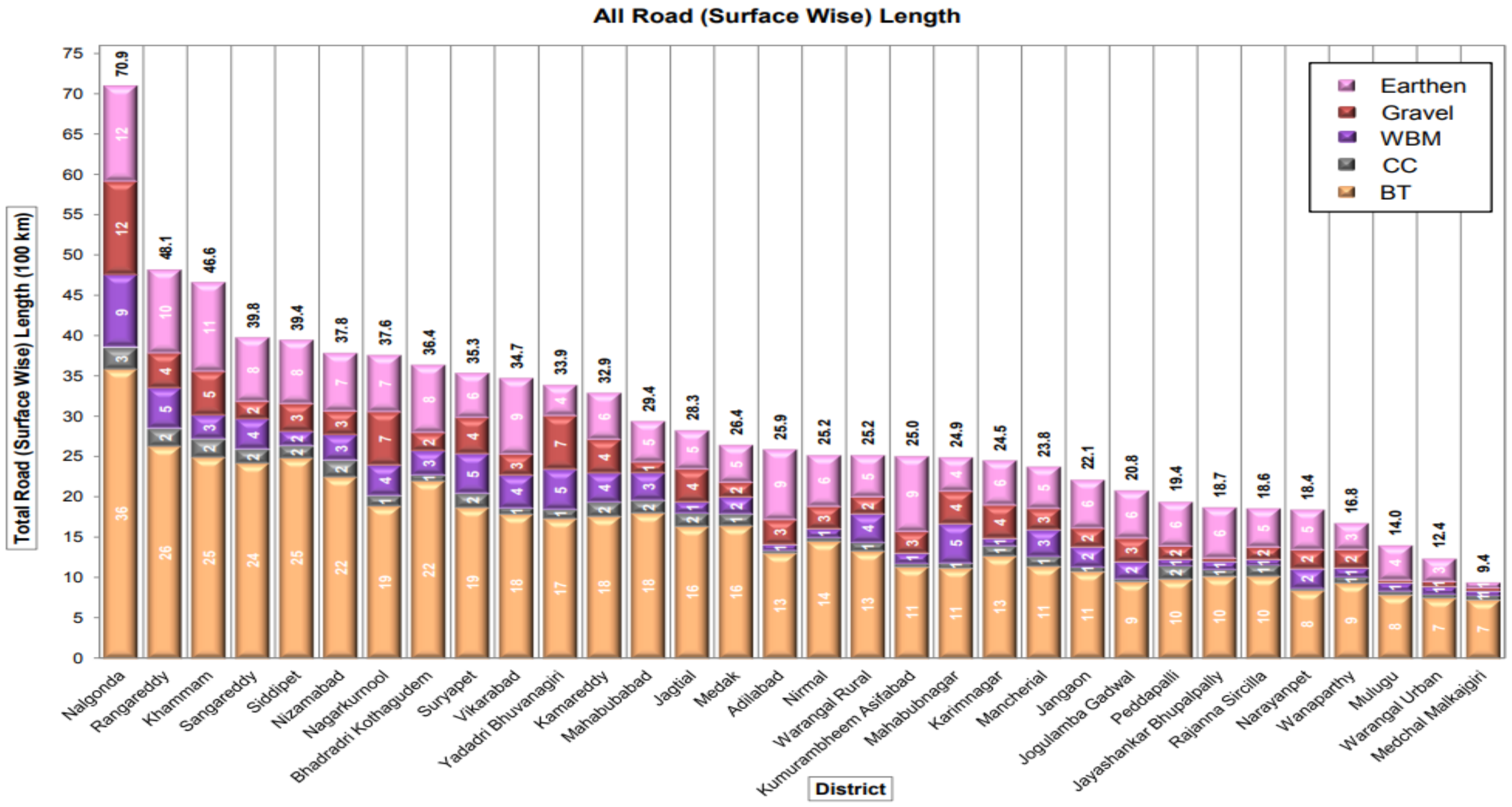
All Road (Category Wise) Length



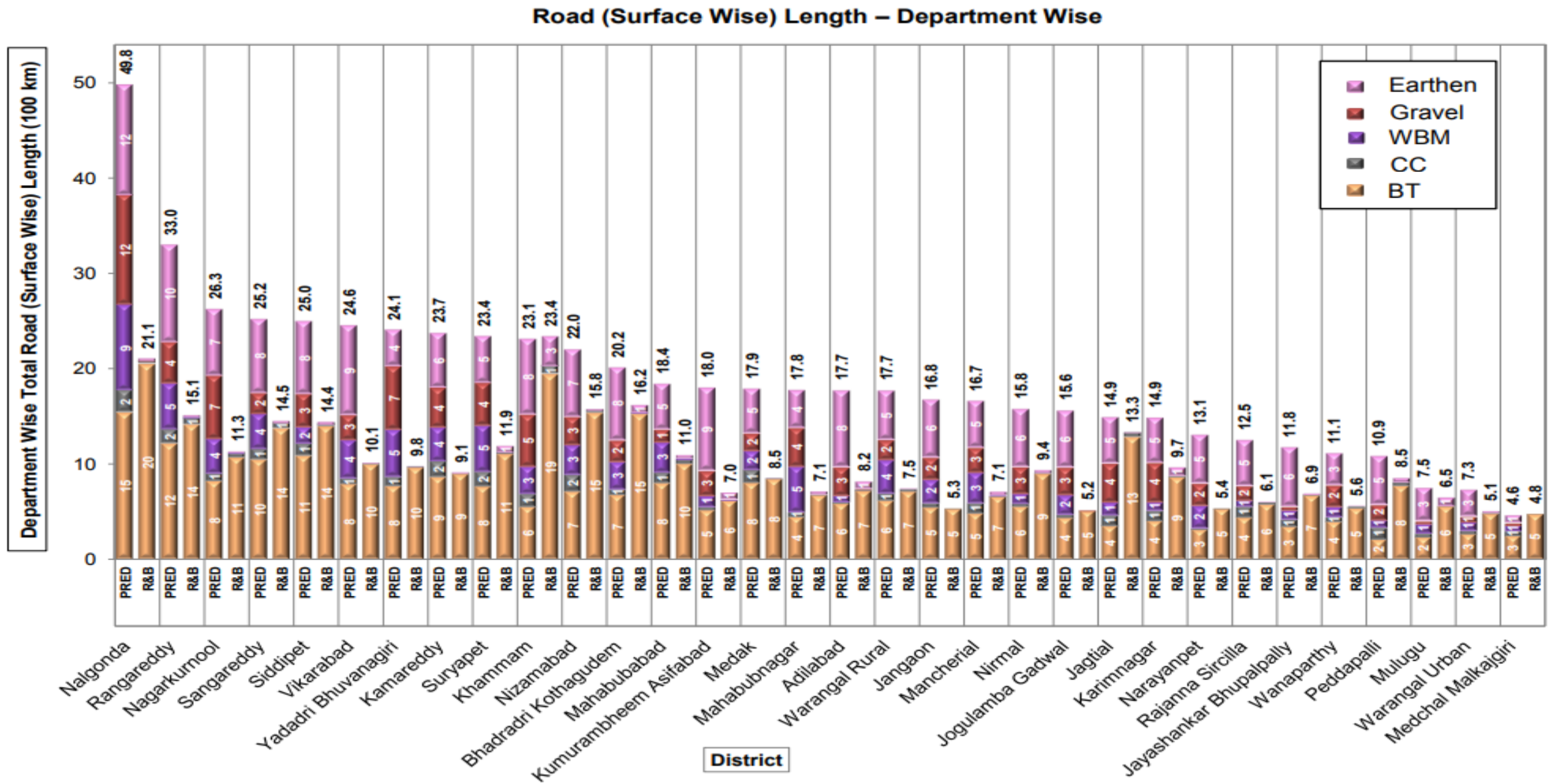
ROAD (CATEGORY WISE) NETWORK ANALYSIS



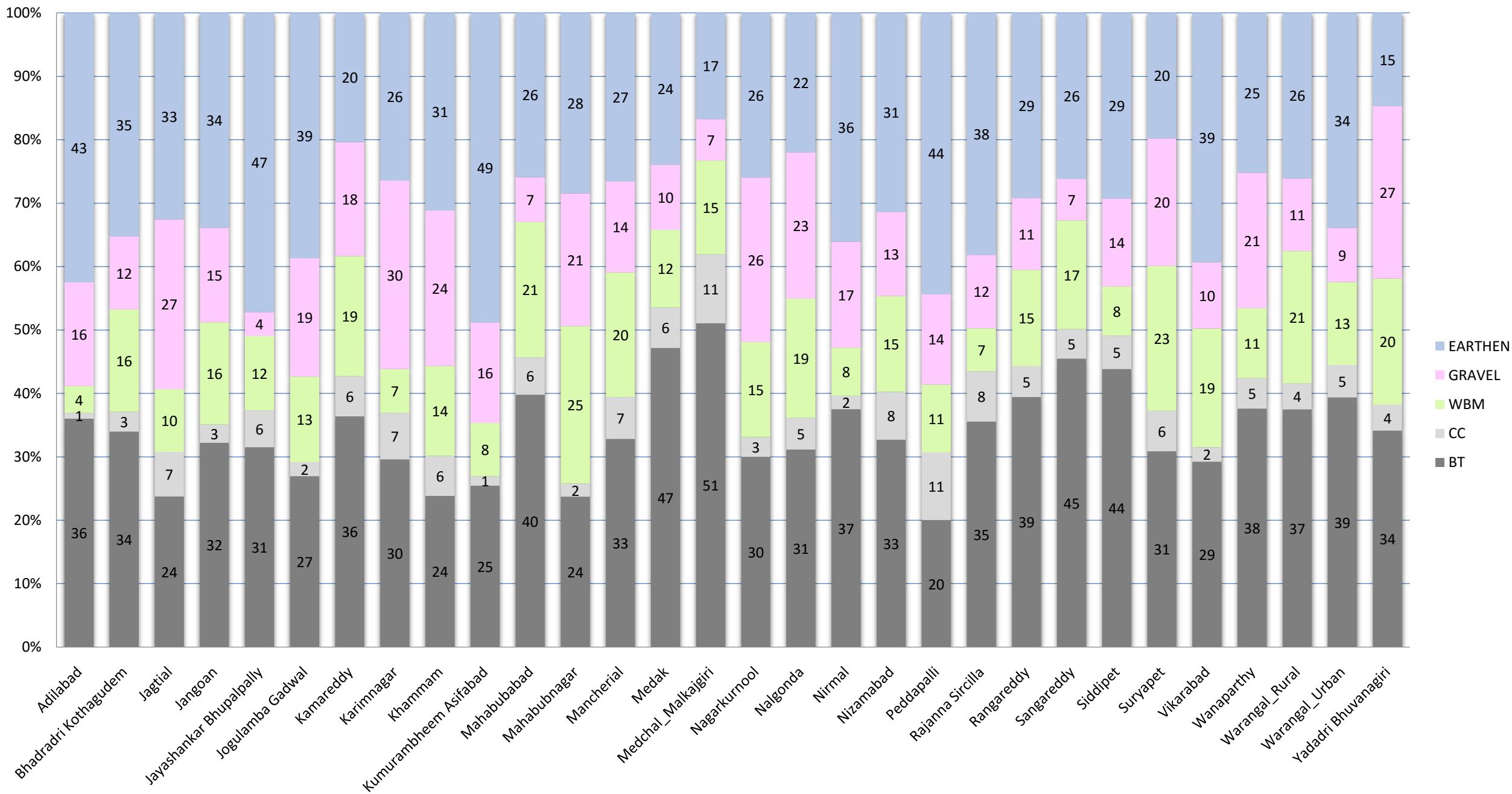
ROAD (SURFACE WISE) NETWORK ANALYSIS



ROAD (SURFACE WISE) NETWORK ANALYSIS

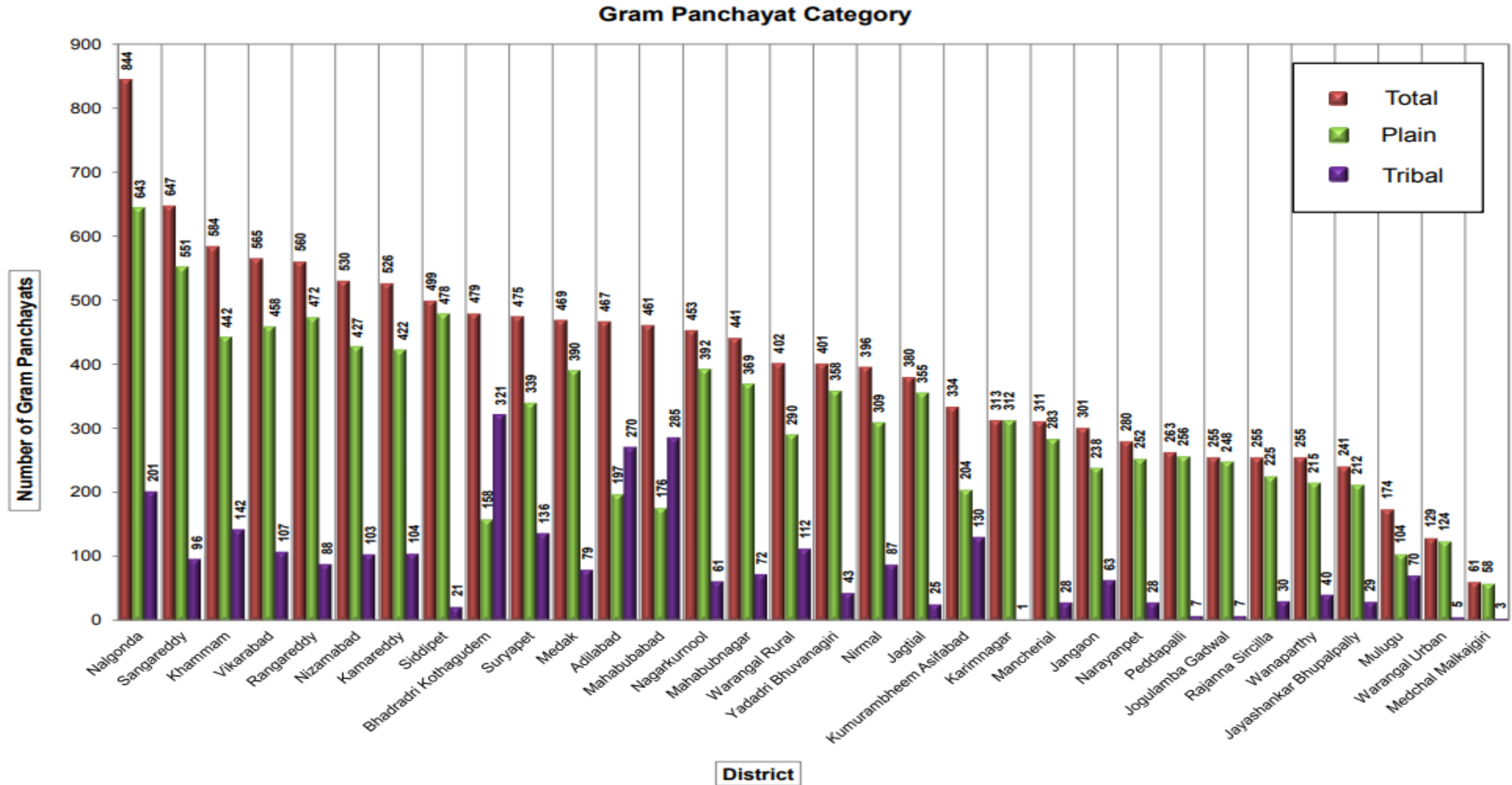


DISTRICT WISE PERCENTAGE OF ROAD SURFACE TYPE- GEOSPATIAL DATA



Existing Road Connectivity			
From	To	Category	Surface
District HQ. (31)	State HQ.	National Highway (NH) / State Highway (SH) Road	Bituminous (BT) / Cement Concrete (CC)
Mandal HQ. (589)	District HQ.	249: National Highway (NH) / State Highway (SH) Road	Bituminous (BT) / Cement Concrete (CC)
		286: Major District Road (MDR) / Other District Road (ODR)	Bituminous (BT) / Cement Concrete (CC)
		44: Rural Road	Bituminous (BT) / Cement Concrete (CC)
Gram Panchayat HQ. (12,751)	Mandal HQ.	1,106: National Highway (NH) / State Highway (SH) Road	Bituminous (BT) / Cement Concrete (CC)
		5,123: Major District Road (MDR) / Other District Road (ODR)	Bituminous (BT) / Cement Concrete (CC)
		8: Other District Road (ODR)	Water Bound Macadam (WBM)/ Gravel / Earthen
		4966: Rural Road	Bituminous (BT) / Cement Concrete (CC)
		694: Rural Road	Water Bound Macadam (WBM)
		847: Rural Road	Gravel / Earthen

GRAM PANCHAYAT ANALYSIS

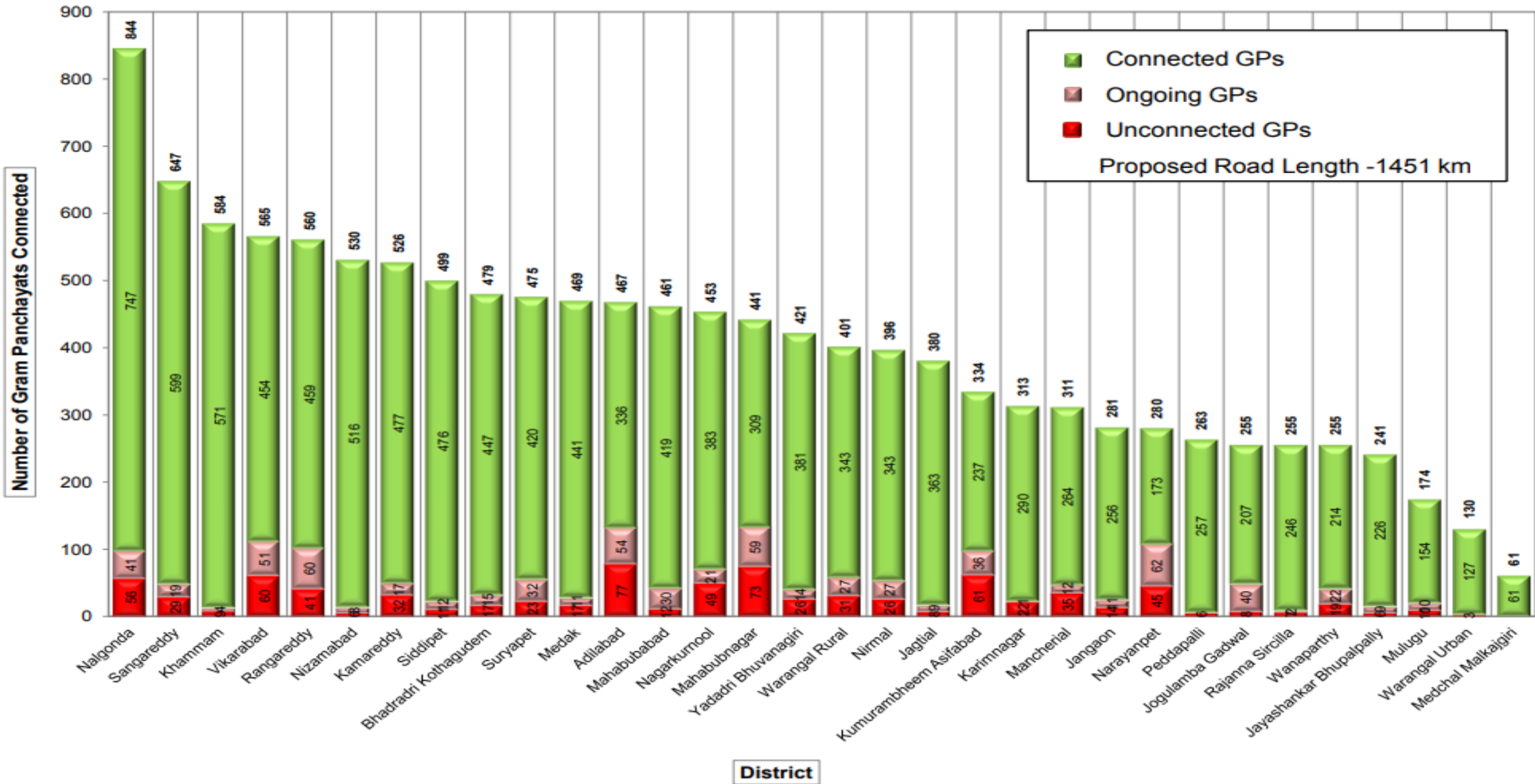


District Wise – GP Road Connectivity Status

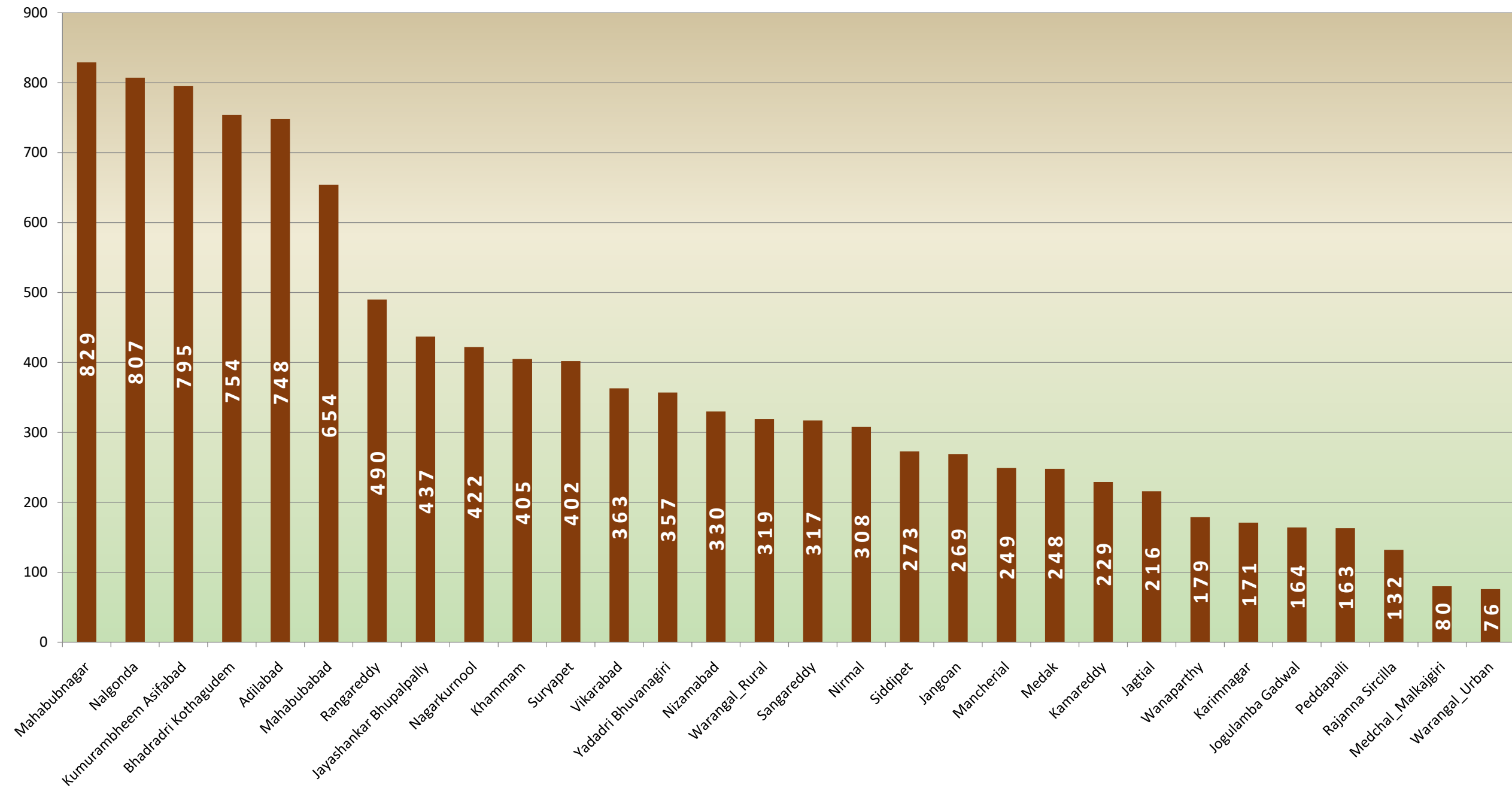
S.No.	District	Connected GPs	Unconnected GPs	Ongoing GPs	Total GPs
1	Adilabad	335	77	55	467
2	Mahabubnagar	309	73	59	441
3	Kumurambheem Asifabad	237	61	36	334
4	Vikarabad	454	60	51	565
5	Nalgonda	750	53	41	844
6	Nagarkurnool	383	49	21	453
7	Narayanpet	173	45	62	280
8	Rangareddy	459	41	60	560
9	Mancherial	264	35	12	311
10	Kamareddy	477	32	17	526
11	Warangal_Rural	343	31	27	401
12	Sangareddy	599	29	19	647
13	Nirmal	343	26	27	396
14	Yadadri Bhuvanagiri	381	26	14	421
15	Suryapet	420	23	32	475
16	Karimnagar	291	21	1	313
17	Wanaparthy	214	19	22	255
18	Bhadradri Kothagudem	447	17	15	479
19	Medak	441	17	11	469
20	Jangaon	256	14	11	281
21	Mahabubabad	419	12	30	461
22	Mulugu	154	10	10	174
23	Khammam	571	9	4	584
24	Jagtial	363	8	9	380
25	Jogulamba Gadwal	207	8	40	255
26	Siddipet	479	8	12	499
27	Rajanna Sircilla	246	7	2	255
28	Jayashankar Bhupalpally	226	6	9	241
29	Nizamabad	516	6	8	530
30	Peddapalli	257	6	0	263
31	Warangal_Urban	127	3	0	130
32	Medchal_Malkajgiri	61	0	0	61
Grand Total		11,202	832	717	12,751

GRAM PANCHAYAT ANALYSIS

Gram Panchayat Connectivity



DISTRICT WISE NO OF HABITATIONS WITHOUT BT/CC ROADS





Scientific Approach for Allocation of Funds

Cost Benefit Analysis

Proposals from	No of GPs Proposed for Connectivity	Proposed Road Length (km)	Proposed Amount (Lakhs)
Field Analysis	862	1,861.02	1,43,117
Geospatial Analysis	832	1,450.87	1,11,575
Cost Benefit Analysis	30	410.15	31,542

GIS Layers / Analytics / Query

Layers Analytics Query Edit Road Details

- ☒ Satellite Imagery
- ☒ Gram Panchayaths
- ☒ PR Road Layers
- ☒ R&B Roads
 - ☐ R&B Roads
- ☒ RIS Symbology
 - ☒ Ongoing_Road
 - ☒ State Level View
 - ☒ Revenue Head Quarters
 - ☒ District Head Quarters
 - ☒ State Head Quarter
 - ☒ State Boundary
 - ☐ Parliament Constituency Boundary
 - ☐ Assembly Constituency Boundary
 - ☐ District Boundary
 - ☒ Existing R & B Roads
 - ☒ National Highway (Proposed)
 - ☒ National Highway (NH)
 - ☒ State Highway (SH)
 - ☒ District Level View
 - ☒ Gram Panchayats Connectivity
 - ☒ Connected Grampanchayat
 - ☒ Unconnected - Ongoing Gram Panch
 - ☒ Unconnected - Proposed Gram Panch
 - ☐ Gram Panchayat Head Quarters Location
 - ☐ Mandal Head Quarters
 - ☒ Revenue Head Quarters
 - ☒ District Head Quarters
 - ☐ State Boundary
 - ☐ Parliament Constituency Boundary
 - ☐ Assembly Constituency Boundary
 - ☐ District Boundary
 - ☐ Revenue Division Boundary
 - ☐ Mandal Boundary
 - ☐ Gram Panchayat Head Quarters Location
 - ☐ Existing R & B Roads
 - ☒ National Highway (Proposed)
 - ☒ National Highway (NH)
 - ☒ State Highway (SH)
 - ☒ District Major Road (DMR)

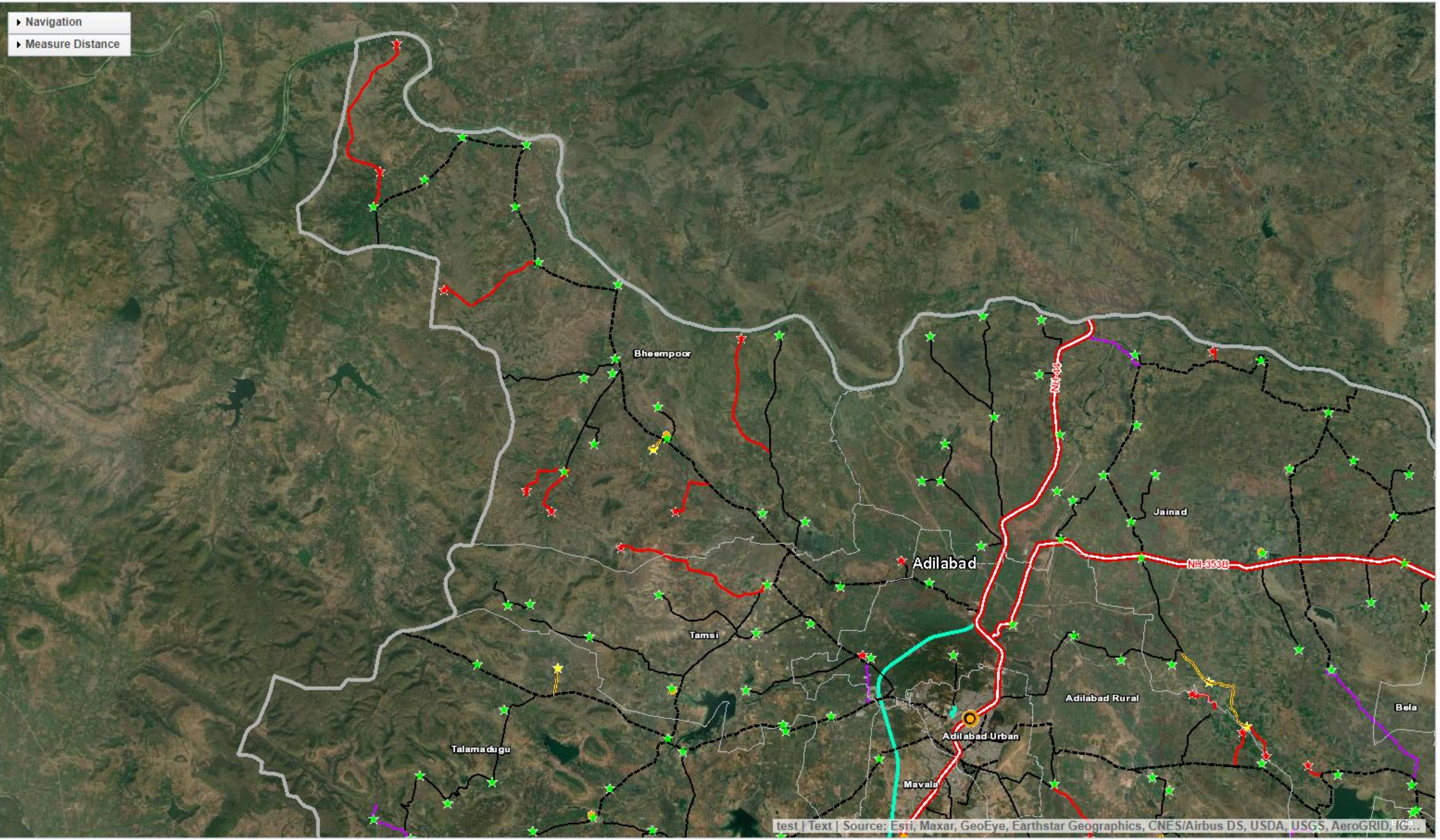
DMR - BT / CC

Identity

Navigation
Measure Distance


test | Text | Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IG...

- Navigation
- Measure Distance



District Name: JAGTUL

Block Name:RAKAL

Legend:

DHPP_major		DHPP
NOR		1,000 - 1,000
		1,000 - 4,000
		5,000 - 7,000
		7,000 - 11,000
OUTPUT/Relship		11,000 - 15,000
Bank		15,000 - 20,000
Black Headquarter		20,000 - 25,000
Panchayee Headquarter		25,000 - 30,000
School Headquarter		30,000 - 40,000
Community Health Centre		40,000 - 60,000
Rail Bus		60,000 - 80,000
Fuel Station		80,000 - 90,000
Mand (Khet)M		90,000 - 120,000
Gharu		120,000 - 180,000
Cash (Khet)M		180,000 - 4,00,000
Water		4,00,000 - 60,000
Cost Storage		* Habituation
Is Part of Rural Quarter?		Habituation/Dowload/Rail
Industry		Facility
High School - General		DHPP/downloaded/Rail
Collection Center or Pack House		* Rail, Manual
ATI		
High School - Girls		
Higher Secondary School		
Degree College		
Vocational Institute		
Primary Health Centre		

[illegible]

Insurances:

- 1. Trace Maps to be used for identifying Through Roads & MFL in the Stock and in the Field.
- 2. A path from each habitation is traced to its nearest school, market, and other important places.
- 3. Importance of a road is based on the population that use the road to access their nearest schools, hospitals, markets and administrative facilities.
- 4. Roads are identified as follows:
 - a. Roads that are identified as important are marked as **IMR**.
 - b. **PIU** may go through each road in order of rank to identify important **IMR**'s.
 - c. Multiple roads can be combined to make single **IMR**'s. Roads with low rank (**IS**) can be combined with low ranking adjoining roads.
 - d. High class District roads are identified as **IMR** based on road knowledge but not identified through Trace Maps. **PIU** may still identify these roads as **IMR**'s.
- 5. While individual and exact rank may not be accurate, **PIU** should try to identify roads in order of rank.
- 6. The **PIU** may identify low ranking roads as **IMR**'s based on their local knowledge and the importance of the important roads in the area.
- 7. The **PIU** is allowed to take part of importance of an important road and combine with other roads while identifying **IMR**'s for the purposes of candidate roads.
- 8. **PIU** may identify roads as **IMR**'s based on their local knowledge but not identified through Trace Maps.
- 9. **PIU** and **OWS** have liability as checked during **CUEP** process.

Notes: Trace Map Score is not Utility Value
Trace Map ranks are to identify candidate roads only
Priority is decided by Utility Values later

Habitations and Roads - PMGSY II Raikal Mandal, Jagtial District



Legend

● Habitations

Mandal Boundary

Road Type

— Panchayat Raj Engineering Roads

— R & B Roads



0 1.75 3.5 7 Kilometers



3:38 PM

...0.1KB/s 4G 74

PR-Roads 

User

District

01015001

Adilabad

Mandal

Date

Bheempoor

14-6-2019

Select the Activity:

Select from here

Select Road




Telangana State Remote Sensing Applications Centre

11:53 AM

... 4G 3G

PR Roads 

Select from here

Progress Monitoring

Infrastructure

Culverts

Cross Drainage Attribute

Pipe Culvert Attribute

Level Crossing Point

Construction Material Sites Point

Waste Material Sites Point

Telangana State Remote Sensing Applications Centre

11:29 AM

... 0.00KB/s 4G 74

PR Roads 

CD Work Id No. *

DDMMRRRTNNN

CD Work Type *

Select WorkType

Estt Cost (Rs. In Lakhs)

RS. in Lakhs

Grant

Select Grant

Reach in m (Road Chinage)*

Type Of Stream

River

Name of Stream

Telangana State Remote Sensing Applications Centre

3:39 PM

...0.0KB/s 4G 74

PR-Roads 

Chainage in m*

5

Surface Type

Condition

Earthern

Bad




Latitude: 17.4079844
Longitude: 78.4599588

SAVE

VIEW RECORDS

Telangana State Remote Sensing Applications Centre

3:42 PM

...50.4KB/s 4G 73

PR-Roads 

2	14-6-2019	level_cross	17.407989
3	14-6-2019	const_material	17.407989

Alert
Sent Successfully!!!
OK

send

Delete

Telangana State Remote Sensing Applications Centre



ROAD ATLAS TELANGANA STATE



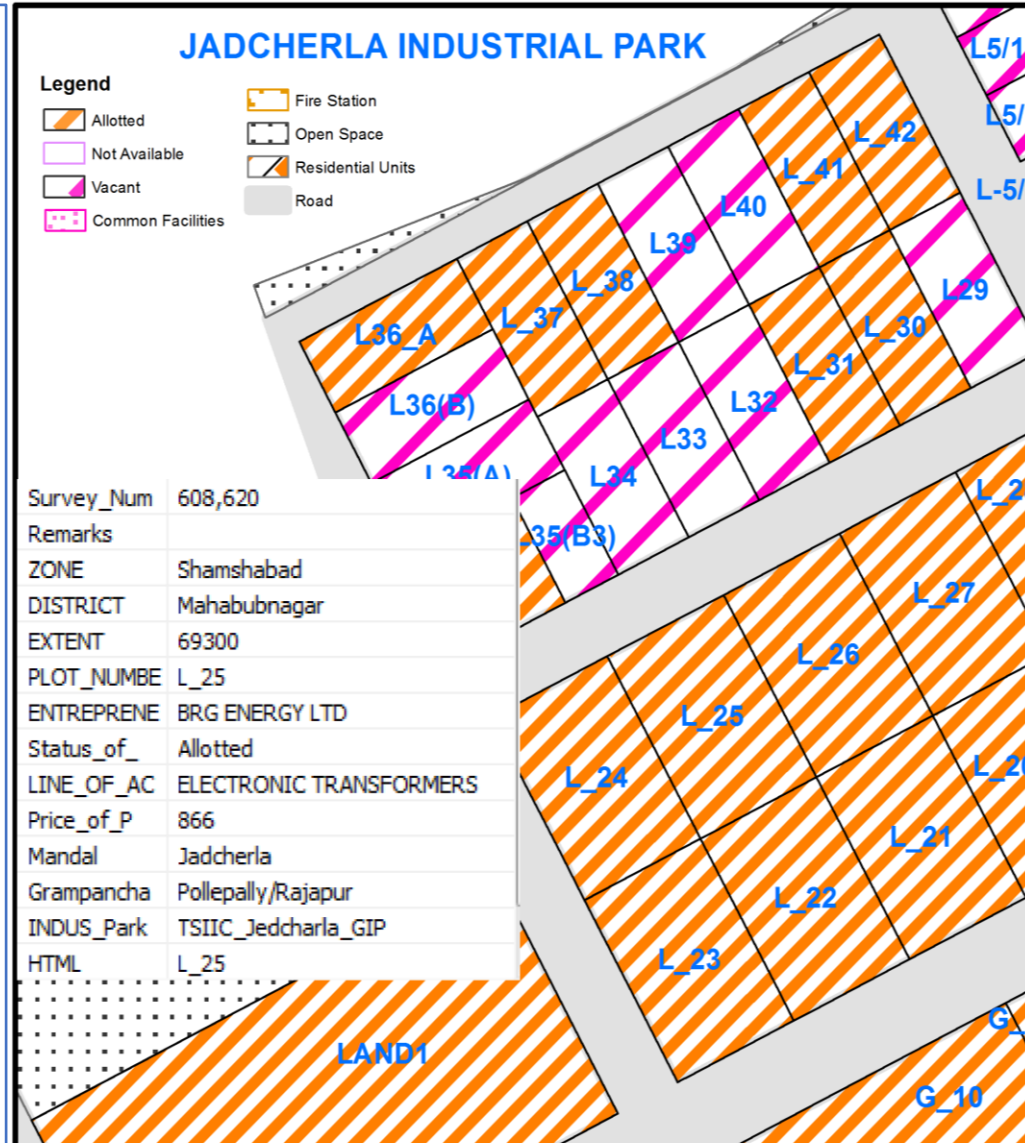
**TELANGANA STATE
REMOTE SENSING
APPLICATIONS CENTRE**
PLANNING DEPARTMENT, GOVT. OF TELANGANA



Telangana State Industrial Infrastructure Corporation (TSIIC)

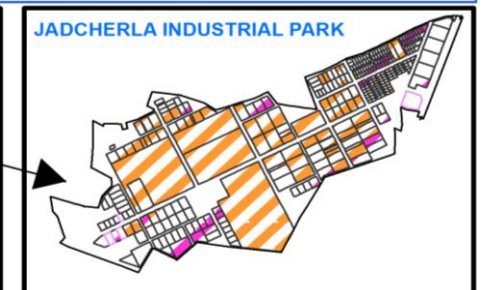
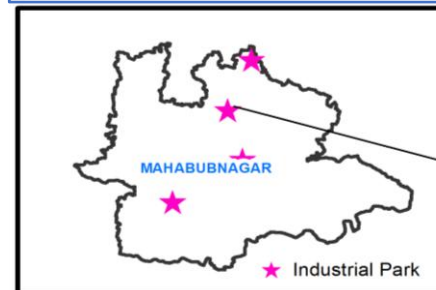
GIS Application for Ease of Doing Business

TRAC facilitates the prestigious program of Telangana State on Ease of doing Business to the Prospective Entrepreneurs in collaboration with TSIIC



A GIS web application for 107 Industrial parks, with detailed Spatial information on vacant plots and Infrastructure is developed.

All the amenities are visible for prospective entrepreneur to select the plot & apply and pay online.



Patencheru Industrial Park Layout Over High Resolution Satellite Data

Layers / Summary

Layers Summary

Fields	Values
Zone	Patancheru
District	Medak
Mandal	Patancheru
Gram Panchayat	Pashamylaram
Industrial Park	Textile_Park
Type of Industrial Park	Textile
Pollution Category of Industrial Park	Green
Allowed Industrial Categories	White and Green
Total Extent (in Sq. Mt.)	150009
Total No. of Plots	64
Average Size of Plots	2344
Plots Already Allocated	41
Total No. of Vacant Plots	23
Vacant Plots Extent (in Sq. Mt.)	25485
Distance from Airport (Km)	50
Road Connectivity	5kms from NH-9
Sub Station (Name with Distance)	Pashamylaram Sub Station 1 KM
Gas pipeline connection (Km)	No
Water Connection (Yes/No)	Yes
Classification	Textile Park
Total No. of Plants	0

Maximize / Minimize

Query by Admin Boundary

Query by District

Query by Industrial Park

----- Industrial Park -----

Query Plots

Details of 72 Plot Number

Fields	Values
Survey Number	125 TO 139,119,120,127,128 TO 140
Plot No.	72
Enteprenur	
Extent (Sq. Mt.)	2251
Price of Plot (in Lakhs)	63.8
Status of Plot	Vacant
Line of Activity	
Industrial Park	Textile_Park

Apply

Tribal Habitation – Darmajipet

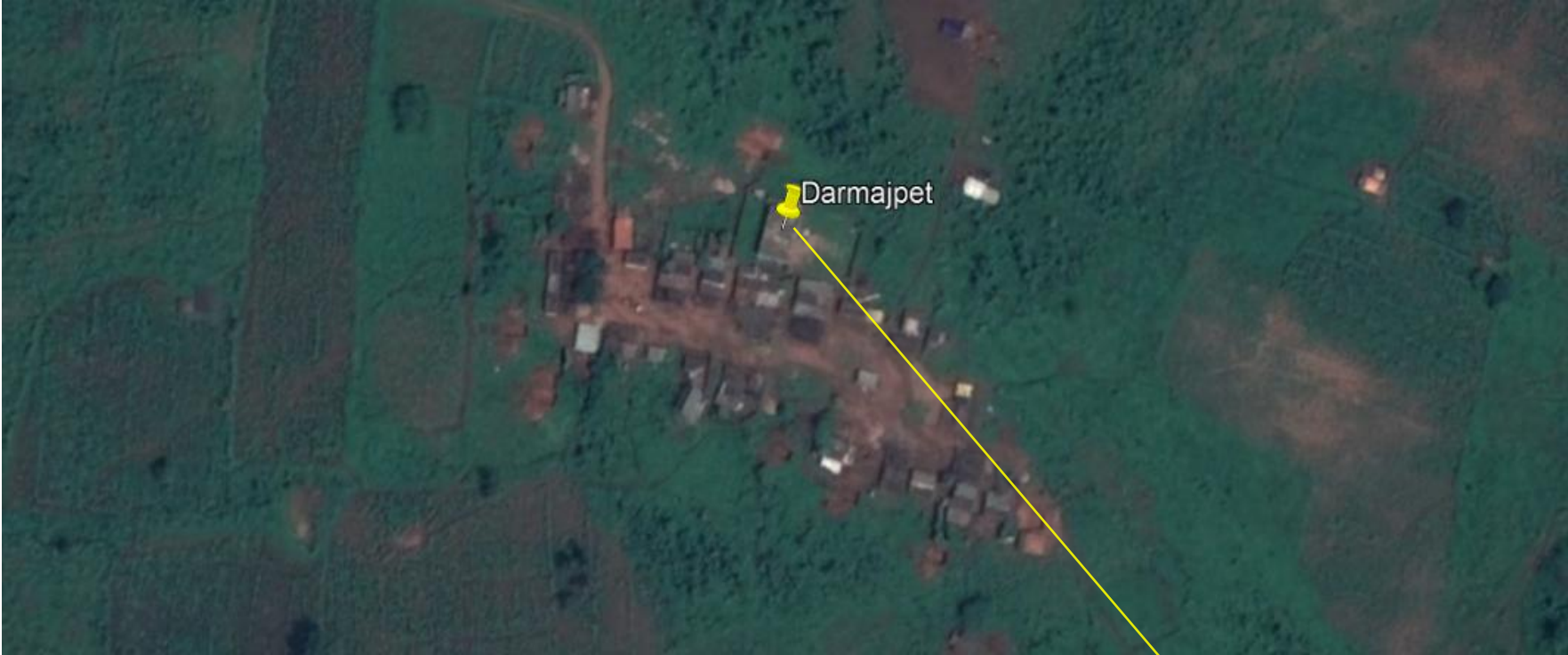


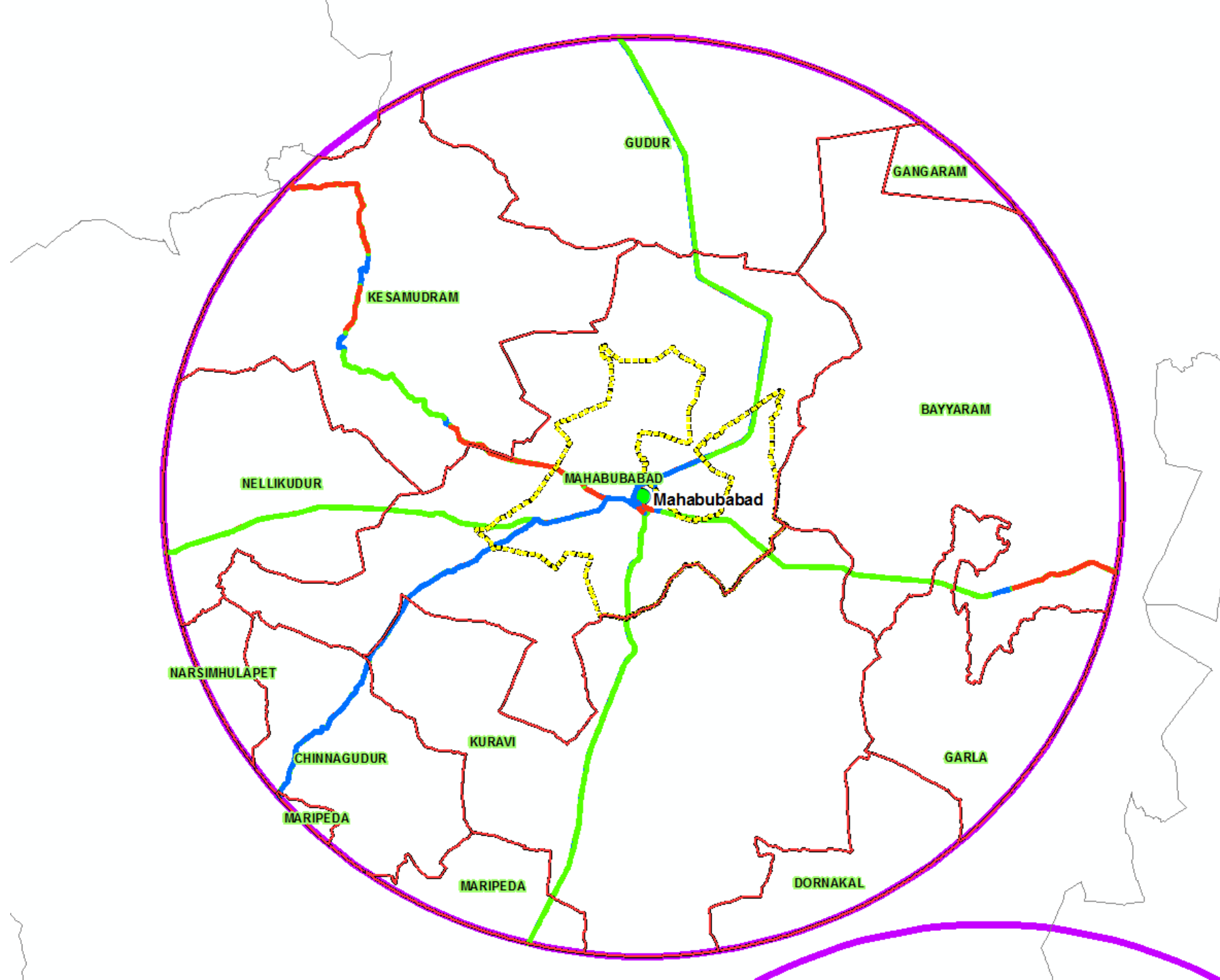
TRIBAL WELFARE INFORMATION SYSTEM

Habitation – Darmajipet
Population – 118
Households – 30

School Name – Darmajipet MPPS
Building Ownership – Government
Building Age – 8 Yrs
No of Rooms - 1
Classes upto – 5th Class
Medium of Teaching – Telugu
Total Students – 22
Total Boys – 13
Total Girls – 9
Male Teachers – 2
Female Teachers – 0
Non Teaching Staff – 1

Toilet Facility – No
Furniture – No
Drinking Water – Yes (Hand Pump)
Midday Meals – Yes
Electricity – Yes (Solar)
Telephone – No
Internet/Lab Facility – No





Centre Lane - Sutable Avenue

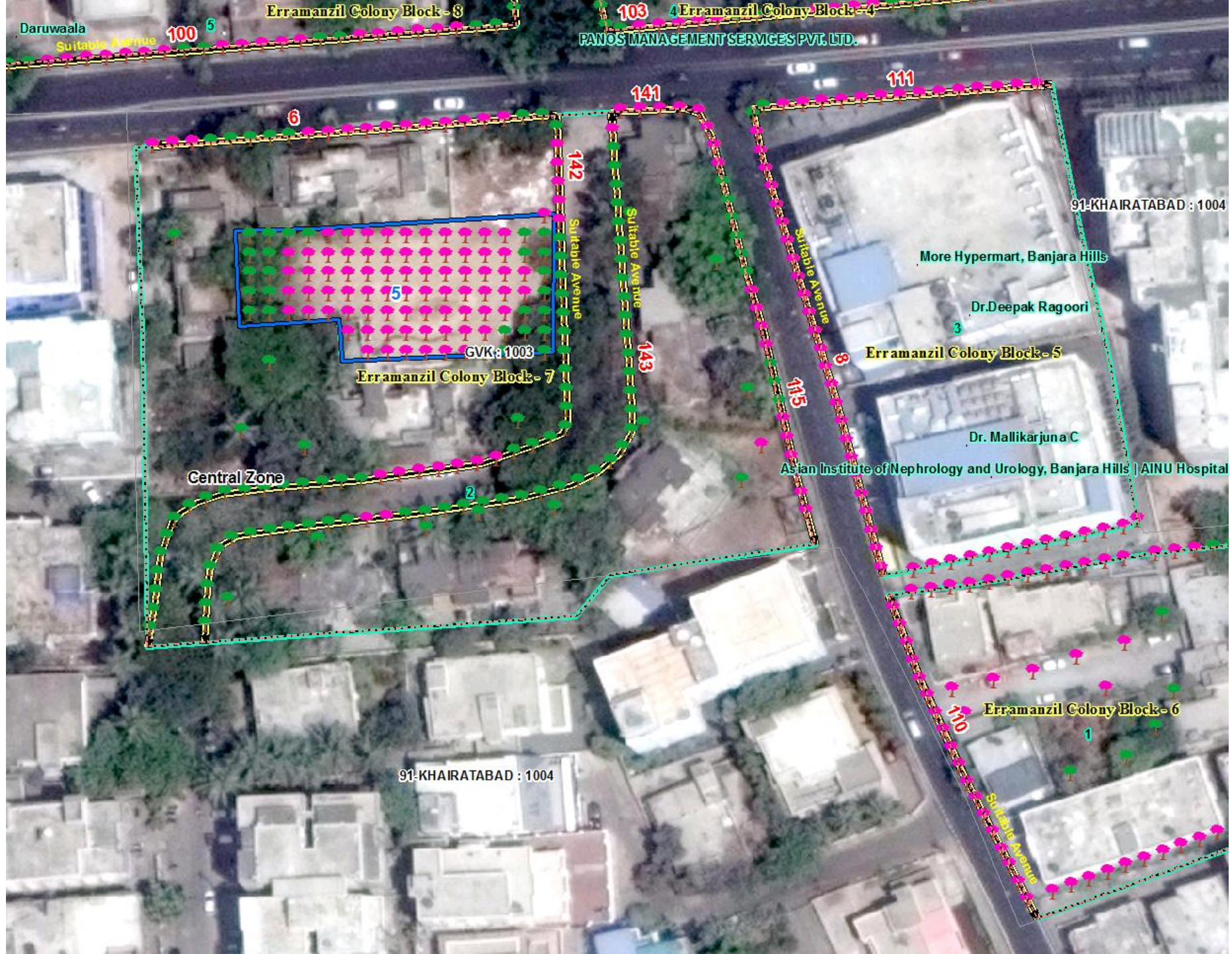
91 86

Left Lane 1 - Sutable Avenue

Right Lane 1 - Sutable Avenue

MAHABUBABAD

92



Contact Address



GANANKA BHAVAN (DE & S CAMPUS),
KHAIRTABAD, HYDERABAD – 500 004

Website : <http://trac.telangana.gov.in>



Thank You