



Directorate General NDRF & Civil Defence (Fire)
Ministry of Home Affairs
East Block 7, Level 7,
NEW DELHI, 110066,

**Fire Hazard and Risk Analysis in the Country for Revamping the
Fire Services in the Country**

**Final Report – State Wise Risk Assessment, Infrastructure and
Institutional Assessment of Phase-I States
(Chandigarh, Haryana, Himachal Pradesh, Punjab, Uttarakhand, and
Uttar Pradesh)**

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Submitted by

RMSI
A-8, Sector 16
Noida 201301, INDIA
Tel: +91-120-251-1102, 2101
Fax: +91-120-251-1109, 0963
www.rmsi.com

Contact: **Sushil Gupta**
General Manager, Risk Modeling and Insurance
Email: Sushil.Gupta@rmsi.com



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Executive Summary

Fire service is one of the most important emergency response services in the country, which comes under the 12th schedule of the constitution dealing with Municipal functions. At present, fire prevention and fire fighting services are organized by the concerned States and Union Territories (UTs), and Urban Local Bodies (ULBs). Directorate of National Disaster Response Force and Civil Defence (NDRF&CD, Fire Cell), Ministry of Home Affairs (MHA) render technical advice to the States, UTs, and central ministries on fire protection, prevention, and legislation. Fire services in Maharashtra, Haryana, Gujarat, Chhattisgarh, Madhya Pradesh (excluding Indore), and Punjab are under the respective Municipal Corporations. In the remaining States, it is under the respective Home Department.

The growth of fire-services in the country has been on an ad-hoc basis, without much scientific analysis of existing risks in different parts of the country. Varying risk scenarios need different types of equipment. The risk varies with geographical location such as hilly-area, coastal-area, desert-area, and with residential (high-rise, medium, and low rise-buildings), industrial, commercial area or a combination of these. Moreover, lack of knowledge management for future planning and institutional capacity and funds are also seen as one of the major challenges in addressing improvements in fire and emergency services in the country. As per a recent analysis by the Standing Fire and Advisory Council (SFAC), the overall deficiency in the country in terms of number of Fire Stations is 97.54%, in terms of fire fighting and rescue vehicles is 80.04% and in terms of fire personnel is 96.28%, respectively, which is quite alarming (NDMA Guideline, 2012, CR SFAC, 2011). In consideration of this and the increasing fire risks from various hazards, the Directorate of NDRF&CD, Fire Cell, MHA planned a study called “**Fire Hazard and Risk Analysis in the Country for Revamping the Fire Services in the Country**”, to identify existing gaps in terms of availability and requirement of Fire Stations, capacity-building, trained man-power and fire-fighting, rescue, and other specialized equipment.

The **broad objectives** of the study are:

- To carry out GIS thematic map based Fire Hazard and Risk analysis through overlaying hazards and quantified risk, and classify the districts as base units into appropriate risk categories such as very high, high, medium, or low.
- To prepare a detailed Investment and Financing Plan for next 10 years for up-gradation, expansion and modernization of Fire Services, based on existing situation analysis and risk based actual requirements.
- To develop an open-source GIS based software called as a Fire Decision Support System (FDSS) containing administrative boundaries, quantified risk GIS layers and with capability of estimation of financial implications for desired capacity development.
- To prepare an Institutional Assessment and Capacity Building Plan, based on field-data collection, enquiry, spatial analysis and understanding of the availability and gaps in the fire service infrastructure.

Role of Fire Services

The primary role of fire services has been to attend to fire incidents. Besides firefighting, fire department also attends to other emergencies such as building collapse, road traffic accidents, human and animal rescue etc., and other special service calls. Some fire services also attend medical emergencies for transportation of casualties through ambulances maintained by them. Similarly, some States, like Delhi, have separate flood department with rescue boats and trained divers. The Fire Services maintain skeletal facilities to act as *‘first*

responders' and wait until assistance from the flood department arrives. It is therefore, considered appropriate that the specialized facilities for such jobs is maintained and operated by the concerned department.

As indicated in the National Disaster Management Authority (NDMA) guidelines, Fire Service is one of the Emergency Support Functions (ESF). Based on DM Act 2005, various States have also formulated State Disaster Management Authorities (SDMA's) and District Disaster Management Authorities (DDMA's) both of which consider Fire Service as an ESF. It is, therefore, evident that the role of Fire Services has become multi-dimensional that includes not only attending fire incident calls but also various other emergencies. Accordingly, fire services in the jurisdiction of the respective Fire Station are required to be prepared with suitable types of equipment to deal with various emergencies.

The role of fire services also includes effective fire prevention, creating awareness on fire safety, and enforcing the inbuilt fire protection arrangements for various types of occupancies in line with National Building Code (NBC) part – IV. However, majority of the States/Municipal Fire Services are unable to enforce the fire safety provisions due to a lack of appropriate directives from the authorities controlling the function of fire services. Some of the Fire Services do not adhere to NBC and have created their own fire-safety building bye-laws, e.g., Mumbai Fire Brigade. It may be noted that in-built fire safety arrangements and escape facilities are much more important than having a fire service within the premises without the above facilities. It is, therefore, necessary to enforce the fire-safety provisions through appropriate directives to all the States/UTs by the Ministry of Home Affairs (MHA) directly or through DG, NDRF & CD office.

In addition to the regular fire services, various other organizations/ industries, such as Ports, Airports, Defence, Power, Oil and Gas, Steel, Heavy Engineering, Fertilizers, Chemicals etc. have their own fire service set-ups (including their own captive resources), in order to provide fire protection to their facilities and some of them at times provide support to local fire services on request. All of them have their rules and regulations concerning fire safety. For example, Oil India Safety Directorate (OISD) norms for Oil and Gas Industries, International Civil Aviation Organization (ICAO) norms for Airports, Tariff Advisory Committee (TAC) regulations- now discontinued, for industries etc. and Electricity Rules for power sector.

Safety of highly hazardous processing and storage industries requires 100 percent round the clock built-in and functional fire protection arrangements with trained fire fighters as well as onsite and off-site disaster management plans. Fire services are not expected to create the infrastructure to independently tackle such emergencies within the industry, as it may be not be possible to do so. However, they are expected to support any on-site and off-site fire fighting to protect surrounding populations and handle such incidents during transportation through the civil areas. Moreover, local fire services should have mutual-aid schemes with all the industries in their jurisdiction and must be aware of the various arrangements available with them in order to provide efficient support, in case of an emergency.

Phased Approach

In order to conduct this study for India, a vast country covering all the States and Union Territories (UTs), it was decided to conduct this study in a phased manner. In this initial phase, the pilot study comprises of 6 States and UTs (Jammu & Kashmir, Rajasthan, Maharashtra, Delhi, Andaman & Nicobar Island, and Puducherry).

Field Surveys for Fire Infrastructure Data

To collect and collate the information on Fire Infrastructure of these Pilot States/ UTs, RMSI team developed two detailed forms “Headquarter Data Collection Form” and individual “Fire Station Field-Survey Form”. RMSI team field-surveyed all the Fire Stations in Pilot States/UTs for collecting detailed fire Infrastructure information. The detailed information collected includes address of Fire Station, name of Fire Station in-charge, emergency contact numbers, communication between Fire Station control room, public and headquarter control room; Fire Station building including staff accommodation and barracks; fire fighting vehicles and specialized equipment; fire personnel, their duty pattern and pay-scales; water availability and water sources for fire vehicles, fire-risk in the jurisdiction of Fire Station and its geographical coordinates (latitude, longitude -by using a Global Positioning System, GPS) etc. All this information for each Fire Station has been digitally converted and is available through Fire Decision Support System (FDSS), which can generate a Fire Station report at the click of a button.

GIS based Fire Hazard and Risk Analysis

In general, fire risk is defined as the combination of hazard potential, exposure, and vulnerability:

$$\text{Risk} = F (\text{Hazard potential} \times \text{Exposure} \times \text{Vulnerability})$$

The occurrence of fire incidents that constitute a threat for the population and exposed infrastructure of a certain region is associated with economic and human losses, always as a function of the exposure conditions and the vulnerability of the exposed assets in that particular region. Different natural hazards such as seismic (earthquake), climatic, and wind are considered in risk analysis. Additionally hill zone are also considered in risk analysis due to increased fire risk from wooden houses and heating provisions in cold areas.

For estimating exposure and its vulnerability, detailed urban agglomerate classification maps generated from high-resolution satellite images have been used. With the help of remote sensing techniques applied on high-resolution satellite imageries, various types of urban agglomeration areas have been demarcated. These include urban, semi-urban, building blocks, and industrial and rural villages’ built-up areas of different densities (high medium, low). For exposure vulnerability, 4 different layers such as population density, residential built-up areas, high-rise building block density, and industrial areas have been developed individually at district level. For assessing fire risk, both absolute built-up areas in sq km as well as built-up areas percent (ratio of built-up areas to the total area) are considered as important parameters. It is obvious that industrial areas in districts have much lower percentages than residential built-up areas. However, presence of industrial areas in a district has a significant influence in assessing fire risk. Hence, industrial areas in absolute terms (sq km) have been considered in risk ranking.

In order to assess the impact of each exposure vulnerability type, a vulnerability score/ranking has been assigned to each layer at their base unit. The vulnerability score represents the level of vulnerability (very high to negligible) of a specific type of exposure in response to the occurrences of small and medium fire incidents. The natural break in value distribution has been considered for defining the ranking class.

After developing ranking of individual units of hazard and exposure vulnerability, GIS layers have been overlaid on top of each other and a spatial analysis has been performed for integration in GIS environment. For combining hazard and risk, Weighted Factor Analysis (WFA) in GIS environment has been performed. Weighted ranking scores have been used in the integration analysis and quantified risk distribution for each district. Values of weighted factor depend upon the importance of a particular hazard/ vulnerability class in risk analysis. For integration of hazards, equal weights have been assigned to wind, seismic and climatic hazards, while double weights have been given to hill zoning. This is because, in hilly terrain,

wooden houses and heating provisions in buildings increase the chances of fire-incidences, and thus have been given higher weightage.

After obtaining integrated individual weighted score for hazard and exposure vulnerability, fire risk categories have been obtained in quantitative terms by further integration of hazard and exposure vulnerability. It is obvious that in the occurrence of the number of fire incidents in a given district, exposure vulnerability has more importance than the prevailing hazard. Hence, in quantified integration, double weights have been assigned to exposure vulnerability. The quantified numeric values of district risk scores are again grouped into four descriptive categories of district level risk ranking (very high, high, medium, and low).

As per project scope of work, countrywide district level fire hazard and risk analysis has been carried out. However, it is obvious that the fire risk is not uniformly distributed throughout the districts in both urban and rural areas. Considering the above fact, RMSI has performed GIS based risk analysis, based on distribution of population agglomeration by defining built-up areas into different risk categories, such as high-density urban, low-density urban, sub-urban, and village. Moreover, distinct demarcated industrial areas have also been considered in the analysis.

Review of International and National Norms

To estimate the gaps from the existing position in terms of number of Fire Stations and their appropriate location, the RMSI team followed scientific and innovative GIS based response time network analysis approach involving various norms and regulations. Various international and national norms on response time have been reviewed. Response time is defined as “*en route time (in minutes) taken by the fire fighting vehicle from the Fire Station to the fire emergency scene.*” Different countries follow different norms on response time such as:

Germany: response time in urban areas varies from 8 to 15 minutes

Japan: response time varies from 5 to 10 minutes, depending upon the location of the building

USA: response time varies from (3-4) to 8 minutes

United Kingdom: response time varies from 5 to 8 minutes

India: SFAC norms recommended response time for first fire tender is 3, 5, and 7 minutes respectively depending on risk category A, B, and C in urban area and 20 minutes in rural area. The norms also defined one Fire Station in an area of 10 sq km in urban area; and 50 sq km in rural area.

To investigate the practicability of SFAC norms, RMSI team carried out a number of simulations using GIS based network analysis. With these simulations, RMSI demonstrated that two SFAC norms (response time and area-based) are not in synchronization with each other, and recommended revised response time based norms for positioning a Fire Station, as response area will vary from place to place depending upon the road network.

- ***Depending upon the risk category, the recommended response time for first fire tender is 5 to 7 minutes in urban areas and 20 minutes in rural areas***

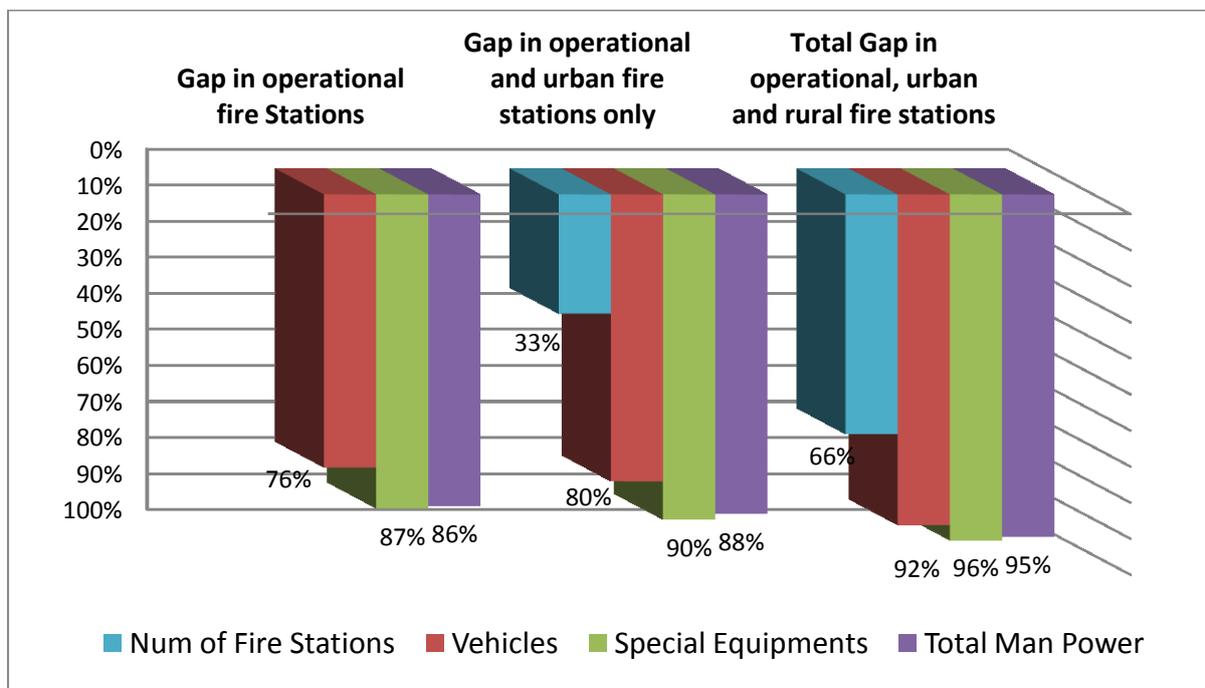
Summary of Findings for Uttar Pradesh State

Presently, Uttar Pradesh State Fire Services has 237 operational Fire Stations (154 in urban areas, 83 in rural area and 1 State Training Centre, Unnao.

Based on detailed demarcated built-up areas and GIS based network analysis (response time analysis), ideal jurisdiction boundaries have been demarcated for all operational Fire Stations excluding areas served by other agencies, such as ports, airports, military cantonment, thermal power plants etc. The remaining areas, not covered under ideal jurisdiction of operational Fire Stations, are also divided for ideal jurisdictions of new proposed Fire Stations. The requirements for fire fighting and rescue vehicles and specialized equipment are based on ideal served population, population density, and built-up areas within ideal jurisdiction boundary.

Fire Station Gap Analysis

As per detailed GIS based analysis, the State would require additional 117 Fire stations in urban areas and 352 Fire Stations in rural areas. Hence this study recommends a further of addition of 469 Fire Stations, which is an overall gap of 66% in terms of number of Fire Stations in Uttar Pradesh State (for details, please refer to section 18.3.1).



Vehicles and Specialized Equipment Gap Analysis

For estimating the gap in fire fighting and rescue vehicles and specialized equipment in operational as well proposed Fire Stations both in urban and rural areas, the RMSI team modified the SFAC norms with expert opinions. These modifications also helped in optimization of resources and are detailed in section 18.3.2. This study finds an overall gap of 92% in fire fighting and rescue vehicles and about 96% in specialized equipment for both operational and new Fire Stations in urban and rural areas in Uttar Pradesh.

Fire Personnel Gap Analysis

For estimating the gap in fire personnel in operational as well new proposed Fire Stations both in urban and rural areas, the RMSI team used Administrative Reform Department (ARD, Delhi) norms based on duty pattern (double-shift) prevalent in Delhi as ARD has already optimized the fire manpower requirement in comparison to what has been suggested

in SFAC norms. The current duty pattern in Uttar Pradesh State is 24 hours, in general, and RMSI team estimated for manpower requirement for double shift duty pattern (for details, please refer section 18.3.3). Thus, in Uttar Pradesh State, this study finds an overall gap of about 95% in fire personnel considering double shift duty pattern.

Fire Prevention Wing

In addition to fire fighting staff, there is an urgent need for fire prevention wing for inspection, awareness generation, and training for schools, colleges, hospitals, shopping malls, cinema halls, high-rise buildings, govt. offices, public buildings, and industries etc., need further strengthening, so that recurrence of the fire incidences similar to that at the Advance Medical Research Institute (AMRI), Kolkata, in terms of their magnitude and frequency can be reduced. Accordingly, to support Director General, Police & Fire Services, additional officers at the levels of Director (Technical), Joint Director (Technical), Deputy Director (Technical), Chief Fire Officers (CFO), Dy Chief Fire Officers (Dy-CFO), Division Officers (DO), and Assistant Divisional Officer (ADO) have been recommended (for details, please refer to section 18.3.3).

Fire Station, District and State Level Report Generation

The detailed report of Operational Fire Stations, District and State levels for fire infrastructure and gap analysis is also available through the Fire Decision Support System (FDSS), which can generate reports for each Operational Fire Station, district, and State level at the click of a button.

Roadmap for Investment and Financial Plan for next 10 years

The other tasks include the development of Investment and Financial Plan, Institutional Assessment & Capacity Building Plan along with a Fire Decision Support System (FDSS). As detailed in section 18.5, the detailed investment and financial plan at district level includes estimation of capital cost for infrastructure cost, fire fighting and rescue vehicles, and specialized fire and communication equipment. The recurring expenditure cost includes fire personnel cost depending upon pay-scales at various levels; staff uniform cost, and Personal Protective Equipment (PPE); annual vehicle and specialized equipment maintenance cost, petrol, diesel, and lubricant (PDL); building maintenance; office and training expenses etc. The detailed roadmap and investment plan (section 18.5) for the next 10-years includes both capital and recurring expenditures. RMSI analysis estimates a total Investment of **about Rs.53,182 Crores** spread over a period of 10 years for Uttar Pradesh State including inflationary factors and after filling the gaps for both operational and proposed urban and rural Fire Stations.

Prioritization of New Fire Stations

For prioritization of Fire Stations in Uttar Pradesh State, the RMSI team has strictly followed risk categorization and population criteria. Accordingly, the priority for establishing new Fire Stations in Uttar Pradesh for both rural and urban areas has been detailed in section 18.6. Separate priority ranking for both proposed urban and rural Fire Stations are given in Table 18.44 and Table 18.45, respectively.

Avenues for Fund Generation

Uttar Pradesh State fire service can generate new avenues for funds from the following:

- Introduction of Fire Tax (1% of existing property tax)
- Training programs at different levels and durations to private sector employees on chargeable basis
- Capitation fees can be charged for scrutiny of building plans

- The fee on the deployment of members of fire services along-with necessary equipment and appliances beyond the jurisdiction of the State fire services.

Capacity Building and Training Facilities

The study finds that there is huge gap for Capacity Building and Training among the fire personnel within the Uttar Pradesh State. The detailed Capacity building and training need assessment for various levels have been discussed in section 18.8. Additionally, RMSI team has made a separate report of Capacity Building and Training Infrastructure for all the States/UTs in the country.

Limitations of the Study

Limitations of study have been given in section 18.9.

Recommendations

The report concludes with the recommendation for the Uttar Pradesh State Fire Service and is detailed in section 18.10. In short, Uttar Pradesh State Fire services can be revamped in the next 10 years to desired level provided sufficient funds and trained resources are made available.

Report Structure

This report for the Phase I States/UTs is divided in two parts:

Part A: This part comprises of chapters 1-6, which are common for all the 35 States/UTs Fire Services for which this study is conducted.

- Chapter 1 provides brief details of project background, role of fire services, objective and scope of study
- Chapter 2 outlines the methodology adopted and data development
- Chapter 3 provides details on GIS based fire hazard and risk analysis
- Chapter 4 provides a brief overview of field-survey of individual Fire Station and headquarter data collection and approach for stakeholder analysis
- Chapter 5 briefly explains the Development of Fire Decision Support System (FDSS)
- Chapter 6 examines international and national norms

Part B: This part comprises of Chapters 13-18, which are specific to the State/UT being discussed.

- Chapter 13 provides detailed analysis for the Chandigarh UT
- Chapter 14 provides detailed analysis for the Haryana State
- Chapter 15 provides detailed analysis for the Himachal Pradesh State
- Chapter 16 provides detailed analysis for the Punjab State
- Chapter 17 provides detailed analysis for the Uttarakhand State
- Chapter 18 provides detailed analysis for the Uttar Pradesh State

For Part-B, this report consists of of Chapter 18, which is for the Uttar Pradesh State.

PART - A

1 Introduction

1.1 Background

Fire service is one of the most important emergency response services. In India, Fire services come under the 12th Schedule of the constitution dealing with Municipal functions. At present, fire prevention and fire fighting services are organized by the concerned States and Union Territories (UTs), and Urban Local Bodies (ULBs). Ministry of Home Affairs (MHA) renders technical advice to the States, UTs, and central ministries on fire protection, prevention, and legislation. Fire services in Maharashtra, Haryana, Gujarat, Chhattisgarh, Madhya Pradesh excluding Indore, and Punjab are under the respective Municipal Corporations. In remaining States, it is under the Home Department (Figure 1-1).

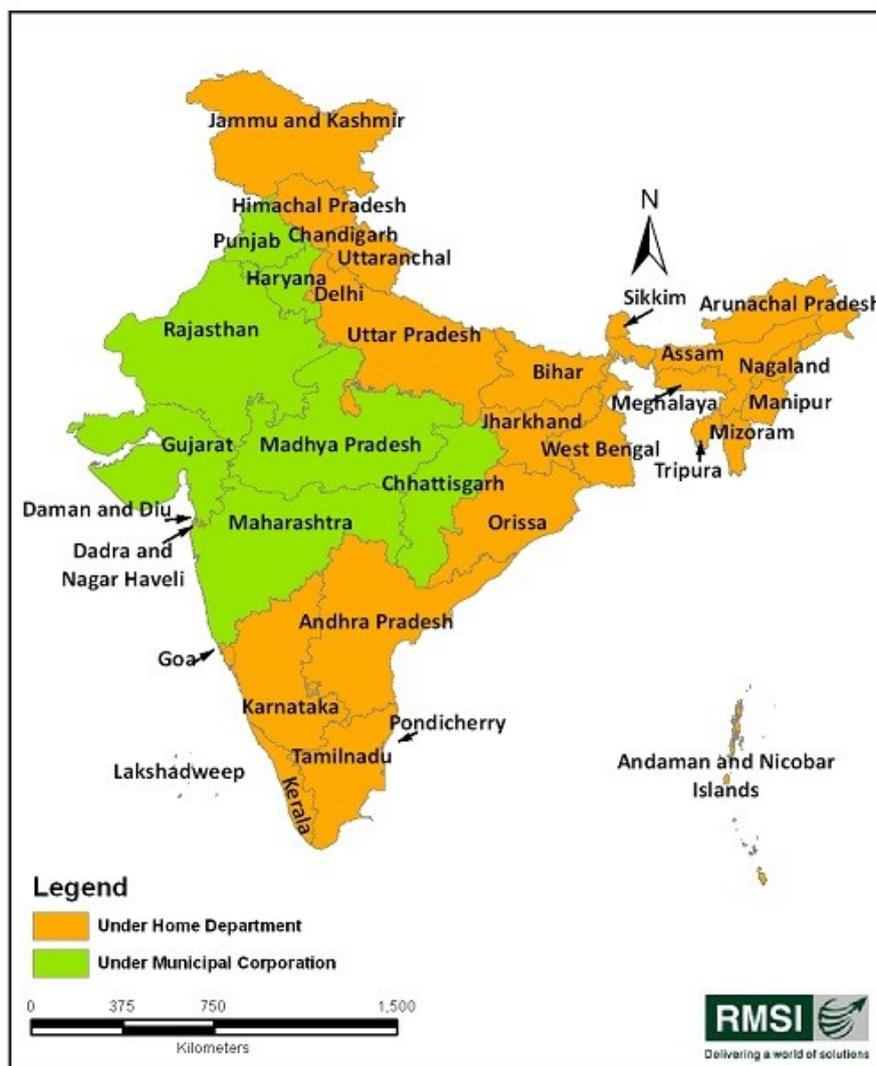


Figure 1-1: Distribution of fire services by various States/UTs by administrative organization

1.2 Role of Fire Services

As far as the role of fire services is concerned, the primary job of fire services has been to attend to fire incidents. However, they also attend to other emergencies like rescue from building collapse, road traffic accidents, human and animal rescue etc., and other special

service calls. Some fire services also attend medical emergencies for transportation of casualties through ambulances maintained by them. Similarly, some States have separate flood department with rescue boats and trained divers, like Delhi. The Fire Services maintain skeleton facility to act as 'first responder' and wait until assistance from flood department is reached. It is therefore, considered appropriate that the specialized facilities for such job is maintained and operated by the concerned department.

As indicated in the National Disaster Management Authority (NDMA) guidelines, Fire Services is one of the Emergency Support Functions (ESF). Based on DM Act 2005, various States have also formulated State Disaster Management Authorities (SDMA's) and District Disaster Management Authorities (DDMA's) both of which consider Fire Service as an ESF. It is therefore evident that the role of Fire Service is multi-dimensional that includes attending various emergencies. Accordingly, fire services are required to be prepared with suitable types of equipment to deal with various emergencies arising in the jurisdiction of the respective Fire Station.

The role of fire services also includes effective fire prevention, creating awareness on fire safety, and enforcing the inbuilt fire protection arrangements for various types of occupancies in line with National Building Code (NBC) part – IV. However, some of the States/Municipal Fire Services are unable to enforce the fire safety provisions due to a lack of appropriate directives from the authorities controlling the function of fire services. Some of the Fire Services do not adhere to NBC and have created their own fire-safety building by-laws, e.g., Mumbai Fire Brigade. It may be noted that in-built fire safety arrangements and escape facilities are much more important than having a fire service within the premises without the above facilities. It is, therefore, necessary to enforce the fire-safety provisions through appropriate directives to all the States/UTs by the Ministry of Home Affairs (MHA) directly or through DG, NDRF & CD office.

In addition to the regular fire services, various other organizations/ industries, such as Ports, Airports, Defence, Power, Oil and Gas, Steel, Heavy Engineering, Fertilizers, Chemicals etc. have their own fire service set-ups (including their own captive resources), in order to provide fire protection to their facilities and some of them at times provide support to local fire services on request. All of them have their rules and regulations concerning fire safety. For example, Oil India Safety Directorate (OISD) norms for Oil and Gas Industries, International Civil Aviation Organization (ICAO) norms for Airports, Tariff Advisory Committee (TAC) regulations- now discontinued, for industries etc. and Electricity Rules for power sector.

Safety of highly hazardous processing and storage industries requires 100 percent round the clock built-in and functional fire protection arrangements with trained fire fighter as well as onsite and off-site disaster management plans. Fire services are not expected to create the infrastructure to independently tackle such emergencies within the industry, as it may be not be possible to do so. However, they are expected to support any on-site and off-site fire fighting to protect surrounding populations and handle such incidents during transportation through the civil areas. Moreover, local fire services should have mutual-aid schemes with all the industries in their jurisdiction and must be aware of the various arrangements available with them in order to provide efficient support, in case of an emergency.

The growth of fire-services in the country has been on an ad-hoc basis, without much scientific analysis of existing risks in different parts of the country. Varying risk scenarios need different types of equipment depending upon the risk and geographical location such as hilly-area, coastal-area, desert-area, and residential (high-rise, medium, and low rise-buildings), industrial, commercial area or a combination of these. Moreover, lack of knowledge management for future planning and institutional capacity and funds are also seen as major challenges in addressing improvements in fire and emergency services in the country. As per a recent analysis by the Standing Fire and Advisory Council (SFAC), the

overall deficiency in the country in number of Fire Stations is 97.54%, in fire fighting & rescue vehicles 80.04% and in fire personnel is 96.28%, respectively, which is quite alarming (NDMA Guideline, 2012, CR SFAC, 2011).

In consideration of this and the increasing risks from various hazards, such as Fire Following an Earthquake (FFEQ), and the rapid pace of urbanization and industrialization in the country, the Directorate of National Disaster Response Force and Civil Defence (NDRF&CD, Fire Cell), MHA felt the need for a comprehensive study to identify existing gaps in terms of availability and requirement of Fire Stations, capacity-building, in terms of trained man-power and fire-fighting, rescue, and other specialized equipment. This comprehensive study **aims at preparing a perspective plan for the next 10 years for revamping the fire services in the country.**

1.3 Objective of the Study

The broader objective of this study is to prepare a Capital Investment and Institutional Strengthening plan for accelerated development of fire services in the country.

1.4 Scope of the Study

The study area for this assignment is the entire country under the Directorate of NDRF & Civil Defence (Fire). The scope of the assignment will include, inter alia, the following activities:

1. **Fire Hazard & Risk Analysis:** Carry out a GIS (Open Source) based fire hazard and risk analysis and identify the gaps in fire services in terms of fire fighting vehicles, specialized equipment, and trained fire personnel.
2. **Investment and Financing Plan:** Assess the status, availability and distribution of the fire service infrastructure under the Directorate of NDRF & Civil Defence (Fire Cell) by conducting field investigations and interviews. It is expected to conduct an investigation to assess the gaps and needs for future planning and up gradation/modernization of the fire service infrastructure in the country in a quantified approach. As part of the Investment and Financing Plan, it is also expected to estimate the Capital and O&M Investment plan for the next 10 years and the investment priorities.
3. **Institutional Assessment and Capacity Building Plan:** Based on field-data collection, enquiry, spatial analysis and understanding on the availability and gaps in the fire service infrastructure, and prepare an institutional assessment and capacity-building plan for the department. Institutional Assessment and Capacity Building Plan will include but will not be limited to understanding the policies, regulations, strategies and programs of the department; existing legal and institutional mechanisms, issues and constraints of effective management; and training needs and capacity of the department's resources. Based on a comprehensive understanding of the mentioned variables, it is expected to prepare a consolidated national report and key recommendations for the Directorate of NDRF & CD (Fire Cell). It is also expected to explore the possibility of funding sources and provide recommendations for improvements to ensure appropriate financing mechanisms for capital expenditure, and for operation and maintenance.

2 Technical Details on Methodology and Data Development

2.1 Understanding of the Scope of Work

The primary objective of this comprehensive study on “Fire Hazard and Risk Analysis in the Country” is to prepare a capital investment and institutional strengthening plan for accelerated Development of Fire Services in the country. To achieve this objective of the study, the Directorate of NDRF & CD has defined the broad scope of the work as:

1. Risk and Hazard Analysis
 - Identifications of gaps in the existing fire services
2. Investment and Financial Plan
3. Institutional Assessment and Capacity Building Plan
 - Including survey of NFSC Nagpur and regional fire training Centers

As part of the Risk and Hazard Analysis, it is expected to carry out a GIS based hazard, risk analysis at base unit (district) level, and identify the gaps in the existing fire services. Risk assessment of forest fire is not included under the present scope of work. The infrastructures of forest department, privately owned fire safety infrastructure, infrastructures in restricted areas like military cantonments and airbases, and ammunition depots; nuclear facilities such as nuclear power plants, nuclear research reactors, heavy water plants; and mines, ports, airports, and oil exploration and oil refineries are excluded from the study. While assessing the infrastructure for the Investment and Financing Plan, RMSI has focused specifically on the States/ UTs Fire Services. **However, it may please be noted that RMSI team is also making efforts to get details of areas served by other agencies as well, so that requirement of establishing Fire Stations in these areas does not become part of the Gap analyses.**

As part of the ‘Investment and Financing Plan’, it is expected to assess the status, availability and distribution of the fire service infrastructure under the jurisdiction of Director General (NDRF & Civil Defence) through conducting field investigations and interviews. It is also expected to conduct an investigation to assess the gaps and needs for future planning, up gradation/ modernization of the fire service infrastructure in the country through a quantified approach. As part of the Investment and Financing Plan, it is also expected to estimate the Capital and O&M Investment plan for the next 10 years and the investment priorities. Based on the field data collection, enquiry, spatial analysis and understanding on the availability and gaps in the fire service infrastructure, it is expected to prepare an institutional assessment and capacity-building plan for the department. Institutional Assessment and Capacity Building Plan will include but not limited be to understanding the polices, regulations, strategies and programs of the department; existing legal and institutional mechanisms, issues and constrains of effective management; training needs and capacity of the department’s resources. Based on a comprehensive understanding of the mentioned variables, it is expected to prepare a consolidated National Report and key recommendations for the Director General (NDRF & Civil Defence) for all the Fire Stations under jurisdiction of the Directorate of NDRF & CD. Moreover, the possibility of funding sources are also be explored, and recommendations are made for improvements to ensure good financing mechanisms for capital expenditure and operation and maintenance.

2.2 Study Area

The study area for this assignment is the entire fire service area of the country under the Directorate of NDRF & Civil Defence (Fire Cell). RMSI has carried out physical survey of all the Fire Stations under the Directorate of NDRF & CD (Fire Cell) (Figure 2-1) across the country.

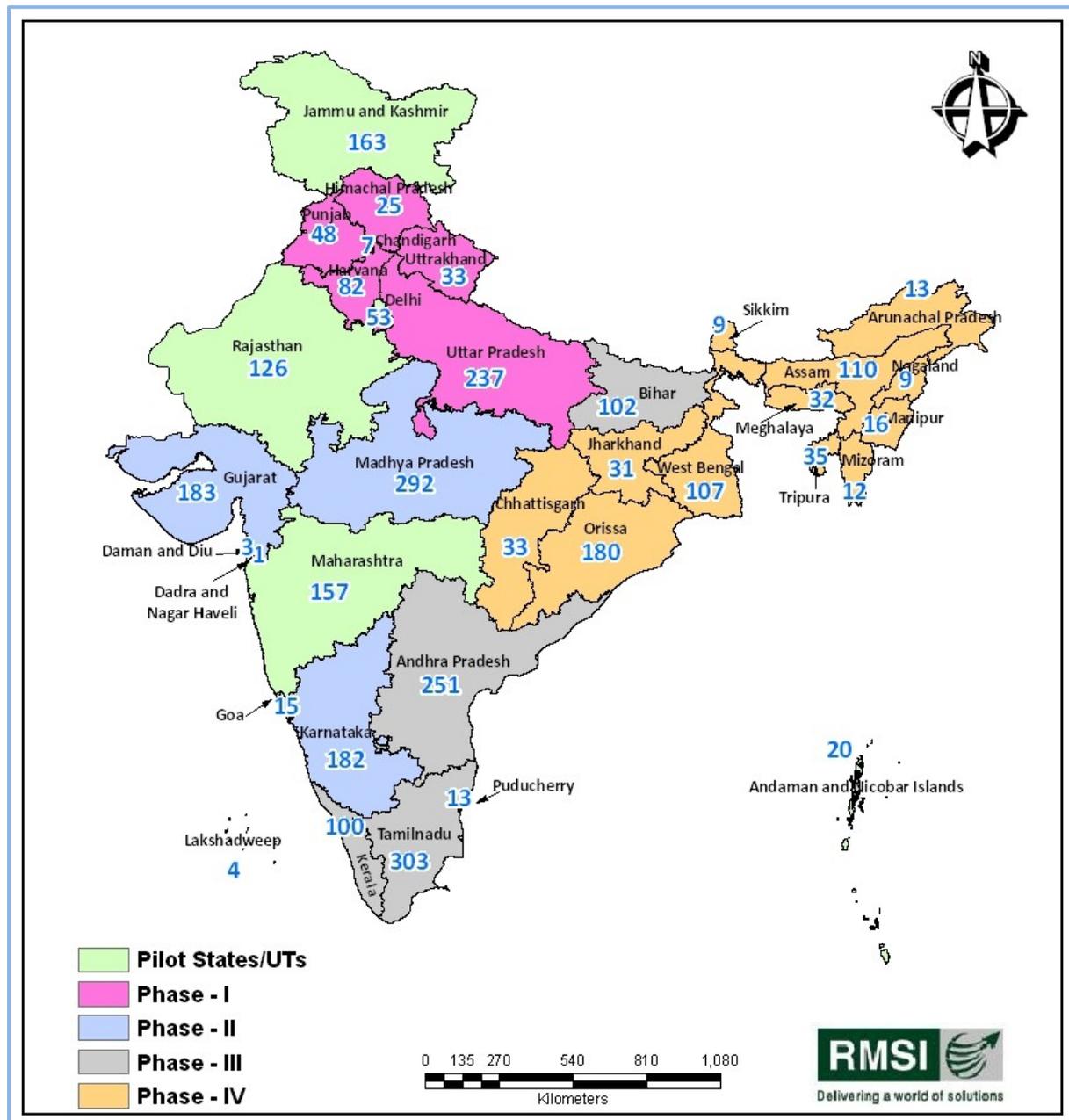


Figure 2-1 : State/UT wise distribution of fire service stations in India

2.3 Phased Approach

As India is a vast country and in order to conduct this study for all the States and Union Territories (UTs), it was decided to conduct this study in a phased manner (Table 2-1).

The initial phase pilot study comprises of six States and UTs - **Jammu & Kashmir, Rajasthan, Puducherry, Maharashtra, Andaman & Nicobar Island, and Delhi.** The

remaining States/UTs have taken in up in subsequent phases (Phase I - Phase IV). The Fire- Infrastructure of all Pilot States/ UTs has been Field-Surveyed by RMSI team and fire hazard and risk analyses have been carried out. The other tasks include development of Investment and financing plan, Institutional assessment & capacity building plan along with a prototype Fire Decision Support System (FDSS). The outcomes of pilot study were submitted to the Expert Group of the project for their review and approval and detailed discussions were held with senior Fire Officials, MHA and respective State/UT representatives. The approved report is used as a template for conducting the study for the remaining States/ UTs in the phased manner indicated in Table 2-1.

It may be noted that there could be region specific modifications and variations in the requirements of different kinds and types of firefighting equipment depending upon the risk category of the district (base unit) of Fire Station, its geographical location such as coastal-area, hilly-area and desert-area. Phase wise list of States/UTs also includes corresponding number of districts (Census, 2011), number of Talukas/ Mandals/ Tehsils (Census, 2001), and number of Fire Stations (Table 2-1).

Table 2-1: Phase wise distribution of various States/UTs in the Country

States/UTs	No of Districts (Census 2011)	No of Talukas/ Tehsils/ Mandals (Census 2001)	No of Fire Stations
Pilot Phase			
NCT of Delhi	9	27	53
Maharashtra	35	355	157
Puducherry	4	15	13
Andaman & Nicobar Islands	3	7	20
Rajasthan	33	241	126
Jammu & Kashmir	22	59	163
Phase I			
Chandigarh	1	1	7
Haryana	21	67	82
Punjab	20	72	48
Himachal Pradesh	12	109	25
Uttarakhand	13	49	33
Uttar Pradesh	71	300	237
Phase II			
Madhya Pradesh	50	259	292
Gujarat	26	227	183
Daman & Diu	2	2	3
Dadra & Nagar Haveli	1	1	1
Karnataka	30	175	182
Goa	2	11	15
Phase III			
Kerala	14	63	100

States/UTs	No of Districts (Census 2011)	No of Talukas/ Tehsils/ Mandals (Census 2001)	No of Fire Stations
Lakshadweep	1	4	4
Tamil Nadu	32	202	303
Andhra Pradesh	23	1110	251
Bihar	38	533	102
Phase IV			
West Bengal	19	343	107
Assam	27	145	110
Manipur	9	38	16
Meghalaya	7	32	32
Mizoram	8	25	12
Sikkim	4	9	9
Tripura	4	38	35
Nagaland	11	93	9
Arunachal Pradesh	16	149	13
Orissa	30	398	180
Chhattisgarh	18	97	33
Jharkhand	24	210	31
Total	640	5,466	2,987

3 GIS based Fire Hazard and Risk Analysis

Based on RMSI's vast experience of executing large projects at State and country levels, RMSI team has adopted the following approach (detailed below) to carry out this assignment. This approach has also been presented and discussed in a series of meetings with the officials of the Directorate of NDRF & CD, MHA, Government of India.

The risk of fire in urban areas has increased over the years and the rising cost of fire losses would seem to indicate that they are increasing at a greater rate than the measures devised to control them. Cities are growing in size and complexity day by day; therefore, they need to be managed more efficiently.

Geographic Information System (GIS) is an important and efficient tool that can be used by local administrations to minimize natural disasters (Recep Nisanci, 2010). Although there are many formal definitions of GIS, for practical purposes GIS can be defined as a computer-based system to aid in the collection, maintenance, storage, analysis, output and distribution of spatial data information (Bolstad, 2005). Thus, GIS technologies have been used in fire analysis related to the optimum location of Fire Stations. For example, Habibi et al. (2008), has made spatial analysis of urban Fire Stations in Tehran, using an analytical hierarchy process and GIS. Yang et al. (2004) also carried out studies concerning the selection of Fire Station locations using GIS.

Unlike a flat paper map, a GIS-generated map can represent many layers of different information. This representation provides a unique way of thinking about geographic space. By linking map databases, GIS enables users to visualize, manipulate, analyze and display spatial data. GIS technology based approach is cost-effective and provides accurate solutions in an expanding range of applications. RMSI team is adopting following approach for fire risk analysis of Indian States.

3.1 GIS Data Compilations

GIS Map based fire hazard and risk analysis is one of the main tasks of this assignment. In order to undertake hazard and risk analysis, various GIS layers and other associated thematic maps have been created for each of the pilot States/UTs that form the basis for risk ranking of base units (districts). The following is a list of selected GIS layers as base administrative layers and other dependant layers that have been used in GIS based fire risk analyses.

1. State administrative boundary layers
2. District administrative boundary layers
3. Rail network
4. Major (highways) and main road networks
5. Minor roads/ street road networks
6. Locations of cities, and major towns with their names
7. State level Land use land cover maps
8. Demarcation of residential, commercial and industrial built-up areas
9. Census population data (2011)
10. Geographical locations (latitude, longitude) of operational Fire Stations
11. Other collateral data such as information from city development plans (if available), and demarcation of fire-station jurisdictional areas.

These data layers and their attribute data have been expanded according to needs analyses. The needs analyses include query information for the data needed for generating risk maps and effective fire fighting planning.

After taking into account all requirements and data types, RMSI team has generated various GIS data layers for further GIS spatial analyses. District boundaries were considered as the base unit for analysis in assessing fire services infrastructure gaps, risk quantifications, and risk classifications.

GIS maps for administrative boundary layers such as State, and district are based on published Census 2011 data. **Currently, Census 2011 has published only district level demographic data.** In comparison to previous census (Census 2001), several new districts have been created. These new districts have been considered in the analysis.

Classified land use and land cover data is the backbone in fire hazard and risk analysis. Latest vintage satellite images have been used to capture the various features such as road networks, forest areas and habitat/settlement areas (Figure 3-1). The various land use land cover classes were extracted from latest vintage satellite images at 25m resolution for the selected States and UTs, and at higher resolution for major cities. The extraction is based on a semi-automated classification approach to distinguish the classes based on their reflectance values in the source satellite imagery. Data quality and data validation checks have been carried out for each stage of data generation.

For LULC classification, remote sensing satellite images were geo-referenced and classified to generate different LULC layers such as vegetation, built-up area, water bodies, and streets, based on their spectral reflectance i.e. DN (Digital Number) values. In this process, through a semi-automated process, these DN values of satellite images are classified into respective LULC classes to generate the clutter data. These clutter data layers are further subdivided into their respective sub-classes and merged together to give preliminary clutter data. The output clutter goes through standard validation processes and quality checks to produce high quality final clutters. Table 3-1 shows a list of classified LULC data at 25-meter resolution. Figure 3-1 displays delineated LULC classes for different parts of western Maharashtra (districts– Mumbai, Mumbai sub-urban, Thane, Pune and Raigarh). Figure 3-2 shows an enlarged view of classified urban agglomerate of Pune city areas.

Table 3-1: Cluster class morphology in land use maps

ID	Class Name	Description
0	Unclassified	Edge of the database
1	Urban High Density	Areas within urban perimeters, Inner city, very little/negligible vegetation. Closely packed buildings indicative of high density with only major streets and roads being visible. Absence of large open spaces.
2	Urban Medium Density	Medium density of buildings, vegetations are less but higher than the dense urban, major pedestrian zones being partially visible and streets and roads visible. Comparatively more open spaces exist within this region
3	Urban Low Density	Low density of buildings, vegetations / open area are higher than the medium urban, major pedestrian zones being partially visible and streets and roads visible. Comparatively more open spaces than medium density exist within this region
4	Suburban High Density	Suburban areas surrounding big cities (Outer parts of the city) with loosely packed built up and little vegetation.
5	Suburban Low Density	Sparse Suburban areas in outskirts of big cities (Outer parts of the city) with loosely packed built up and little vegetation.
6	Building Blocks	Systematic groups of buildings, parallel or not, that may be separated by large open spaces.

ID	Class Name	Description
7	Villages	Unsystematic small pockets /clusters of buildings, within large agriculture / open spaces
8	Industrial	Industrial: Factories, Warehouse, Garages, Shipyards, Mostly situated outside the main cities.
9	Commercial Areas	Commercial: Central Mall, Office Complexes with large building footprints, Central Business districts, Commercial buildings within the city (like petrol pumps, gas filling stations etc.) etc. will be classified as commercial areas
10	Forest	All kinds of dense forest in rural areas, over hills/ mountains, Natural Parks with high tree density.
11	Low Dense Vegetation	Low density of trees, low vegetation, bushes, scrubs with low tree density.
12	Agriculture/Fallow	All kinds of agriculture/fallow cultivated areas, croplands, farmlands etc.
13	Water	Inland permanent water bodies. This class will consist of lakes & dams.
14	Open	No buildings, no vegetation e.g. desert, beach, and open lands mostly barren.
15	Quasi Open	Areas with some obstruction like scattered trees or bushes with some mixed built-up, open, agricultural fallow lands etc
16	Airport	Airstrip and terminal buildings
17	River/Canal	Linear water features like streams and rivers.
18	Seasonal Water Body	Seasonal water body
19	Sea	Sea

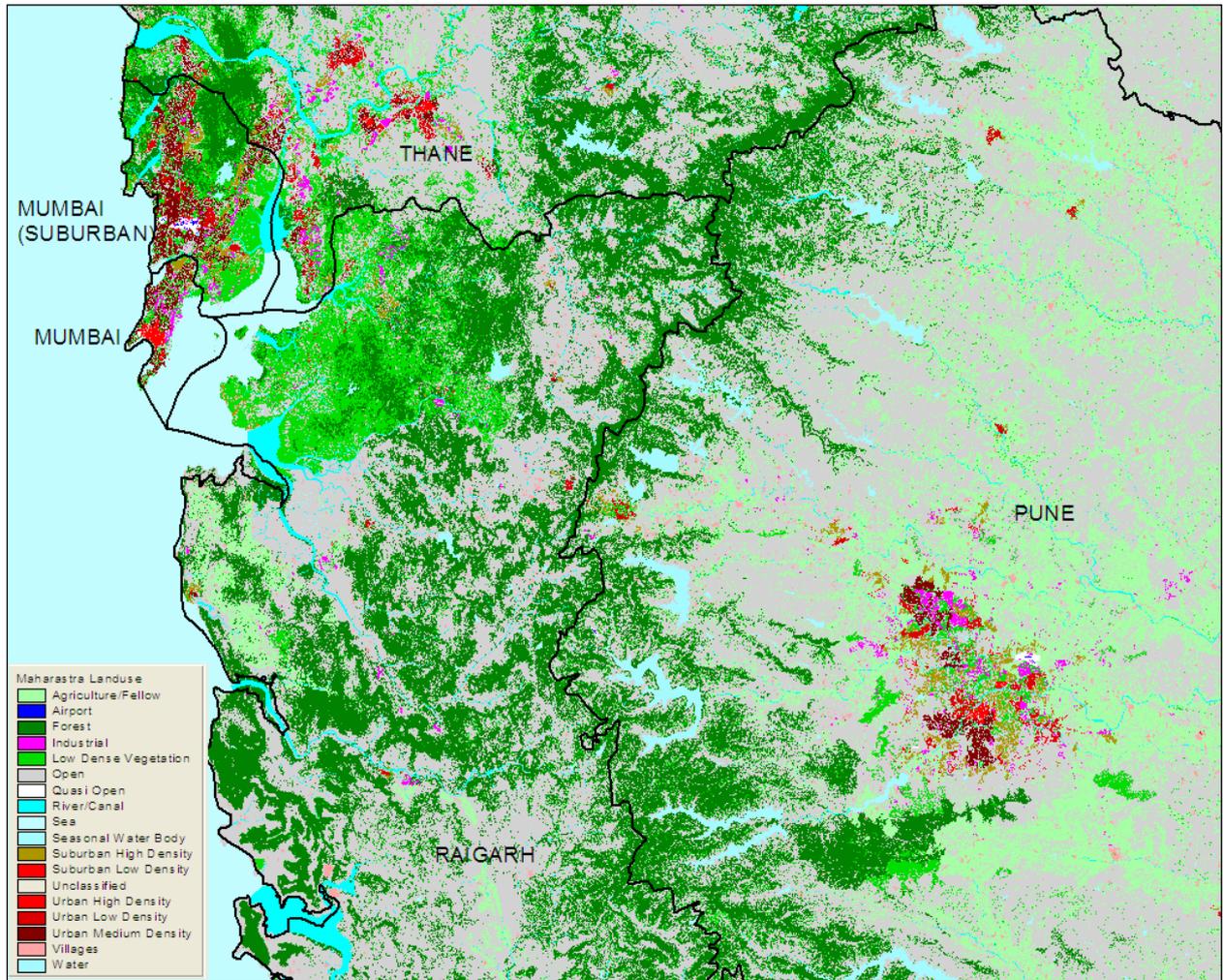


Figure 3-1 : An example of a Land use classification at 25m pixel. The example shows parts of Western Maharashtra (districts – Mumbai, Mumbai sub-urban, Thane, Pune, and Raigarh)

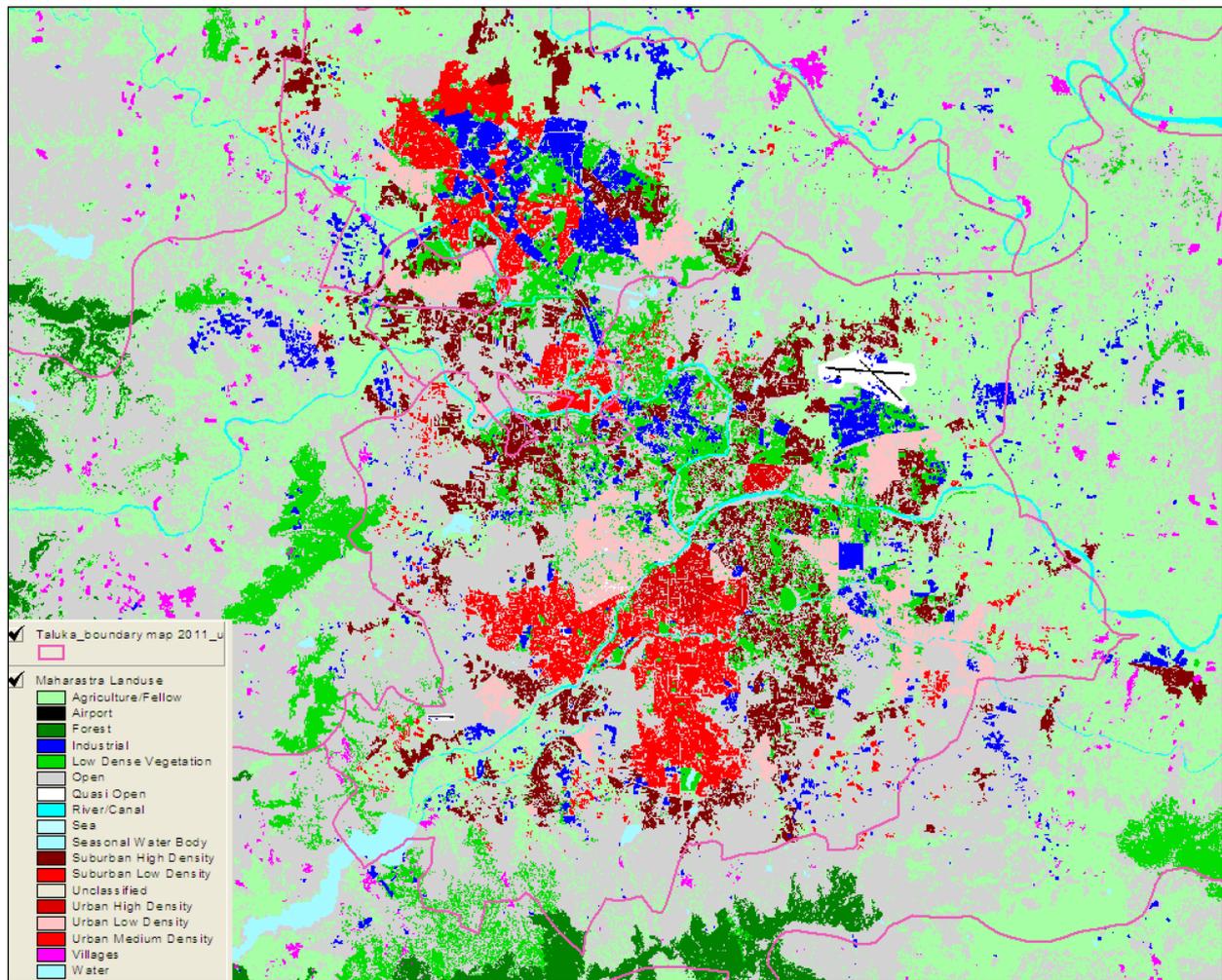


Figure 3-2 : Example of an enlarged view of classified. The example shows urban agglomeration classification in Pune city areas

For major city areas, classifications that are even more detailed have been created with a high-resolution data layer as shown in Figure 3-3. For major cities / towns, besides the other classified units, such as highways and main roads, minor roads/streets and localities, have been captured. After the field survey of individual Fire Stations, GPS locations of all Fire Stations have been displayed for gap analysis.

3.2 GIS - Overlay Analysis

The basic way to create or identify spatial relationships among various GIS layers is through the process of spatial overlay. Overlay is a GIS operation in which layers with a common, registered map base are joined on the basis of their occupation of space. (Keith C. Clarke, 1997). Spatial overlay is accomplished by joining and viewing together separate data sets that share all or part of the same area. The result of this combination is a new data set that identifies the spatial relationships.

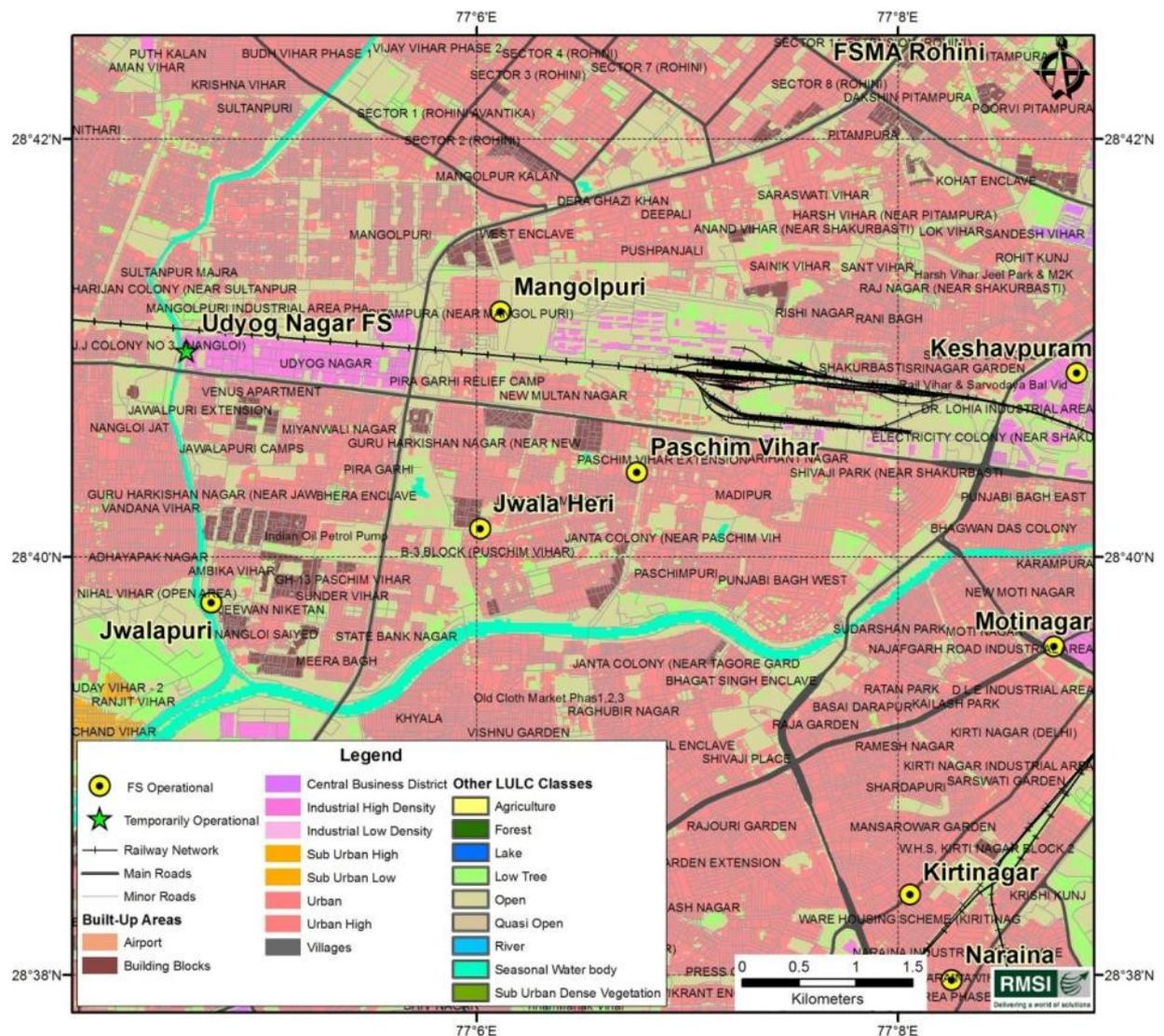


Figure 3-3 : An example of a detailed classified urban agglomerate area. The example shows parts of Delhi with overlay of GPS locations of Fire Stations

Overlay analysis is a common, widely used method of analyzing and evaluating geospatial data. Overlay analysis utilizes map layers in GIS to discover relationships across the layers. Overlay analysis is used to investigate geographic patterns and to determine locations that meet specific criteria. Spatial overlay is illustrated and highlighted in Figure 3-4. Various data layers, such as Land Use Land Cover (LULC), composite hazard, demographic exposure, road network, administrative boundary and Fire Station locations have been used through overlay analysis by combining diverse data sets for hazard analysis and Fire Station gap analysis.

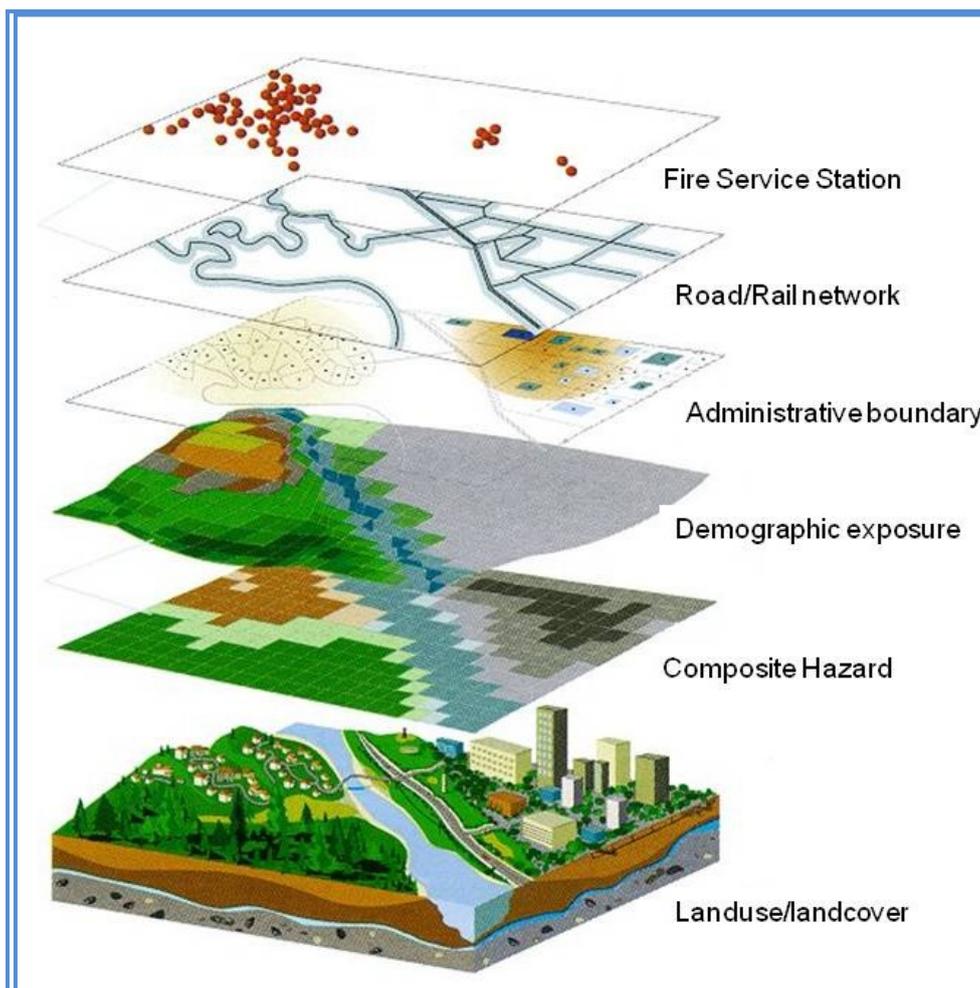


Figure 3-4 : Overlay analysis for Fire Risk Assessment

3.3 Fire Hazard and Risk Analysis

The first-turnout of fire vehicles normally originates from the Fire Station under whose jurisdiction the fire-call has been received. Sometimes, calls go to a centralized control room, from where they are directed to the concerned Fire Station. To provide an effective response, Fire Station infrastructure in the form of fire fighting and rescue vehicles, specialized equipment and manpower should also take into consideration of fire risks in addition to road conditions and population distribution. Thus, hazard and risk analysis of the base unit (district) should be on a scientific basis.

In general, fire risk is defined as the combination of hazard potential, exposure, and vulnerability:

$$\text{Risk} = F (\text{Hazard potential} \times \text{Exposure} \times \text{Vulnerability})$$

The occurrence of fire incidents that constitute a threat for the population and the exposed infrastructure of a certain region is associated with economic and human losses, always as a function of the exposure conditions and the vulnerability of the exposed assets in that particular region. In the present scope, fire risk can be defined as associated with the number of small and medium fire incidents and their locations.

3.4 Hazard Ranking

Earthquake (Seismic zones)

Besides loss of life, property damage, building collapses, and loss of basic amenities such as bridge and road damage, earthquakes can also induce small to large fires. Hence, earthquake zoning is an important parameter for fire risk analysis.

Based on occurrence of earthquakes of different intensities, the Seismic Zoning Map of India (IS 1893, 2001; BMTPC, 2006; NBC 2005) divides the country into 4 seismic zones as shown in Figure 3-5. Seismic Zone V is the highest risk zone where earthquakes having intensity of IX+ on Modified Mercalli Intensity (MMI) scale can take place. Earthquakes of intensities between VIII to IX can be experienced in seismic Zone IV, whereas earthquakes can occur between VI and VIII intensity in seismic Zone III.

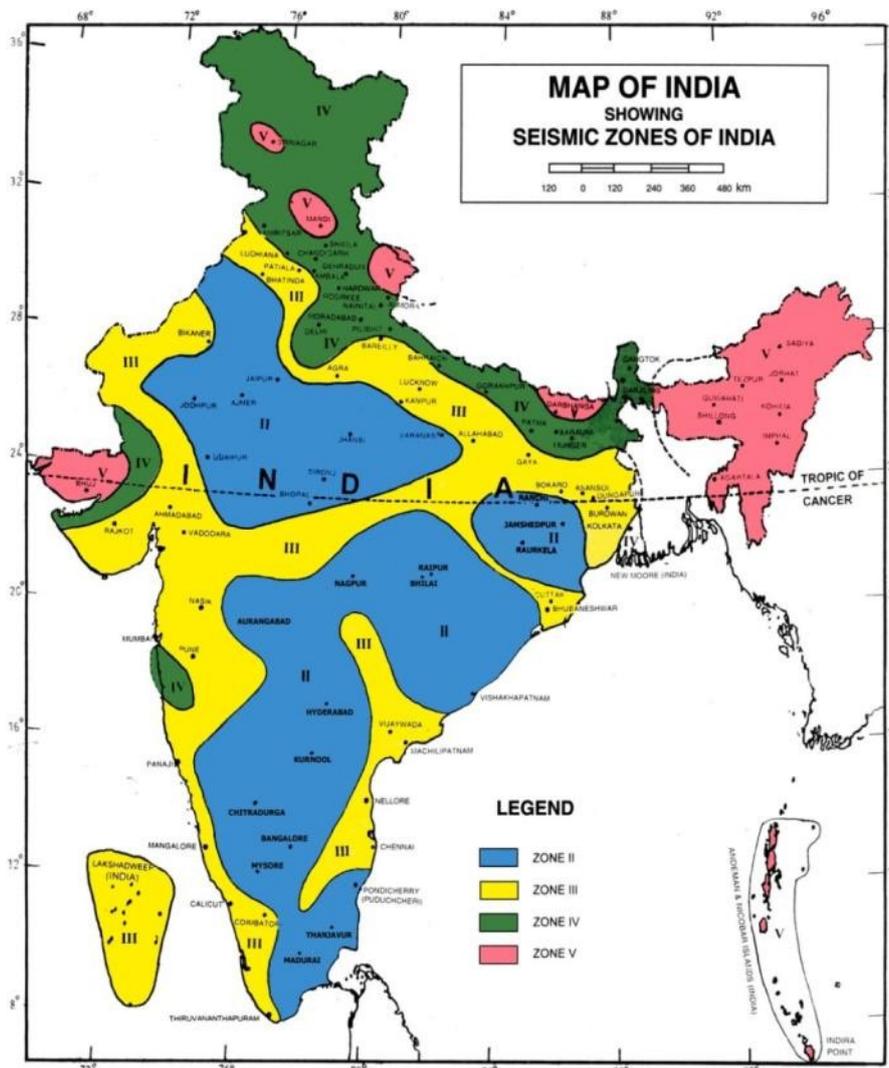


Figure 3-5 : Seismic zones of India

With GIS overlay analysis, district areas falling within each seismic zone have been computed. In order to compare seismic risk among various districts, district level ranking of seismic zones has been assigned, based on the scheme shown in Table 3-2. District level seismic ranking for pilot States/UTs is shown in Table 3-3.

Wind Zones

Prevailing wind speed is one of the important parameters in assessing fire risk in the area. Wind speed has a noticeable influence on fire spread. The wind zone map illustrates the areas vulnerable to high wind speeds (Figure 3-6). There are six basic wind speeds considered for zoning, namely:

- 55m/s (198 km/hr) Very High Damage Risk Zone-A
- 50m/s (180 km/hr) Very High Damage Risk Zone-B
- 47m/s (169.2 km/hr) High Damage Risk Zone
- 44m/s (158.4 km/hr) Moderate Damage Risk Zone-A
- 39m/s (140.4 km/hr) Moderate Damage Risk Zone-B
- 33m/s (118.8 km/hr) Low Damage Risk Zone

The coastal areas are subjected to severe windstorms and cyclonic storms. A full-grown cyclone is 150 to 1,000 km across and 10 to 15 km high. Macro-level wind speed zones of India have been formulated and published in IS 875 (Part-3) – 1987. It is known that in certain events, the wind gusts could appreciably exceed the given basic wind speeds. For assessing vulnerability and fire risk to buildings, above macro-level zonings have been considered. Based on wind speed, risk ranking has been assigned to each wind zone following the schema described in Table 3-2. District wise estimated wind risk from GIS overlay analysis is shown in Table 3-3.

Table 3-2: Risk ranking schema for earthquake, wind and climatic zones

Wind Zone	Ranking	Seismic Zone	Ranking	Climatic Zones	Ranking
Very High Damage Risk Zone - A (Vb=55m/s)	4	ZONE V	4	Hot and Dry	3
Very High Damage Risk Zone - B (Vb=50m/s)	3.5	ZONE IV	3	Composite, Temperate	2
High Damage Risk Zone (Vb=47m/s)	3	ZONE III	2	Warm and Humid	1
Moderate damage Risk Zone - A (Vb=44m/s)	2	ZONE II	1	Cold Climate	1
Moderate damage Risk Zone - B (Vb=39m/s)	1.5				
Low Damage Risk Zone (Vb=33m/s)	1				
Importance Factors/ Weight age	20%	20%		20%	
		Hill Zoning	Ranking		
		Cold climate	5		
		Other climates	1		
Importance Factors/ Weightage		40%			

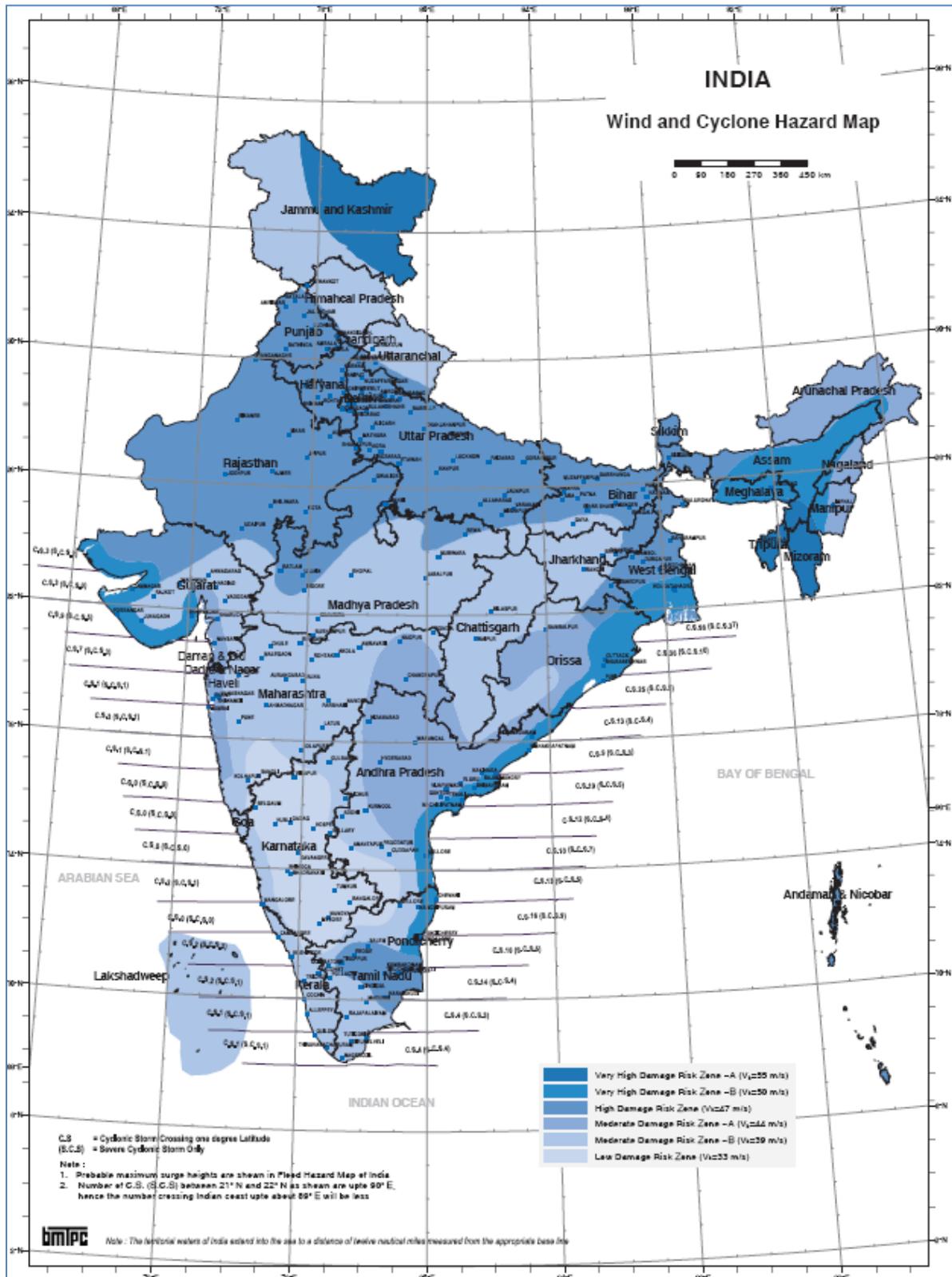


Figure 3-6 : Wind zone map of India (BMTPC, 2006)

Climatic Zones

Regions having similar characteristic features of climate are grouped under one climatic zone. According to a recent code of the Bureau of Indian Standards, the country has been divided into the following five major climatic zones:

- Hot & Dry (mean monthly temperature >30 and relative humidity <55%);
- Warm & Humid (mean monthly temperature >25-30 and relative humidity >55-75%);
- Temperate (mean monthly temperature 25-30 and relative humidity <75%);
- Cold (mean monthly temperature <25 and relative humidity – can be any values);
- Composite (This applies when six months or more do not fall within any of the other categories meaning sharing characteristics of two or more of the above categories in a year).

Map of climatic zones is shown in Figure 3-7. The hot and dry zone lies in the western and the central parts of India; Jaisalmer, Jodhpur and Sholapur are some of the towns that experience this type of climate. In this zone, solar radiation and movement of hot winds are higher. The warm and humid zone covers the coastal parts of the country, such as Mumbai, Chennai and Kolkata. Pune and Bangalore are examples of non-coastal cities that fall the under moderate climatic zone. Generally, the Himalayan region experiences cold type of climate. The composite zone covers the northern Indo-Gangetic plains, such as New Delhi, Kanpur, and Allahabad.

With GIS overlay analysis, district overlap areas falling within each climatic zone have been computed. In order to compare impact of being a district in a climatic zone, district level ranking has been assigned based on the scheme shown in Table 3-2. District level climatic zone ranking for pilot States/ UT is shown in Table 3-3.

Hilly Areas and Building Class Zones

Extreme cold climate, rugged topography and use of flammable material in building construction (such as wood) and the use of heating provisions in houses during cold weather is an important factor for causing fire incidents in that region. To capture such elements in fire risk hazard, Hilly Areas and Building Class Zones have been created. This class is directly linked to the cold climate zone. All hilly districts, (such as all districts of Jammu & Kashmir in the Pilot study) fall under this category. In such districts, a ranking of five has been assigned. Importance of this zone in terms of occurrence of number of fire incidents is quite high. Hence, while integrating, a double weightage of 40% has been assigned to this layer.

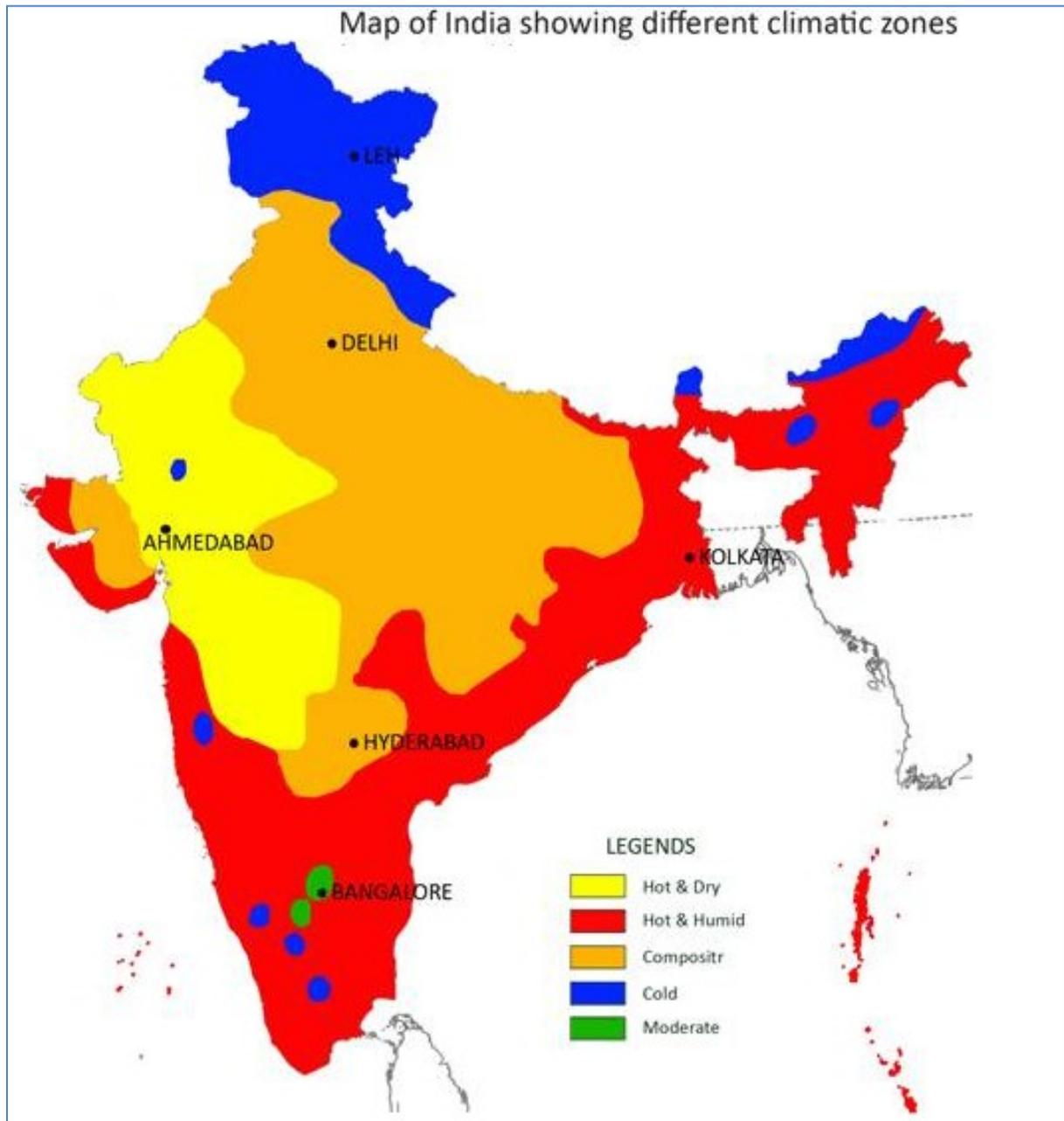


Figure 3-7 : Climatic Zones of India

Table 3-3: District level ranking for individual (earthquake, wind and climatic) hazard and integrated hazards

Importance Factor			20%	20%	20%	40%	Integrated Hazard Zoning
State/ UT	District	Geogrphl. Area (Sq km)	Wind Zoning	Seismic Zoning	Climate zoning	Hill Zoning	
Himachal Pradesh							
	Chamba	6,487	1.5	3.1	1.7	4.5	3.1
	Kangra	5,704	1.5	3.4	2.0	4.0	3.0
	Lahul & Spiti	13,841	1.5	3.0	1.2	5.0	3.1
	Kullu	5,513	1.5	4.0	1.2	5.0	3.3
	Mandi	3,963	1.5	4.0	1.7	4.5	3.2
	Hamirpur	1,123	2.7	1.6	2.0	4.0	2.8
	Una	1,541	2.4	3.0	2.0	4.0	3.1
	Bilaspur	1,167	1.7	3.3	2.0	4.0	3.0
	Solan	1,937	2.0	3.1	2.0	4.0	3.0
	Sirmaur	2,837	1.9	3.0	2.0	4.0	3.0
	Shimla	5,171	1.5	3.6	1.4	5.0	3.3
	Kinnaur	6,495	1.5	3.2	1.0	5.0	3.1
Punjab							
	Gurdaspur	3,600	2.6	3.0	2.0	1.0	1.9
	Kapurthala	1,661	3.0	2.9	2.0	1.0	2.0
	Jalandhar	2,601	3.0	2.9	2.0	1.0	2.0
	Hoshiarpur	3,366	2.9	3.0	2.0	1.0	2.0
	Shahid Bhagat Singh Nagar	1,276	3.0	3.0	2.0	1.0	2.0
	Fatehgarh Sahib	1,145	3.0	3.0	2.0	1.0	2.0
	Ludhiana	3,703	3.0	2.5	2.0	1.0	1.9
	Moga	2,238	3.0	2.0	2.0	1.0	1.8
	Firozpur	5,255	3.0	1.7	2.0	1.0	1.7
	Muktsar	2,633	3.0	1.8	2.0	1.0	1.8
	Faridkot	1,465	3.0	2.0	2.0	1.0	1.8
	Bathinda	3,366	3.0	2.0	2.0	1.0	1.8
	Mansa	2,209	3.0	1.8	2.0	1.0	1.8
	Patiala	3,368	3.0	2.3	2.0	1.0	1.9
	Amritsar	2,648	3.0	2.9	2.0	1.0	2.0
	Tarn Taran	2,404	3.0	2.3	2.0	1.0	1.9
	Rupnagar	1,370	3.0	3.0	2.0	1.0	2.0
	Sahibzada Ajit Singh Nagar	1,067	3.0	3.0	2.0	1.0	2.0
	Sangrur	3,583	3.0	2.0	2.0	1.0	1.8
	Barnala	1,404	3.0	2.0	2.0	1.0	1.8
Chandigarh							
Chandigarh	Chandigarh	120	3.0	3.0	2.0	1.0	2.0
Uttarakhand							
	Uttarkashi	7,971	1.5	3.0	1.2	5.0	3.1

Importance Factor			20%	20%	20%	40%	Integrated Hazard Zoning
State/ UT	District	Geogrphl. Area (Sq km)	Wind Zoning	Seismic Zoning	Climate zoning	Hill Zoning	
	Chamoli	7,901	1.5	3.6	1.0	5.0	3.2
	Rudra Prayag	1,942	1.5	3.0	1.1	5.0	3.1
	Tehri Garhwal	3,929	1.5	3.0	1.8	4.5	3.1
	Dehradun	3,097	1.5	3.0	2.0	4.0	2.9
	Garhwal	5,301	1.9	3.0	2.0	4.0	3.0
	Pithoragarh	7,263	1.5	4.0	1.0	5.0	3.3
	Bageshwar	2,283	1.5	4.0	1.0	5.0	3.3
	Almora	3,127	1.5	3.0	1.4	5.0	3.2
	Champawat	1,765	1.8	3.0	1.5	5.0	3.3
	Nainital	4,049	2.7	3.0	2.0	4.0	3.1
	Udham Singh Nagar	2,559	3.0	3.0	2.0	4.0	3.2
	Haridwar	2,305	1.8	3.0	2.0	4.0	3.0
Haryana							
	Panchkula	915	3.0	3.0	2.0	1.0	2.0
	Ambala	1,458	3.0	2.8	2.0	1.0	2.0
	Yamuna Nagar	1,722	3.0	2.8	2.0	1.0	2.0
	Kurukshetra	1,666	3.0	2.0	2.0	1.0	1.8
	Kaithal	2,285	3.0	2.0	2.0	1.0	1.8
	Karnal	2,489	3.0	2.0	2.0	1.0	1.8
	Panipat	1,260	3.0	2.0	2.0	1.0	1.8
	Sonipat	2,179	3.0	2.0	2.0	1.0	1.8
	Jind	2,763	3.0	2.0	2.0	1.0	1.8
	Fatehabad	2,490	3.0	1.4	2.0	1.0	1.7
	Sirsa	4,254	3.0	1.0	2.0	1.0	1.6
	Hisar	4,092	1.7	1.2	2.0	1.0	1.4
	Bhiwani	4,631	2.1	1.0	2.0	1.0	1.4
	Rohtak	1,673	3.0	1.8	2.0	1.0	1.8
	Jhajjar	1,908	1.7	2.0	2.0	1.0	1.5
	Mahendragarh	1,939	3.0	1.1	2.0	1.0	1.6
	Rewari	1,528	3.0	2.0	2.0	1.0	1.8
	Gurgaon	1,241	3.0	2.7	2.0	1.0	1.9
	Mewat	1,475	3.0	3.0	2.0	1.0	2.0
	Faridabad	744	3.0	3.0	2.0	1.0	2.0
	Palwal	1,411	3.0	3.0	2.0	1.0	2.0
Uttar Pradesh							
	Saharanpur	3,742	2.9	2.7	2.0	1.0	1.9
	Muzaffarnagar	4,077	3.0	2.4	2.0	1.0	1.9
	Bijnor	4,389	3.0	3.0	2.0	1.0	2.0
	Moradabad	3,615	3.0	3.0	2.0	1.0	2.0
	Rampur	2,668	3.0	3.0	2.0	1.0	2.0
	Jyotiba Phule Nagar	2,283	3.0	3.0	2.0	1.0	2.0

Importance Factor			20%	20%	20%	40%	Integrated Hazard Zoning
State/ UT	District	Geogrphl. Area (Sq km)	Wind Zoning	Seismic Zoning	Climate zoning	Hill Zoning	
	Meerut	2,620	3.0	3.0	2.0	1.0	2.0
	Baghpat	1,347	3.0	2.4	2.0	1.0	1.9
	Ghaziabad	2,014	3.0	3.0	2.0	1.0	2.0
	Gautam Buddha Nagar	1,425	3.0	3.0	2.0	1.0	2.0
	Bulandshahr	3,523	3.0	3.0	2.0	1.0	2.0
	Aligarh	3,746	3.0	3.0	2.0	1.0	2.0
	Mahamaya Nagar	1,771	3.0	2.8	2.0	1.0	2.0
	Mathura	3,359	3.0	3.0	2.0	1.0	2.0
	Agra	4,032	3.0	2.0	2.0	1.0	1.8
	Firozabad	2,411	3.0	2.0	2.0	1.0	1.8
	Mainpuri	2,708	3.0	2.0	2.0	1.0	1.8
	Budaun	5,094	3.0	2.6	2.0	1.0	1.9
	Bareilly	3,834	3.0	3.0	2.0	1.0	2.0
	Pilibhit	3,621	3.0	2.9	2.0	1.0	2.0
	Shahjahanpur	4,675	3.0	2.1	2.0	1.0	1.8
	Kheri	7,756	3.0	2.5	2.0	1.0	1.9
	Sitapur	5,822	3.0	2.0	2.0	1.0	1.8
	Hardoi	6,041	3.0	2.0	2.0	1.0	1.8
	Unnao	4,628	3.0	2.0	2.0	1.0	1.8
	Lucknow	2,558	3.0	2.0	2.0	1.0	1.8
	Rae Bareli	4,655	3.0	1.9	2.0	1.0	1.8
	Farrukhabad	2,191	3.0	2.0	2.0	1.0	1.8
	Kannauj	2,086	3.0	2.0	2.0	1.0	1.8
	Etawah	2,332	3.0	1.3	2.0	1.0	1.7
	Auraiya	2,015	3.0	1.2	2.0	1.0	1.6
	Kanpur Dehat	3,207	3.0	1.1	2.0	1.0	1.6
	Kanpur Nagar	2,915	3.0	1.3	2.0	1.0	1.7
	Jalaun	4,590	3.0	1.0	2.0	1.0	1.6
	Jhansi	5,120	3.0	1.0	2.0	1.0	1.6
	Lalitpur	5,066	1.8	1.0	2.0	1.0	1.4
	Hamirpur	4,283	2.7	1.6	2.0	4.0	2.8
	Mahoba	2,933	3.0	1.0	2.0	1.0	1.6
	Banda	4,584	3.0	1.0	2.0	1.0	1.6
	Chitrakoot	3,136	3.0	1.0	2.0	1.0	1.6
	Fatehpur	4,207	3.0	1.0	2.0	1.0	1.6
	Pratapgarh	3,753	3.0	1.8	2.0	1.0	1.8
	Kaushambi	1,838	3.0	1.0	2.0	1.0	1.6
	Allahabad	5,507	3.0	1.0	2.0	1.0	1.6
	Barabanki	3,891	3.0	2.0	2.0	1.0	1.8
	Faizabad	2,701	3.0	2.0	2.0	1.0	1.8

Importance Factor			20%	20%	20%	40%	Integrated Hazard Zoning
State/ UT	District	Geogrphl. Area (Sq km)	Wind Zoning	Seismic Zoning	Climate zoning	Hill Zoning	
	Ambedkar Nagar	2,368	3.0	2.0	2.0	1.0	1.8
	Sultanpur	4,468	3.0	2.0	2.0	1.0	1.8
	Bahraich	4,370	3.0	2.6	2.0	1.0	1.9
	Shrawasti	2,531	3.0	2.9	2.0	1.0	2.0
	Balrampur	3,365	3.0	3.0	2.0	1.0	2.0
	Gonda	4,081	3.0	2.1	2.0	1.0	1.8
	Siddharthnagar	2,871	3.0	3.0	2.0	1.0	2.0
	Basti	2,774	3.0	2.2	2.0	1.0	1.8
	Sant Kabir Nagar	1,771	3.0	2.4	2.0	1.0	1.9
	Maharajganj	2,947	3.0	3.0	2.0	1.0	2.0
	Gorakhpur	3,417	3.0	2.4	2.0	1.0	1.9
	Kushinagar	2,939	3.0	3.0	2.0	1.0	2.0
	Deoria	2,604	3.0	2.3	2.0	1.0	1.9
	Azamgarh	4,449	3.0	2.0	2.0	1.0	1.8
	Mau	1,589	3.0	2.0	2.0	1.0	1.8
	Ballia	3,064	3.0	2.0	2.0	1.0	1.8
	Jaunpur	4,086	3.0	2.0	2.0	1.0	1.8
	Ghazipur	3,440	3.0	2.0	2.0	1.0	1.8
	Chandauli	2,574	2.8	2.0	2.0	1.0	1.8
	Varanasi	1,569	3.0	2.0	2.0	1.0	1.8
	Sant Ravidas Nagar	1,021	3.0	1.0	2.0	1.0	1.6
	Mirzapur	4,596	2.9	1.2	2.0	1.0	1.6
	Sonbhadra	6,897	1.6	1.9	2.0	1.0	1.5
	Etah	2,468	3.0	2.0	2.0	1.0	1.8
	Kanshiram Nagar	2,023	3.0	2.2	2.0	1.0	1.8

3.5 Exposure Vulnerability Ranking

For estimating exposure and its vulnerability, detailed urban agglomerate classification maps generated from high-resolution satellite images have been used. With the help of remote sensing techniques applied on high-resolution satellite imageries, 10 types of urban agglomeration areas have been delineated (Figures 3-1 and 3-2). For major city areas, even more detailed urban agglomerate classification has been created with high-resolution data layers as shown in Figure 3-3. These include urban, semi-urban, building blocks, industrial and rural villages' built-up areas. District level census 2011 population has been distributed to each population agglomeration cluster. For exposure vulnerability, 4 different layers viz. population density, residential built-up areas, high-rise building block density, and industrial areas have been developed individually at district level. Table 3-4 shows district level geographical area, population, population density, residential built-up area, industrial area, and residential built-up area in percentage.

Table 3-4: District level geographical area, population, population density, residential built-up area, residential built-up area in percentage and industrial area

District	Geographical Area (sq km)	Population 2011	Population Density	Residential Built-Up area (sq km)	Industrial Area (sq km)	Residential Built-Up area (in percentage)
Himachal Pradesh						
Chamba	6,487	518,844	79.98	7.09	0.47	0.11%
Kangra	5,704	1,507,223	264.23	44.84	0.32	0.79%
Lahul & Spiti	13,841	31,528	2.28	0.33	-	0.00%
Kullu	5,513	437,474	79.36	10.39	-	0.19%
Mandi	3,963	999,518	252.21	13.85	0.05	0.35%
Hamirpur	1,123	454,293	404.55	17.12	-	1.52%
Una	1,541	521,057	338.09	39.42	0.60	2.56%
Bilaspur	1,167	382,056	327.42	6.28	0.22	0.54%
Solan	1,937	576,670	297.64	20.18	5.17	1.04%
Sirmaur	2,837	530,164	186.90	10.06	0.92	0.35%
Shimla	5,171	813,384	157.31	13.72	0.17	0.27%
Kinnaur	6,495	84,298	12.98	2.25	-	0.03%
Punjab						
Gurdaspur	3,600	2,299,026	638.59	51.39	0.19	1.43%
Kapurthala	1,661	817,668	492.39	17.90	0.20	1.08%
Jalandhar	2,601	2,181,753	838.81	45.56	0.28	1.75%
Hoshiarpur	3,366	1,582,793	470.20	39.29	0.11	1.17%
Shahid Bhagat Singh Nagar	1,276	614,362	481.29	15.79	0.07	1.24%
Fatehgarh Sahib	1,145	599,814	523.95	13.91	0.10	1.22%
Ludhiana	3,703	3,487,882	941.96	72.75	1.26	1.96%
Moga	2,238	992,289	443.39	23.90	0.25	1.07%
Firozpur	5,255	2,026,831	385.69	48.47	0.30	0.92%
Muktsar	2,633	902,702	342.79	22.40	0.23	0.85%
Faridkot	1,465	618,008	421.89	15.82	0.12	1.08%
Bathinda	3,366	1,388,859	412.61	31.41	0.42	0.93%
Mansa	2,209	768,808	348.04	18.68	0.18	0.85%
Patiala	3,368	1,892,282	561.86	42.68	0.34	1.27%
Amritsar	2,648	2,490,891	940.79	51.76	0.52	1.96%
Tarn Taran	2,404	1,120,070	465.87	23.90	0.09	0.99%
Rupnagar	1,370	683,349	498.79	16.92	0.16	1.23%
Sahibzada Ajit Singh Nagar	1,067	986,147	924.04	20.51	0.37	1.92%
Sangrur	3,583	1,654,408	461.75	39.96	0.52	1.12%
Barnala	1,404	596,294	424.68	14.37	0.10	1.02%
Chandigarh						
Chandigarh	120	1,054,686	8,811.64	18.91	0.13	15.80%
Uttarakhand						

District	Geographical Area (sq km)	Population 2011	Population Density	Residential Built-Up area (sq km)	Industrial Area (sq km)	Residential Built-Up area (in percentage)
Uttarkashi	7,971	329,686	41.36	16.14	0.04	0.20%
Chamoli	7,901	391,114	49.50	15.78	0.03	0.20%
Rudra Prayag	1,942	236,857	121.95	8.40	-	0.43%
Tehri Garhwal	3,929	616,409	156.90	24.35	0.19	0.62%
Dehradun	3,097	1,698,560	548.54	99.30	1.71	3.21%
Garhwal	5,301	686,527	129.51	45.23	0.30	0.85%
Pithoragarh	7,263	485,993	66.91	17.25	-	0.24%
Bageshwar	2,283	259,840	113.79	14.68	-	0.64%
Almora	3,127	621,927	198.92	36.30	-	1.16%
Champawat	1,765	259,315	146.91	9.83	-	0.56%
Nainital	4,049	955,128	235.86	47.12	1.30	1.16%
Udham Singh Nagar	2,559	1,648,367	644.24	68.25	10.35	2.67%
Haridwar	2,305	1,927,029	836.06	67.04	8.78	2.91%
Haryana						
Panchkula	915	558,890	611.01	14.31	0.11	1.56%
Ambala	1,458	1,136,784	779.43	22.78	0.17	1.56%
Yamuna Nagar	1,722	1,214,162	704.94	24.69	0.29	1.43%
Kurukshetra	1,666	964,231	578.94	20.92	0.26	1.26%
Kaithal	2,285	1,072,861	469.59	25.16	0.28	1.10%
Karnal	2,489	1,506,323	605.22	26.99	0.51	1.08%
Panipat	1,260	1,202,811	954.34	21.71	0.81	1.72%
Sonapat	2,179	1,480,080	679.17	29.48	0.53	1.35%
Jind	2,763	1,332,042	482.10	29.57	0.22	1.07%
Fatehabad	2,490	941,522	378.12	23.66	0.20	0.95%
Sirsa	4,254	1,295,114	304.41	34.36	0.14	0.81%
Hisar	4,092	1,742,815	425.87	38.19	0.37	0.93%
Bhiwani	4,631	1,629,109	351.78	39.61	0.21	0.86%
Rohtak	1,673	1,058,683	632.97	21.17	0.18	1.27%
Jhajjar	1,908	956,907	501.60	20.07	0.38	1.05%
Mahendragarh	1,939	921,680	475.40	18.42	0.01	0.95%
Rewari	1,528	896,129	586.47	18.43	0.30	1.21%
Gurgaon	1,241	1,514,085	1,220.36	34.70	0.76	2.80%
Mewat	1,475	1,089,406	738.81	19.54	0.06	1.33%
Faridabad	744	1,798,954	2,416.42	34.17	0.69	4.59%
Palwal	1,411	1,040,493	737.54	21.43	0.13	1.52%
Uttar Pradesh						
Saharanpur	3,742	3,464,228	925.80	124.00	3.56	3.31%
Muzaffarnagar	4,077	4,138,605	1,015.13	160.87	4.67	3.95%
Bijnor	4,389	3,683,896	839.26	0.08	-	0.00%
Moradabad	3,615	4,773,138	1,320.41	166.79	3.90	4.61%

District	Geographical Area (sq km)	Population 2011	Population Density	Residential Built-Up area (sq km)	Industrial Area (sq km)	Residential Built-Up area (in percentage)
Rampur	2,668	2,335,398	875.18	88.77	1.81	3.33%
Jyotiba Phule Nagar	2,283	1,838,771	805.55	76.85	2.62	3.37%
Meerut	2,620	3,447,405	1,315.85	150.65	5.32	5.75%
Baghpat	1,347	1,302,156	966.69	62.08	1.06	4.61%
Ghaziabad	2,014	4,661,452	2,315.02	152.24	18.76	7.56%
Gautam Buddha Nagar	1,425	1,674,714	1,175.40	91.01	12.99	6.39%
Bulandshahr	3,523	3,498,507	993.10	138.03	4.31	3.92%
Aligarh	3,746	3,673,849	980.64	143.53	1.19	3.83%
Mahamaya Nagar	1,771	1,565,678	884.02	53.26	0.38	3.01%
Mathura	3,359	2,541,894	756.74	106.36	5.16	3.17%
Agra	4,032	4,380,793	1,086.59	153.44	6.51	3.81%
Firozabad	2,411	2,496,761	1,035.77	80.81	2.15	3.35%
Mainpuri	2,708	1,847,194	682.17	76.11	1.31	2.81%
Budaun	5,094	3,712,738	728.86	143.30	2.22	2.81%
Bareilly	3,834	4,465,344	1,164.65	142.46	3.62	3.72%
Pilibhit	3,621	2,037,225	562.62	61.94	0.99	1.71%
Shahjahanpur	4,675	3,002,376	642.28	99.89	2.61	2.14%
Kheri	7,756	4,013,634	517.48	151.76	3.52	1.96%
Sitapur	5,822	4,474,446	768.55	175.29	0.93	3.01%
Hardoi	6,041	4,091,380	677.23	135.06	1.58	2.24%
Unnao	4,628	3,110,595	672.14	151.74	2.50	3.28%
Lucknow	2,558	4,588,455	1,793.61	196.29	4.14	7.67%
Rae Bareli	4,655	3,404,004	731.33	176.39	2.54	3.79%
Farrukhabad	2,191	1,887,577	861.67	54.16	2.05	2.47%
Kannauj	2,086	1,658,005	794.95	56.12	0.36	2.69%
Etawah	2,332	1,579,160	677.22	64.69	1.88	2.77%
Auraiya	2,015	1,372,287	681.17	60.93	2.61	3.02%
Kanpur Dehat	3,207	1,795,092	559.82	80.62	1.71	2.51%
Kanpur Nagar	2,915	4,572,951	1,568.62	175.63	14.47	6.02%
Jalaun	4,590	1,670,718	364.01	79.06	1.05	1.72%
Jhansi	5,120	2,000,755	390.78	90.77	3.00	1.77%
Lalitpur	5,066	1,218,002	240.44	47.52	0.76	0.94%
Hamirpur	4,283	1,104,021	257.76	17.12	-	0.40%
Mahoba	2,933	876,055	298.70	45.23	0.08	1.54%
Banda	4,584	1,799,541	392.57	90.90	5.47	1.98%
Chitrakoot	3,136	990,626	315.87	48.12	0.26	1.53%
Fatehpur	4,207	2,632,684	625.73	121.43	0.65	2.89%
Pratapgarh	3,753	3,173,752	845.76	145.95	0.55	3.89%
Kaushambi	1,838	1,596,909	868.91	71.84	0.27	3.91%
Allahabad	5,507	5,959,798	1,082.27	238.62	4.37	4.33%

District	Geographical Area (sq km)	Population 2011	Population Density	Residential Built-Up area (sq km)	Industrial Area (sq km)	Residential Built-Up area (in percentage)
Barabanki	3,891	3,257,983	837.32	119.86	1.10	3.08%
Faizabad	2,701	2,468,371	913.75	75.17	0.59	2.78%
Ambedkar Nagar	2,368	2,398,709	1,012.83	90.75	0.42	3.83%
Sultanpur	4,468	3,790,922	848.48	177.28	2.41	3.97%
Bahraich	4,370	3,478,257	795.98	106.27	0.65	2.43%
Shrawasti	2,531	1,114,615	440.40	73.97	0.00	2.92%
Balrampur	3,365	2,149,066	638.75	76.23	0.01	2.27%
Gonda	4,081	3,431,386	840.88	111.35	0.48	2.73%
Siddharthnagar	2,871	2,553,526	889.39	106.60	0.04	3.71%
Basti	2,774	2,461,056	887.18	67.22	0.50	2.42%
Sant Kabir Nagar	1,771	1,714,300	968.10	59.66	0.21	3.37%
Maharajganj	2,947	2,665,292	904.31	111.24	2.22	3.77%
Gorakhpur	3,417	4,436,275	1,298.43	188.75	2.33	5.52%
Kushinagar	2,939	3,560,830	1,211.56	94.39	0.12	3.21%
Deoria	2,604	3,098,637	1,189.76	97.62	0.42	3.75%
Azamgarh	4,449	4,616,509	1,037.73	196.28	0.70	4.41%
Mau	1,589	2,205,170	1,387.93	74.09	0.39	4.66%
Ballia	3,064	3,223,642	1,052.05	126.29	0.06	4.12%
Jaunpur	4,086	4,476,072	1,095.47	193.42	1.36	4.73%
Ghazipur	3,440	3,622,727	1,052.97	157.16	0.18	4.57%
Chandauli	2,574	1,952,713	758.75	73.33	0.74	2.85%
Varanasi	1,569	3,682,194	2,347.36	139.57	2.85	8.90%
Sant Ravidas Nagar	1,021	1,554,203	1,521.79	56.13	0.58	5.50%
Mirzapur	4,596	2,494,533	542.80	72.09	0.88	1.57%
Sonbhadra	6,897	1,862,612	270.07	68.32	5.58	0.99%
Etah	2,468	1,761,152	713.60	70.84	1.48	2.87%
Kanshiram Nagar	2,023	1,438,156	711.05	54.02	0.50	2.67%

In order to assess the impact of each exposure vulnerability type, a vulnerability score/ ranking has been assigned to each layer at its base unit. The vulnerability score represents the level of vulnerability (very high to negligible) of a specific type of exposure in response to the occurrences of small and medium fire incidents. Base unit for vulnerability ranking is the district boundary. The natural break in value distribution has been considered for defining the ranking class.

Based on Census 2011 population, district-level population densities have been computed and grouped into five ranges based on the schema shown in Table 3-5. A ranking of 5 has been assigned to highly dense districts, having populations greater than 10,000 per sq km, and 1 to sparsely populated districts having less than 200 people per sq km area.

Table 3-5: Grouping schema for ranking of exposure and vulnerability layers

Population density	Ranking	Built-up area %	Ranking
>10,000	5	>35 %	5
1,000 to 10,000	4	14% to 35 %	4
500 to 1,000	3	2% to 14 %	3

200 to 500	2
<200	1
Residential Built-up area sq km	Ranking
>190	5
100 to 190	4
50 to 100	3
20 to 50	2
<20	1

1% to 2 %	2
<1 %	1
Industrial area sq km	Ranking
>10	5
5 to 10	4
2 to 5	3
1 to 2	2
< 1	1

As described earlier, various types of residential built-up areas have been delineated using high-resolution images. For assessing fire risk, both absolute built-up areas in sq km as well as built-up areas percent (ratio of built-up areas to the total area) are important parameters. Figure 3-8 illustrates an example of district level ranking of residential built-up area percent and corresponding residential built up area in absolute terms (i.e. area in sq.km.). An example of this is shown in Figure 3-8 for Maharashtra. It can be seen that Pune district has the highest residential built-up area, while in terms of residential built-up area in percentage, Pune district comes at fifth rank (Figure 3-8).

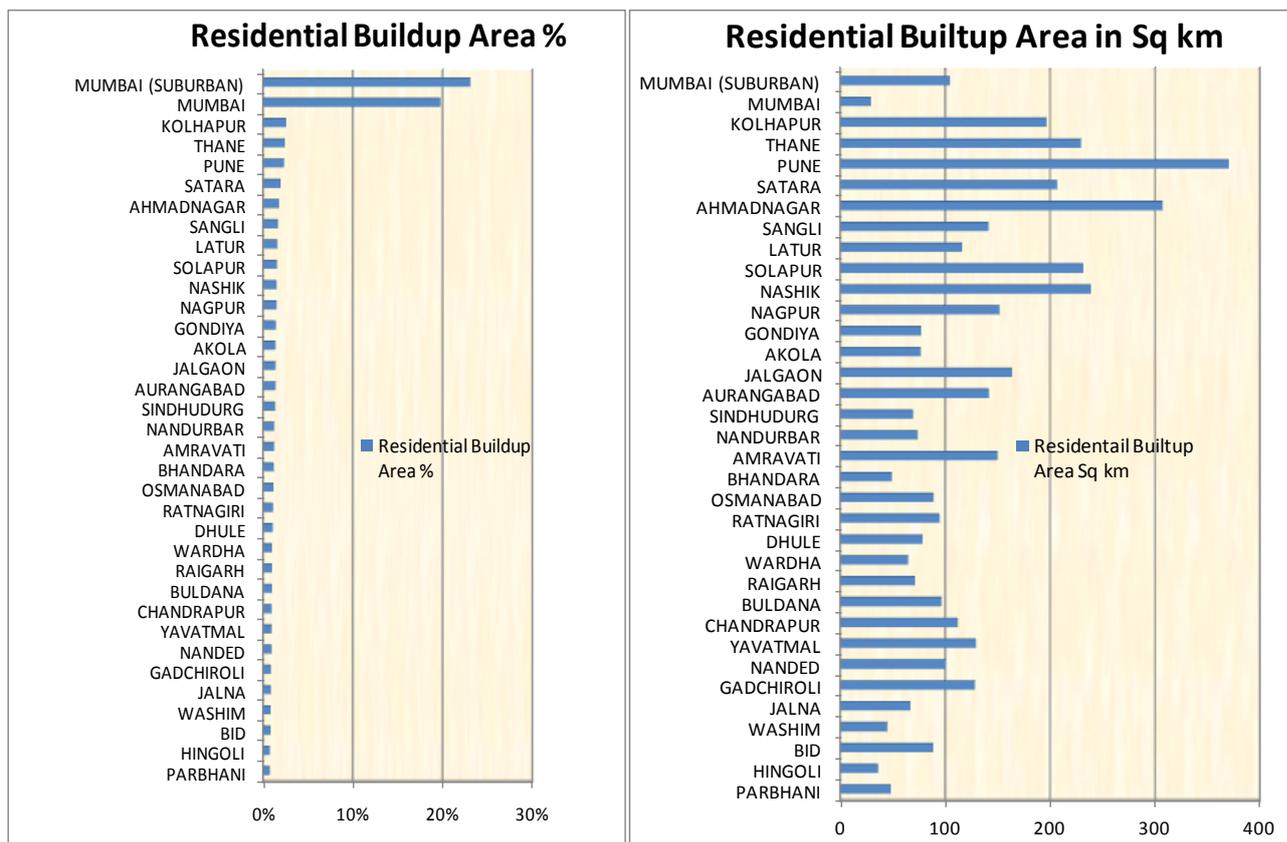


Figure 3-8 : Example of comparison of district level rankings for residential built-up area percentages and absolute areas (in sq km). The example shows a comparison for all 35 districts of Maharashtra State

District level values of residential built-up area in percent and in absolute terms (i.e. area in sq km.) have been grouped separately into five classes and assigned a ranking score of 1- 5 based on the schema shown in Table 3-5. Districts having > 35% residential built-up have been assigned 5th ranking, while districts having <1 % built-up area as whole have been assigned a rank of 1. Similarly, 5 ranking has been assigned to district wise residential built-up areas in sq km based on schema shown in Table 3-5. This schema has been prepared

based on natural breaks of value distribution considering all 106 districts of the pilot study area. Because of its appropriateness, the schema has been used for ranking all the districts in the remaining 29 States/UTs also.

It is obvious that industrial areas in districts have much lower percentages than residential built-up areas. However, presence of industrial areas in a district has a significant influence in assessing fire risk. Hence, industrial areas in absolute terms (sq km) have been considered in risk ranking. In a similar fashion, district wise industrial areas have been grouped into five classes and vulnerability ranking has been assigned based on the schema described in Table 3-5. Districts having more than 10 sq km industrial plot area are ranked at 5, while districts having industrial area of less than 1 sq km are ranked at 1 (Table 3-5).

An example of district level total residential built-up areas in sq km and industrial areas for all 35 districts of Maharashtra have been plotted for direct comparison in Figure 3-9. Industrial as well residential built-up area is the highest in Pune district. In contrast, Ahmadnagar, has second ranking in terms of residential built-up area, but in terms of industrial area, Thane district holds second ranking (Figure 3-9).

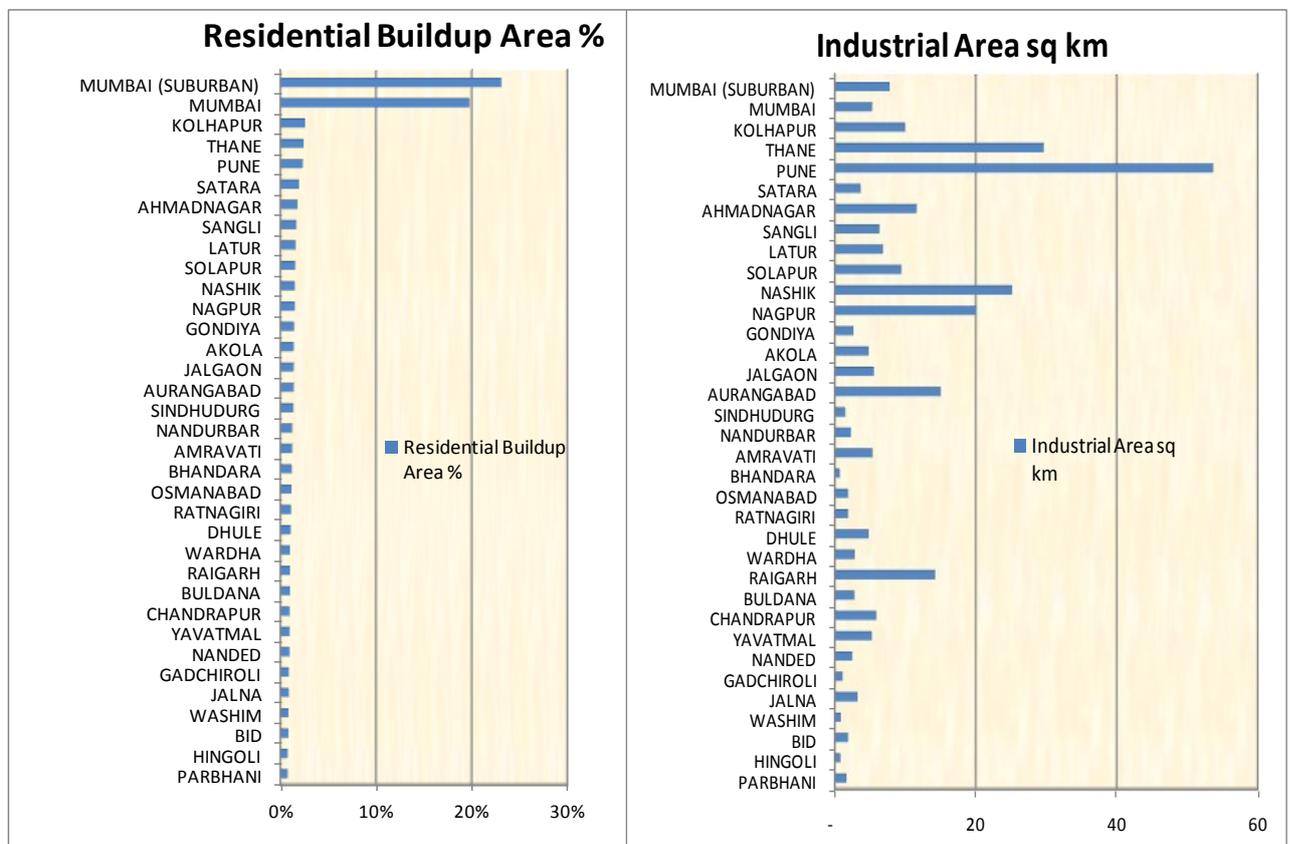


Figure 3-9 : Example of comparison of district level rankings for residential built-up areas and industrial areas (in sq km). The example shows a comparison for all 35 districts of Maharashtra State

Integrated Risk Analysis

After developing ranking of individual units in terms of hazard and exposure vulnerability, GIS layers have been overlaid on top of each other and a spatial analysis has been performed for integration in GIS environment. For combining hazard and risk, Weighted Factor Analysis (WFA) in GIS environment has been performed. Weighted ranking scores have been used in the integration analysis and quantified risk distribution for all districts. Values of weighted factor depend upon the importance of a particular hazard/ vulnerability class in risk analysis. For example, temperate zone hazard value of a district has a much lower weight than the population density of a district.

For integration of hazards, equal weights have been assigned to wind, seismic, and climatic hazards, while double weights have been given to hill zoning (Table 3-5). This is because, in hilly terrain, wooden houses, and heating provisions in buildings increase the chances of fire-incidences, and thus have been given higher weightage.

Four layers of exposure/ vulnerability, such as population density, residential built-up area percentage, residential built-up area in sq km and Industrial area in sq km seem to have equal importance in the occurrence of the number of fire incidents in a district. Hence, equal weights have been assigned in integration of these layers (Table 3-6).

After obtaining integrated individual weighted score for hazard and exposure vulnerability, fire risk categories have been obtained in quantitative terms by further integration of hazard and exposure vulnerability. It is obvious that in the occurrence of the number of fire incidents in a given district, exposure vulnerability has more importance than the prevailing hazard. Hence, in quantified integration, double weights have been assigned to exposure vulnerability (Table 3-6).

Table 3-6: Weightage assigned in risk scoring schema for integration of hazard and exposure vulnerability into fire risk categories

Hazard		Weightage	
H1	Wind Zoning	W1	0.2
H2	Seismic Zoning	W2	0.2
H3	Climate zoning	W3	0.2
H4	Hill zoning	W4	0.4
Integrated Hazard		$H1*W1+H2*W2+H3*W3+H4*W4$	

Exposure/ Vulnerability Class		Weightage	
EV1	Population Density	W1	0.25
EV2	Residential built-up area %	W2	0.25
EV3	Residential built-up area in sq km	W3	0.25
EV4	Industrial area in sq km	W4	0.25
Integrated Exposure Vulnerability		$EV1*W1+EV2*W2+EV3*W3+EV4*W4$	

Fire Risk score = Integrated Hazard x 2 (Integrated Exposure Vulnerability)

The quantified numeric values of district risk scores are again grouped into four descriptive categories of district level risk ranking (very high, high, medium, and low) as depicted in Table 3-7.

Table 3-7: District risk rankings for all Phase I States/UTs

State	District	Population Density Ranking	Res Built-up Area sq km Ranking	Res Built-up Area Percentage Ranking	Industrial Area Ranking	Integrated Ranking	Overall District Risk Ranking
Himachal Pradesh							
	Chamba	1.00	1.00	1.00	1.00	7.10	Medium
	Kangra	2.00	1.00	2.00	1.00	7.47	Medium
	Lahul & Spiti	1.00	1.00	1.00	1.00	7.27	Medium
	Kullu	1.00	1.00	1.00	1.00	7.67	High
	Mandi	2.00	1.00	1.00	1.00	7.71	High
	Hamirpur	2.00	2.00	1.00	1.00	7.19	Medium
	Una	2.00	3.00	2.00	1.00	8.16	High
	Bilaspur	2.00	1.00	1.00	1.00	7.26	Medium
	Solan	2.00	2.00	2.00	4.00	8.51	Very High
	Sirmaur	1.00	1.00	1.00	1.00	6.95	Medium
	Shimla	1.00	1.00	1.00	1.00	7.63	High
	Kinnaur	1.00	1.00	1.00	1.00	7.26	Medium
Punjab							
	Gurdaspur	3.00	2.00	3.00	1.00	6.09	Medium
	Kapurthala	2.00	2.00	1.00	1.00	5.47	Low
	Jalandhar	3.00	2.00	2.00	1.00	5.96	Low
	Hoshiarpur	2.00	2.00	2.00	1.00	5.72	Low
	Shahid Bhagat Singh Nagar	2.00	2.00	1.00	1.00	5.50	Low
	Fatehgarh Sahib	3.00	2.00	1.00	1.00	5.73	Low
	Ludhiana	3.00	2.00	3.00	2.00	6.31	Medium
	Moga	2.00	2.00	2.00	1.00	5.35	Low
	Firozpur	2.00	1.00	2.00	1.00	4.99	Low
	Muktsar	2.00	1.00	2.00	1.00	5.03	Low
	Faridkot	2.00	2.00	1.00	1.00	5.10	Low
	Bathinda	2.00	1.00	2.00	1.00	5.08	Low
	Mansa	2.00	1.00	1.00	1.00	4.78	Low
	Patiala	3.00	2.00	2.00	1.00	5.71	Low
	Amritsar	3.00	2.00	3.00	1.00	6.20	Medium
	Tarn Taran	2.00	1.00	2.00	1.00	5.20	Low
	Rupnagar	2.00	2.00	1.00	1.00	5.50	Low
	Sahibzada Ajit Singh Nagar	3.00	2.00	2.00	1.00	6.00	Medium
	Sangrur	2.00	2.00	2.00	1.00	5.35	Low
	Barnala	2.00	2.00	1.00	1.00	5.10	Low
Chandigarh							
	Chandigarh	4.00	4.00	1.00	1.00	6.50	Medium
Uttarakhand							

State	District	Populati on Density Ranking	Res Built-up Area sq km Ranking	Res Built-up Area Percentag e Ranking	Industrial Area Ranking	Integrated Ranking	Overall District Risk Ranking
	Uttarkashi	1.00	1.00	1.00	1.00	7.27	Medium
	Chamoli	1.00	1.00	1.00	1.00	7.42	Medium
	Rudra Prayag	1.00	1.00	1.00	1.00	7.24	Medium
	Tehri Garhwal	1.00	1.00	2.00	1.00	7.36	Medium
	Dehradun	3.00	3.00	3.00	2.00	8.56	Very High
	Garhwal	1.00	1.00	2.00	1.00	7.21	Medium
	Pithoragarh	1.00	1.00	1.00	1.00	7.59	High
	Bageshwar	1.00	1.00	1.00	1.00	7.58	High
	Almora	1.00	2.00	2.00	1.00	7.87	High
	Champawat	1.00	1.00	1.00	1.00	7.52	High
	Nainital	2.00	2.00	2.00	2.00	8.25	High
	Udham Singh Nagar	3.00	3.00	3.00	5.00	9.90	Very High
	Haridwar	3.00	3.00	3.00	4.00	9.19	Very High
Haryana							
	Panchkula	3.00	2.00	1.00	1.00	5.75	Low
	Ambala	3.00	2.00	2.00	1.00	5.92	Low
	Yamuna Nagar	3.00	2.00	2.00	1.00	5.93	Low
	Kurukshetra	3.00	2.00	2.00	1.00	5.60	Low
	Kaithal	2.00	2.00	2.00	1.00	5.35	Low
	Karnal	3.00	2.00	2.00	1.00	5.60	Low
	Panipat	3.00	2.00	2.00	1.00	5.60	Low
	Sonipat	3.00	2.00	2.00	1.00	5.60	Low
	Jind	2.00	2.00	2.00	1.00	5.35	Low
	Fatehabad	2.00	1.00	2.00	1.00	4.87	Low
	Sirsa	2.00	1.00	2.00	1.00	4.70	Low
	Hisar	2.00	1.00	2.00	1.00	4.23	Low
	Bhiwani	2.00	1.00	2.00	1.00	4.34	Low
	Rohtak	3.00	2.00	2.00	1.00	5.53	Low
	Jhajjar	3.00	2.00	2.00	1.00	5.07	Low
	Mahendragarh	2.00	1.00	1.00	1.00	4.48	Low
	Rewari	3.00	2.00	1.00	1.00	5.35	Low
	Gurgaon	4.00	3.00	2.00	1.00	6.38	Medium
	Mewat	3.00	2.00	1.00	1.00	5.75	Low
	Faridabad	4.00	3.00	2.00	1.00	6.50	Medium
	Palwal	3.00	2.00	2.00	1.00	6.00	Medium
Uttar Pradesh							
	Saharanpur	3.00	3.00	4.00	3.00	7.07	Medium
	Muzaffarnagar	4.00	3.00	4.00	3.00	7.28	Medium
	Bijnor	3.00	1.00	1.00	1.00	5.50	Low

State	District	Population Density Ranking	Res Built-up Area sq km Ranking	Res Built-up Area Percentage Ranking	Industrial Area Ranking	Integrated Ranking	Overall District Risk Ranking
	Moradabad	4.00	3.00	4.00	3.00	7.50	High
	Rampur	3.00	3.00	3.00	2.00	6.75	Medium
	Jyotiba Phule Nagar	3.00	3.00	3.00	3.00	7.00	Medium
	Meerut	4.00	3.00	4.00	4.00	7.75	High
	Baghpat	3.00	3.00	3.00	2.00	6.50	Medium
	Ghaziabad	4.00	3.00	4.00	5.00	8.00	High
	Gautam Buddha Nagar	4.00	3.00	3.00	5.00	7.75	High
	Bulandshahr	3.00	3.00	4.00	3.00	7.25	Medium
	Aligarh	3.00	3.00	4.00	2.00	7.00	Medium
	Mahamaya Nagar	3.00	3.00	3.00	1.00	6.42	Medium
	Mathura	3.00	3.00	4.00	4.00	7.49	Medium
	Agra	4.00	3.00	4.00	4.00	7.34	Medium
	Firozabad	4.00	3.00	3.00	3.00	6.85	Medium
	Mainpuri	3.00	3.00	3.00	2.00	6.35	Medium
	Budaun	3.00	3.00	4.00	3.00	7.11	Medium
	Bareilly	4.00	3.00	4.00	3.00	7.48	Medium
	Pilibhit	3.00	2.00	3.00	1.00	6.22	Medium
	Shahjahanpur	3.00	3.00	3.00	3.00	6.65	Medium
	Kheri	3.00	2.00	4.00	3.00	6.82	Medium
	Sitapur	3.00	3.00	4.00	1.00	6.35	Medium
	Hardoi	3.00	3.00	4.00	2.00	6.60	Medium
	Unnao	3.00	3.00	4.00	3.00	6.83	Medium
	Lucknow	4.00	3.00	5.00	3.00	7.35	Medium
	Rae Bareli	3.00	3.00	4.00	3.00	6.81	Medium
	Farrukhabad	3.00	3.00	3.00	3.00	6.60	Medium
	Kannauj	3.00	3.00	3.00	1.00	6.10	Medium
	Etawah	3.00	3.00	3.00	2.00	6.07	Medium
	Auraiya	3.00	3.00	3.00	3.00	6.28	Medium
	Kanpur Dehat	3.00	3.00	3.00	2.00	5.98	Low
	Kanpur Nagar	4.00	3.00	4.00	5.00	7.32	Medium
	Jalaun	2.00	2.00	3.00	2.00	5.45	Low
	Jhansi	2.00	2.00	3.00	3.00	5.70	Low
	Lalitpur	2.00	1.00	2.00	1.00	4.21	Low
	Hamirpur	2.00	1.00	1.00	1.00	6.94	Medium
	Mahoba	2.00	2.00	2.00	1.00	4.95	Low
	Banda	2.00	2.00	3.00	4.00	5.95	Low
	Chitrakoot	2.00	2.00	2.00	1.00	4.95	Low
	Fatehpur	3.00	3.00	4.00	1.00	5.95	Low

State	District	Population Density Ranking	Res Built-up Area sq km Ranking	Res Built-up Area Percentage Ranking	Industrial Area Ranking	Integrated Ranking	Overall District Risk Ranking
	Pratapgarh	3.00	3.00	4.00	1.00	6.27	Medium
	Kaushambi	3.00	3.00	3.00	1.00	5.70	Low
	Allahabad	4.00	3.00	5.00	3.00	6.96	Medium
	Barabanki	3.00	3.00	4.00	2.00	6.60	Medium
	Faizabad	3.00	3.00	3.00	1.00	6.10	Medium
	Ambedkar Nagar	4.00	3.00	3.00	1.00	6.35	Medium
	Sultanpur	3.00	3.00	4.00	3.00	6.85	Medium
	Bahraich	3.00	3.00	4.00	1.00	6.58	Medium
	Shrawasti	2.00	3.00	3.00	1.00	6.19	Medium
	Balrampur	3.00	3.00	3.00	1.00	6.48	Medium
	Gonda	3.00	3.00	4.00	1.00	6.39	Medium
	Siddharthnagar	3.00	3.00	4.00	1.00	6.75	Medium
	Basti	3.00	3.00	3.00	1.00	6.16	Medium
	Sant Kabir Nagar	3.00	3.00	3.00	1.00	6.27	Medium
	Maharajganj	3.00	3.00	4.00	3.00	7.25	Medium
	Gorakhpur	4.00	3.00	4.00	3.00	7.26	Medium
	Kushinagar	4.00	3.00	3.00	1.00	6.75	Medium
	Deoria	4.00	3.00	3.00	1.00	6.48	Medium
	Azamgarh	4.00	3.00	5.00	1.00	6.85	Medium
	Mau	4.00	3.00	3.00	1.00	6.35	Medium
	Ballia	4.00	3.00	4.00	1.00	6.60	Medium
	Jaunpur	4.00	3.00	5.00	2.00	7.09	Medium
	Ghazipur	4.00	3.00	4.00	1.00	6.60	Medium
	Chandauli	3.00	3.00	3.00	1.00	6.02	Medium
	Varanasi	4.00	3.00	4.00	3.00	7.08	Medium
	Sant Ravidas Nagar	4.00	3.00	3.00	1.00	5.96	Low
	Mirzapur	3.00	2.00	3.00	1.00	5.49	Low
	Sonbhadra	2.00	1.00	3.00	4.00	5.50	Low
	Etah	3.00	3.00	3.00	2.00	6.35	Medium
	Kanshiram Nagar	3.00	3.00	3.00	1.00	6.18	Medium

4 Field Surveys of Fire Stations for Data Collection

At present, there is a lack of a comprehensive centralized database on the distribution of fire service infrastructure, and the stock of existing fire fighting vehicles, manpower and specialized equipment, their types, and their quantities. Most of the information is either disaggregated or not updated. This information is required for undertaking the gap analysis, future planning, and improvement of institutional capacity, financial planning, and creating a roadmap for the next 10 years for revamping the fire services in the country. To have first-hand information on the distribution of the fire service stations across the country, trained human resources, infrastructure availability and their status, RMSI project team has carried out surveys of Fire Stations and collected data from Headquarters of all the States under the jurisdiction of DG, NDRF & CD (Fire) in the country. In addition to the survey of Fire Stations, the team has also collected the location (latitude, longitude) of Fire Stations using GPS. The geographical coordinate information is used for plotting all the Fire Station locations on the map to perform GIS based spatial analysis. This is required for the analysis of distribution of Fire Stations and gap analysis on fire-infrastructure, based on risk-category, response time, and population.

4.1 Field-Survey of Individual Fire Station and Collection of Headquarter Data

RMSI project team has designed a comprehensive “Fire Headquarter Data Collection Form” (*Annexure-1*) and individual “Fire Station Survey Form” (*Annexure-2*) to collect all the required information for each State/UT in the country.

The information includes but is not limited to:

- i. Location (latitude, longitude) and location description of the Fire Station
- ii. Name of fire-station in-charge and his contact details
- iii. Fire Vehicles type, numbers, their model, year of manufacture/induction at the Fire Station, and general condition of fire vehicles
- iv. Specialized firefighting equipment, their type, and quantity
- v. Road access and connectivity to vulnerable areas
- vi. Infrastructure facilities (accommodation) of fire-personnel and their distance from Fire Stations
- vii. Duty patterns
- viii. Staff details at different levels
- ix. Water availability etc.

The Fire Headquarter Data Collection Form and individual Fire Station Survey Form have been designed in such a way as to extract most of the common information including communication, human resources, specialized equipment, fire-statistics etc. applicable for the entire State, in a quantitative way, which might help the analysis at a later stage. In addition to infrastructure information, RMSI also attempted to collect information/indicators related to vulnerability and risk through indirect questions like:

- i. Year wise information on the number of events each unit had attended during the last 5 years and losses caused by fire events both in terms of assets and life.

- ii. Few questions on the general perception of the fire officer and in charge of the unit on various types of risks in the Fire Station jurisdiction.

Analysis on the information of events over time and the loss can provide an understanding of the vulnerability and risk as well as the susceptibility trend over the year. The fire officer would be the key person who faces actual needs on the ground as well as in using the infrastructure for the service.

During the field survey in the pilot study, the RMSI team members have interacted with Fire Station In-charges to gather the required information. In addition to discussions with the Fire Station in charge, other key department officials have been contacted to know their perception about the fire risks and the difficulties that fire department is facing. The project team is ensuring that the Headquarter Data Collection Forms and Individual Fire Station Survey Forms are comprehensive and contain all information required for this assignment.

The field data collected by the survey team have undergone through quality checks and the project team has created a database with all collected information. The database has been designed in such a way that the data can be used for spatial and non-spatial analysis. All the Fire Stations have a unique code as identifier.

4.2 Stakeholder Analysis

Apart from the quantitative data collection on the distribution of fire service infrastructure, stock of the existing equipment and their quality, the RMSI team also interacted with some of the key fire officials and senior members in DGCD, MHA and NDRF. The focus of such discussions was more on institutional aspects (issues in the service delivery and suggestions), capacity, and future requirements. As these interactions are mostly with senior personnel of fire department, the focus has been to derive a broader picture in terms of requirements, investment, and institutional capacity building. This information has been compiled and summarized under various heads, for instance, requirement, investment, institutional capacity building, etc. RMSI key experts have been analyzing the diverse opinion of various fire officials and are providing their recommendations.

Any significant issue that was observed during this process, in terms of issues in the process of the delivery/bottlenecks in smooth operation were highlighted along with RMSI's suggested solution.

Finally, RMSI team held discussions with officials of the DG NDRF & CD and members of project review to present the summary of observations for discussions in several meetings.

5 Development of Fire Decision Support System (FDSS)

This chapter discusses the modeling software solution named FDSS (Fire Decision Support System), developed by RMSI as part of the deliverables. FDSS is a dynamic web-based application aimed to support decision makers in taking optimal decisions on complex tasks, such as resource repositioning, gap analysis, prioritization, and resource optimization along with the day-to-day tasks. The most important aspect of FDSS is that it enables the apex fire management authority to access the entire country's fire agencies information on a single platform.

5.1 Salient Features

Following is a brief description of the FDSS platform. The platform is built on a framework that is state-of-the-art and is the most suitable solution for users' needs.

The salient features of the FDSS platform include:

- Web based application built using .NET Framework 3.5 utilizing the GIS capabilities of an open source GIS Platform.
- Multi-tier system architecture that follows the Object Oriented Programming model with the following objectives:
 - Loose coupling between the various tiers – presentation, business and data
 - Ease of development and deployment
- Ability to navigate, query and render the spatial data
- Exposure view, query and update capabilities that will help the user to keep the information in the system up-to-date
- Ability to view and query the outputs in a tabular format
- A powerful reporting engine that enables a set of pre-formatted reports that provide various views of the outputs from the model
- A thematic map generator that uses the underlying GIS platform to depict the outputs from the model as pre-designed thematic maps.

5.2 High Level Design

FDSS has a multi-tier architecture to allow for modularity and scalability. The architecture follows the Object Oriented Programming model. The various tiers of the system are as shown in Figure 5-1.

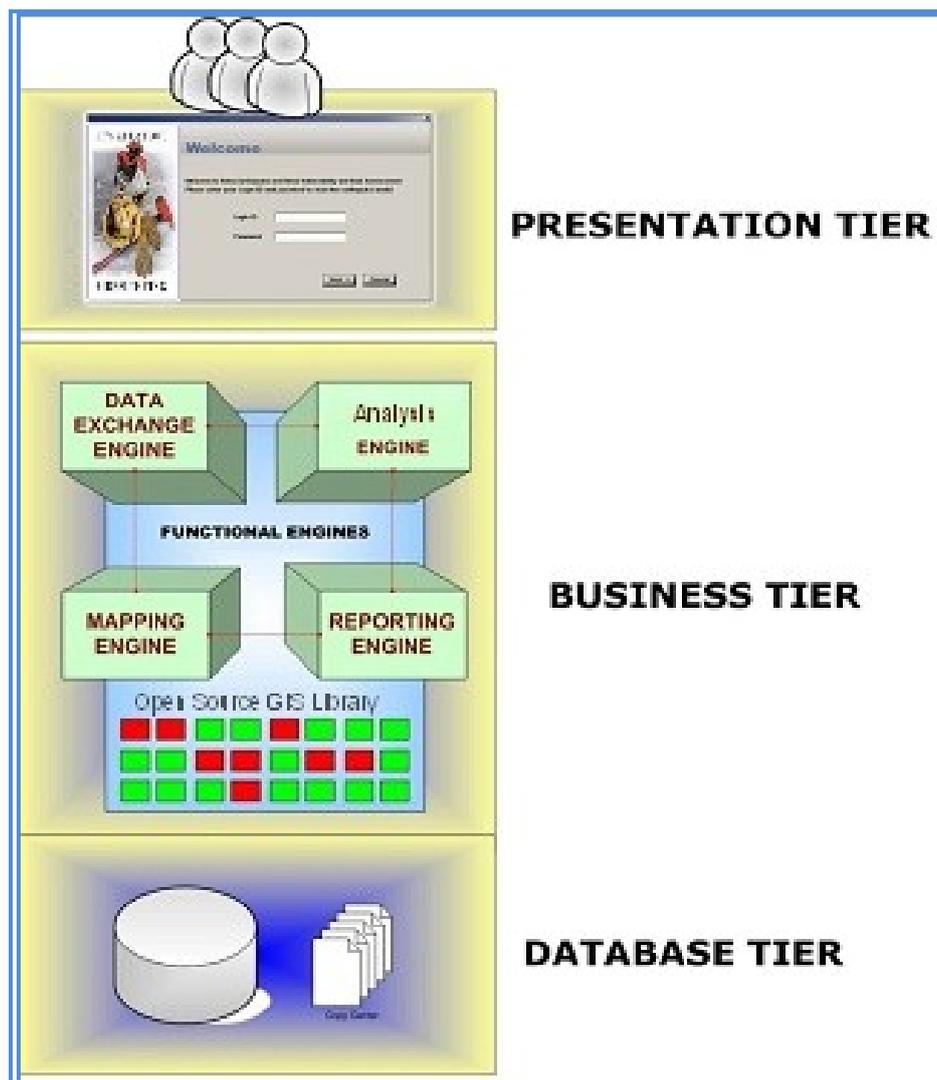


Figure 5-1 : Three-tier architecture

- **Presentation tier:** This user interface is responsible for gathering inputs from the user and passing on the same to the business layer for processing. The presentation layer ensures that the communications passing through are in the appropriate form for the recipient business objects in the business tier. In FDSS, the user interface constitutes this tier.
- **Business tier:** consists of the system business rules and computing logic as a set of business objects. This tier also interfaces with the data tier. The Mapping engine, Data Access engine, Reporting engine, and Analysis engine constitute this tier.
- **Database tier:** consists of the environment that allows persistence of user information – both lookup and computed data. Physical implementation of this layer can be files on the system or databases. In FDSS, relational database constitutes this tier and houses both spatial and non-spatial data.

Figure 5-2 shows the high-level design for the FDSS platform. The whole architecture is modular. The major modules are user Data Warehouse, Platform Components, and User Interface. The model components are stand-alone and are not dependent on the platform

components. Both perform their respective tasks working with the same data on the backend and are guided by the same user interface on the front end. The following sections discuss the various modules in detail and showcase how all the requirements has been delivered by the FDSS platform.

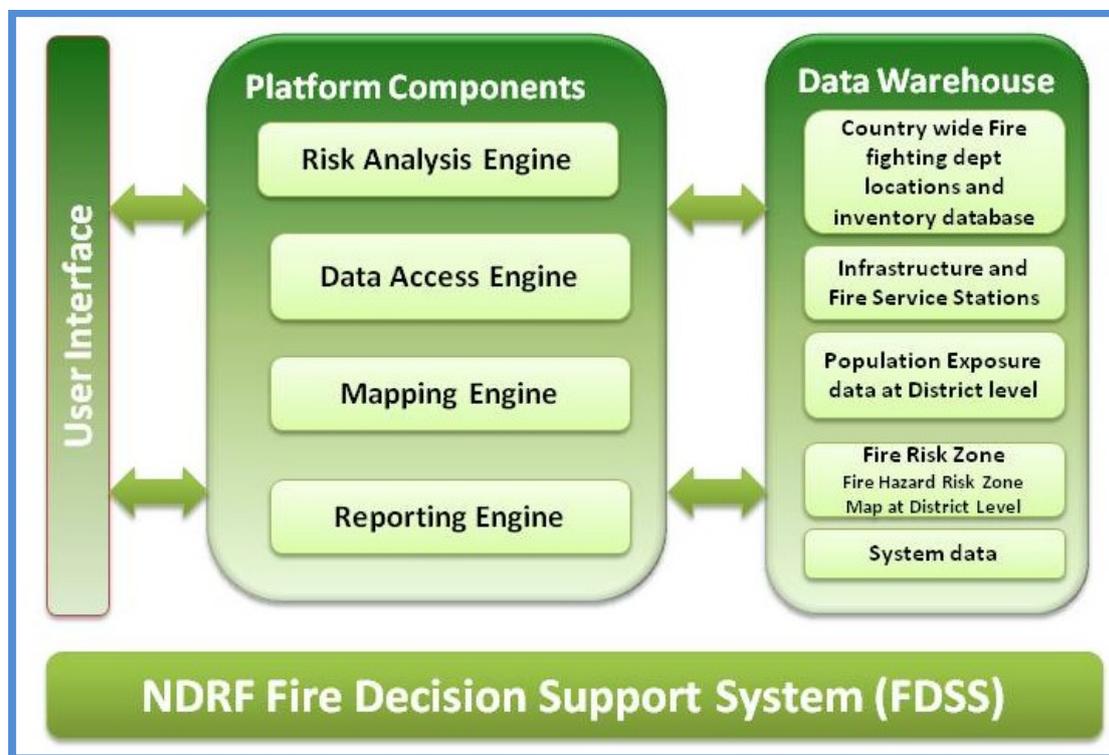


Figure 5-2 : High level design of FDSS

5.2.1 DATA WAREHOUSE

Data warehouse represents the Database tier. It stores all the input data to the model, system data, and the output results. The data can be categorized as spatial and non-spatial. All the spatial data resides either in the form of ESRI shape files and grids or Postgres based PostGIS database. Post GIS/ Postgres is an open source geo-spatial relational database system. All the non-spatial data is stored as tables in the Postgres database.

Spatial Data Layers: The spatial data layers stored in the data warehouse are:

- Fire station locations and inventory data at Fire Station level
- Land Use Land Cover classes by their use or occupancy
- Fire Risk Zone Map at district level
- Population density map at district level
- Road and Rail Network

5.3 Platform Components

Platform components represent the Application Tier. These components focus on the application logic for all data access, mapping and reporting. These are generic components that operate directly on the data warehouse and present the data in different views to the user.

Data Access Engine: Data Access Engine provides access to all non-spatial data that are stored in the Data Warehouse. This includes data viewing and editing capabilities. This allows for bulk building inventory updates and extraction of results so the outcome of the analysis can be reused for other applications.

Mapping Engine: Mapping engine provides all mapping capabilities to the application. The major component in mapping engine is the Map Viewer that loads the spatial data and displays the map and provides all basic map navigation functions like Zoom, Pan, Identify tool and calculate distance. This engine also provides spatial querying capabilities like buffer query and point in polygon query. In addition to this, the mapping engine also provides capabilities for defining symbology for various map layers including themes based on a range of values and unique values. All the layers are loaded with a predefined symbology. The mapping engine provides the ability to view the hazard, damage and loss on maps using predefined themes based on a range of values.

Reporting Engine: Reporting engine generates all the reports. FDSS provides a set of preformatted predefined reports that can be printed or exported into Excel format. This provides the ability to format the data into tables, generate summations, and create graphs. The following reports are generated at district and State levels by the reporting engine:

- Infrastructure Report
- Gap Analysis Report
- Status report for individual Fire Stations, district and State levels for and other reports required for decision making

The FDSS provides functionality to run GAP Analysis at two levels:

- State
- District

This system provides the option for running gap analysis for firefighting and rescue vehicles specialized equipment, fire fighting manpower, and building, Infrastructure. User can also opt to get output based on all the analysis parameters available.

User Interface: User Interface (Figure 5-3) comprises of the Presentation tier. This is the part of the FDSS platform that the user interacts with. User Interface for FDSS can be categorized into two types:

- 1) System Administration Interface
- 2) Application Interface

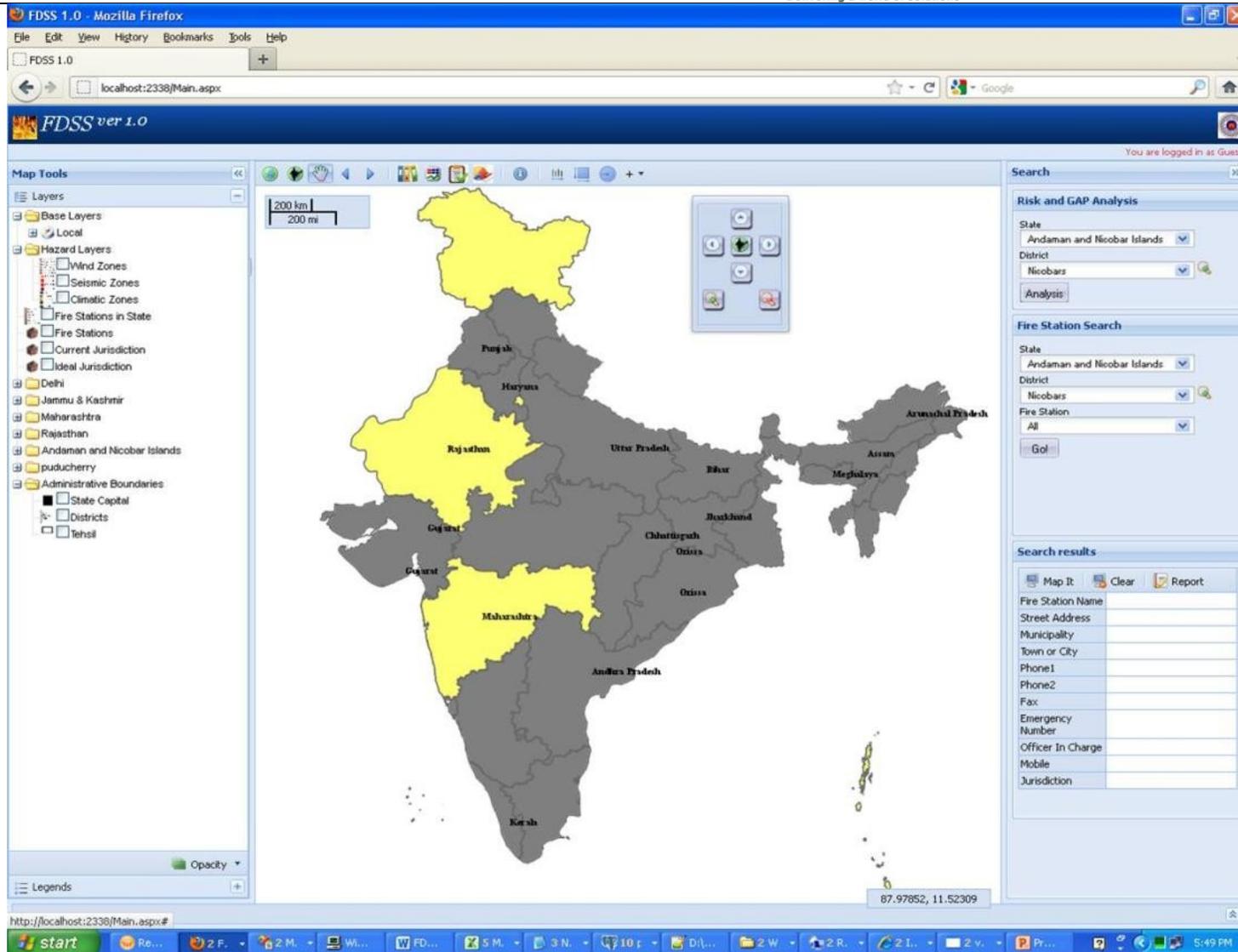
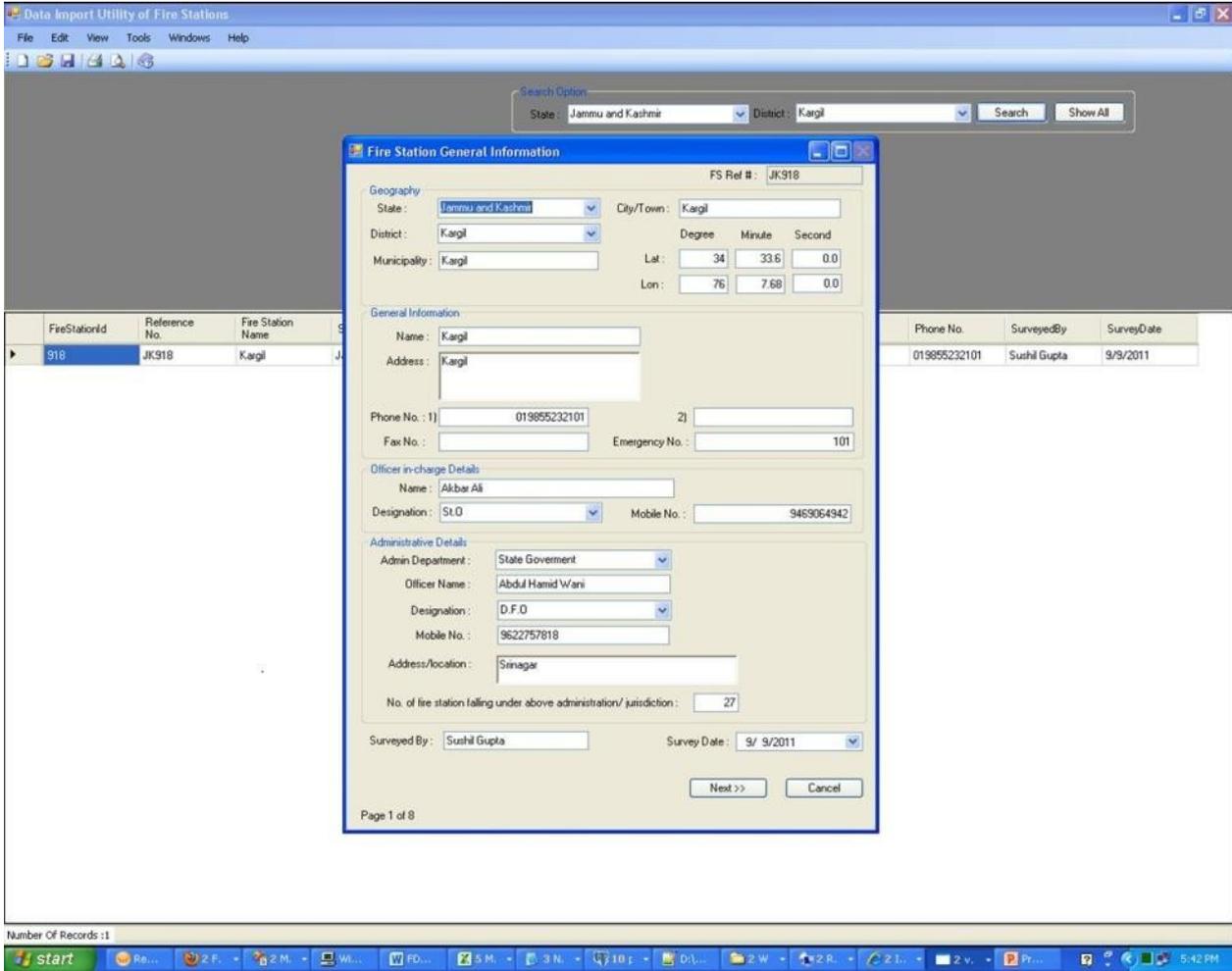


Figure 5-3 : User Interface for Base Analysis in FDSS. The example shows the States covered in the Pilot Phase of the study

5.4 System Administration Interface

This is an individual stand alone component run at the server only. This desktop interface allows the administrator to manage users and update exposure, thereby providing security for other users and preventing unauthorized updation of the building exposure data. All the data updation and maintenance is done through the system administration interface. Figure 5-4 shows the system administration interface of the application.



The screenshot displays the 'Data Import Utility of Fire Stations' application window. A search bar at the top shows 'State: Jammu and Kashmir' and 'District: Kargil'. The main window contains a table with columns 'FireStationId', 'Reference No.', and 'Fire Station Name'. A record with '918', 'JK918', and 'Kargil' is selected. A 'Fire Station General Information' dialog box is open, showing details for 'FS Ref #: JK918'. The dialog is divided into several sections: 'Geography' (State: Jammu and Kashmir, District: Kargil, Municipality: Kargil, City/Town: Kargil, Lat: 34 33.6 0.0, Lon: 76 7.68 0.0), 'General Information' (Name: Kargil, Address: Kargil, Phone No.: 019855232101, Fax No.: , Emergency No.: 101), 'Officer in-charge Details' (Name: Akbar Ali, Designation: SLD, Mobile No.: 9469064942), and 'Administrative Details' (Admin Department: State Government, Officer Name: Abdul Hamid Wani, Designation: D.F.D, Mobile No.: 9622757818, Address/location: Srinagar, No. of fire station falling under above administration/ jurisdiction: 27). The 'Surveyed By' field is 'Sushil Gupta' and the 'Survey Date' is '9/ 9/2011'. The dialog has 'Next >>' and 'Cancel' buttons. The application window title bar shows 'Data Import Utility of Fire Stations' and the Windows taskbar at the bottom indicates the system time as 5:42 PM.

Figure 5-4 : System administration interface

5.5 Application Interface

Data Management: Exposure management provides the ability to view and query the underlying default demographic and Fire Station inventory datasets.

Map Management: The Map management interface provides support for viewing the information on a map by utilizing the Mapping Engine component from the Application Logic tier. It offers the following functionalities:

- Displays the following layers by default as the application is loaded:
 - o Location of Fire Stations
 - o Administrative boundary maps
 - o Land use land cover map
 - o Road / Rail network
 - o Fire Risk Zone map

- Basic GIS tools like zoom, pan, zoom to selection, zoom to entire layer, location attribute information etc.
- Creates following maps based on analysis results:
 - o Gap Analysis Map – showing gaps in existing resource, equipment and fire tenders (Figure 5-4)
- Adds custom layers to the layer manager and performs visual overlays
- Views attributes information, queries and analyzes the spatial data layers
- Enables users to view thematic maps based on defined attribute values.

Analysis Management: The analysis management interface provides the ability to execute the analysis. It allows the user the following options:

- View the fire risk analysis for any district or State
- Gap analysis at State and district levels

Results Management: This entails generating displays of results in pre-defined formats based on user selection. Following are the various types of result views that are available in FDSS.

- Reports providing predefined content in predefined format. This utilizes the Reporting Engine Component to display various reports. Following is a list of various reports:
 - Fire Station Profile report
 - Gap Analysis report

5.5.1 TECHNOLOGY

The physical servers also represent the logical needs elaboration servers and the physical clients also represent the logical clients.

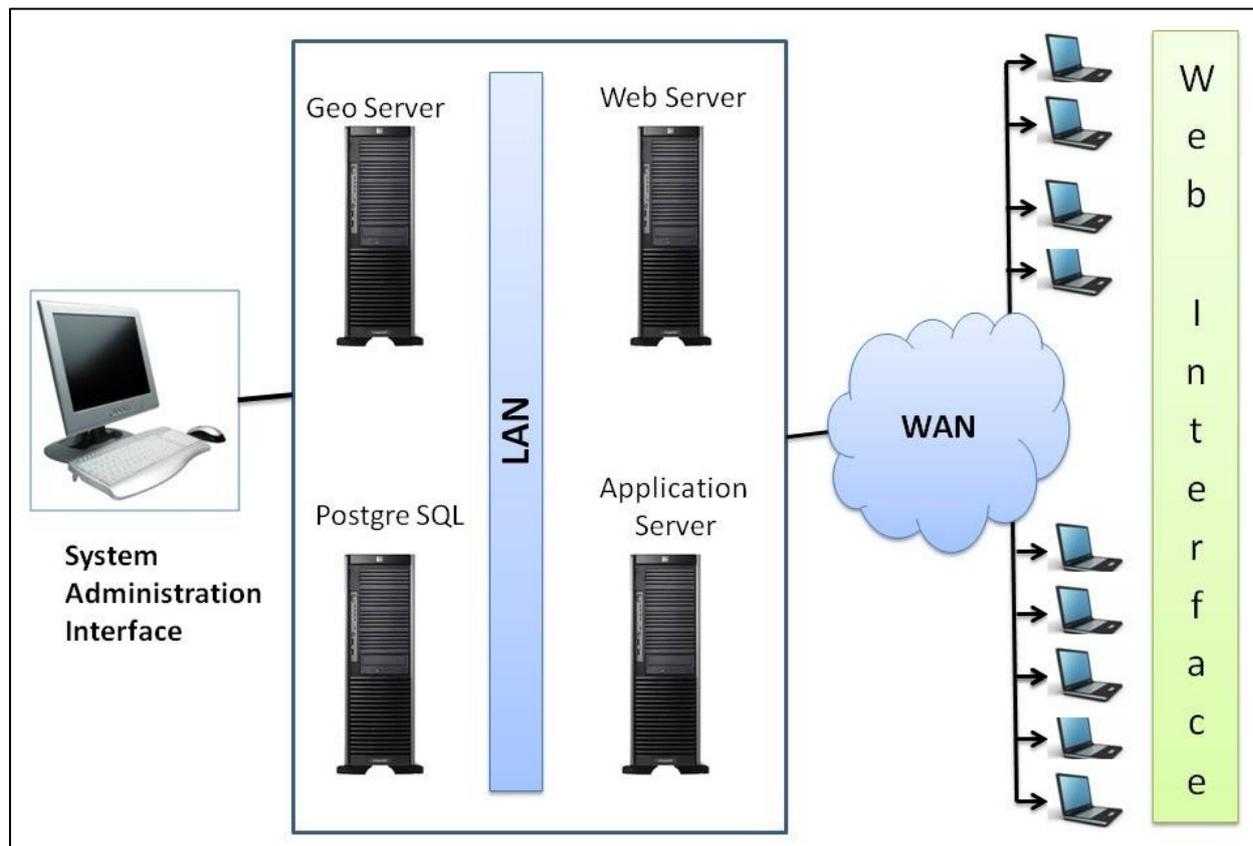


Figure 5-5 : FDSS - Systems Architecture

- The Frontend is web based, and registered users can view all kinds of maps and reports.
- Middleware: It is the Web server that hosts the web site and coordinates between the client and the backend servers for publishing maps and reports. Application Server serves as the main point of contact for the web server for all functionalities other than serving maps and GIS analyses. The application server is hosted in IIS 5.1 or higher and requires Dot net Framework 3.5.
- The backend consists of the following two components:
 - Geo server and Geo web cache: This server handles map publishing and all the GIS functionalities. For all GIS analyses, it relies on the Post GIS database server. Geo server and Geo web cache are published in Apache Tomcat Server.
 - Post GreSQL Database Server: This serves all the GIS and attributes data to both the application and map servers. In addition, it also takes care of all GIS analyses required for any functionality.

The technological framework for FDSS utilizes the following platforms:

Hardware Configuration

- Rack Server 2U having Intel Xeon (Quad Core) E5410 or higher processor support for dual multi core processor
- 16 GB DDR2-533 FB DIMM or higher ECC memory
- SVGA Video Controller with 16 MB RAM
- SAS Raid Controller having 128 MB buffer memory with battery backup and supporting RAID 0,1 and 5 Dual Gigabit Server Ethernet controller with teaming, load balancing and auto fail over feature
- 5X146GB SAS HS HDDD, IDE DVD ROM Drive with (N) hot swap Redunt Hot SEAP power supply

Software Configuration

- Operating System: Windows Server 2008
- Web Server: IIS 7.0
- Framework: .net Framework (3.5)

Supported Browser

- Internet Explorer 6.0 or higher
- Mozilla Firefox 3.0 or Higher

5.6 Advantages of Open Source Platform

The application software is built on open source GIS platform. The open source GIS platform has several advantages (Table 5-1) of production and development allowing users and developers not only to see the source code of software but also modify it and easily implement it in web applications.

Table 5-1: Advantages of Open Source Platform

Advantages	Open Source Platform	Proprietary Software Platform
Control and Audit 	Gives power to control software code and hence modification can be carried out to suit the requirements	Forces users to adhere to standards and flexibility provided in the software only. Modifications are based solely on vendor discretion
Low ownership Cost 	No license fees are required thereby reducing annual license fees cost to zero, zero cost of scale as open source doesn't require additional licenses as the installation grows	License fees are required
Quality and Excellence	It's available publicly. A large no. of reviewers analyze the code making it more secure, increasing the quality and	Not available publicly.

Advantages	Open Source Platform	Proprietary Software Platform
	excellence in design	
<p data-bbox="231 443 434 510">Flexibility & customization</p> 	There is scope to customize the software toward end users' needs	Limited scope of customization

5.7 Identification of Gaps in Infrastructure, Up-gradation and Modernization Requirement

Gap identification is carried out using the information captured as part of the field surveys and stakeholder interviews, distribution of Fire Stations and risk analysis. The gaps in infrastructure can be in terms of number of Fire Stations in both served and un-served areas, availability of fire vehicles, fire-personnel and building infrastructure in the operational Fire Stations. Through the input of field survey work, risk categorization, and infrastructure requirement norms, gap analysis is performed in FDSS at the District and State level.

Gaps will primarily address the three areas:

5.7.1 INFRASTRUCTURE GAPS

This covers served/ un-served areas, unsuitable locations of Fire Stations, etc. This gap analysis is conducted by using suitably modified SFAC Norms, population density maps, existing Fire Station distribution and other infrastructural information obtained as part of the field surveys. In addition, the risk information has been used to reflect certain aspects of risk that affect the infrastructure. The outcomes of this analysis are information and maps that show the infrastructure deficiency at district and State levels.

5.7.2 EQUIPMENT GAPS

The objective of this analysis is to identify gaps in equipment existing at various Fire Stations against the population they serve, the hazards that the jurisdiction they serve is exposed to, trained man-power available, average response time to a fire call, etc. This will result in the identification of new types of equipment required, phasing out of old equipment and their replacement, and equipment effectiveness analysis.

5.7.3 CAPACITY GAPS

This would cover the shortage of fire fighting personnel and additional training requirements for existing teams, etc. This analysis is conducted using infrastructure analysis information, equipment analysis information, population density, SFAC norms and risk information as the primary datasets, and average response time. The primary outcomes would include the gap in capacity in terms of number of additional fire fighting personnel required, and the additional requirement of trainings on equipment, tools, technologies and emergency management approaches.

Similarly, district/State/ country level reports on up gradation and modernization requirements of existing Fire Stations including MIS, GIS, and communication systems are

generated by comparison of availability of existing resources and up gradation and modernization requirements through gap analysis.

The outcomes of the above analyses have been integrated to the Fire Decision Support System (FDSS), so similar analyses at a later stage may also be performed by changing the underlying datasets as things change on the ground.

5.8 Preparation of detail cost estimates with Capital and O&M Investment Plan

Once gaps in terms of number of Fire Stations, fire-personnel, infrastructure (building, vehicles and equipment), up gradation and modernization requirements of existing Fire Stations including MIS, GIS, and communication systems are finalized, the investment and financial analysis is performed. This will involve reviewing the outcomes of the gap analysis, prioritizing them by district and estimating the cost of investment.

The investment costs are estimated separately for infrastructure development and improvements, capacity building, and equipment procurement and modernization. This is where the extensive experience of RMSI team in fire department operations, equipment procurement, and training needs assessment and planning has been applied. For more detailed information regarding the specification of firefighting and rescue vehicles and equipment, please refer to the Vehicle and Equipment Specification report submitted by RMSI.

The outcomes of this process are a detailed investment plan that shows year-by-year investments prioritized by district, gaps and associated benefits. The financial plan addresses investment for next 10-years in a year-by-year phased manner approach. The financial tool has been integrated to the FDSS, which helps in generating various reports related to detailed cost estimates with Capital and O&M Investment Plan for next 10 years, and to prioritize investments. This is based on the current cost estimate and technological enhancement. However, the tool have flexibility to change/modify the cost of various infrastructural elements and re-regenerate reports for prioritization of the investment plan.

5.9 Institutional Assessment and Capacity Building Plan

The National Fire Service College (NFSC), Nagpur and other State Fire Training Centres across the country are key institutions involved in improving the level of fire personnel knowledge and their overall capabilities to face the challenges of fire-fighting. The RMSI team surveyed NFSC Nagpur and Pilot State/UTs Fire Training Centres across the country and studied their programs to delineate their role and relationship for improvement in training facilities for fire personnel in the country.

Human resource bottlenecks at various levels of training fire officials (such as refresher's training, breathing training in smoke, industrial training, specialized training to handle high rise fires, etc.) to different cadre of officials, issue of language in training; physical fitness; duty patterns (8 hours and 12 hours versus 24 hours); availability of accommodation in fire-stations; pay-scale structures, and promotion progression etc. are studied in detail and recommendations are made for their implementation.

There are many ways of discovering funding avenues, such as introduction of Fire Tax, training programs to private sectors, tapping MP Local Area Development (MPLAD) funds etc. These issues are important since fire personnel need to be dedicated and motivated all times. For similar reasons, improvements in governance structure are imperative. Lack of

fire-personnel is another challenge. For this, revamping training facilities in the country is another important aspect in any capacity building plan.

Computerization of fire and emergency services and strict audit by a central authority can be one mechanism to ensure a good finance mechanism for capital expenditures and operation and maintenance. Training of fire personnel in the use of computers is another aspect, which is very important from the implementation perspective.

It may be noted that RMSI team is aware of past studies on the subject such as the recommendations by the SFAC and kept these studies in mind while making recommendations for the Capacity Building Plan.

RMSI team has also prepared a detailed Roadmap for the Capacity Building Plan at country level for its implementation in next 10 years.

6 International and National Norms

6.1 Literature Survey

Under this task, standards and practices that are being followed in various developed countries for fire safety norms, such as in USA -NFPA (1211, 1710, 1720), Japan, UK, and Germany, are studied and compared.

As per literature survey and personnel communications with fire officials in different countries, international norms regarding response time (*defined as **en route time taken by the fire fighting vehicle from the Fire Station to fire emergency scene, and turnout time is not included in it***) differs from country to country.

6.2 Response Time

The practices regarding response time of fire tenders/ambulances in different countries are as follows:

6.2.1 GERMANY

The response from Germany (27.10.2011) is as follows:

*“1. **Concerning the response time in Berlin.** On the basis of an agreement between CFO and the Ministry of Interior the options are:*

*Calls in Risk Areas class A (higher risks) - 15 fire-fighters must arrive in **max.15 minutes** at 90% of all calls and*

Calls in Risk Areas class B (lower risks) - 15 fire-fighters must arrive in max.15 minutes at 50% of all calls.

*The standard turn out time of a fire truck is **60 seconds for professionals**, as for **volunteers** the turn out time should not be higher **4 minutes**, otherwise the Control Centre will automatically send a professional fire truck.*

*Ambulance cars must be at the scene within **8 minutes** in 75% of all calls.”*

*2. **Temperature problem** - heating devices in the garage (close the doors) and additional a electrical wire is going to the motor section of the vehicle for saving working temperature of the trucks.”*

From the above, it may be inferred that in Germany, areas have been divided only into two Risk Categories (higher, lower) and **response time** in urban areas varies from **8 - 15 minutes**. As far as turnout time is concerned, it varies from 1 to 4 minutes.

6.2.2 JAPAN

Fire Service laws of Japan and its background:

1. The Japanese system of laws and regulations regarding fire service law (Hierarchy structure)
 - A. Law: Fire Service Act
 - B. Cabinet order: Order for Enforcement of the Fire Service Act
 - Specify the type of building fire protection
 - Technical standards for installation and maintenance of fire prevention equipment
 - C. Ministerial ordinance: Rule for Enforcement of the Fire Service Act
 - Details of technical standards for installation and maintenance of fire prevention equipment"
 - D. Municipal ordinances: Fire prevention ordinance"
2. Requirements for Fire prevention equipment
 - All Fire prevention equipment are necessary to have national certification in Japan (regulation not standard).
3. Background of Japanese fire service
 - Fire service in Japan consists of **one unit per municipality**.
 - Under the laws, fire prevention regulations are enacted by each of the municipalities.
 - Fire prevention regulations are slightly different for each individual municipality.
 - **Japanese Regulation, the response time has not been determined.**

According to the Fire Service Law Enforcement Order (**not regulation**), the fire panel shall be installed where there are always people in Japan.

In large buildings, the fire panel has been installed in Guard Room. Security people are always monitoring the fire panel.

At the same time the alarm is sounded, Fire tenders will rush to the site for extinguishing the fire.

Time to reach the site, which varies depending on the building, assumed at **5 to 10 minutes. (not determined by law).**

2. Since, there are several Islands in Japan, is there any different Regulations for Islands?
Almost the same.

As you know, Japan is made up of three islands and many small islands. There has prefectures, among which are divided into municipalities regardless of islands."

From the above, it may be inferred that in Japan, each municipality has at least one Fire Station and response time varies from 5 to 10 minutes, depending upon the location of building.

6.2.3 USA

“There are three National Fire Protection Association (NFPA) standards that contain time requirements that influence the delivery of fire and emergency medical services. These are:

1. **NFPA 1221**, Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems;
2. **NFPA 1710**, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments; and
3. **NFPA 1720**, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments.

NFPA 1710 contains time objectives that shall be established by career fire departments as follows:

- **Turnout time:** One minute (60 seconds) for turnout time
- **Fire response time:** Four minutes (240 seconds) or less for the arrival of the first arriving engine company at a fire suppression incident and/or eight minutes (480 seconds) or less for the deployment of a full first alarm assignment at a fire suppression incident
- **First responder or higher emergency medical response time:** Four minutes (240 seconds) or less for the arrival of a unit with first responder or higher-level capability at an emergency medical incident
- **Advanced life support response time:** Eight minutes (480 seconds) or less for the arrival of an advanced life support unit at an emergency medical incident, where the service is provided by the fire department

The standard States that the fire department shall establish a performance objective of not less than 90 percent for the achievement of each response time objective. NFPA 1710 does contain a time objective for dispatch time by requiring that "All communications facilities, equipment, staffing, and operating procedures shall comply with NFPA 1221." For the purposes of NFPA 1710, the following definitions apply:

- **Dispatch time:** The point of receipt of the emergency alarm at the public safety answering point to the point where sufficient information is known to the dispatcher and applicable units are notified of the emergency
- **Turnout time:** The time that begins when units acknowledge notification of the emergency to the beginning point of response time
- **Response time:** The time that begins when units are en route to the emergency incident and ends when units arrive at the scene

NFPA 1720 contains a time objective for dispatch time by requiring that "All communications facilities, equipment, staffing, and operating procedures shall comply with NFPA 1221, Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems." NFPA 1720 contains no time requirements for turnout and response times.

NFPA 1221 requires that 95 percent of alarms shall be answered within 15 seconds, 99 percent of alarms shall be answered in 40 seconds, and the dispatch of the emergency

response agency shall be completed within 60 seconds 95 percent of the time. The time lines for dispatching are taken from NFPA 1221:

- After the receipt of a call for assistance, the fire department will respond with the first unit to that location within three minutes.
- After receipt of a call for assistance, the fire department will respond with a unit to that location, within four minutes, to 90 percent of area served.

After receipt of a call for a medical emergency, the fire department will respond with an engine company to that location within four minutes and an ambulance within six minutes.”

From the above, it may be inferred that in USA, response time varies from **(3 - 4 minutes) to 8 minutes**.

6.2.4 UK

The London Fire Brigade (LFB) is run by the London Fire and Emergency Planning Authority as part of a group of organizations operating under the ‘umbrella’ of the Greater London Authority. It is the third largest firefighting organization in the world, with **111 Fire Stations** (plus 1 River Thames-based station) from which it operates across the 1,587 sq km of Greater London, with its resident population of some 7.4 million. This increases by a further 500,000 each day during working hours.

In the year 2005/06 the London Fire Brigade answered some 268,000 emergency calls and attended nearly 156,000 incidents. On an average, the first fire engine arrived at an incident **within 8 minutes on 92 per cent of occasions**, meeting the Brigade’s target, and **within 5 minutes on nearly 65 per cent of occasions**. When required, a second fire engine was on scene within ten minutes on 93 per cent of occasions, exceeding the target. (Hooper, Nov-Dec, 2006; http://www.cadcorp.com/pdf/PA-firebrigade_ukv4i5.pdf).

Another recent review of “Fire and Rescue Service response times” ([Fire Research Series 1/2009](#)) concludes that response times have increased due to traffic conditions, which was similar to the finding of the London Fire and Emergency Planning Authority thematic report, which concluded that it now **takes 50 seconds longer for a 1st appliance to arrive on average and one minute longer for a second appliance**.

From the above, it may be inferred that in UK, response time varies from **5 to 8 minutes**.

6.2.5 INDIA

“Standing Fire and Advisory Council (SFAC) reviewed the norms in various countries, and as given in the RFP, has laid down norms for the Fire and Emergency Services throughout the country based on:-

- *Response time, fire risk, and population*
- *Depending on risk category A, B, and C the recommended response time for first fire tender is 3, 5, and 7 minutes, respectively*
- *One Fire Station per 10 sq. km in urban areas and one Fire Station per 50 sq. km in rural areas*
- *One Rescue Tender per 3 – 10 lakhs population*
- *In rural areas, the recommended response time is 20 minutes*

From the above, it can be inferred that SFAC norms are based on the idealized conditions of the western world and would be too demanding, thus requiring some modifications.

To see the practicability of SFAC norms, RMSI did several simulations through *network analysis* taking different average vehicle speeds for Delhi State. These different speed simulations were presented on Nov. 02, 2011 to DFS officials and on Nov 03, 2011 to Fire Advisor and Deputy Fire Advisor at DG, NDRF, MHA. After discussions with both DFS and MHA officials, the average fire vehicle speeds on main roads has been taken as 40 km/hr and minor roads as 20 km/ hr. While, for congested areas, such as Sadar Bazar, Delhi, the average fire vehicle speed on main roads has been taken as 20 km/hr and for minor roads as 10 km/hr, respectively. RMSI choose Delhi, because it has a high density of Fire Stations in comparison to the rest of the States/UTs.

Taking SFAC norms as a guideline, RMSI analyzed the requirements of Fire Stations in Delhi, keeping a response time of 3 minutes for very high-risk category, 5 minutes for high category and taking response time in rural area as 20 minutes. *It may be noted that areas served by other agencies, such as the Airport and Military Cantonment have been excluded from the gap analysis, so that there is no duplicity of Fire Stations in those areas. Additionally, areas covered by forests, rivers, sparsely inhabited (small pockets of a few houses, say in a river channel) etc. have also not been considered in the gap analysis.* To make a distinction, the Fire Stations in rural areas are designated as **Fire Stations/Fire Posts**.

Thus, taking the vehicle speeds discussed earlier, and response time as per SFAC norms, Delhi requires additional **120** Fire Stations in urban areas and **10** rural Fire Stations/posts in rural areas (Table 6-1).

Table 6-1: Number of operational and additional Fire Stations and Fire Posts required in Delhi

Urban				Rural			
Operational Stations	Fire	Additional Stations	Fire	Operational Station/ Fire Post	Fire	Additional Stations/ Fire Posts	Fire Posts
51		120		1		10	

As per SFAC norms, one Fire Station is required per 10 sq. km in urban areas and per 50 sq. km in rural areas. This seems to be based on average area per station over a large area/State.

From the above analysis, the average area per Fire Station in urban areas in Delhi comes to 4.7 sq km, while in rural area; it comes to 62.5 sq km. This analysis also shows that the average Fire Station coverage area in urban areas is too low when compared to the norms specified by SFAC, which is 10 sq km in urban area. Moreover, population covered in such a small area of less than 5 sq km is sometimes very low to justify opening of a new Fire Station, thus contradicting the area based norm of SFAC. Moreover, additional required number of Fire Stations will be too high and it may not be possible to set-up so many Fire Stations in Delhi, where land availability in urban areas is scarce.

Thus, keeping in view the above analyses, RMSI reanalyzed the requirements of Fire Stations in Delhi, by modifying the response time of 5 - 7 minutes for various risk categories and keeping the response time in rural area as 20 minutes. Accordingly, the proposed requirement of additional number of Fire Stations in urban and rural areas is shown in Table 6-2. In terms of average area and population served by the revised response time, the average area served comes to 8.38 sq km (close to 10 sq km) in urban areas serving an average population of 1, 61,289.

Table 6-2: Revised number of operational and additional Fire Stations and Fire Posts required in Delhi

Urban		Rural		Total
Operational Fire Stations	Additional Fire Stations	Operational Fire Station/ Fire Post	Additional Fire Stations/ Fire Posts	
51	46	1	9	107

As discussed in section 6.2.4, Greater London Authority operates 112 Fire Stations in an area of 1,587 sq km of Greater London, which is equivalent to on an average one Fire Station per 14.2 sq km. A comparison of the proposed 107 Fire Stations serving an area of 1483 sq km Delhi shows that in Delhi there will be one Fire Station on an average area of 13.9 sq km, which is almost equal to the average area per Fire Station in Greater London.

Thus, keeping in view the above analyses, RMSI recommend to modify the SFAC norms (*response time and area based*) to *response time based* norms for positioning a Fire Station, as response area will vary from place to place depending upon the road network:

Depending upon the risk category, the recommended response time for first fire tender is 5 - 7 minutes in urban areas and 20 minutes in rural areas.

Annex-1: Fire Headquarter Data Collection Form

This questionnaire is prepared in consultation with Directorate General NDRF & CD for collecting basic information all fire infrastructure in the country as part of the project "Fire-Risk and Hazard analysis in the Country" with an objective to Prepare Capital Investment and Institutional Strengthening Plan for Accelerated Development of Fire Services in the Country. All information collection through this questionnaire will be kept confidential and will only be used for the preparation of the report and other deliverables of the project. Directorate General NDRF/ CD has entrusted RMSI Private Limited to carry out this assignment and State Officials are requested to provide required authentic information which is very important for preparation of this report and future development plans of the department.

A. Fire Headquarters General Information

HQ Ref #.....

Location Details

Fire Headquarters/Zone/District Office ----- State -----

Address

Office Phone numbers (with STD code):..... Fax Web site (if any).....

Name & Designation of the Head of Department:

Name & Designation of the nominated person by the dept. for providing data:

Mobile number Email (s):.....

Area under Jurisdiction

Zonal Office (name and street address)	Num of districts covered	Census 2011 Population (to be filled by RMSI)	Num of Fire stations (Operational)	Num of Fire stations (under Construction)	Num of Fire stations proposed for future expansion

Surveyed by: _____	Date: _____
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(Signature of the official provided the information)



B. Area under Jurisdiction in each Zonal Office (provide jurisdiction map for each individual Fire Station)

Name of Zonal office

S.N.	Name of Fire stations	Name of district	Under direct Jurisdiction control of ¹	Population (to be filled by RMSI)	Num of Fire stations (Operational)	Num of Fire stations (under Construction)	Num of Fire stations proposed for future expansion	Any additional Information

Name of Zonal office

S.N.	Name of Fire stations	Name of district	Under direct Jurisdiction control of ¹	Population (to be filled by RMSI)	Num of Fire stations (Operational)	Num of Fire stations (under Construction)	Num of Fire stations proposed for future expansion	Any additional Information

¹ State Government Fire Department Police Department Municipal Corporation Others specify

Name of Zonal office

S.N.	Name of Fire stations	Name of district	Under direct Jurisdiction control of ¹	Population (to be filled by RMSI)	Num of Fire stations (Operational)	Num of Fire stations (under Construction)	Num of Fire stations proposed for future expansion	Any additional Information

Please add additional sheets if required

C. Details of Proposed Fire Station

S.N.	Name of the Site for Proposed Fire Station	District	Status of Work in Progress, (e.g. approval awaited, plan cleared, land acquired/ allocated, % of construction completed)	Remarks

Please attach additional sheets if required

D. Human Resources and Staff Welfare (Please attach additional sheets for each zonal, divisional, and sub-div. Fire Stations)

Organization Structure and Human resources (Operational Staff including higher level officers)

By State/ zonal Level

Zone Name

Level	Designation	Pay-scale	Duty Pattern	Number of sanctioned posts	Total Number of Filled posts	Total No of Vacant posts	Remark, if any
11	Director General / Asst. Director General						
10	Director / Deputy Director						
9	Divisional Officer (D.O.)/ Fire Prevention						
8	Station Officer (St. O)						
7	Sub Officer (S.O)						
6	Fire Engine Operator cum Driver (FEOD)/						
5	Fire Operator (FO)						
4	Cleaner/ Sweeper						
3	Other Officers (Chief Mobilizing Officer/						
2	Other Officers (Mechanical						
1	Other Staffs (Mechanic/ Mechanic-Helper)						
Any							

Please attach additional sheets if required for each Fire zonal region/ division human resources (broad categories of designations are mentioned below for reference)

Level 10: Director General/ Director/Joint Director/Deputy Director; **Level 9:** CFO/ CO; **Level 8:** Deputy CFO; **Level 7:** AD/Deputy Controller; **Level 6:** DO/ Inspector/EO/Fire Supervisor; **Level 5:** ADO/ADFO/AFO/Fire In-charge; **Level 4:** St.O/Sub Inspector/Station In-charge/Asst O./AEO; **Level 3:** S O/Assistant Sub Inspector/ASO/Sub-Fire Officer; **Level 2 :** LFM/ Mechanic Driver/Head Constable/Store Superintendent; **Level 1 :** FM/ FM Driver/Radio Technician/ SGFM/ Driver/ Police Constable/ Wireless Technician/ Radio Technician/ Asst FM/ Sanitary Inspector, FO/FO Driver/Driver Operator/Driver/Ambulance Driver/ Clerk; **Level 0:** Cleaner, Fire Coolie, Supporting Staff, Attendant, Labourer, Peon, Security Guard, Tindal.

Recruitment Rules for entry level in organization chart (Please provide copy of State recruitment rules in detail)

Level	Designations	Essential qualification as per recruitment rule	Preferential	Training / Experience	Departmental policy if any	Reservation
8						
7						
6						
5						
4						
3	FEOD					
2	Leading Fire Operator					
1	Fire Operator					
Any						

Staff Welfare:

Please list the Staff welfare measures being followed in the State:

- Ration money: Rs.....
- Sports facilities:
- TV for common room:
- Cash rewards and recognition: Rs.....
- Incentives, through benevolent fund: Rs.....
- Insurance: Rs.....
- Other schemes etc.....

Measures to Improve Staff Efficiency

S. no	Type of Drill	Frequency <i>(Daily/Weekly, Bi-Monthly, Quarterly)</i>	Remarks
1.	Squad Drill	Daily	
2.	Pump/ Hose Drill - Dry	Weekly	
3.	Pump/ Hose Drill - Wet	Bimonthly	
4.	Ladder/ Rescue Drill	Monthly	
5.	Rope Rescue Drill	others	
6.			
7.			

E. Training Details

Name of State Training Centre and address:

Number of Faculty/Trainers with Designation:

S. N.	Name of Training Courses	Duration (months)	Maximum capacity	Number of personnel Trained annually	Year
1					
2					
3					
4					

Training obtained by fire-staff annually (sub-officer course and above)

Year	Type of Training Obtained/ name of training course	Within State Training Centre	At NFSC, Nagpur	Other State Training Centre (mention City, State)	Foreign country	Total Number of personnel Trained
2011						
2010						
2009						
2008						
2007						
2006						

Please provide yearly break-up for the last 5 years

Training Centre Infrastructure for basic training and sub-officer course: Provide details of facilities at the training centre, short comings etc.

.....

.....

.....

.....

.....

G. Communication between HQ and Zonal/district office

Details of Control rooms

Centralized Control Room for the entire State: Yes / No, if yes please provide location and street address:

S.No	Name of Control Room for the Division/district	Size in terms of number of Emergency Fire Telephone (EFT) lines	Command and Control		Remark
			Manual	Computerized	
1					
2					
3					
4					

State Communication centre is connected with Zonal/District office through: Internet/Intranet/Wireless/Telephone lines

State Communication centre is connected with individual Fire Station through: Internet/Intranet/Wireless/Telephone lines

Frequency of Fire Report Transmission:

From Individual Fire Station to District/Zonal Hq: Instantaneous, daily, weekly, bi-weekly/monthly

From Individual Fire Station to State Hq: Instantaneous, daily, weekly, bi-weekly/monthly

From Individual District/Zonal Hq to District/Zone Hq: Instantaneous, daily, weekly, bi-weekly/monthly

Does State have a communication policy?, if yes, please provide a copy of the report:

Does State have any approved plans to improve communication?, if yes, please provide a copy of the plan:

H. Financial Details

Name of Zone

(If information provided zone wise)

Budget for year

Plan			Non-Plan		
Capital (Rs)	Revenue (Rs)		Capital (Rs)	Revenue (Rs)	
	Equipment			Equipment	
	Maintenance			Maintenance	
	POL			POL	

Please repeat if information is available for each zone/ State more than one year

I. Fire and other Incidences Summary (last 5 years)

Please provide information for each Fire Station, and District/division and Headquarter Level summary

Name of Station

Number of Fire and other Incidence (P= Public and FS= Fire Service)

Year	Total Calls (A+B+C+D)	Total Fire Incidence (A)	Occupancy wise break up of fire incidence				Total Rescue incidence (B)	Break up of Rescue incidence				Special service calls (C)	False/malicious calls (D)	Total injured		Num of Deaths	
			Residential	Industrial	Institutional/commercial	Others		Road Accidents	Building collapse	Animal	Others			P	FS	P	FS
2010-11																	
2009-10																	
2008-09																	
2007-06																	
2006-07																	

Severity of fire incidences at each Fire Station, and District/division and Headquarter Level summary

Year	Total no of Small Fire Incidence	Total no of Medium Fire Incidence	Total no of Serious Fire Incidence	Brief description of Major Fire Incidence
2010-11				
2009-10				
2008-09				
2007-06				
2006-07				

(Attach additional sheets for each region/ and addition year)

Please provide definition of fire types

.....

Severity of events: Small fire – estimated loss of Rs. 10 lakh, Medium – Rs. 10 to 50 lakh, Serious - >Rs. 50 lakh, any fire where there is human death to be consider as Serious fire. (As per the compendium, even there is causalities, it is considered as serious, but the causality severity not mentioned

J. Public Awareness Programmes

Public Awareness Programmes organized in last One Year

Name of Zonal/district Office

Total no. of programs in the year including Fire Safety Week (a +b + c)	Total no. of persons attended (d + e + f)	No of Programs Organized			No of Persons attended			Brief description of the programmes
		Govt./ PSU (a)	Pvt. Locations (b)	Schools (c)	Govt./ PSU (d)	Pvt. Locations (e)	Schools (f)	

K. Suggestions/views of the department for improvement of fire and emergency service in the State

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

L. Contact person Details for Communication at RMSI (On behalf of DGCD, Fire Project Cell):

Postal Address:

Mr Sushil Gupta
General Manager,
Risk Modeling and Insurance,
A-7, RMSI, Sector-16, NOIDA
PIN 201301 (U.P.) INDIA

Mobile- +91 9818798715
Phone (Office): +91 0120 2511102/ 2512101 ext 2612
(Office): +91 120 4040512 (direct)
Fax (Office): +91 0120 2511109/ 2510963
email<Sushil.Gupta@rmsi.com>
<sushilgupta74@yahoo.com>
www.rmsi.com

Annex-2: Fire Station Survey Form

This questionnaire is prepared in consultation with Directorate General NDRF & CD for collecting basic information all fire infrastructure in the country as part of the project "Fire-Risk and Hazard analysis in the Country" with an objective to Prepare Capital Investment and Institutional Strengthening Plan for Accelerated Development of Fire and Emergency Services in the Country. All information collection through this questionnaire will be kept confidential and will only be used for the preparation of the report and other deliverables of the project. Directorate General NDRF has entrusted RMSI Private Limited to carry out this assignment and State Officials and Official in-charge of Fire Station are requested to provide required authentic information which is very important for preparation of this report and future development plans of the department.

SW FS Ref #.....

A. Fire Station General Information

State	District	City/ Town	Block / Tehsil	Municipality	Latitude , Longitude (to be filled by RMSI)(DDM format)	ID

Fire Station Name

Address of the Fire Station (with landmark)

Station Phone number(s) with STD code: 1) 2)..... 3).....

Fax No: Emergency No:

Fire Station Type based on served area: Urban Rural

Name of officer in-chargeDesignation Mobile number (*officer in-charge*) :

Fire station is under the administration of (put tick mark in the box)

State Government Municipal Corporation Police Department Others specify.....

The Fire Station falls under the jurisdiction of (Division/Zone/Municipality) -

Name of Administrative District/Divisional/Zonal Fire Officer-Mobile.....

Address/location of District/Divisional/Zonal HQ-

Number of total Fire Stations fall under above jurisdiction/ administration-

Surveyed by:	Date:
---------------------------	--------------------

(Signature of Witness from Fire Department)
Name & Designation

B. Fire Station Infrastructure Details

Does Fire station has its own building: Yes in good condition , Yes, but condition is not good & need new building.
 No permanent building

If Fire Station is temporarily operational from borrowed/ rented building of(Private, Muncipallity, Police, any other)

Please mentioned the status : Land acquired -...Yes/ No... and building under construction -.....Yes/ No....

How many bay station should be in new Fire Station building

If permanent building - Fire station belongs to State Fire Department / State Government / Municipal Corporation / Police fire Service/ any other

Provide building details

Number of Floors	Number of Rooms	Approx Plot Area (SQM)	Approx Built-up Area (SQM)

Whole Fire Station Building Structure Type : Pacca - Reinforced concrete (RCC) frame structure Pacca -Masonry with RCC Roof
 Pacca Masonry walls with flexible Roof Kachha masonry walls with Tin Roof Kaccha Tin shade Temp Porta- cabins
 Kaccha wooden structure with tin Roof Others kaccha type specify

Mixed (kachha and pacca) (in case different parts of Fire Stations has different structure types)

If whole station building is not a permanent (Pacca) building structure and need new partial building, please specify the details of partial components that needs to be build

Vehicle bays (with num of bays) Fire station office building Barracks Staff quarters

Age of building structure/ year of construction- (write year in the blank space and tick in the box below)

Less than 5yrs 5-10 yrs 10-20yrs More than 20 yrs

Number of Bays/Garages for the Fire Vehicles - , How many fire vehicle parked within Bay/ Garage

Structure of Bay/ Garage- Pacca- RCC/Masonry Kaccha Tin Shade Open any other kaccha

Availability of Staff Quarters - Yes No , If Yes, mention numbers.....

Availability of Barracks - Yes No , If Yes, mention numbers and total capacity.....

Availability of T.V. in Barracks - Yes No Any other entertainment indoor/ outdoor.....

Provision of Mess/ Canteen facilities in Fire Station- Yes No

Availability of Watch room /Control Room- Yes No If yes, is it computerized - Yes No

Is Watch room /Control room online/ internet connected with zonal/ headquarter Yes No

Availability of drill/ parade ground - Yes No Availability of hose drying/ drill tower - Yes No

Power Supply in the Fire Station Watch Room/ Control Room -

Electricity: Uninterrupted 24 Hrs Interrupted supply Availability of standby generator Inverter for control room

Does the Fire Station maintain ambulance unit ? Yes No

C. Communication Systems

1. Between Public and Fire control room/ watch room

i. Landline Telephone: Yes No , If 'Yes', mention number of landline phone in operation.....

ii. Emergency phone number- 101 or,.....Connection Type : Direct Indirect Not Available

2. Hotline between Important agencies and Fire control room

Oil industries/ storage Airport PCR Banks District Magistrate Office

Others specify.....

3. Automatic Fire Alarm between High Rise Buildings and Fire Station: Yes No If yes, num. of buildings

If with any other agency, specify:

Availability of GPS on Fire Engines and other vehicles - Yes No , If Yes, mention number of vehicles:

4. Between Fire Station Control Room and Fire Vehicles

Static Wireless Set in watch room Yes No If 'Yes', mention number of operational phones

Number of Mobile wireless sets: Number of Walky-Talky: Number of Satellite Phones:

5. Type of Frequency used- HF VHF UHF

D. Water Supply Details for Fire Fighting Purpose

Whether 24 hours water available in fire vehicles? Yes No

Water sources used by Fire Vehicles within Fire station

Direct supply... . b) Overhead tank c) Pumping from underground tank ...

d) Pumping by Tube well e) any other

Any storage of water within Fire Station for fire vehicles- Yes No

Water sources regularly used by Fire Vehicles outside Fire station (also mention distance in km from Fire Station)

City over-head tank with coupling arrangements River Stream Well Pond Lake

Other location / static fire hydrant available in the vicinity - Yes No , If 'Yes', provide number and distance (km)

Overall, is there any scarcity of water for fire vehicles- Yes No

E. Human Resources

Permanent Staff Details- :

S. no.	Designation	Total Number of Permanent Working Staff	Duty pattern/ Shifts (hrs)	Vacant, but sanctioned posts	Numbers of temporary/ contract persons (if any)
1.	Senior Fire Officers		24 hrs		
2.	Station Officer (St.O)/(FSO)				
3.	Sub Officer (S.O)/FSSO				
4.	Leading Fire Men (LFM)				
5.	Driver				

S. no.	Designation	Total Number of Permanent Working Staff	Duty pattern/ Shifts (hrs)	Vacant, but sanctioned posts	Numbers of temporary/ contract persons (if any)
6.	Fire Man (FM)				
7.	Sweeper				
8.	Cook				
9.	Any other				
10.	Any other				

Total Permanent Staff in the Fire Station Details of Temporary staff/ Contract persons (if any).....

Level 10: Director General/ Director/Joint Director/Deputy Director; **Level 9:** CFO/ CO; **Level 8:** Deputy CFO; **Level 7:** AD/Deputy Controller; **Level 6:** DO/ Inspector/EO/Fire Supervisor; **Level 5:** ADO/ADFO/AFO/Fire In-charge; **Level 4:** St.O/Sub Inspector/Station In-charge/ASt O./AEO; **Level 3:** S O/Assistant Sub Inspector/ASO/Sub-Fire Officer; **Level 2 :** LFM/ Mechanic Driver/Head Constable/Store Superintendent; **Level 1 :** FM/ FM Driver/Radio Technician/ SGFM/ Driver/ Police Constable/ Wireless Technician/ Radio Technician/ Asst FM/ Sanitary Inspector, FO/FO Driver/Driver Operator/Driver/Ambulance Driver/ Clerk; **Level 0:** Cleaner, Fire Coolie, Supporting Staff, Attendant, Labourer, Peon, Security Guard, Tindal.

Mode to maintain Physical Fitness

S. no	Type of Drill	Yes/No	S. no	Type of Drill	Yes/No
8.	P.T./ Parade	Daily/.....	4.	Vehicle maintenance	Weekly/Monthly/Quarterly/.....
9.	Fire Drill	Daily/Weekly.....	5.	Any other
10.	Games	Daily/			

F. Fire Risk Covered in the Area under Jurisdiction

Jurisdiction of Fire Station (in approx sq km)(collect current jurisdiction map from the Fire Station)

Fire Risk	If Yes, Brief description of its Name, Type, Risks involved	Dist. From FS (km)	No. of Units
Old city Area/ congested areas			
Jhuggi -Jhopdi (Thatched House Clusters)			
Industrial Area (also mention whether small/medium/large scale)			
Industrial Area (any other)			
High-Rise Buildings (>15m height)			
Major Scrap yards (Iron/Wood etc)			

Fire Risk	If Yes, Brief description of its Name, Type, Risks involved	Dist. From FS (km)	No. of Units
Oil Mills/Storage/Processing Units			
Refineries			
Underground Gas pipe lines			
LPG Bottling Plant			
Water –Treatment Plant (chlorine cylinders)			
Bulk Fuel Storage Area/ Petrol Pump			
Major Hazardous (MAH) units			
Explosive manufacturing/stores			
Port/ dockyard area			
Railway Station			
Airport Area			
Wild Forest-Area			
Vicinity to Coast			
Army Ammunition Storage			
Cross-Border Shelling			

Fire Risk	If Yes, Brief description of its Name, Type, Risks involved	Dist. From FS (km)	No. of Units
Any other			
Any other			

Availability of water for Fire Fighting in High-Rise Building as per National Building Code (NBC) - All Few No

Applicability of NBC/ local laws in District/ State for fire safety of High-Rise building - All Few No

Applicability of NBC/ local laws for fire safety in industrial and other buildings- All Few No

G. Status of Fire Fighting Vehicles (attach separate sheet if number of vehicle are more than space provided below)

(Total number of Fire Fighting Vehicles at station)

SI No	Fire Vehicle Type	Fire Dept. Vehicle Number	Vehicle Registration Number	Make	Year of Fabrication (age)	Size/ water capacity (ltr)	Pumping capacity/ size (LPM)	Comm. System mounted on vehicle	If not in running condition (off road)
	Water Tender (WT) 1							Wireless / GPS	Minor/ Major/Condemned
	Water Tender (WT) 2							Wireless / GPS	Minor/ Major/Condemned
	Water Tender (WT) 3							Wireless / GPS	Minor/ Major/Condemned
	Water Bowser (WB) 1							Wireless / GPS	Minor/ Major/Condemned
	Water Bowser (WB) 2							Wireless /	Minor/

Fire-Risk and Hazard Analysis in the Country



SI No	Fire Vehicle Type	Fire Dept. Vehicle Number	Vehicle Registration Number	Make	Year of Fabrication (age)	Size/ water capacity (ltr)	Pumping capacity/ size (LPM)	Comm. System mounted on vehicle	If not in running condition (off road)
								GPS	Major/Condemned
	Foam Tender (FT)							Wireless GPS	Minor/ Major/Condemned
	DCP Tender					kg		Wireless GPS	Minor/ Major/Condemned
	Multi-purpose Tender							Wireless GPS	Minor/ Major/Condemned
	Hose Tender (HT)							Wireless GPS	Minor/ Major/Condemned
	Rescue / emergency tender/ responder							Wireless GPS	Minor/ Major/Condemned
	Advanced Rescue Tender (with inst. to handle hazardous materials)							Wireless GPS	Minor/ Major/Condemned
	Aerial Ladder Platform (ALP)							Wireless GPS	Minor/ Major/Condemned
	Turn Table Ladder (TTL)							Wireless GPS	Minor/ Major/Condemned
	Hazmat Van							Wireless GPS	Minor/ Major/Condemned
	B.A. Van							Wireless GPS	Minor/ Major/Condemned

Fire-Risk and Hazard Analysis in the Country



SI No	Fire Vehicle Type	Fire Dept. Vehicle Number	Vehicle Registration Number	Make	Year of Fabrication (age)	Size/ water capacity (ltr)	Pumping capacity/ size (LPM)	Comm. System mounted on vehicle	If not in running condition (off road)
	Quick Response Tender (QRT)							Wireless GPS /	Minor/ Major/Condemned
	Motor Cycle Mist 1							Wireless GPS /	Minor/ Major/Condemned
	Motor Cycle Mist 2							Wireless GPS /	Minor/ Major/Condemned
	Rescue Boat							Wireless GPS /	Minor/ Major/Condemned
	Fire Boat							Wireless GPS /	Minor/ Major/Condemned
	High Pressure Light Van							Wireless GPS /	Minor/ Major/Condemned
	Any Other							Wireless GPS /	Minor/ Major/Condemned

Details of Vehicles- other than Fire Fighting/ Official Use

SI No	Fire Vehicle Type	Vehicle Registration Number	Make	If allotted to individual	Comm. System mounted on vehicle	If not in running condition (off road)
	Ambulance				Wireless / GPS	Minor/ Major/Condemned
	Motor cycle (office use)				Wireless / GPS	Minor/ Major/Condemned
	Motor cycle (office use)				Wireless / GPS	Minor/ Major/Condemned
	Jeep/ Gypsy (office use)				Wireless / GPS	Minor/ Major/Condemned
	Jeep/ Gypsy (office use)				Wireless / GPS	Minor/ Major/Condemned
	Bus/ Mini Bus				Wireless / GPS	Minor/ Major/Condemned
	Other Transport Vehicle				Wireless / GPS	Minor/ Major/Condemned
	Any other				Wireless / GPS	Minor/ Major/Condemned

H. Specialized Equipment provided (mention total quantity for all equipment including vehicle and storage)

Equipment	Number/ Quantity	Equipment	Number/ Quantity
Self rescue units ropes/slugs (ft)		Ladders (extension + hook)	
Foam compound (ltr.)		Hand controlled nozzle/ branches	
Foam making branches (tool)		Fog/ Mist Branch	
Breathing Apparatus (B.A.) Sets		B.A. Compressor	
Personal Protection Suits (multi-layer suits etc)		Combi Tool	
Personal Protection Equipment (PPE) (protection suit with BA sets etc)		Jumping cushion / sheets	
Chemical Suit		Dry Chemical Powder (DCP) Extinguisher	
Lock cutter		First-Aid Box	
Hydraulic Rescue Tool (spreader, cutter, rams)		Portable Pump	
Electric powered hammer/ floor breaker		Submersible Pumps	
Electric chain saw for wood		Pneumatic Lifting Bag (capacity -Ton)	
Electric powered concrete cutter saw		Thermal Imaging Camera	
Electric chain saw for concrete		Life Locator Equipment	
Petrol Powered Concrete Cutter Saw		Chemical Leakage/Gas Detection Kit	
Petrol Chain Saw for Concrete		Radio-active Leakage Detection Kit	
Petrol Chain Saw for Wood		Curtain Spray Nozzle	
Hydraulic Chain Saw for Wood		Escape Chutes (length m)	
Long Branch		Search Light	
Short Branch		Generator Set	

Equipment	Number/ Quantity	Equipment	Number/ Quantity
Diffuser		Robots if any	
Lifebuoy		Fire-Curtain	
Life Jacket		Floating Pump	
Diving Suit (Wet / Dry)		Smoke Exhauster/ PPV	
Fire Beater		Any Other...	
Inflatable Lighting Tower		Any Other...	

I. Other Dress Accessories

Normal Dangri	Individual issue / Group use	
Helmets (steel/leather/fiber)	Individual issue / Group use	
Gum Boots	Individual issue / Group use	
Fire retardant Dangri	Individual issue / Group use	
Any Other		

Any other incentives for staff such as ration money, insurance etc

Ration money – Yes No Amount (Rs)

Insurance - Yes No Amount (Rs)

J. Suggestions/views of fire-official for improvement of fire and emergency service at the station

- 1).....
.....
- 2).....
.....
- 3).....

K. Other Fire Station (nearby) not belonging to Fire Service Department

Airport / Defence Installations / Power Plant (all type) / Oil Refineries / Private Agency / Other Industries etc.

- a) Name/Agency-..... cooperation with the above Fire Station
(in large fire only/ all small & big fires/ no cooperation)

Details of any mutual-aid scheme /

- b) Name/Agency-..... cooperation with the above Fire Station
(in large fire only/ all small & big fires/ no cooperation)

Details of any mutual-aid scheme /

- c) Name/Agency-..... cooperation with the above Fire Station
(in large fire only/ all small & big fires/ no cooperation)

Details of any mutual-aid scheme /

L. Fire Calls and other Incidence Statistics (last 3-5 years) Name of Fire Station

Monthly number of fire calls and other special service calls (use additional sheet to pen down the Fire Statistics for last 5 years)

Month-Year	Total Calls (A+B+C+D)	Total Fire Incidence calls (A)	Occupancy wise break up of fire incidence (if any)				Total Rescue incidence (B)	Break up of Rescue incidence (if any)				Special service calls (C)	False/malicious calls (D)	Total injured		Total Death
			Residential	Industrial	Institutional/commercial	Others		Road Accidents	Building collapse	Animal	Others			Minor	Major	
12-Jul																
12-Jun																
12-May																
12-Apr																
12-Mar																
12-Feb																
12-Jan																
11-Dec																
11-Nov																
11-Oct																
11-Sep																
11-Aug																
11-Jul																

Fire-Risk and Hazard Analysis in the Country



11-Jun																			
11-May																			
11-Apr																			
11-Mar																			
11-Feb																			
11-Jan																			
10-Dec																			
10-Nov																			
10-Oct																			
10-Sep																			
10-Aug																			
10-Jul																			
10-Jun																			
10-May																			
10-Apr																			
10-Mar																			
10-Feb																			
10-Jan																			

Fire-Risk and Hazard Analysis in the Country



9-Dec																	
9-Nov																	
9-Oct																	
9-Sep																	
9-Aug																	
9-Jul																	
9-Jun																	
9-May																	
9-Apr																	
9-Mar																	
9-Feb																	
9-Jan																	
8-Dec																	
8-Nov																	

Please send Fire call statistics to :

Mr. Sushil Gupta (General Manager), Risk Modeling & Insurance,
 A-7, RMSI, Sector 16, Noida 201301, Fax: 0120 2511109
 Mobile: 08826100332, phone: 0120 4040512(direct)
Sushil.Gupta@rmsi.com

PART B

7 Delhi State

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8 Rajasthan State

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9 Maharashtra State

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10 Jammu and Kashmir State

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11 Puducherry UT

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12 Andaman & Nicobar Islands UT

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13 Chandigarh UT

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14 Haryana State

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15 Himachal Pradesh State

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16 Punjab State

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17 Uttarakhand State

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Uttar Pradesh State

18 Uttar Pradesh State

18.1 Introduction

Uttar Pradesh (UP) is the fourth largest State in India by area (241,592 sq. km.) and the most populous State in the country with a 16% share from the total population (Census 2011). It is located between Longitude 80.91° East, Latitude: 26.85° North. The State shares its borders with Bihar State in the east, with Madhya Pradesh in the south, with Rajasthan, Delhi, Himachal Pradesh and Haryana in the west and with Uttarakhand and Nepal in the north. The border with Nepal is a part of the international boundary.

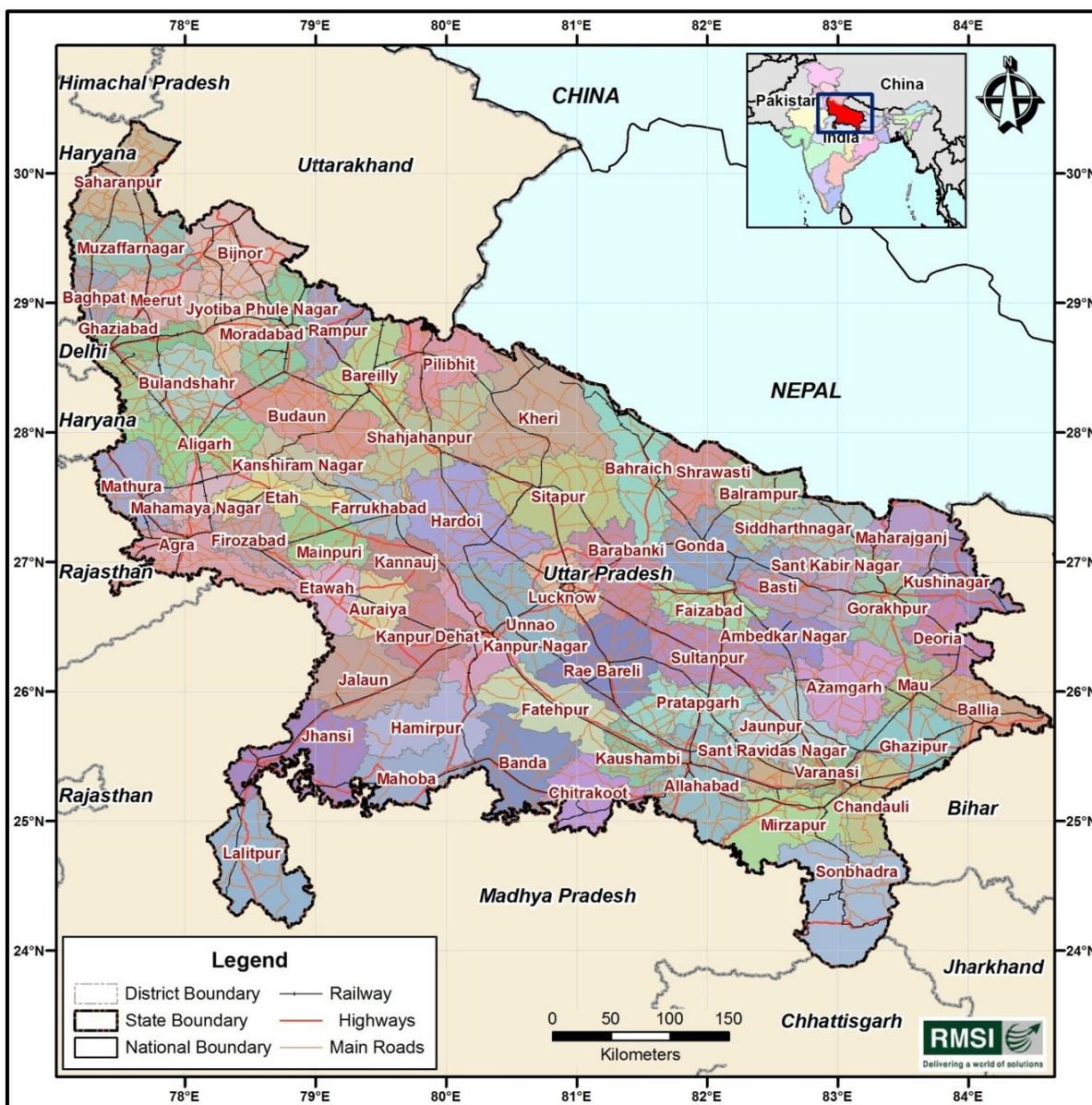


Figure 18-1: District map of Uttar Pradesh

The history of Uttar Pradesh follows the history of India very closely. Right from the Aryan era, when epics like the Mahabharata, Ramayana, Brahmanas, and Puranas were composed in these very lands, to the advent of Lord Buddha when the region was part of the mighty Magadh empire, to the Mauryas and the Mughals, and finally to the East India

Company and the British, this region has been witness to most of the important events in Indian history. It has seen rulers like Ashoka and Harshavardhana, under whose rules the areas reached new heights in different spheres. The present State came to be established after independence, when on January 12, 1950 Uttar Pradesh was carved out as a separate State of Independent India.

Given the rich history, it is not surprising that the State is dotted with historical sites and several ancient cities, towns, or archaeological sites. Some of these include Piparhava, Kaushambi, Shravasti, Sarnath (Varanasi), Kushinagar, Chitrakoot, Lucknow, Agra, Jhansi, and Meerut.

The State is administratively divided into 71 districts and 312 tehsils. The population is spread across 648 towns and over 1 lakh villages (Table 18-1). The State has its capital at Lucknow.

Table 18-1: Uttar Pradesh Demography as per Census 2011

Uttar Pradesh State			
No. of Districts	71		Percentage of Urban Population
No. of Sub-Districts	312		
No. of Towns	915		22
No of Villages	106,704		
Population			
	Total	Rural	Urban
Persons	199,581,477	155,111,022	44,470,455
Males	104,596,415	81,044,655	23,551,760
Females	94,985,062	74,066,367	20,918,695
Sex Ratio (females per 1,000 males)	908	914	888

The State can be divided into three distinct regions, namely, the sub-Himalayan Terai region in the North characterized by Highly fertile soil with large forests cover, the Gangetic Plains characterized by highly fertile alluvial soils and a predominantly flat topography, and the Vindhya Hills and plateau in the south. The main rivers that flow through the State include the Ganga, Yamuna, Gomti, Ramganga, and Ghaghara.

Forests constitute about 12.8% of the total area of the State. These forests predominate the Himalayan region and the terai and bhabhar area in the Gangetic plain. The forests in the Vindhyan region consist largely of scrub. The average temperature varies in the plains from 3 to 4 °C in winter (January) to 43 to 45 °C in summer (May – June). The State receives most of its rainfall during the monsoon months of June-September.

The main agricultural activity in the well irrigated and generally fertile plains of the State include the cultivation of paddy, wheat, barley, millet, maize, urad (black gram), moong (green gram), arhar, and mango, guava, and litchi fruits. The main mineral reserves in the State include limestone, dolomite, soap stone, gypsum, bauxite, glass-sand, manganese, and non-plastic fire clay. The State is also home to several unique handicrafts. These include Chikan-work, embroidery, woodwork, wooden toys and furniture, clay -toys, carpet weaving, silk and brassware work.

The State was the second largest economy in the country during 2009-10 when it contributed 8.1% to the GDP of India. The tertiary sector was the major contributor to the GSDP. Uttar Pradesh has witnessed good growth in the industrial sector too. The industrial growth rate was 9.4%, 11.8%, and 10.9% during the Vth, VIth VIIth Five Year Plans. During the XIth Five Year Plan, the targeted industrial growth rate was 10% and that of the manufacturing sector was set at 12%.

Being the most populous State (19,95,81,477), it ranks 9th in terms of density with 828 persons per sq. km. The sex ratio stands at 908 (females per 1,000 males) slightly up from 898 in the 2001 census. In terms of literacy rate, the State ranks 29th with a literacy rate of 69.72%.

The Uttar Pradesh State Fire Services was established long back on 26th July 1944. However, till the amendment of the Uttar Pradesh Fire Service Act in 1952, the Fire Stations catered to the Municipal Board areas only. Presently, it has 237 operational Fire Stations distributed in the 71 districts of the State and a headcount of 4,613 firefighting personnel. The Uttar Pradesh Fire Service is working under the Uttar Pradesh Police department and has its own Fire Service Act. Presently, the State Fire Service is headed by Director General of Police and the fire service headquarter is located at Lucknow. The State Fire Service Training Center is located at Unnao and supervised by a Commandant officer.

The 237 operational Fire Stations serve an average population of more than 8.4 lakhs per Fire Station (Figure 18.2, and Table 18-2).

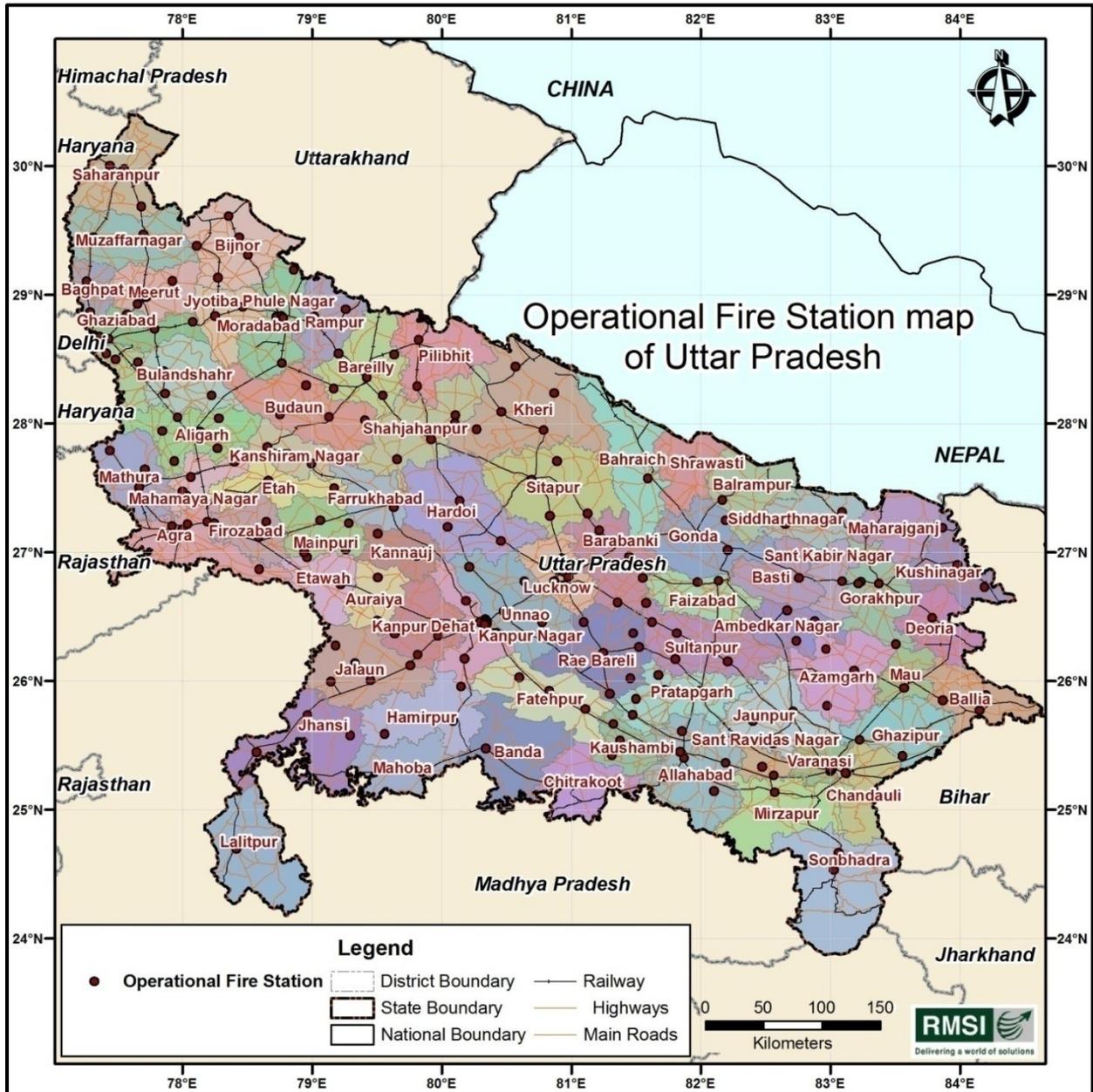


Figure 18-2: Location of operational Fire Stations in Uttar Pradesh

Table 18-2: Summary of District level operational Fire Stations in Uttar Pradesh

District	Area (in sq km)	Total Population (Census 2011)	Population Density	No of Fire Station operational	Average Population per Fire station
Agra	4,032	4,380,793	1,086	5	876,159
Aligarh	3,747	3,673,849	981	8	459,231
Allahabad	5,456	5,959,798	1,092	6	993,300
Ambedkar Nagar	2,340	2,398,709	1,025	4	599,677
Auraiya	2,010	1,372,287	683	2	686,144
Azamgarh	4,389	4,616,509	1,052	3	1,538,836
Baghpat	1,348	1,302,156	966	2	651,078
Bahraich	4,337	3,478,257	802	1	3,478,257
Ballia	3,010	3,223,642	1,071	3	1,074,547
Balrampur	3,329	2,149,066	646	1	2,149,066
Banda	4,561	1,799,541	395	1	1,799,541
Bara Banki	3,863	3,257,983	843	5	651,597
Bareilly	3,825	4,465,344	1,167	6	744,224
Basti	2,742	2,461,056	898	1	2,461,056
Bijnor	4,387	3,683,896	840	5	736,779
Budaun	5,087	3,712,738	730	4	928,185
Bulandsahar	3,523	3,498,507	993	4	874,627
Chandauli	2,537	1,952,713	770	2	976,357
Chitrakoot	3,116	990,626	318	1	990,626
Deoria	2,562	3,098,637	1,210	1	3,098,637
Etah	2,466	1,761,152	714	2	880,576
Etawah	2,328	1,579,160	678	3	526,387
Faizabad	2,676	2,468,371	922	3	1,234,186
Farrukhabad	2,185	1,887,577	864	1	1,887,577
Fatehpur	4,184	2,632,684	629	3	877,561
Firozabad	2,409	2,496,761	1,036	4	624,190
Gautam Buddha Nagar	1,426	1,674,714	1,175	4	418,679
Ghaziabad	2,014	4,661,452	2,314	6	776,909
Ghazipur	3,388	3,622,727	1,069	3	1,207,576
Gonda	4,042	3,431,386	849	2	1,143,795
Gorakhpur	3,367	4,436,275	1,317	4	1,109,069
Hamirpur	4,270	1,104,021	259	3	368,007
Hardoi	6,017	4,091,380	680	3	1,363,793
Jalaun	4,580	1,670,718	365	5	334,144
Jaunpur	4,039	4,476,072	1,108	3	1,492,024
Jhansi	5,114	2,000,755	391	3	666,918
Jyotiba Phule Nagar	2,282	1,838,771	806	2	919,386
Kannauj	2,080	1,658,005	797	3	552,668
Kanpur Dehat	3,196	1,795,092	562	3	598,364
Kanpur Nagar	2,903	4,572,951	1,575	8	571,619
Kanshiram Nagar	2,020	1,438,156	712	2	719,078
Kaushambi	1,824	1,596,909	875	3	532,303
Kheri	7,715	4,013,634	520	5	802,727
Kushinagar	2,890	3,560,830	1,232	3	1,186,943
Lalitpur	5,064	1,218,002	241	1	1,218,002

District	Area (in sq km)	Total Population (Census 2011)	Population Density	No of Fire Station operational	Average Population per Fire station
Lucknow	2,543	4,588,455	1,804	8	573,557
Mahamaya Nagar	1,771	1,565,678	884	4	391,420
Maharajganj	2,903	2,665,292	918	2	1,332,646
Mahoba	2,925	876,055	300	1	876,055
Mainpuri	2,704	1,847,194	683	4	461,799
Mathura	3,361	2,541,894	756	4	635,474
Mau	1,564	2,205,170	1,410	1	2,205,170
Meerut	2,621	3,447,405	1,315	4	861,851
Mirzapur	4,542	2,494,533	549	1	2,494,533
Moradabad	3,611	4,773,138	1,322	5	954,628
Muzafarnagar	4,079	4,138,605	1,015	2	2,069,303
Pilibhit	3,608	2,037,225	565	3	679,075
Pratapgarh	3,719	3,173,752	853	6	528,959
Rae Bareli	4,622	3,404,004	736	7	486,286
Rampur	2,664	2,335,398	877	3	778,466
Sant Kabir Nagar	1,748	1,714,300	981	1	1,714,300
Sant Ravidas Nagar (Bhadohi)	1,010	1,554,203	1,539	2	777,102
Shahjahanpur	4,659	3,002,376	644	4	750,594
Sharanpur	3,744	3,464,228	925	4	866,057
Shrawasti	2,508	1,114,615	444	1	1,114,615
Siddharthnagar	2,835	2,553,526	901	2	1,276,763
Sitapur	5,788	4,474,446	773	5	894,889
Sonbhadra	6,804	1,862,612	274	2	931,306
Sultanpur	4,426	3,790,922	857	6	631,820
Unnao	4,605	3,110,595	676	4	777,649
Varanasi	1,549	3,682,194	2,378	4	920,549
Total	241,593	199,581,477	826	237	842,116

18.2 Field Surveys of Fire Stations for Data Collection

To have first-hand information on the distribution of the fire service stations across the country, trained human resources, infrastructure availability and their status, RMSI project team has carried out detailed surveys of Fire Stations and collected data through individual “Fire Station Survey Form” and Fire Headquarter Data Collection Form” as shown in Annexure 1 & 2. The collected information for each Fire Station are following categories.

- Fire Station General Information
- Fire Station Infrastructure Details
- Communication Systems
- Water Supply Details for Fire Fighting Purpose
- Human Resources
- Fire Risk Covered in the Area under Jurisdiction
- Status of Fire Fighting Vehicles
- Specialized equipment provided (specify whether kept in vehicle or in stores)

- Other Accessories
- Fire Calls and other Incidence Statistics (last 3-5 years)

Besides the collection of field survey data, RMSI team has also collected the location coordinates (latitude, longitude) of Fire Stations using GPS. The geographical coordinate information is used for plotting all the Fire Station locations in the map to perform GIS based spatial analysis. This is also used in the analysis of distribution of new proposed Fire Stations and gap analysis on fire-infrastructure, based on risk-category, response time, and population.

18.3 Fire Infrastructure Gap Analysis

18.3.1 FIRE STATION LOCATION GAP ANALYSIS

As discussed in section 6.2.5, response time of 5-7 minutes in urban areas and 20 minutes in rural areas has been considered as appropriate. Considering the response time, using network analysis and travel distance, ideal jurisdiction areas have been delineated for all the operating Fire Stations. In delineation of ideal jurisdiction areas, built-up areas such as various types of residential areas and industrial areas with estimated population has also been considered. After delineation of ideal jurisdiction area, un-served gaps in urban agglomeration have been identified. These un-served gaps are also shown to be filled by new proposed urban Fire Stations. Table 18-3 shows district level summary of number of operational and new proposed Fire Stations with population covered within their ideal jurisdiction areas.

Rural areas are also covered with new rural Fire Stations. In Uttar Pradesh, rural populations are very thickly distributed. Locations of rural Fire Stations are demarcated to the nearest bigger village having population more than 5,000 - 10,000 or major roads intersection. District level numbers of new proposed rural Fire Stations are given in Table 18-3. Figures 18-3 to 18-67 depict representative detailed maps showing delineated ideal jurisdiction areas for operational and new proposed urban Fire Stations and location of new rural Fire Station at various places in the State.

Detailed list of delineated operational, new urban and new rural Fire Stations are given in Tables 18-44 and 18-45.

Table 18-3: District level number of operational and additional Fire Stations required in the State

District	No. of Fire Station operational	Ideally Served Population under Operational Fire Stations	No. of New Urban Fire Station	Ideally Served Population under New Urban Fire Stations	No of New Rural Fire Station	Total Fire Stations
Agra	5	749,337	8	1,103,860	5	18
Aligarh	8	1,510,737	0	0	5	13
Allahabad	6	1,489,431	3	442,251	9	18
Ambedkar Nagar	4	942,692	0	0	4	8
Auraiya	2	542,586	0	0	2	4
Azamgarh	3	1,103,030	2	81,827	6	11
Baghpat	2	126,503	1	38,348	3	6
Bahraich	1	154,113	1	39,091	8	10
Ballia	3	975,932	0	0	5	8

District	No. of Fire Station operational	Ideally Served Population under Operational Fire Stations	No. of New Urban Fire Station	Ideally Served Population under New Urban Fire Stations	No of New Rural Fire Station	Total Fire Stations
Balrampur	1	41,471	0	0	5	6
Banda	1	138,454	4	77,521	9	14
Bara Banki	5	2,143,586	2	85,186	1	8
Bareilly	6	2,254,170	3	505,234	4	13
Basti	1	140,749	0	0	6	7
Bijnor	5	1,099,785	4	198,817	6	15
Budaun	4	625,172	2	97,041	6	12
Bulandsahar	4	465,035	2	44,731	5	11
Chandauli	2	195,344	3	156,587	3	8
Chitrakoot	1	124,935	2	104,589	4	7
Deoria	1	143,358	1	32,830	5	7
Etah	2	754,308	0	0	4	6
Etawah	3	1,360,127	1	34,737	1	5
Faizabad	3	533,377	1	54,182	4	8
Farrukhabad	1	71,464	2	333,070	3	6
Fatehpur	3	905,357	0	0	7	10
Firozabad	4	1,118,559	1	44,009	2	7
Gautam Buddha Nagar	4	814,726	4	434,371	2	10
Ghaziabad	6	1,552,227	8	1,158,800	4	18
Ghazipur	3	928,703	1	97,553	7	11
Gonda	2	483,918	1	105,862	6	9
Gorakhpur	4	443,692	5	416,067	11	20
Hamirpur	3	221,941	0	0	6	9
Hardoi	3	1,069,798	2	81,788	9	14
Jalaun	5	722,030	0	0	5	10
Jaunpur	3	549,183	2	154,340	6	11
Jhansi	3	736,553	0	0	8	11
Jyotiba Phule Nagar	2	263,486	0	0	5	7
Kannauj	3	518,931	2	91,884	2	7
Kanpur Dehat	3	364,227	0	0	6	9
Kanpur Nagar	8	2,809,234	4	853,783	3	15
Kanshiram Nagar	2	500,622	0	0	1	3
Kaushambi	3	814,823	0	0	2	5
Kheri	5	887,892	0	0	10	15
Kushinagar	3	974,829	0	0	4	7
Lalitpur	1	135,702	0	0	7	8
Lucknow	8	1,820,212	6	1,351,488	4	18
Mahamaya Nagar	4	806,635	0	0	1	5
Maharajganj	2	333,365	0	0	6	8
Mahoba	1	98,339	0	0	4	5
Mainpuri	4	959,546	1	118,268	2	7
Mathura	4	903,507	4	397,823	5	13
Mau	1	143,586	2	118,243	4	7

District	No. of Fire Station operational	Ideally Served Population under Operational Fire Stations	No. of New Urban Fire Station	Ideally Served Population under New Urban Fire Stations	No of New Rural Fire Station	Total Fire Stations
Meerut	4	1,305,162	2	243,748	5	11
Mirzapur	1	237,727	0	0	12	13
Moradabad	5	838,656	5	326,688	5	15
Muzafarnagar	2	607,849	3	202,967	10	15
Pilibhit	3	321,619	1	37,246	4	8
Pratapgarh	6	975,421	0	0	5	11
Rae Bareli	7	2,375,301	0	0	4	11
Rampur	3	759,334	0	0	4	7
Sant Kabir Nagar	1	49,540	0	0	3	4
Sant Ravidas Nagar (Bhadohi)	2	777,388	2	239,184	0	4
Shahjahanpur	4	1,193,745	2	111,422	6	12
Sharanpur	4	783,594	2	103,116	9	15
Shrawasti	1	392,917	0	0	2	3
Siddharthnagar	2	1,079,547	0	0	3	5
Sitapur	5	1,692,692	1	47,829	7	13
Sonbhadra	2	151,856	6	529,838	7	15
Sultanpur	6	1,026,003	1	15,390	7	14
Unnao	4	970,572	2	209,233	4	10
Varanasi	4	565,725	5	1,041,411	3	12
Total	237	55,671,967	117	11,962,253	352	706

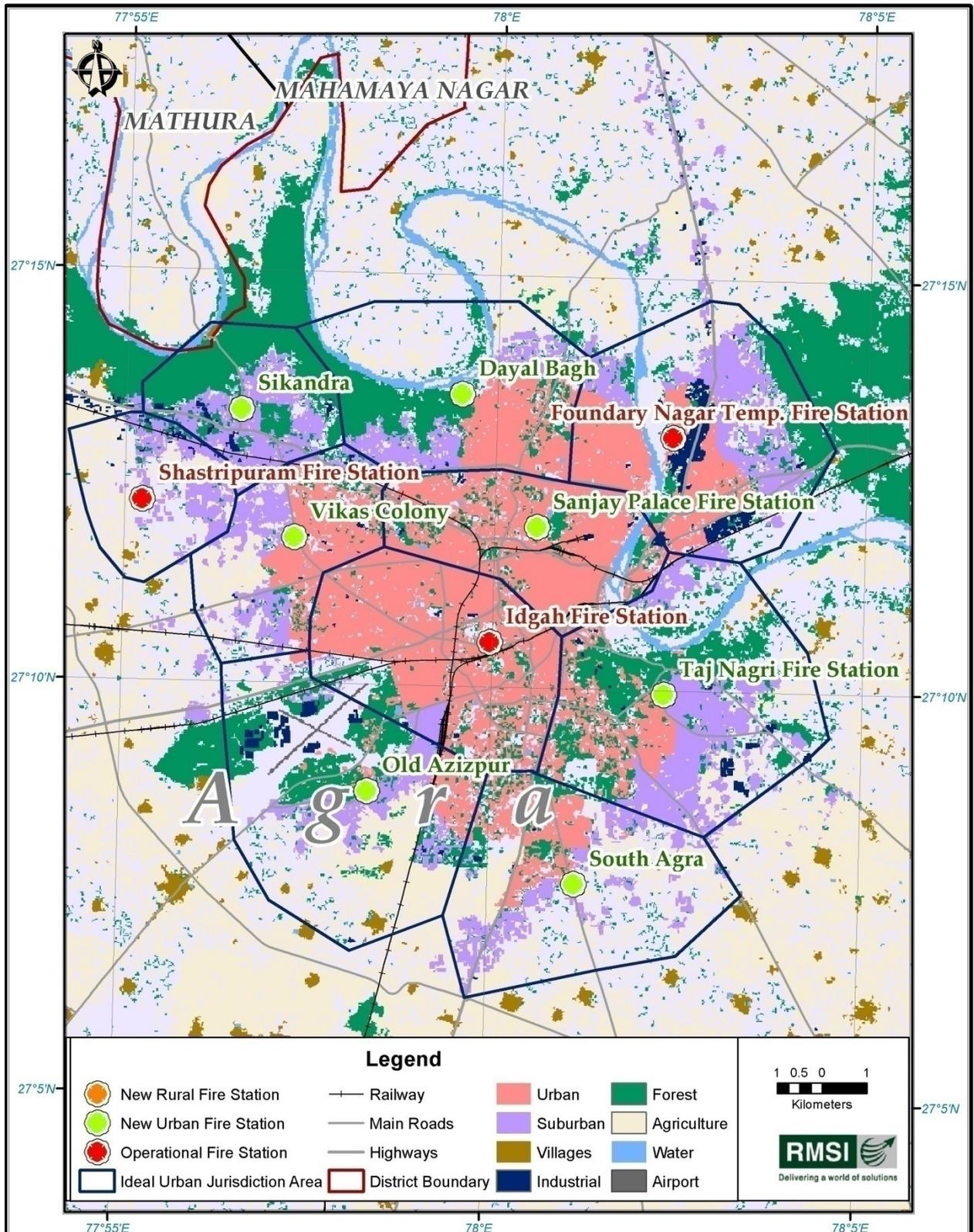


Figure 18-3: Fire stations gap analysis for Agra urban area



Figure 18-4: Fire stations gap analysis for Agra-Firozabad rural area

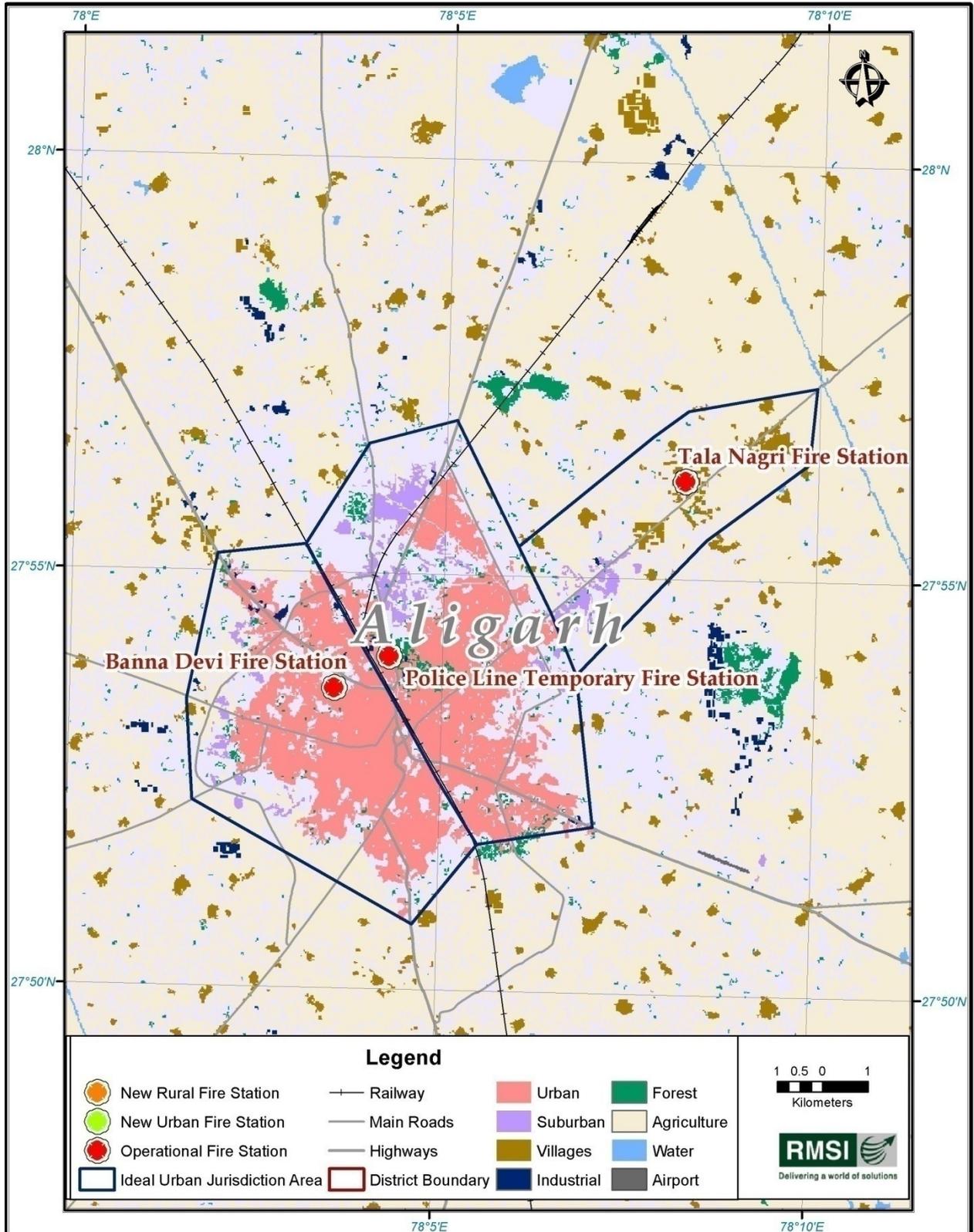


Figure 18-5: Fire stations gap analysis for Aligarh urban areas

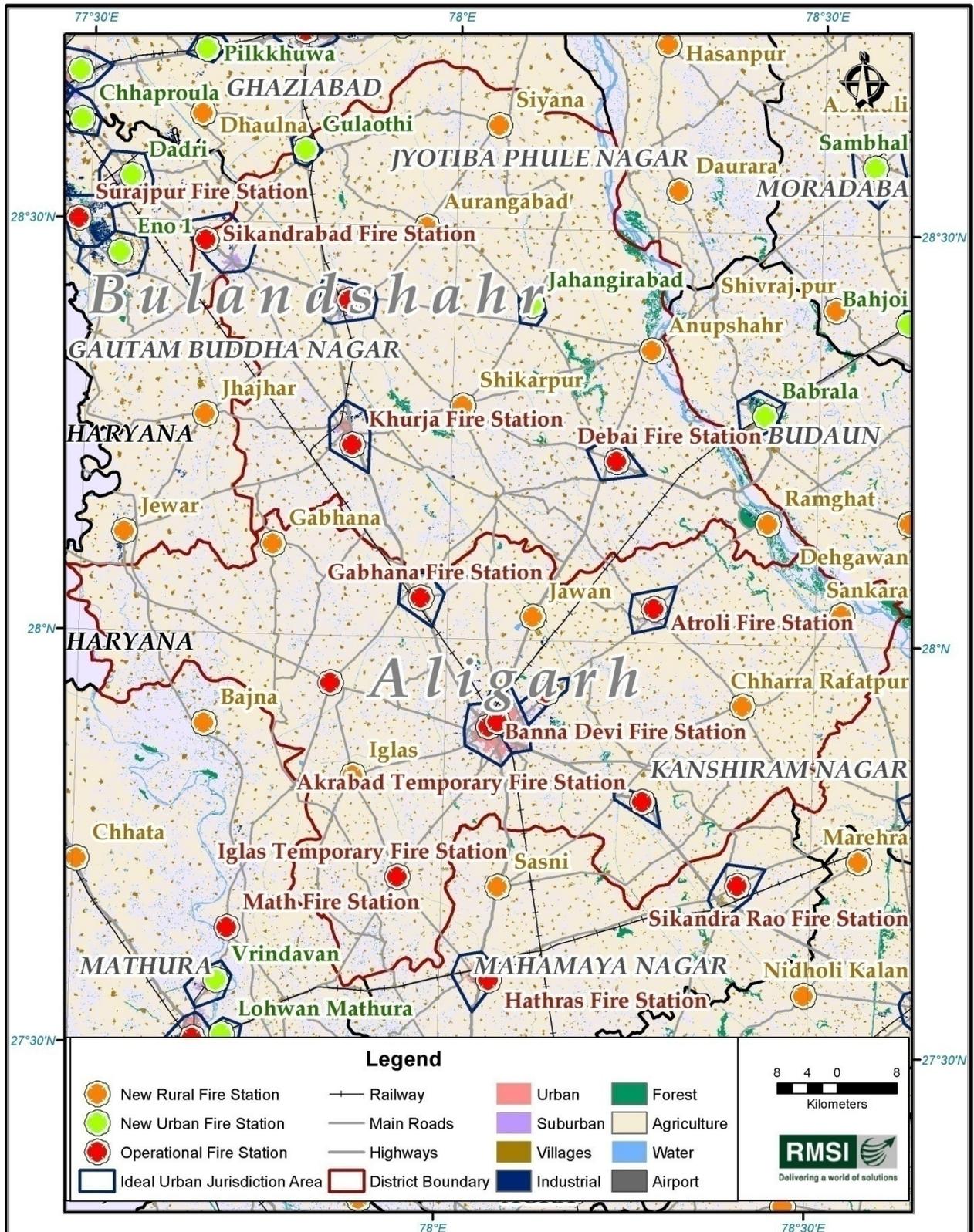


Figure 18-6: Fire stations gap analysis for Aligarh-Bulandshahr rural areas

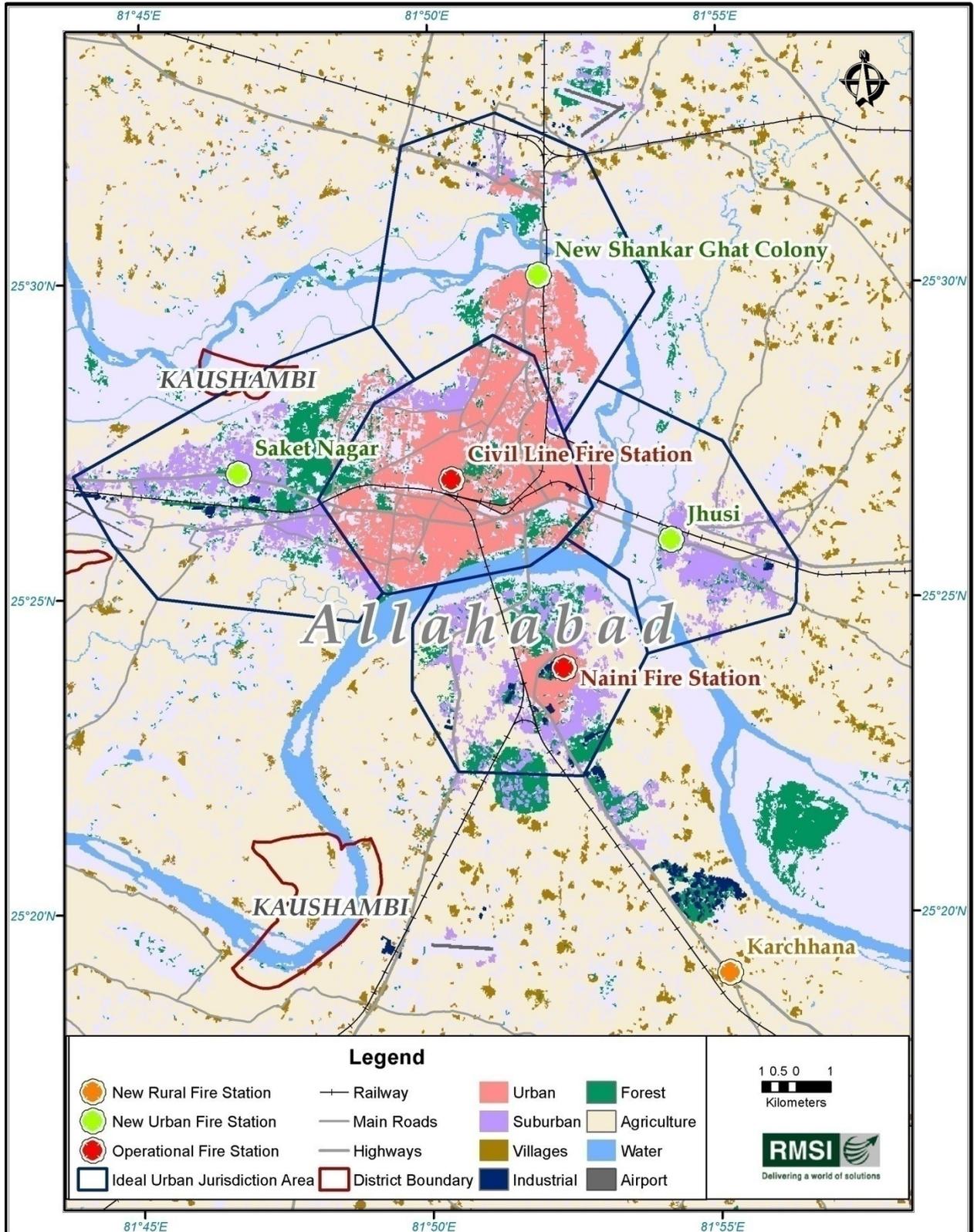


Figure 18-7: Fire stations gap analysis for Allahabad urban areas

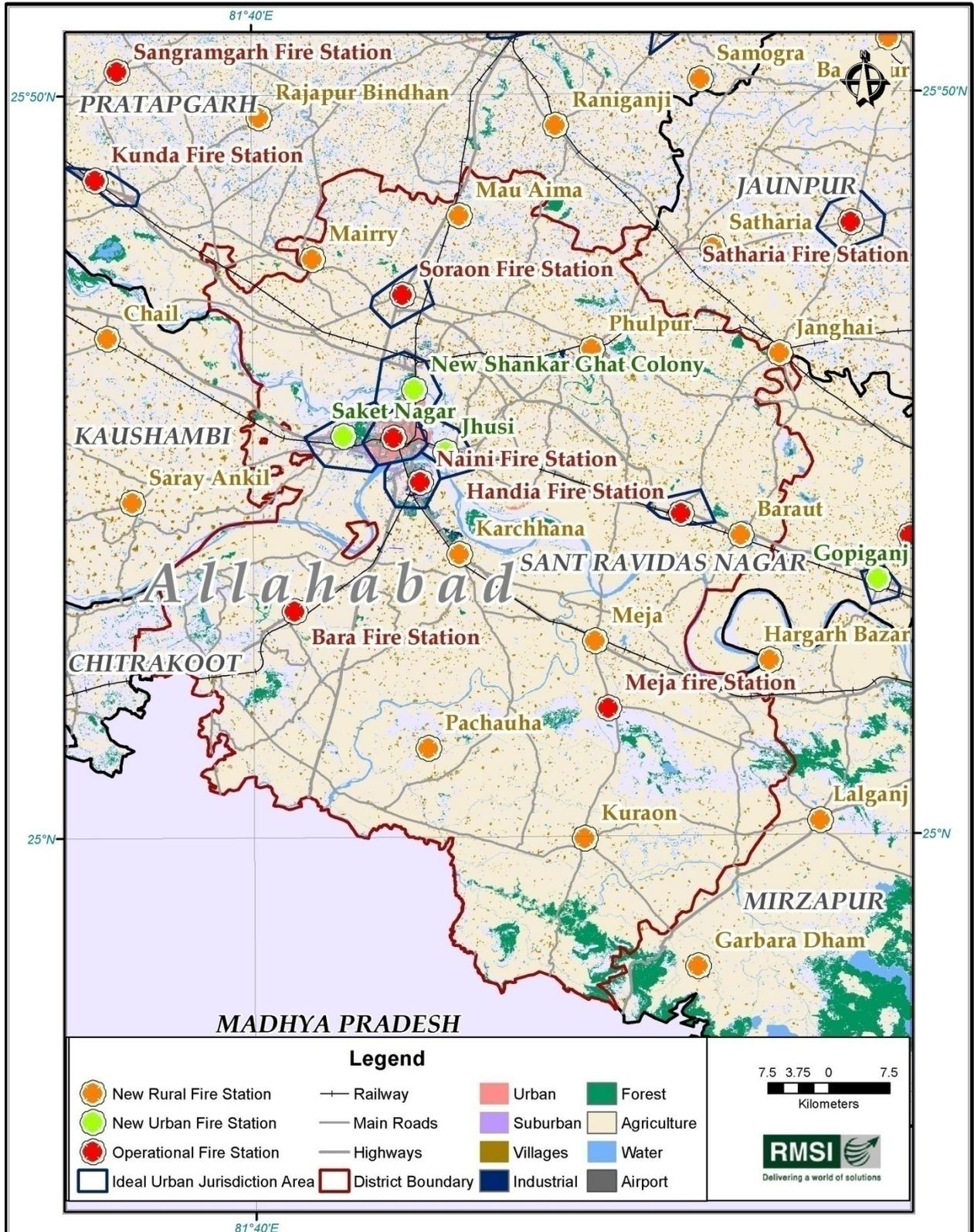


Figure 18-8: Fire stations gap analysis for Allahabad rural areas

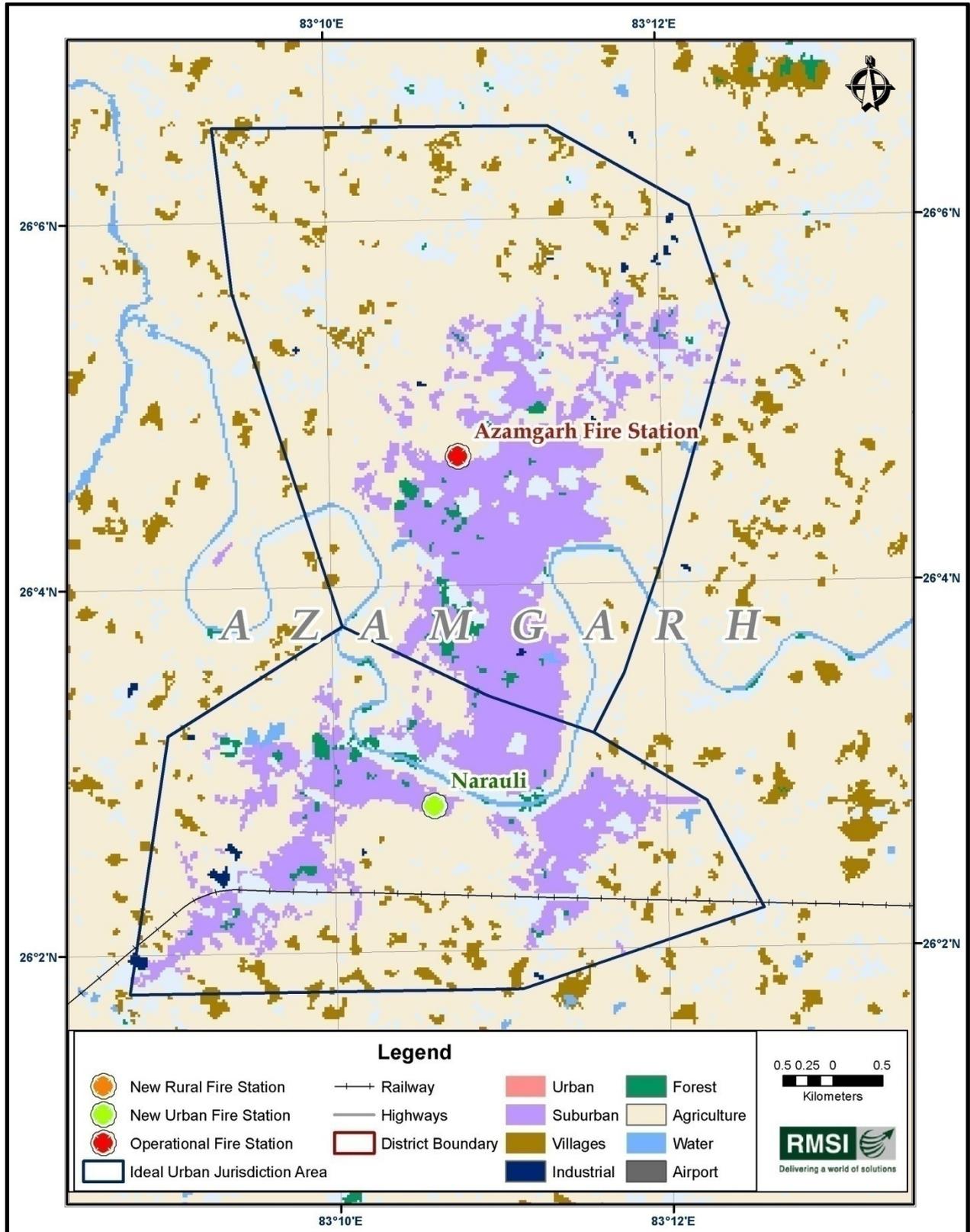


Figure 18-9: Fire stations gap analysis for Azamgarh urban areas

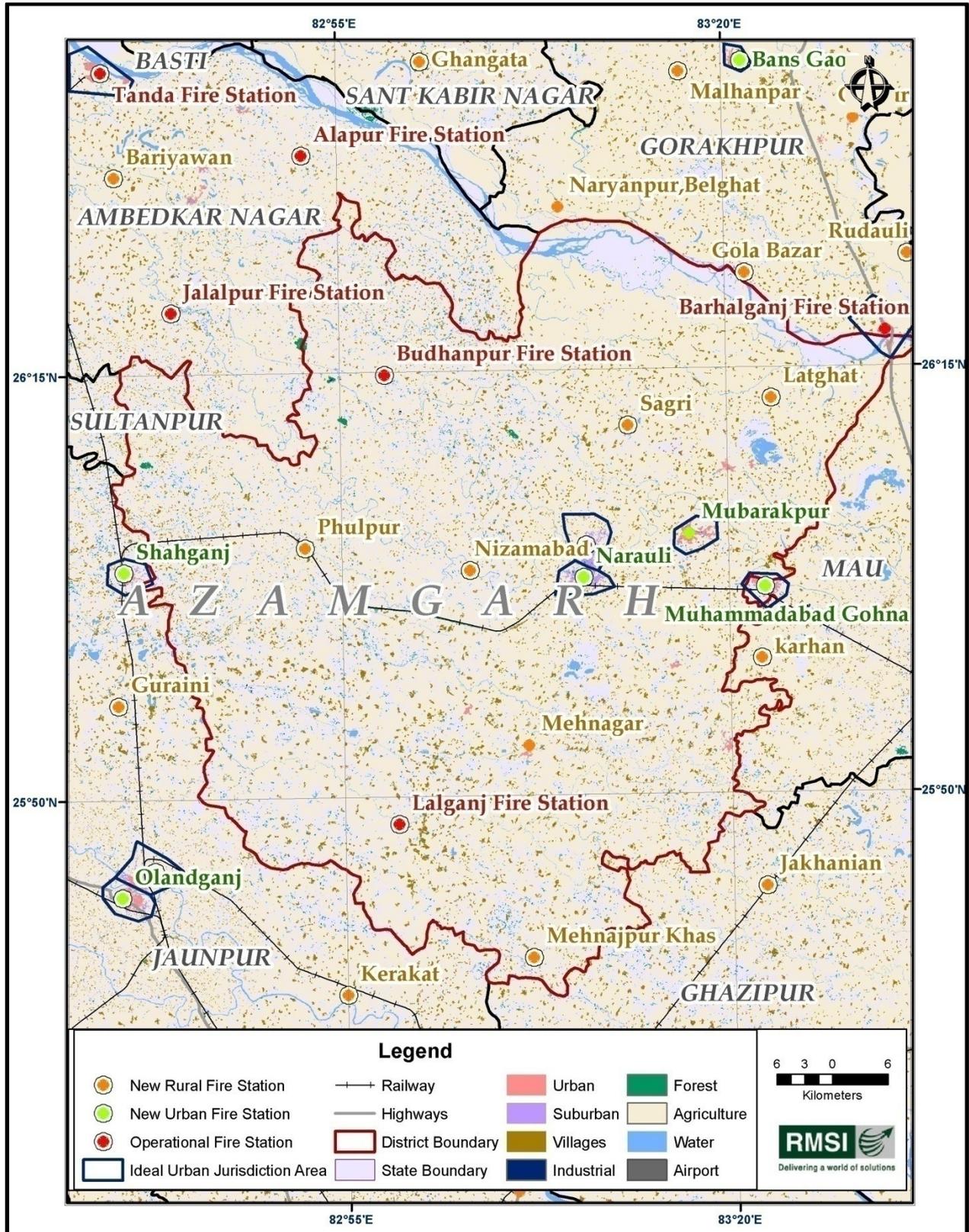


Figure 18-10: Fire stations gap analysis for Azamgarh rural areas

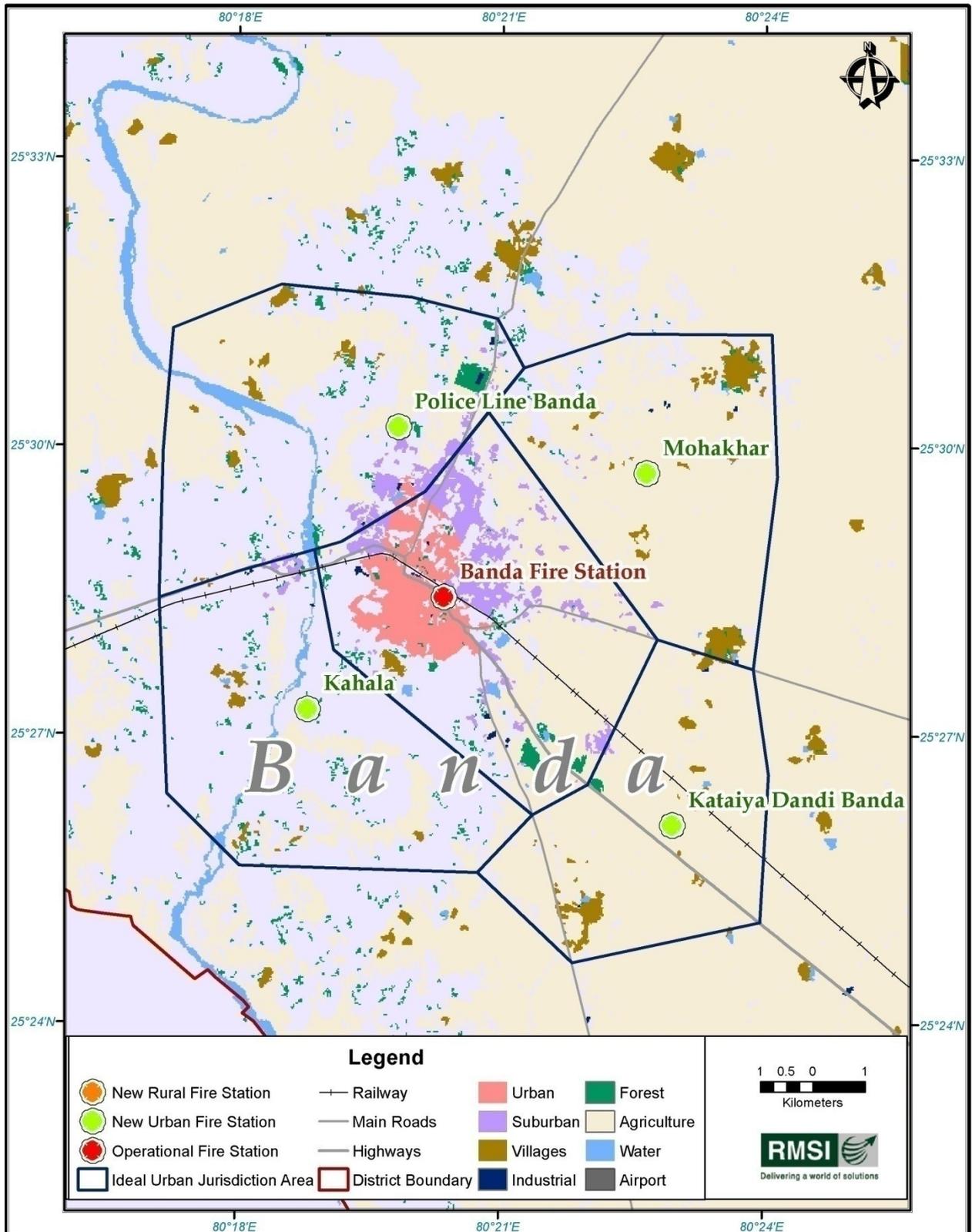


Figure 18-11: Fire stations gap analysis for Banda urban areas

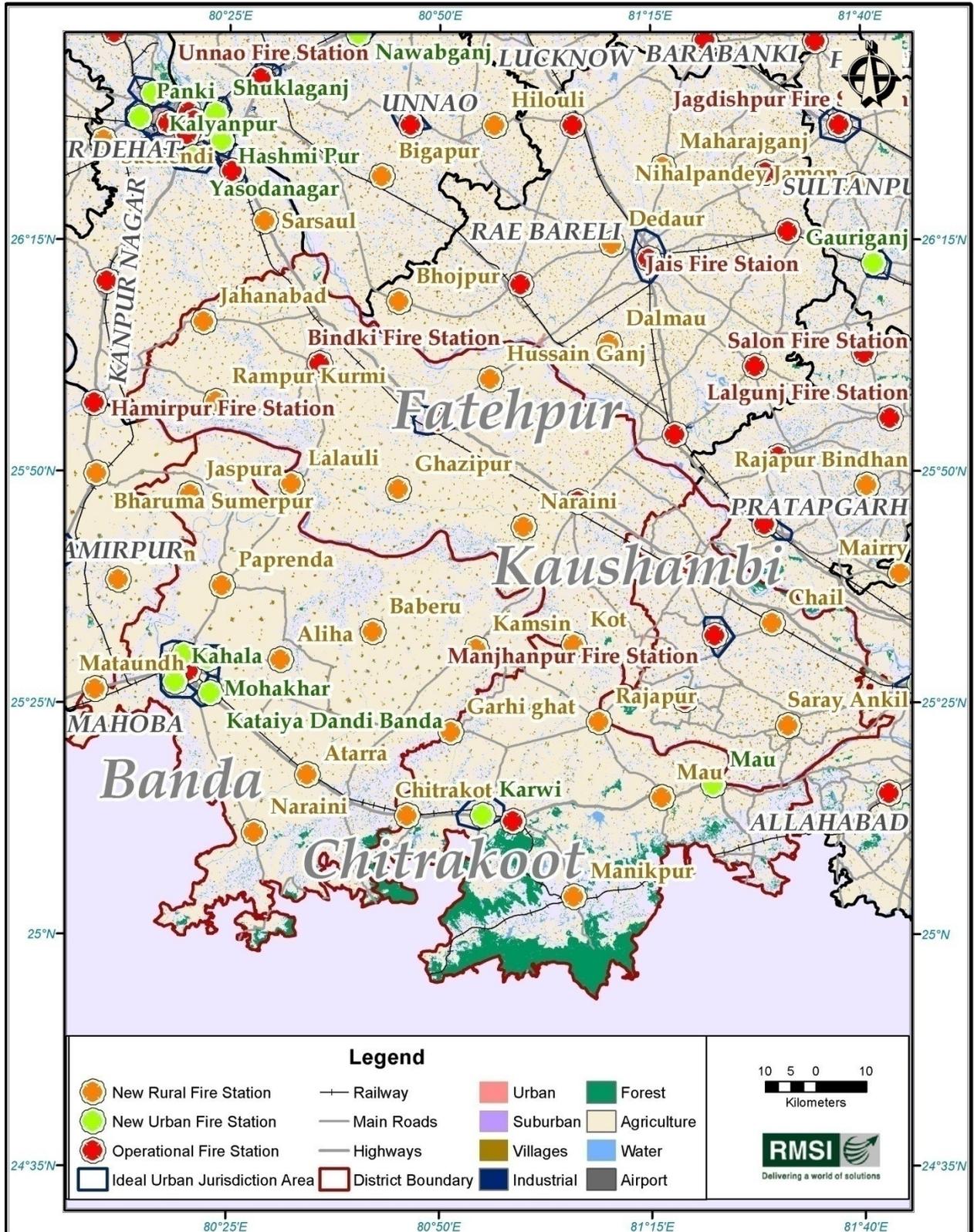


Figure 18-12: Fire stations gap analysis for Banda and surrounding rural areas

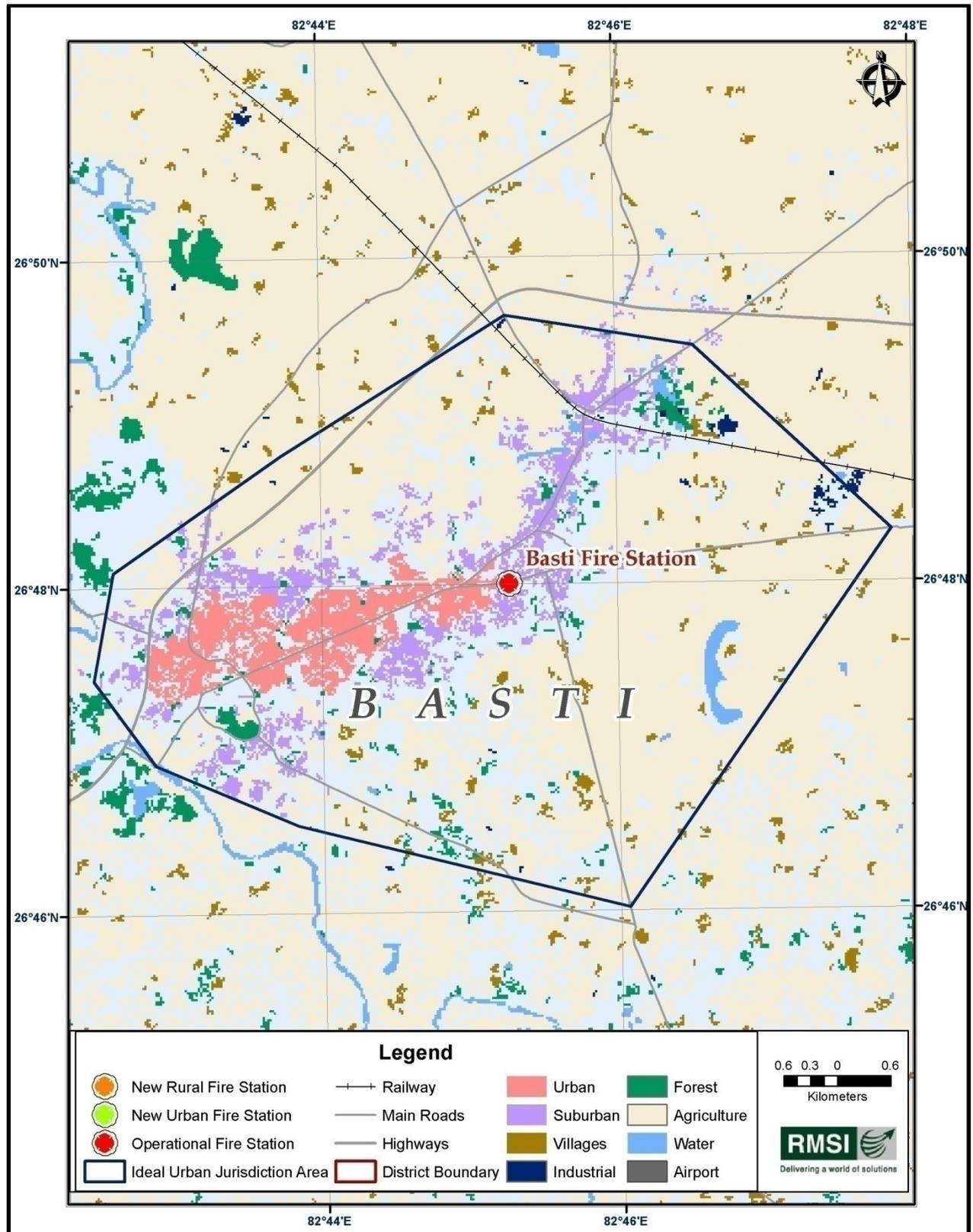


Figure 18-13: Fire stations gap analysis for Basti urban areas

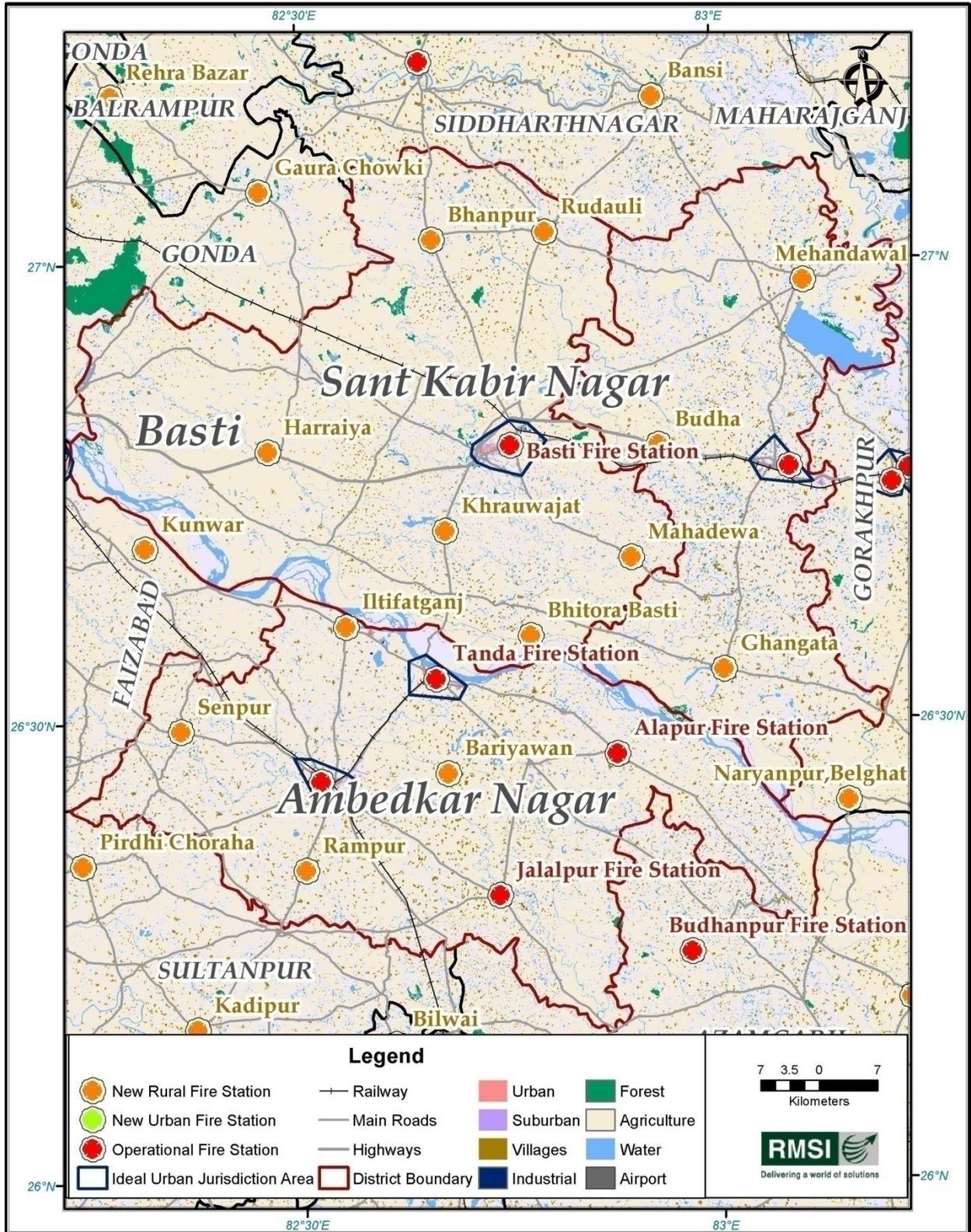


Figure 18-14: Fire stations gap analysis for Basti, Ambedkar Nagar and Sant Kabir Nagar surrounding rural areas

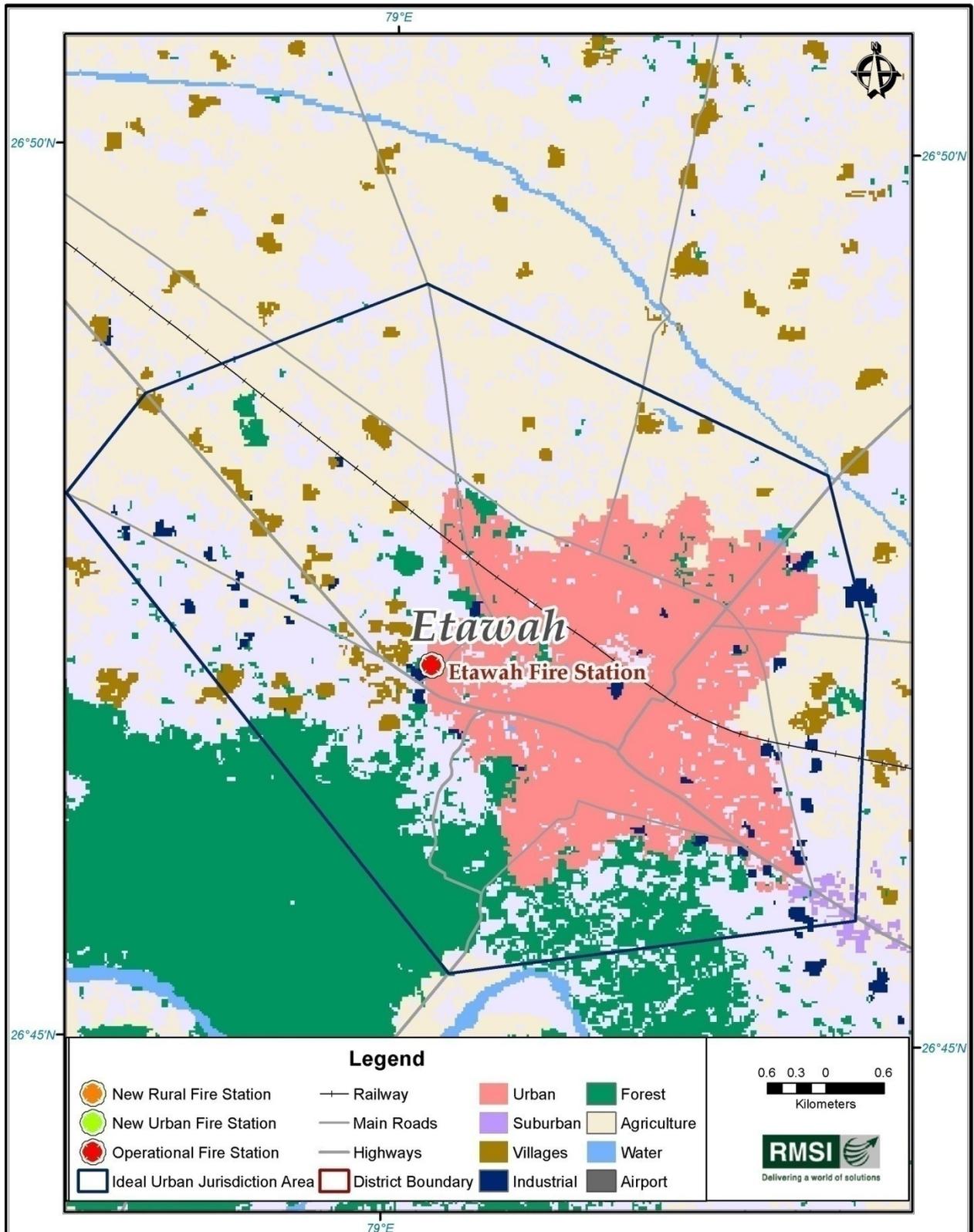


Figure 18-15: Fire stations gap analysis for Etawah urban areas

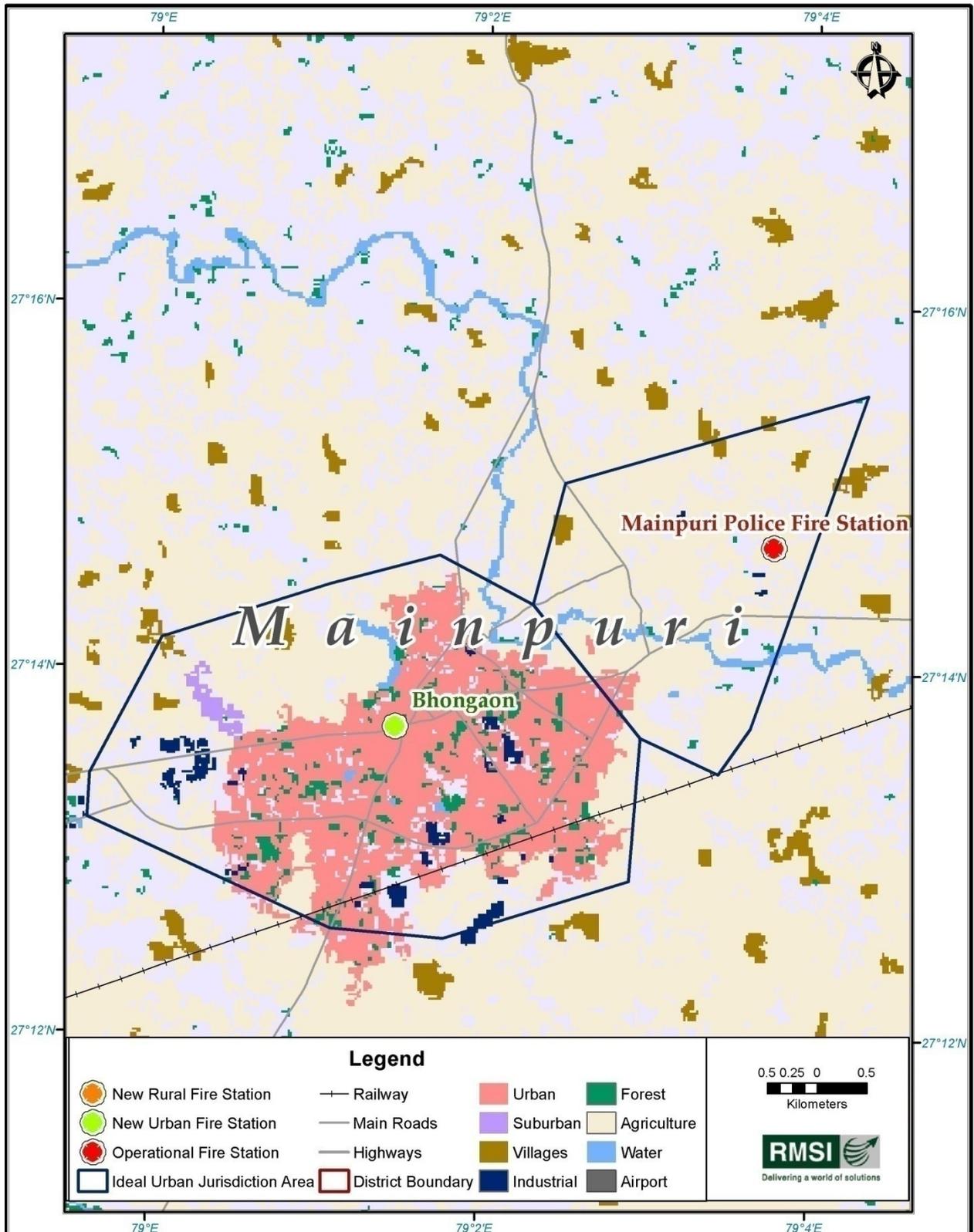


Figure 18-16: Fire stations gap analysis for Mainpuri urban areas



Figure 18-17: Fire stations gap analysis for Etawah, Auraiya and Mainpuri rural areas

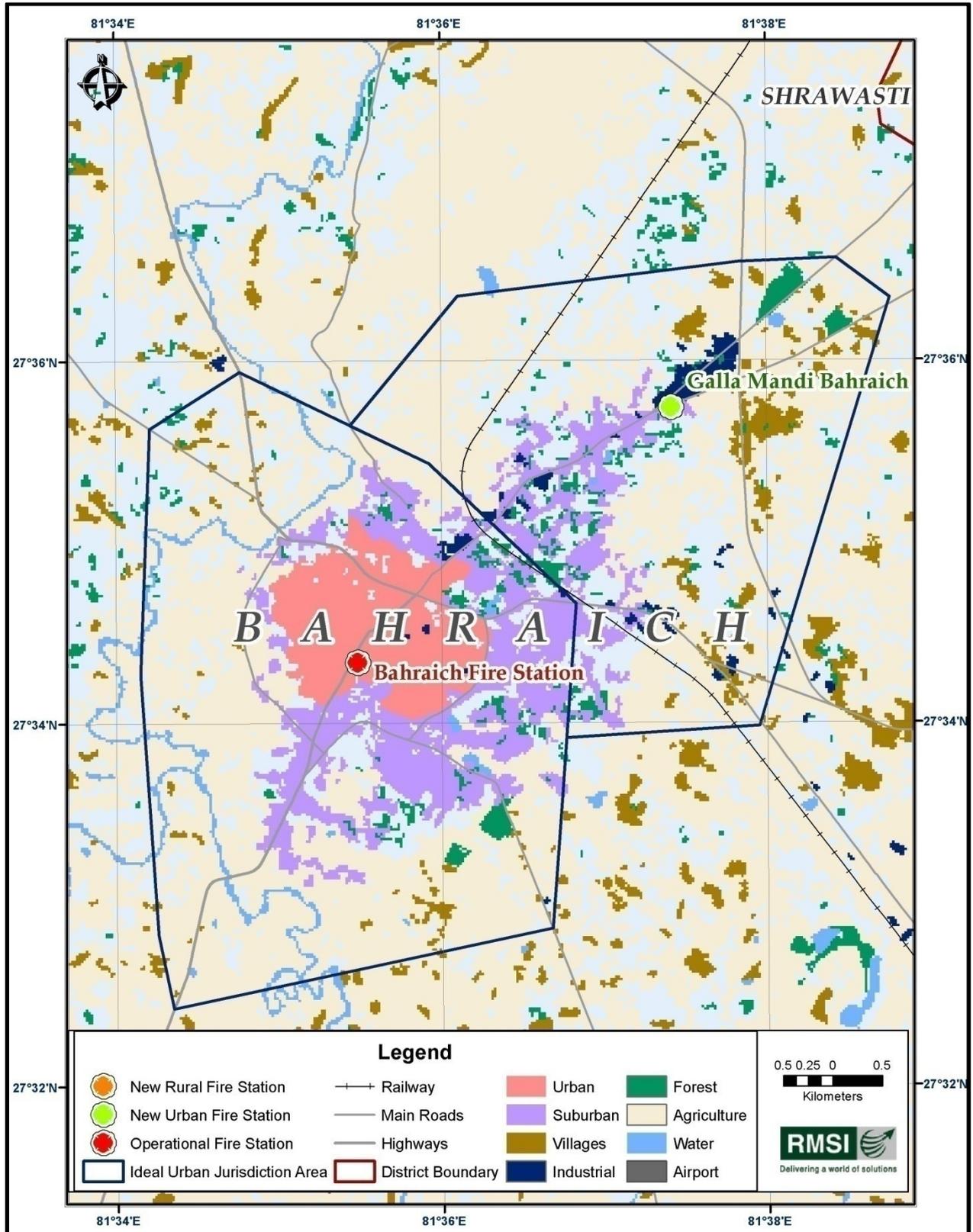


Figure 18-18: Fire stations gap analysis for Bahraich urban areas

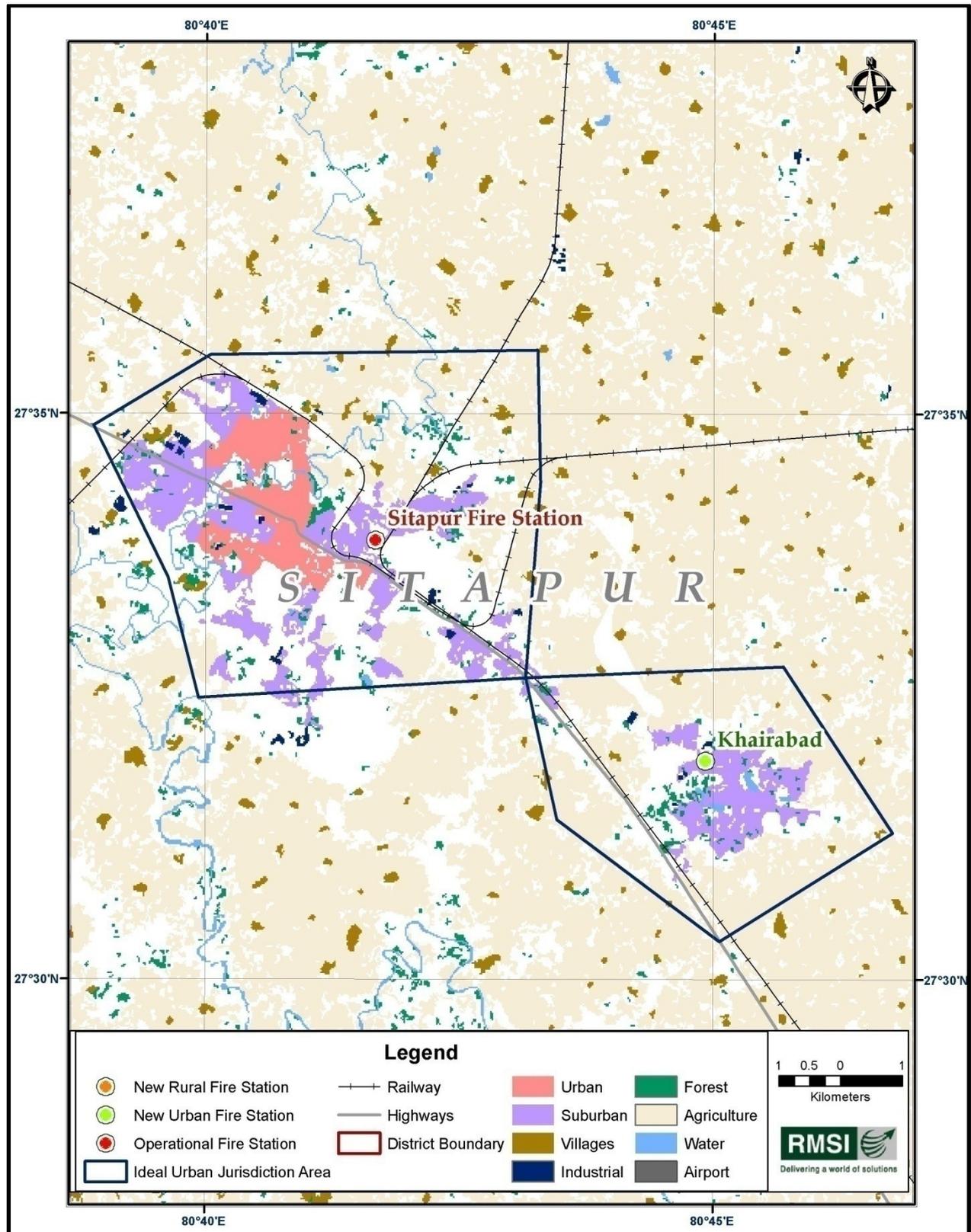


Figure 18-19: Fire stations gap analysis for Sitapur urban areas

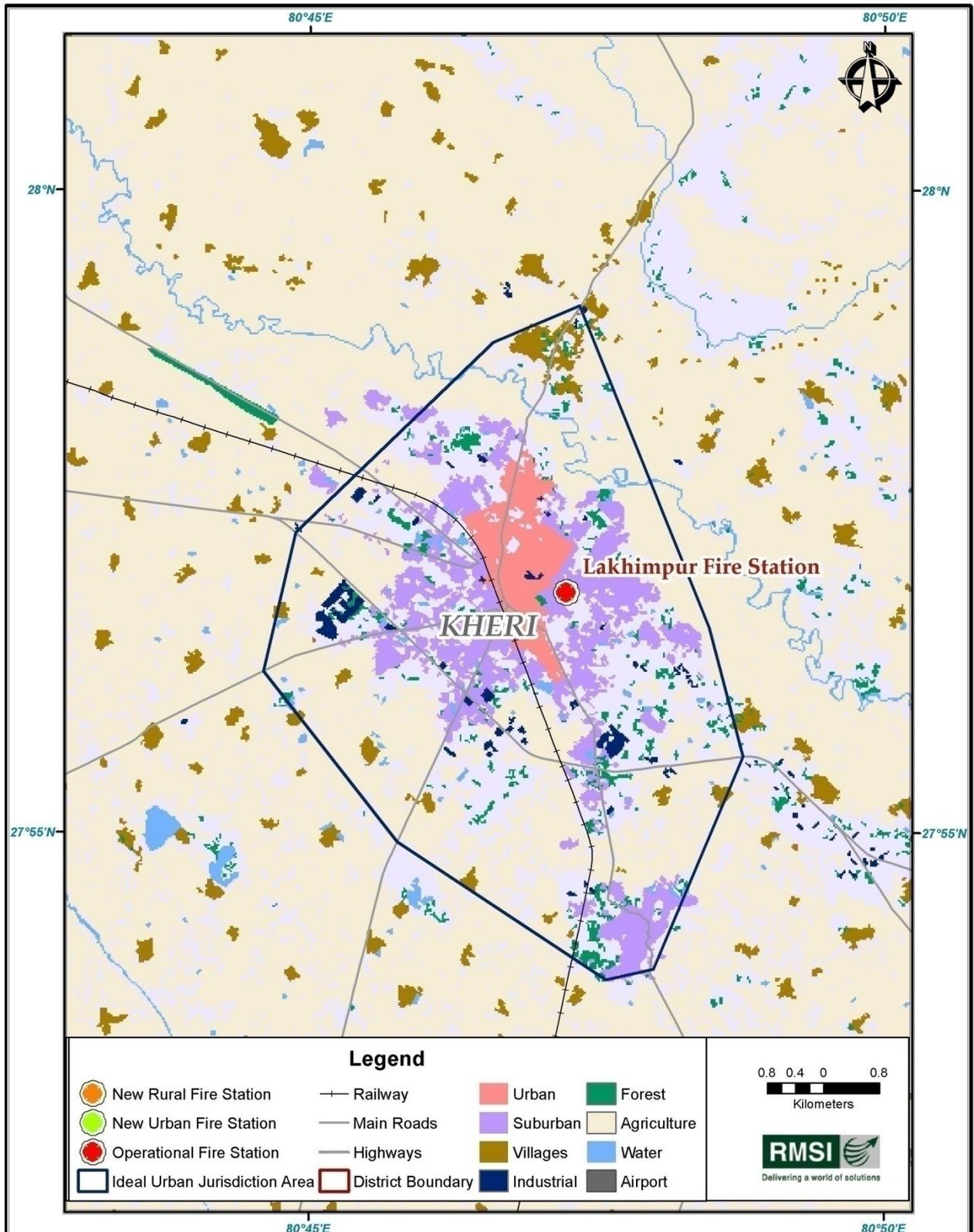


Figure 18-20: Fire stations gap analysis for Lakhimpur urban area

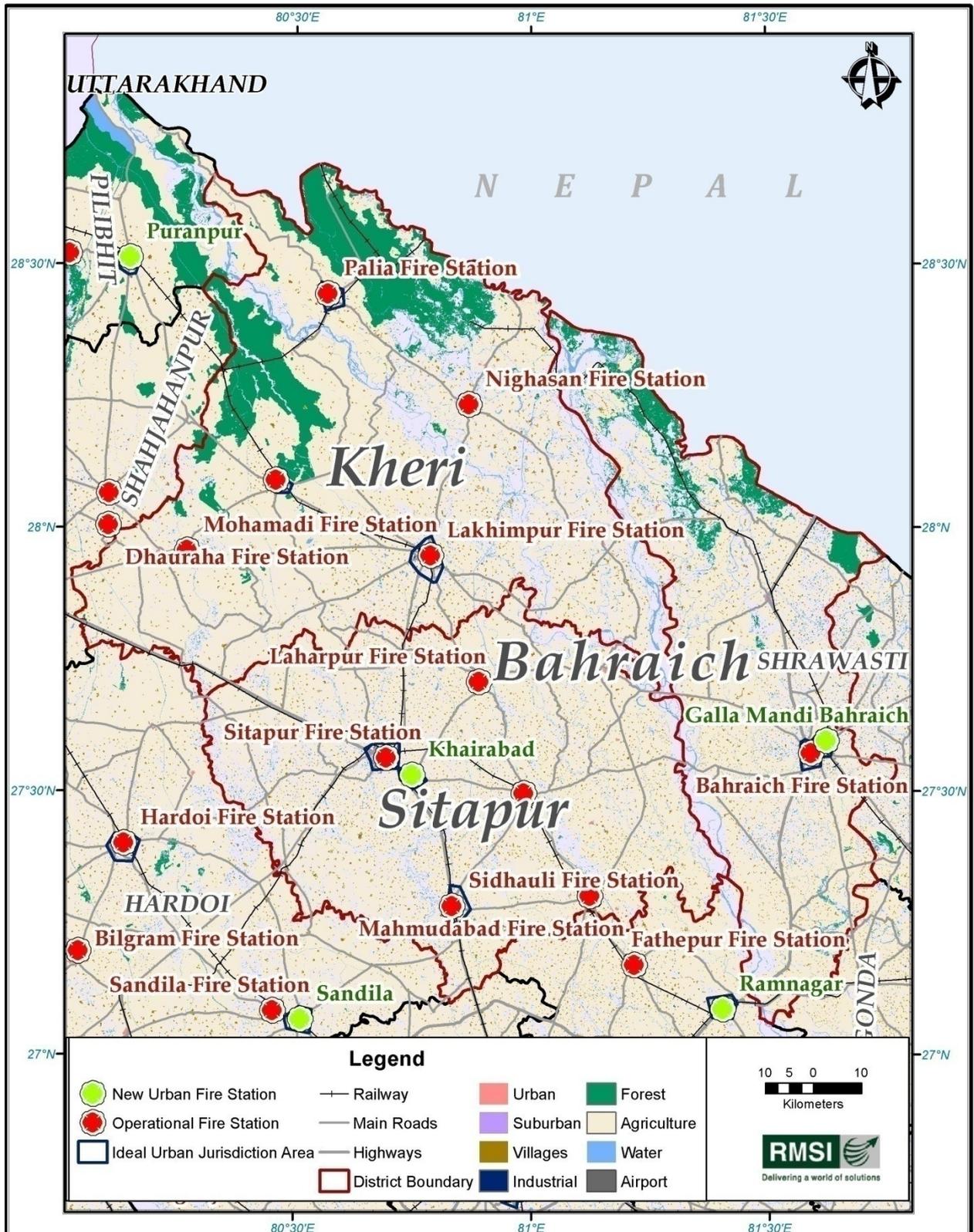


Figure 18-21: Fire stations gap analysis for Bahraich, Sitapur and Kheri rural areas

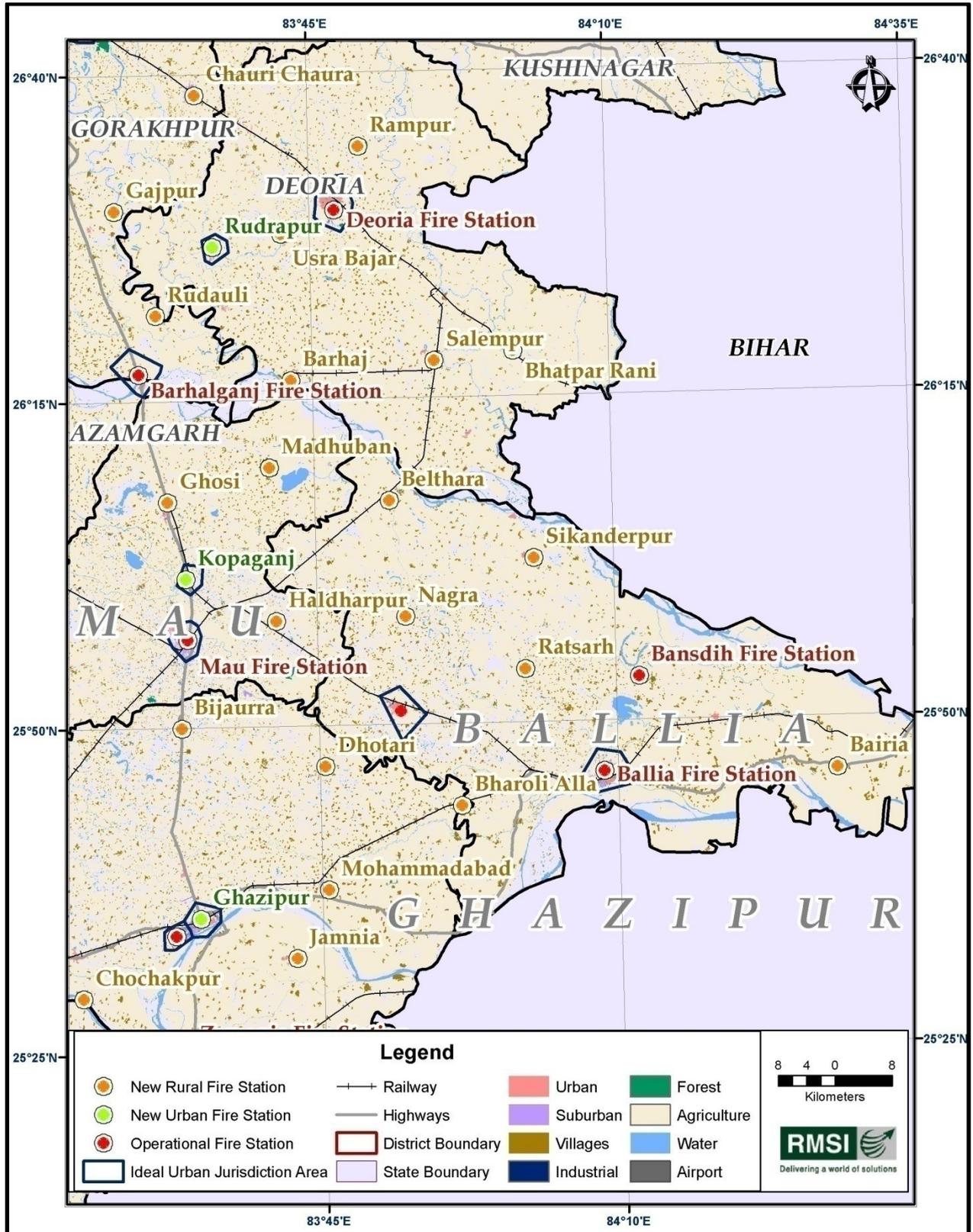


Figure 18-22: Fire stations gap analysis for Ballia, Ghazipur and Mau rural areas

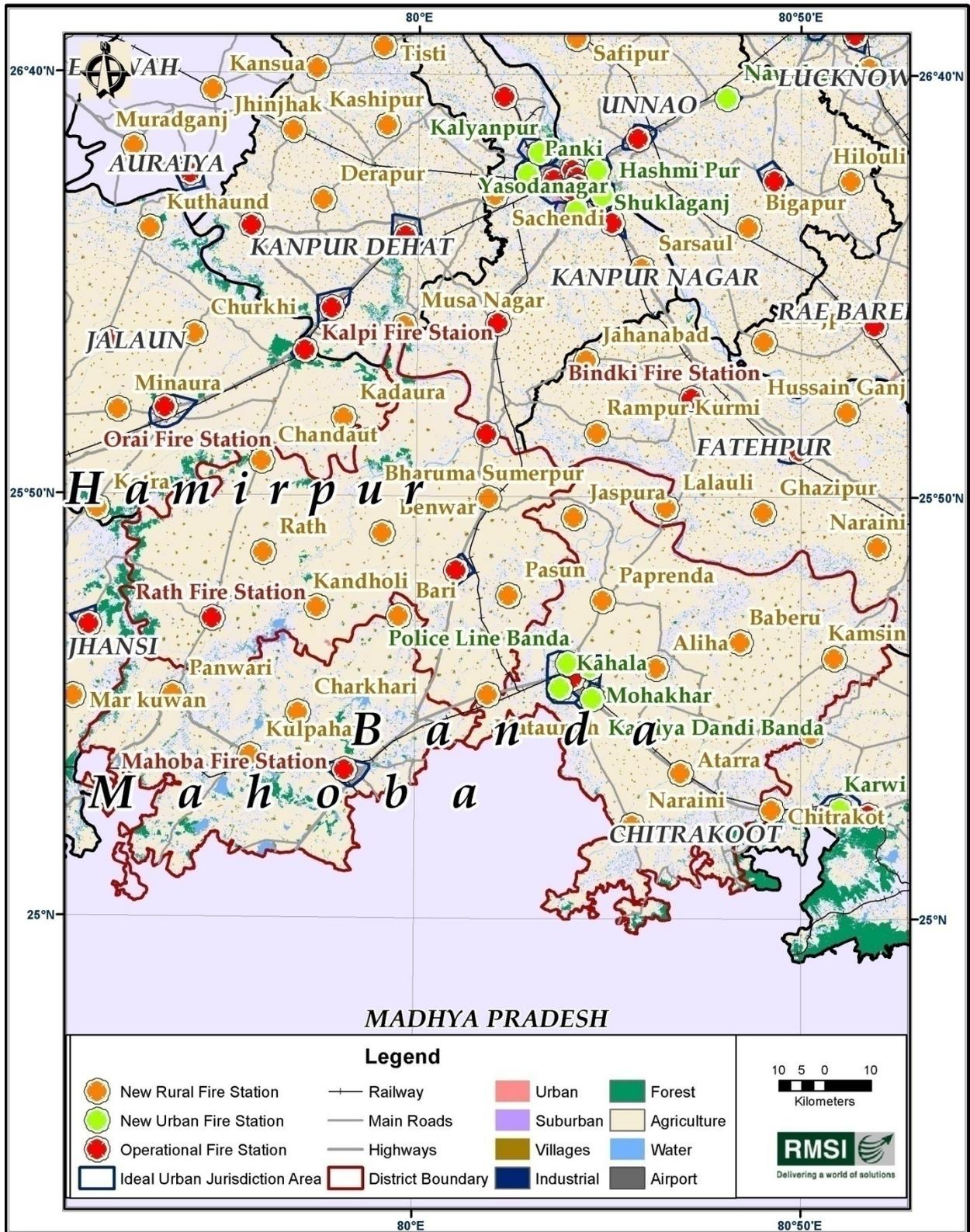


Figure 18-23: Fire stations gap analysis for Hamirpur, Banda and Mahoba rural areas

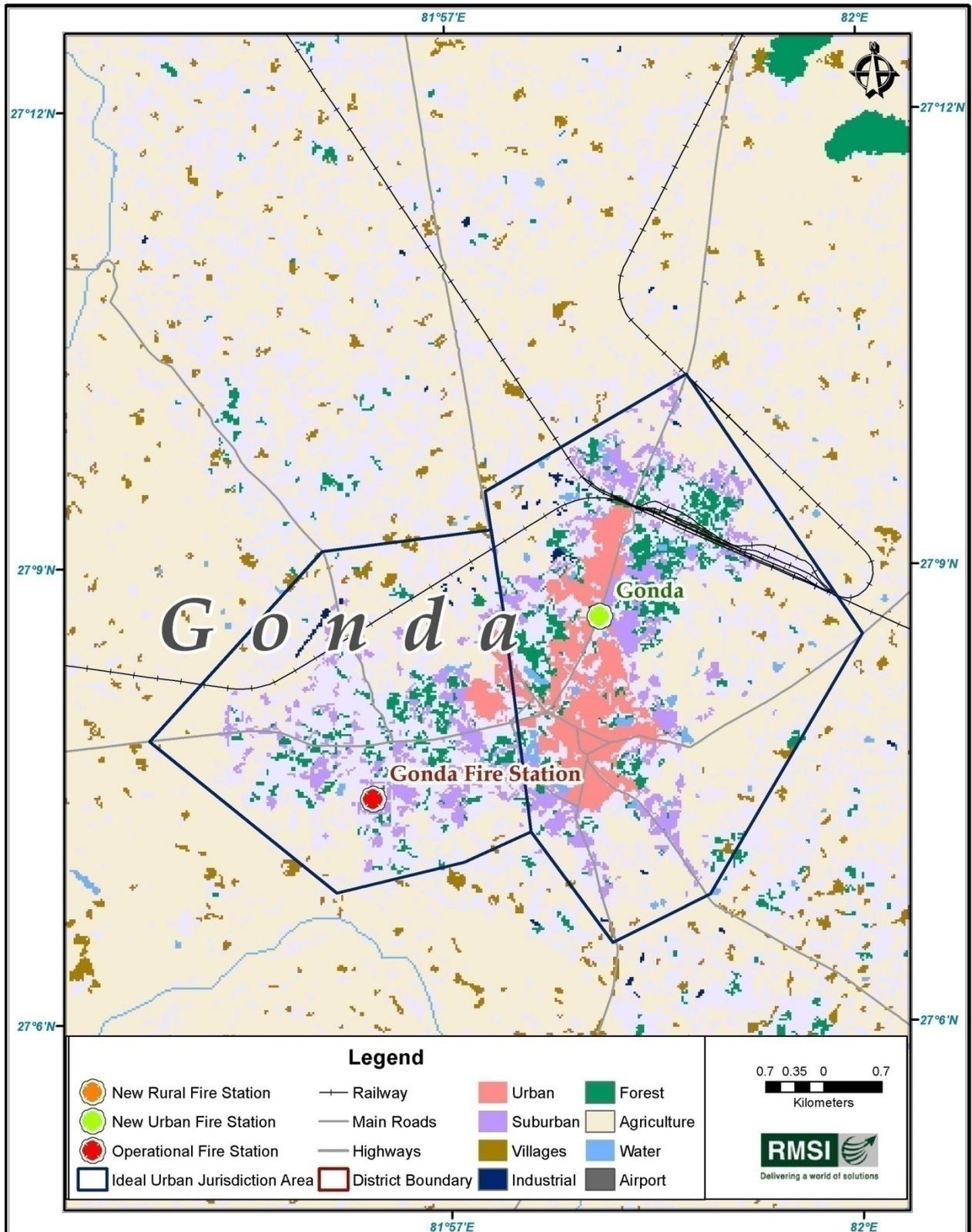


Figure 18-24: Fire stations gap analysis for Gonda urban area

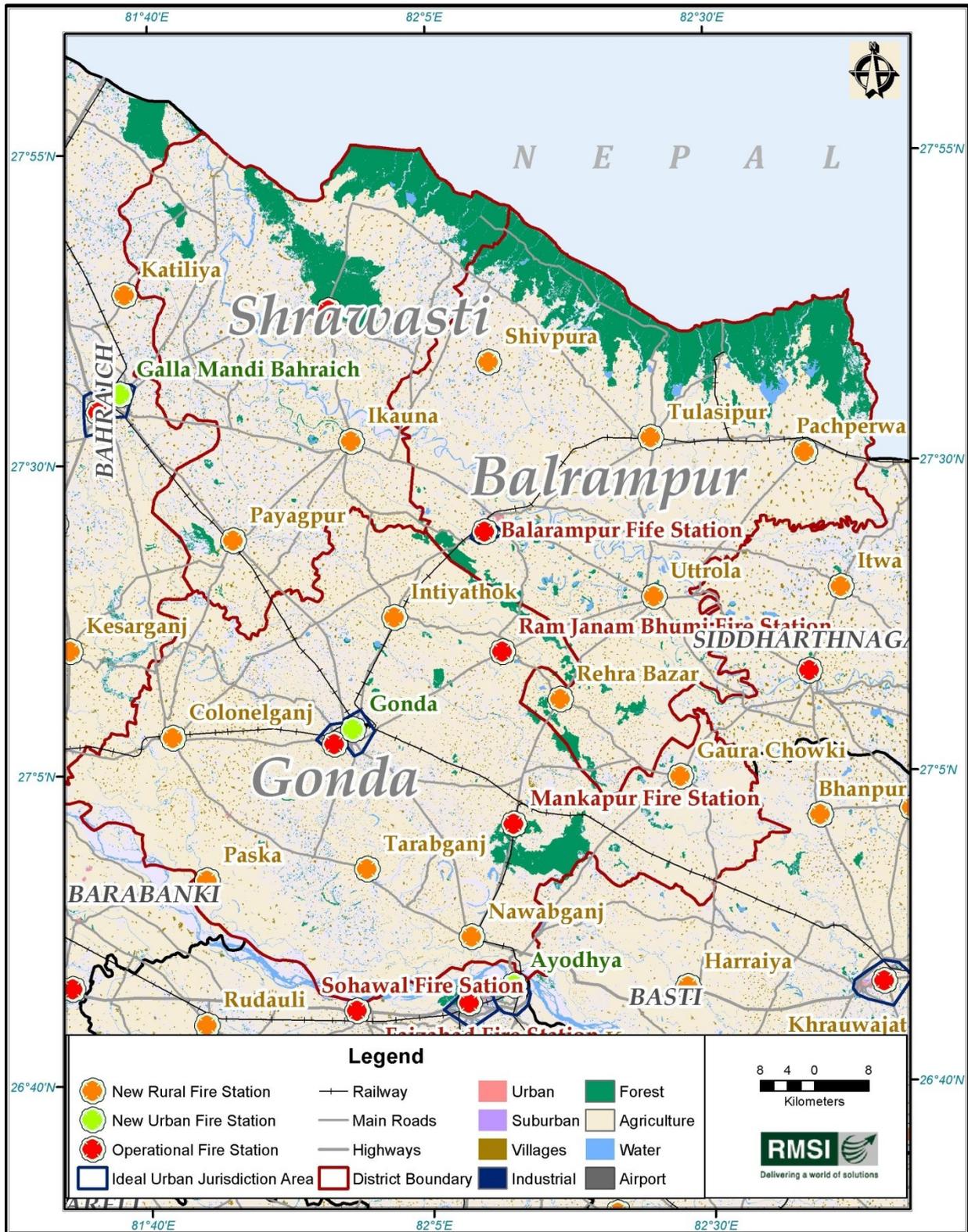


Figure 18-25: Fire stations gap analysis for Gonda, Balrampur and Shrawasti rural areas

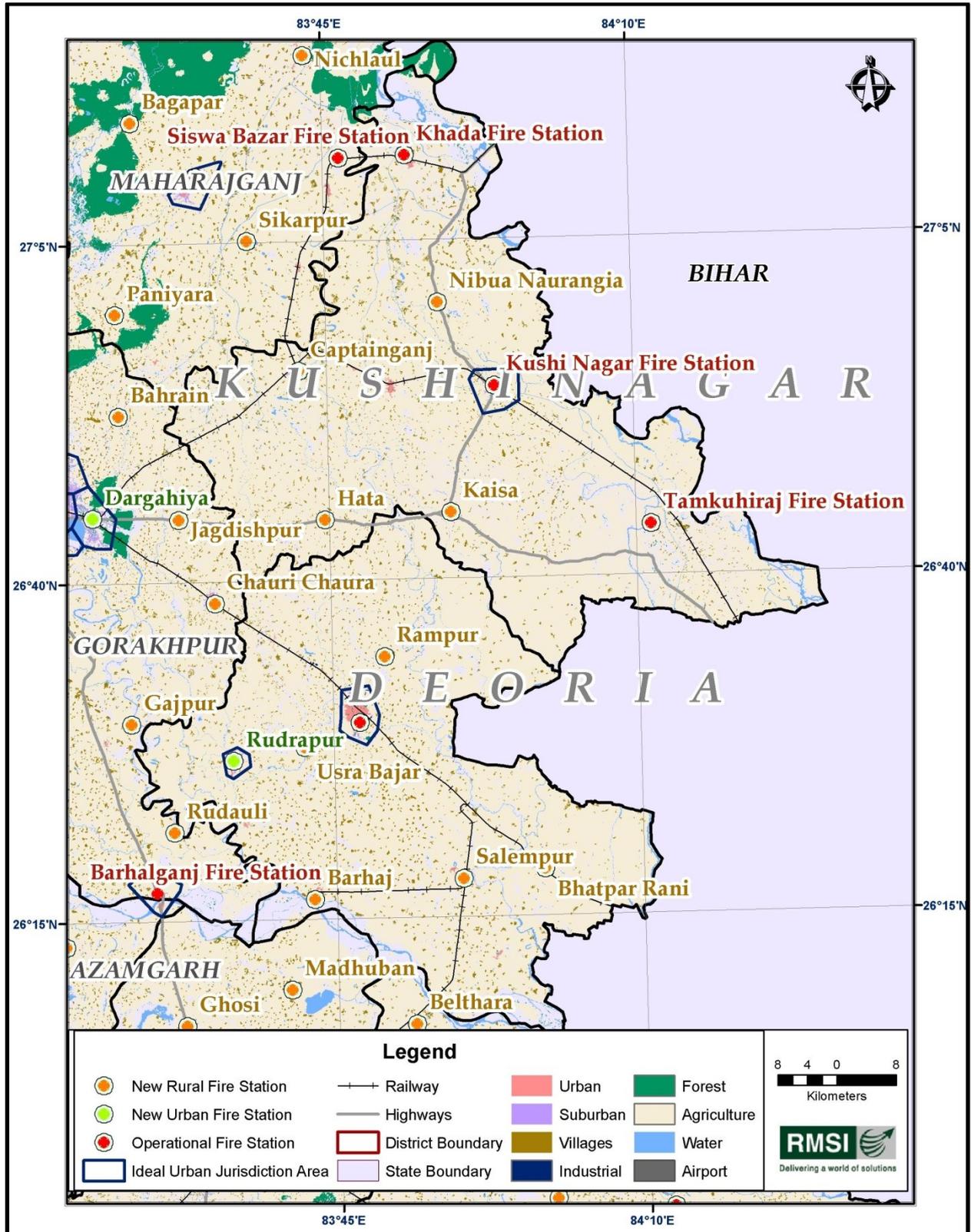


Figure 18-26: Fire stations gap analysis for Kushinagar and Deoria rural areas

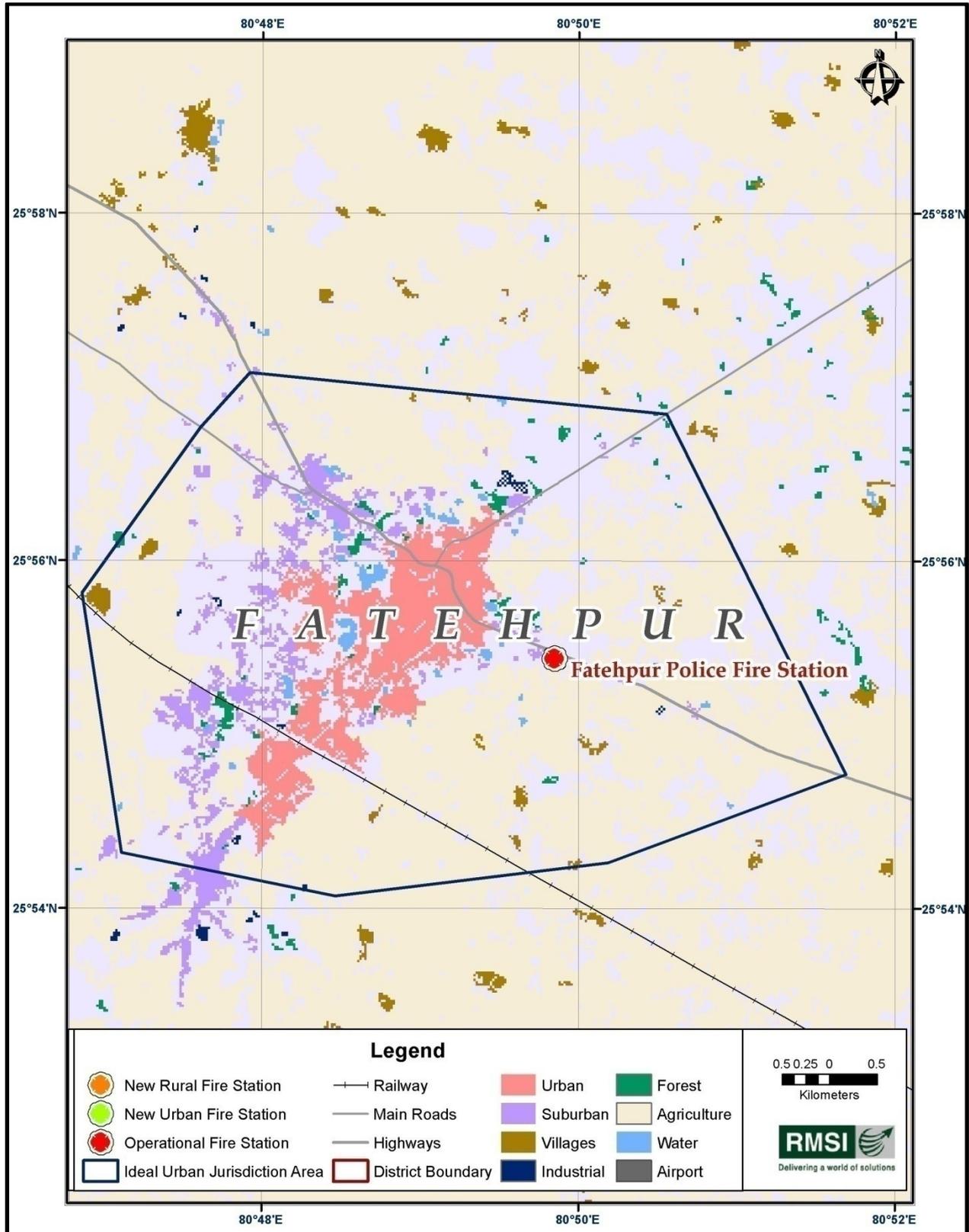


Figure 18-27: Fire stations gap analysis for Fatehpur urban area

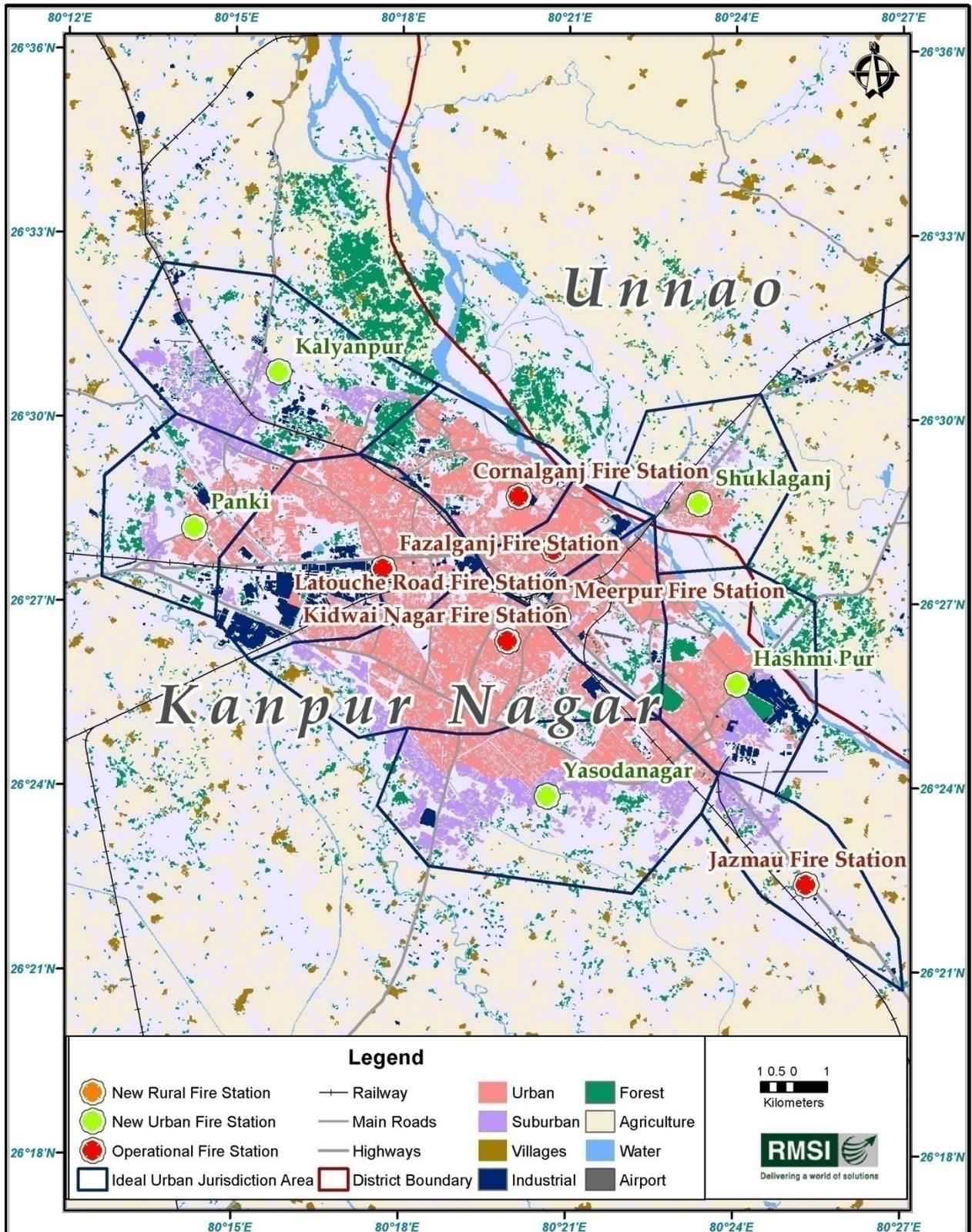


Figure 18-28: Fire stations gap analysis for Kanpur Nagar urban area

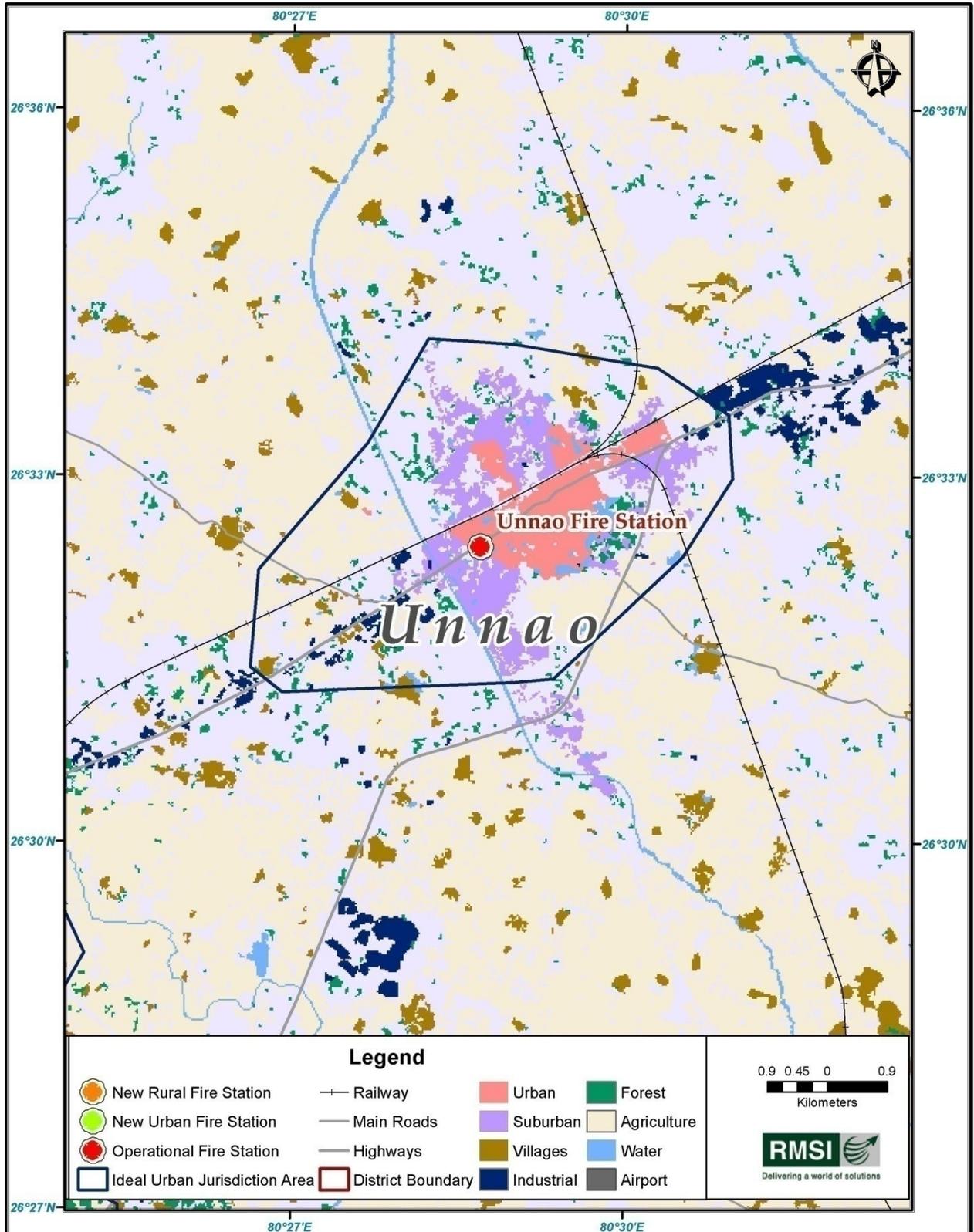


Figure 18-29: Fire stations gap analysis for Unnao urban area

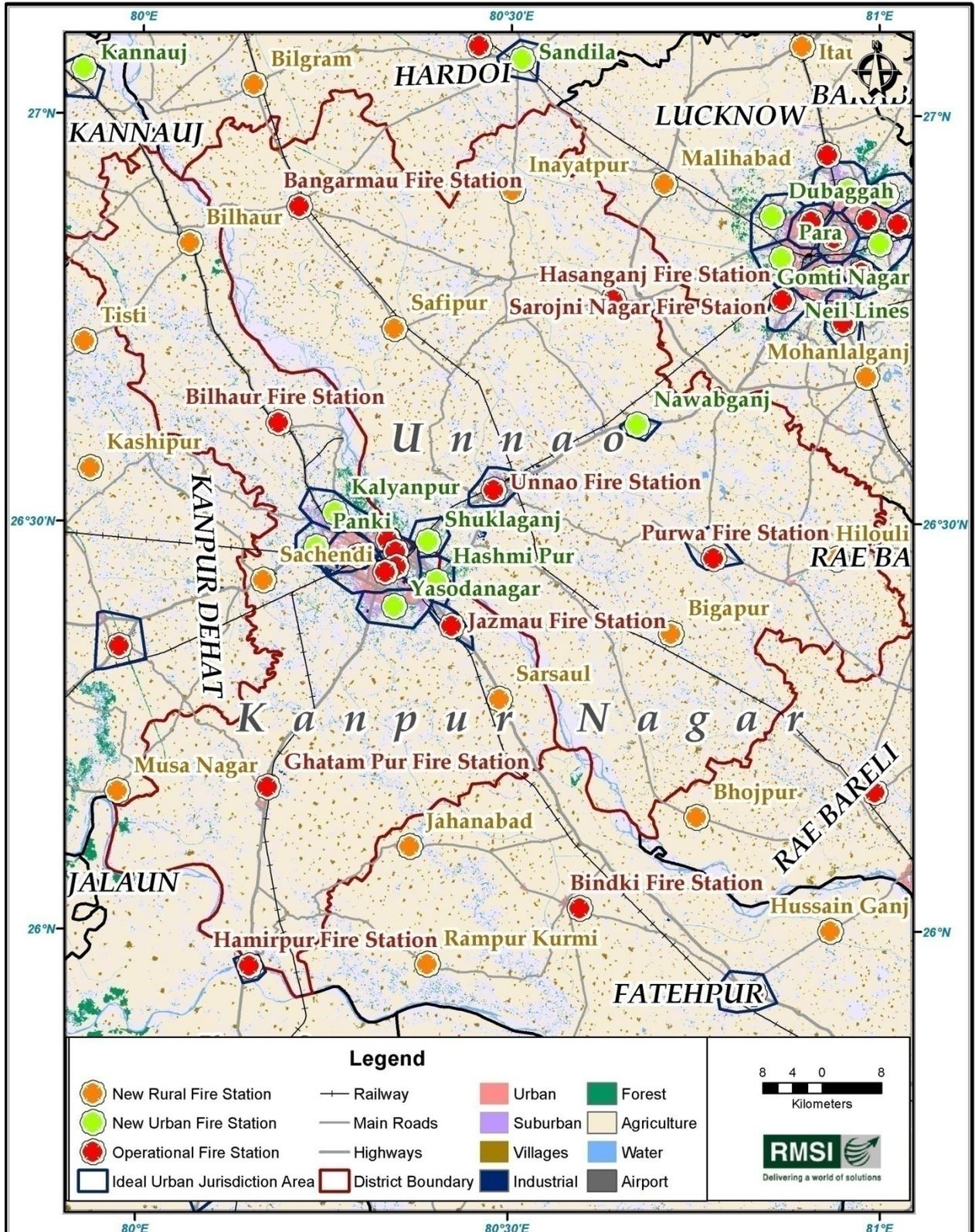


Figure 18-30: Fire stations gap analysis for Kanpur Nagar and Unnao rural areas

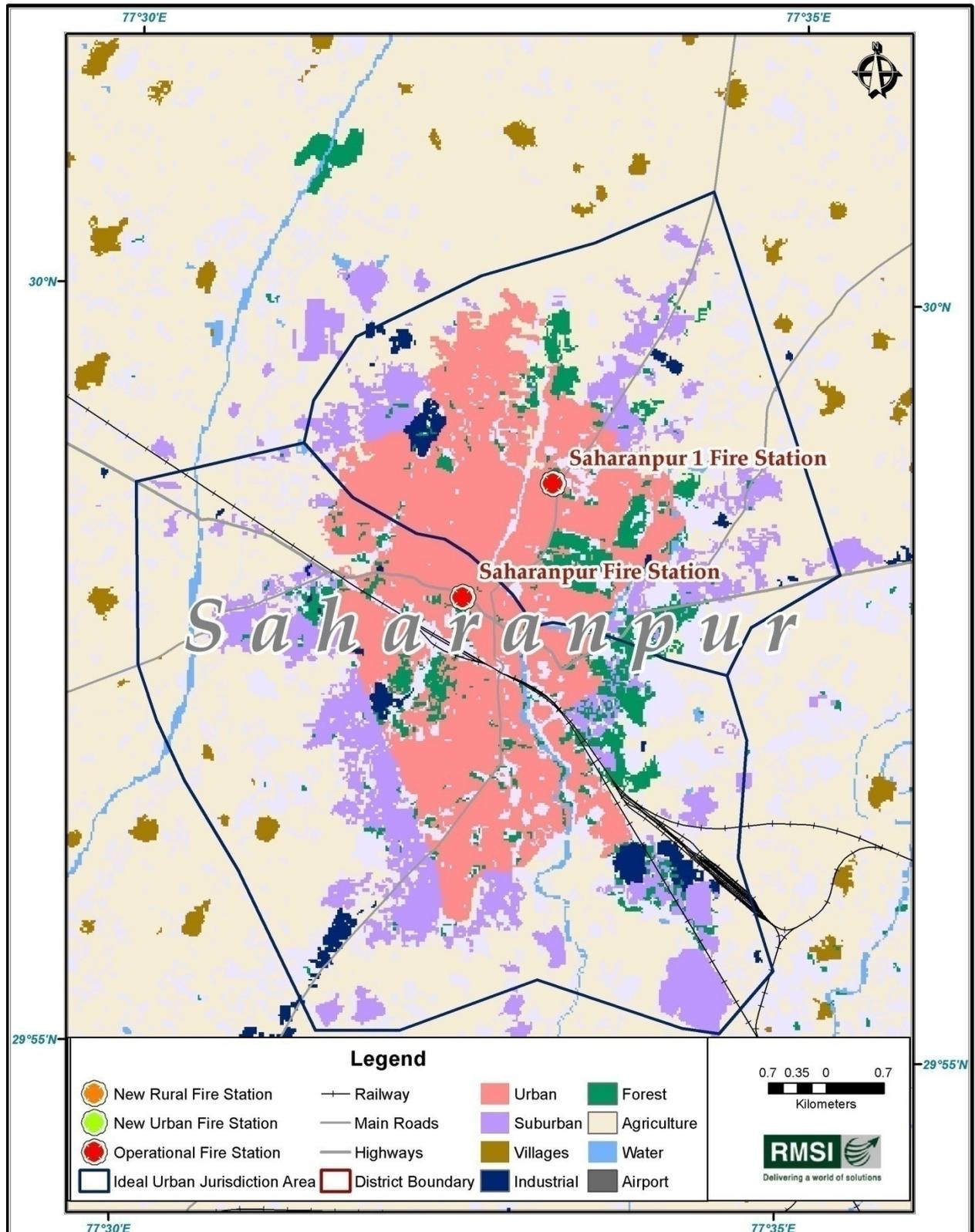


Figure 18-31: Fire stations gap analysis for Saharanpur urban area

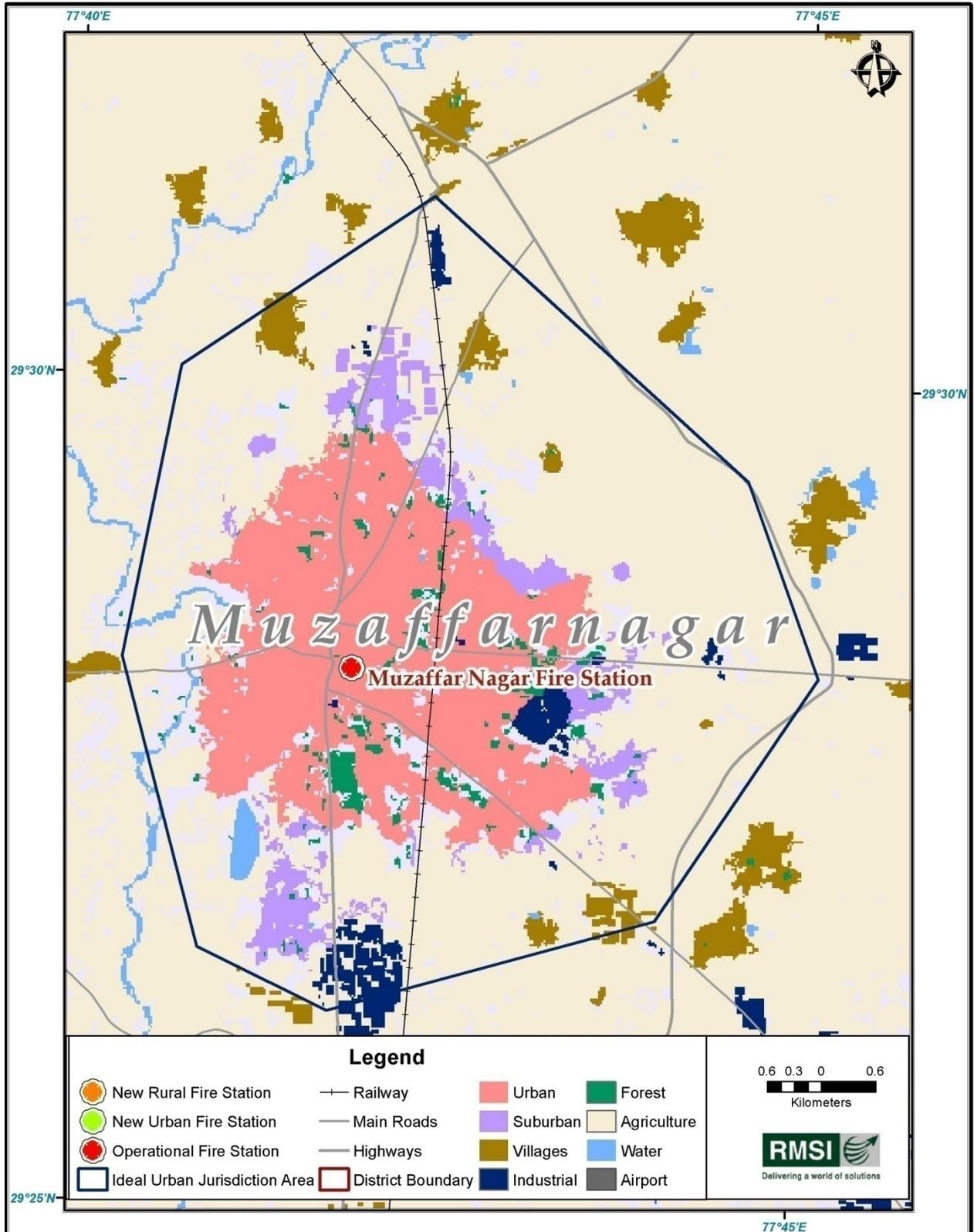


Figure 18-32: Fire stations gap analysis for Muzaffarnagar urban area

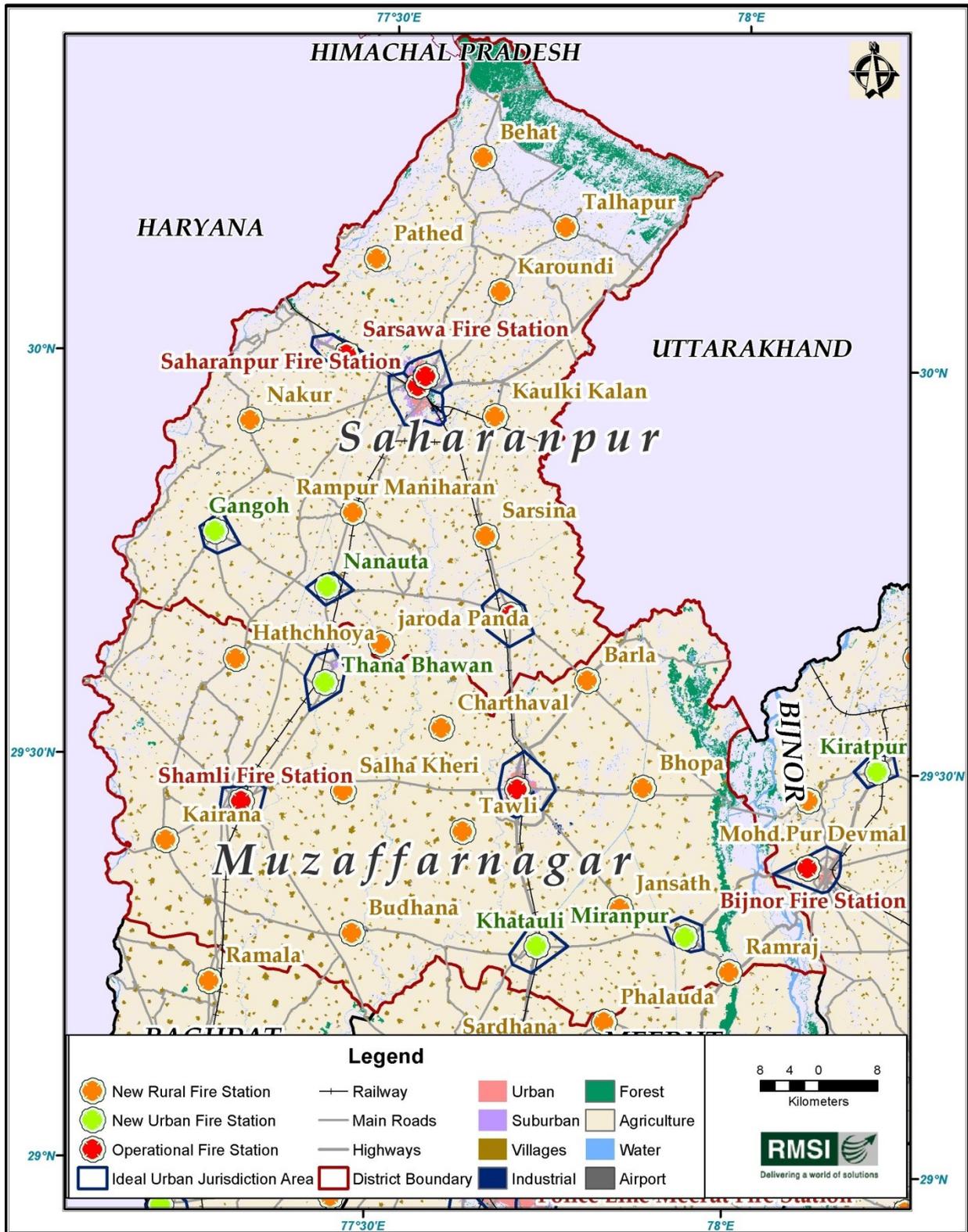


Figure 18-33: Fire stations gap analysis for Saharanpur and Muzaffarnagar rural areas

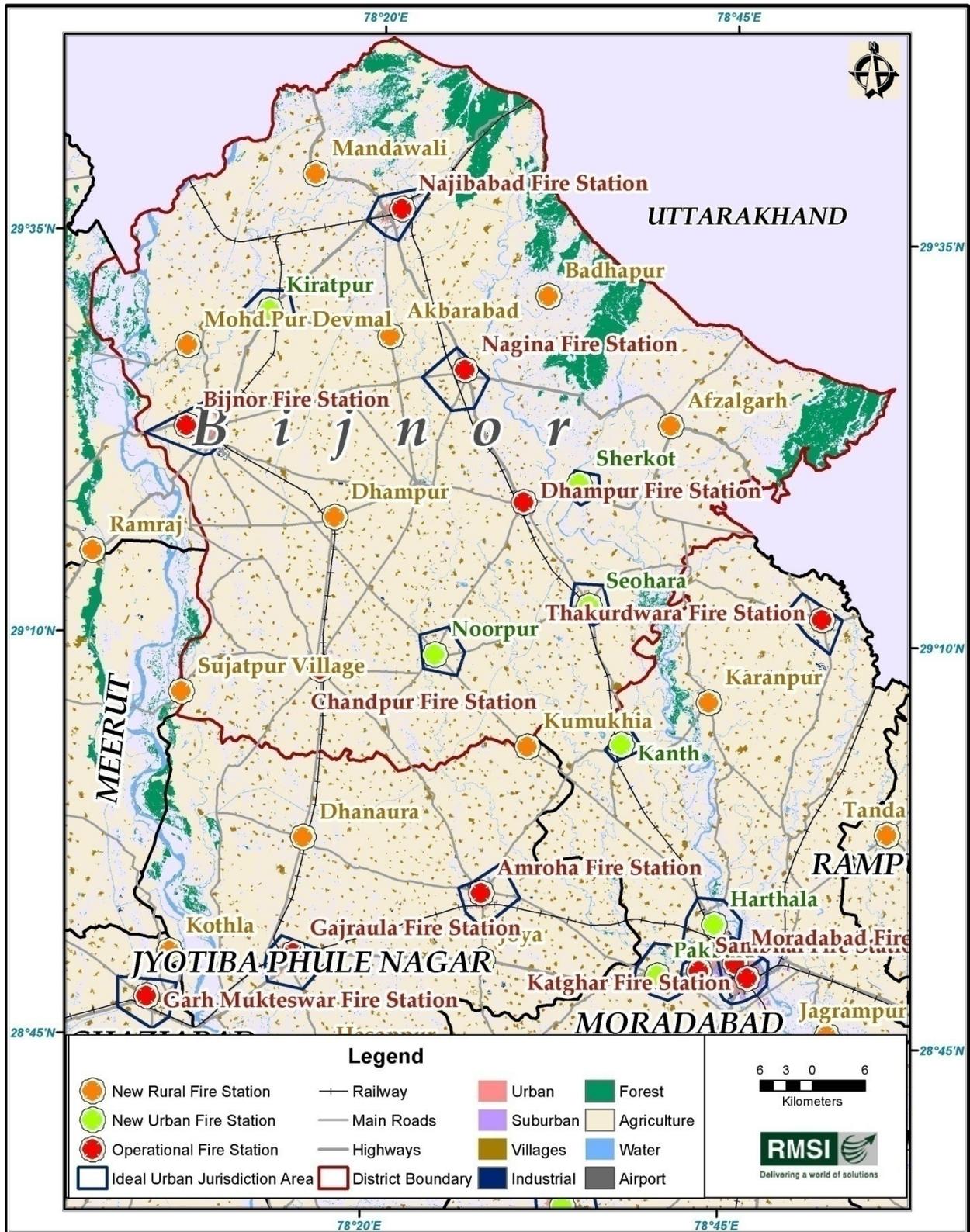


Figure 18-34: Fire stations gap analysis for Bijnor rural areas

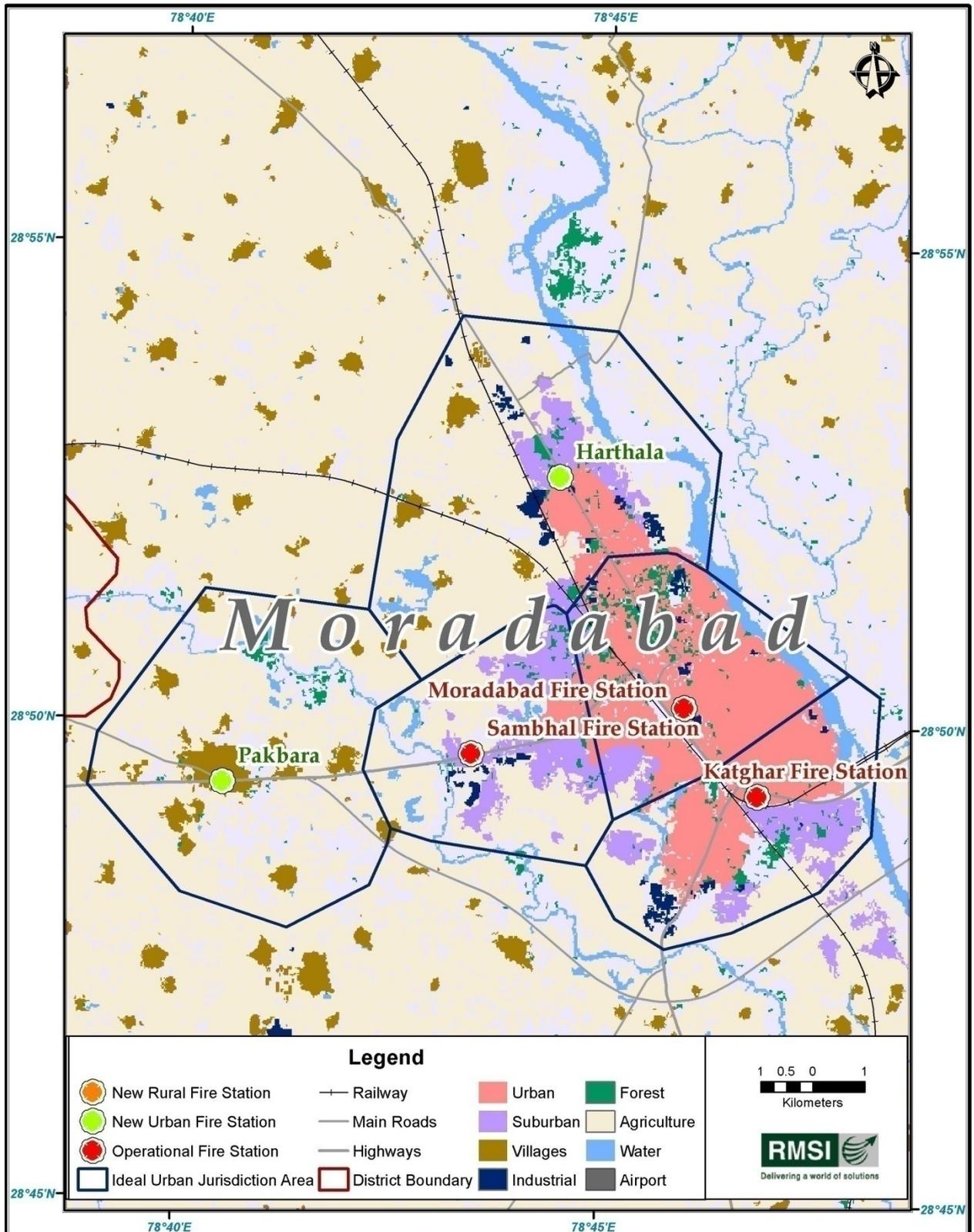


Figure 18-35: Fire stations gap analysis for Moradabad urban area

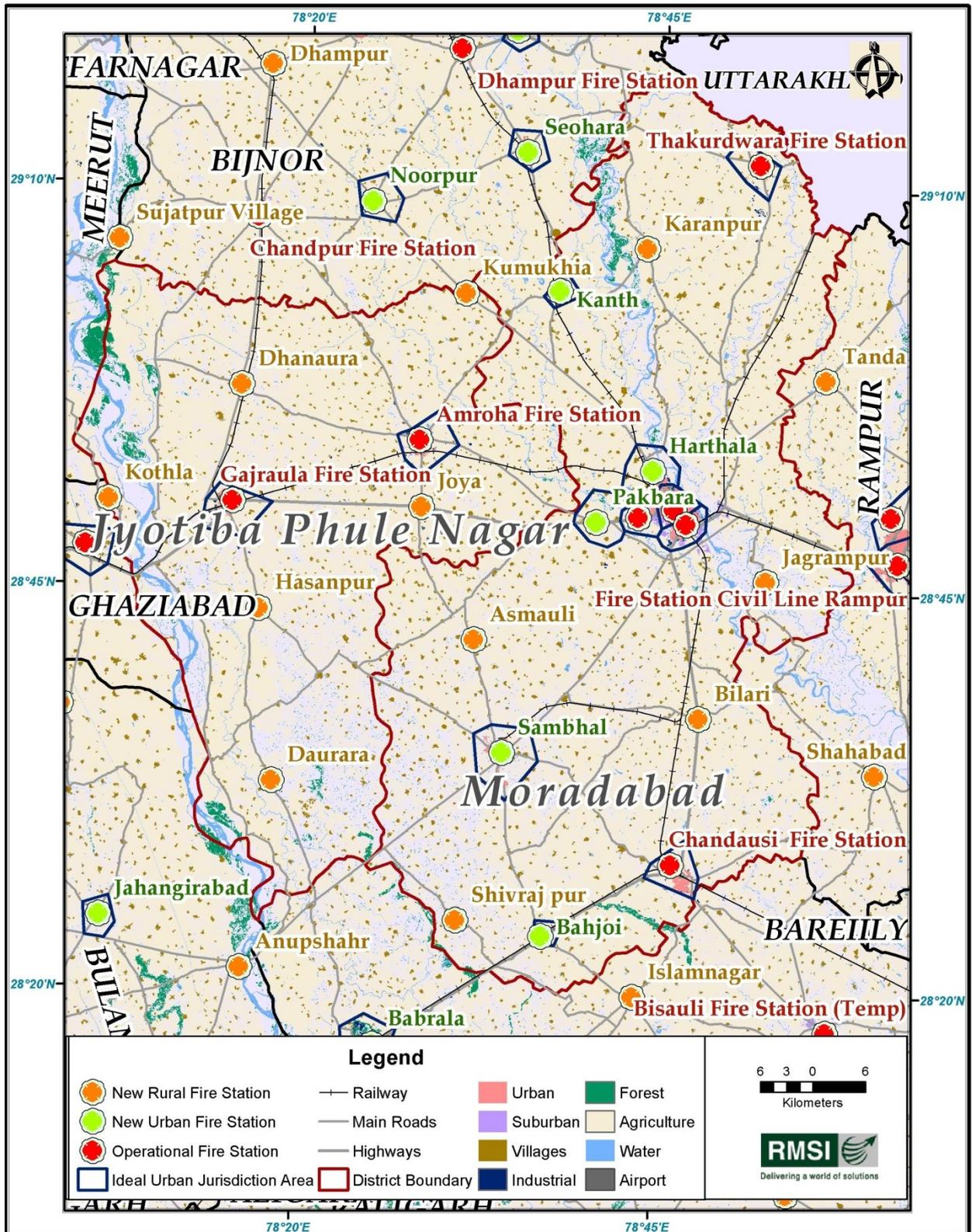


Figure 18-36: Fire stations gap analysis for Moradabad and Jyotiba Phule Nagar rural areas

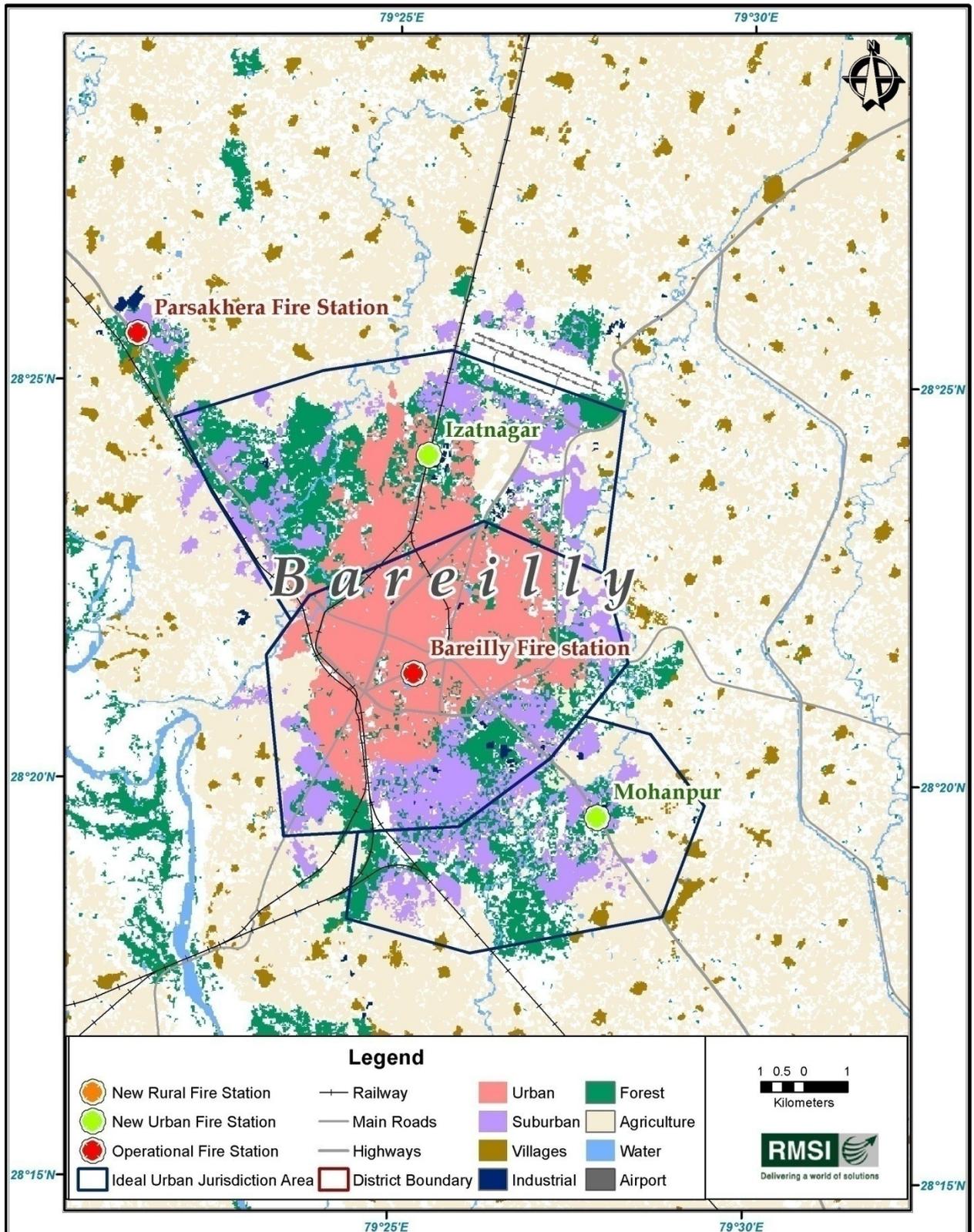


Figure 18-37: Fire stations gap analysis for Bareilly urban area

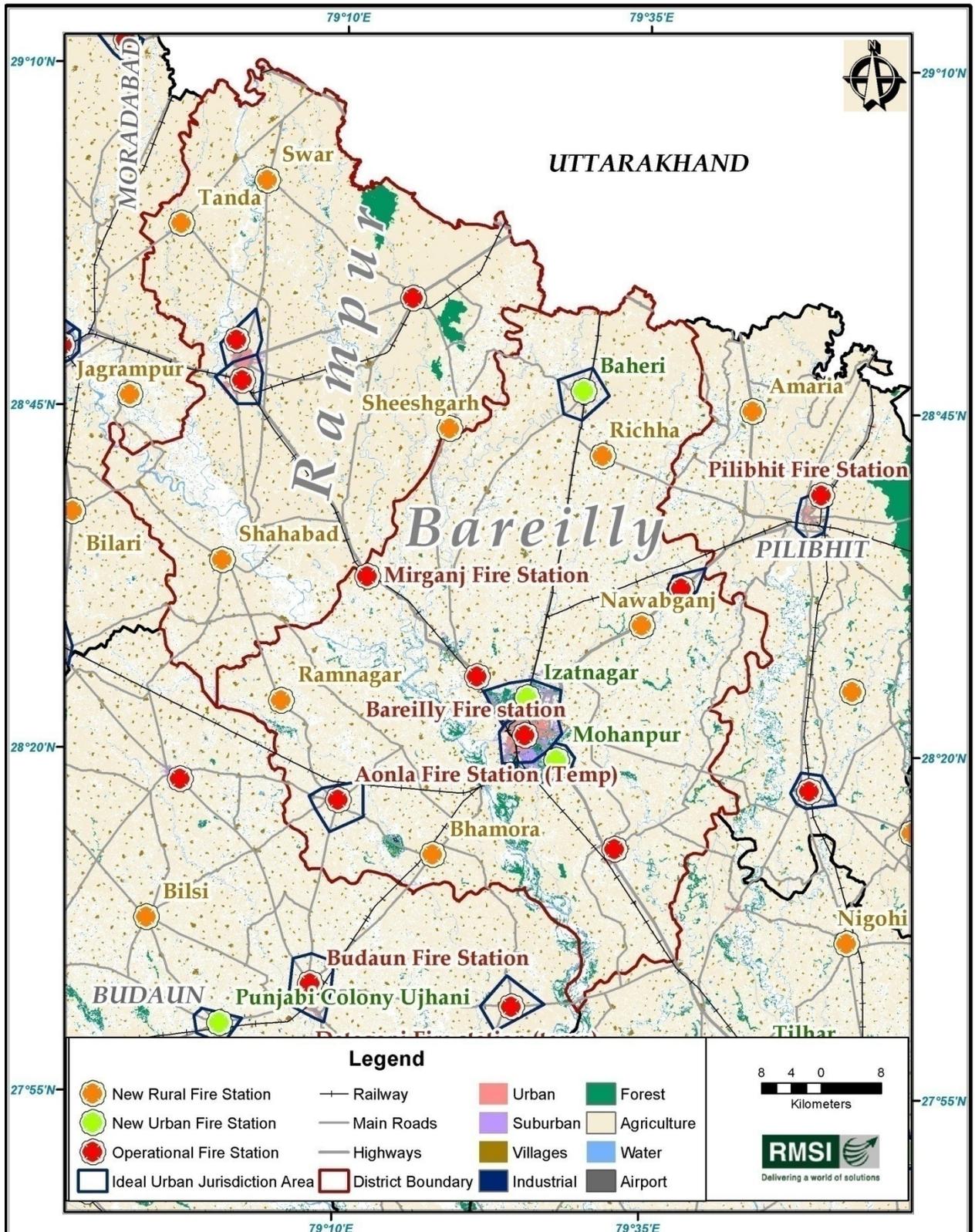


Figure 18-38: Fire stations gap analysis for Bareilly and Rampur rural areas

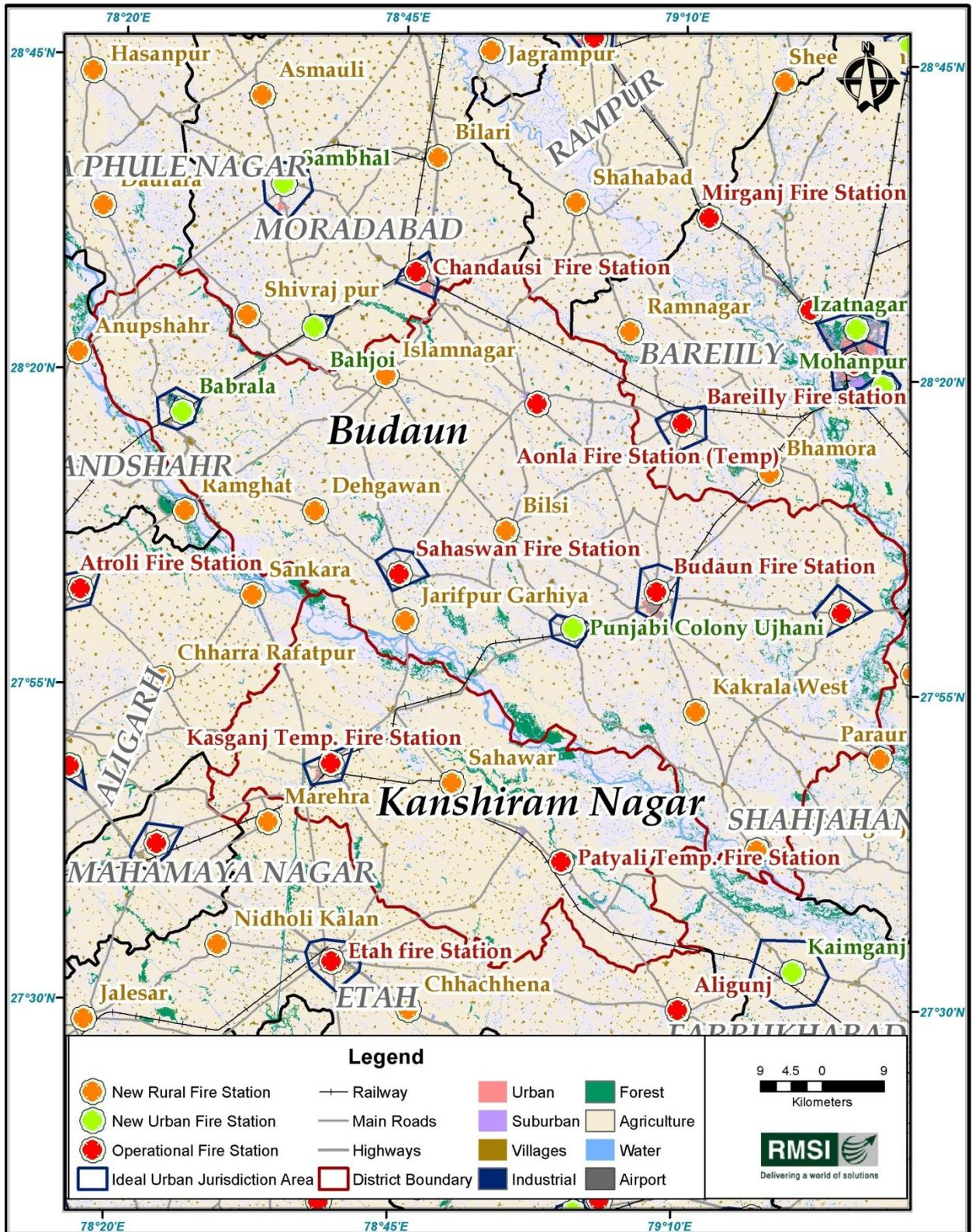


Figure 18-39: Fire stations gap analysis for Budaun and Kanshiram Nagar rural areas

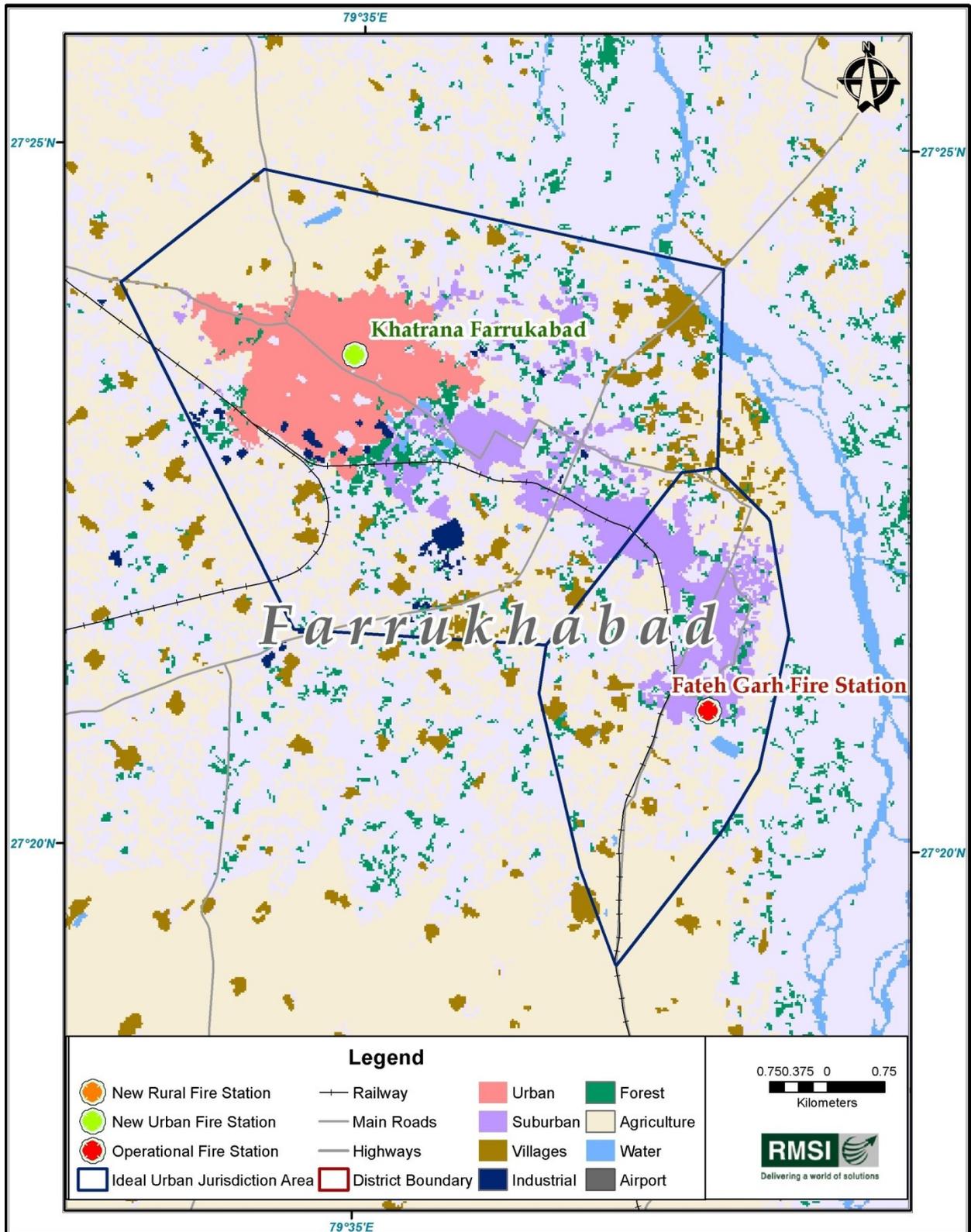


Figure 18-40: Fire stations gap analysis for Farrukhabad and Fatehgarh urban areas

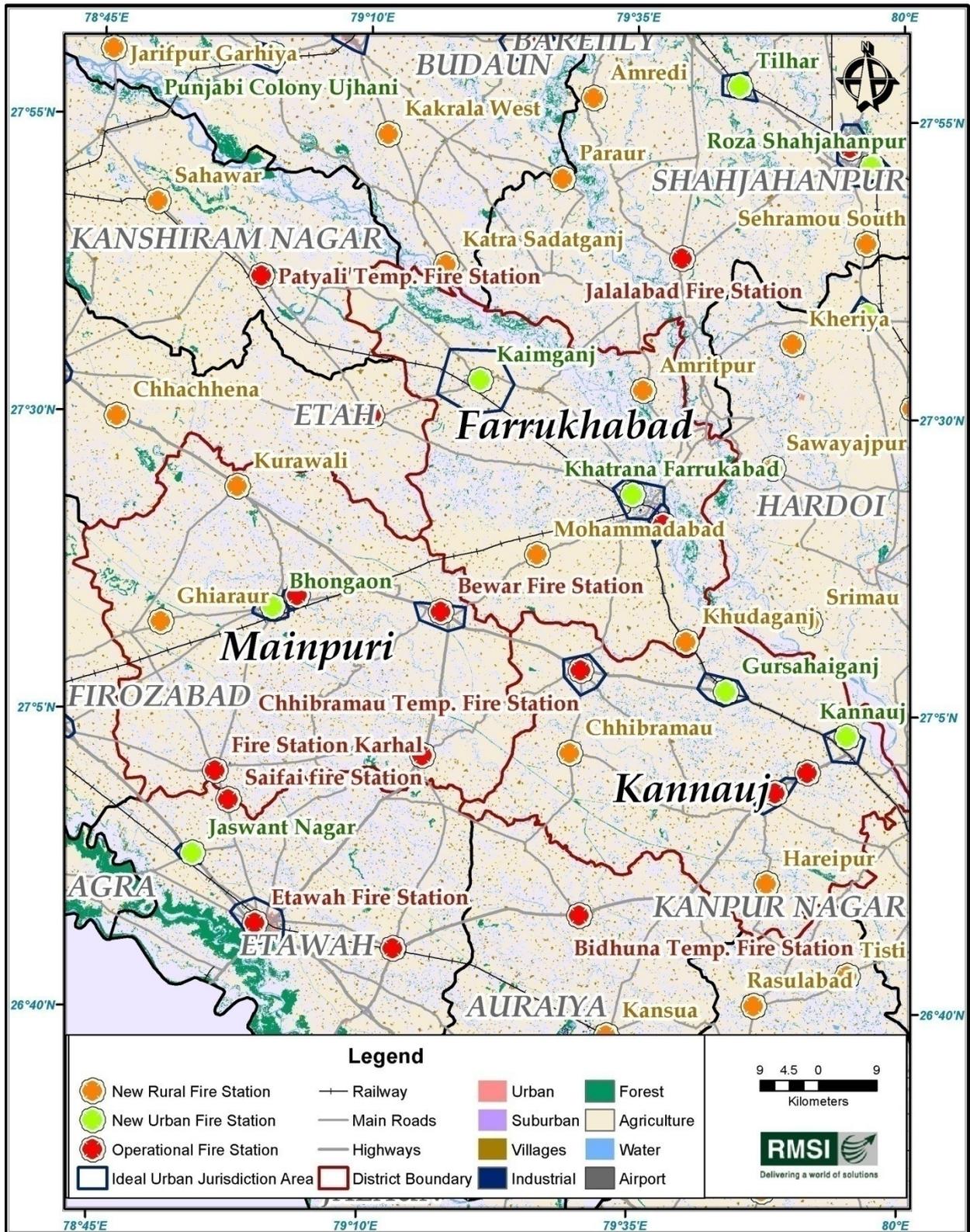


Figure 18-41: Fire stations gap analysis for Farrukhabad, Mainpuri and Kannauj rural areas

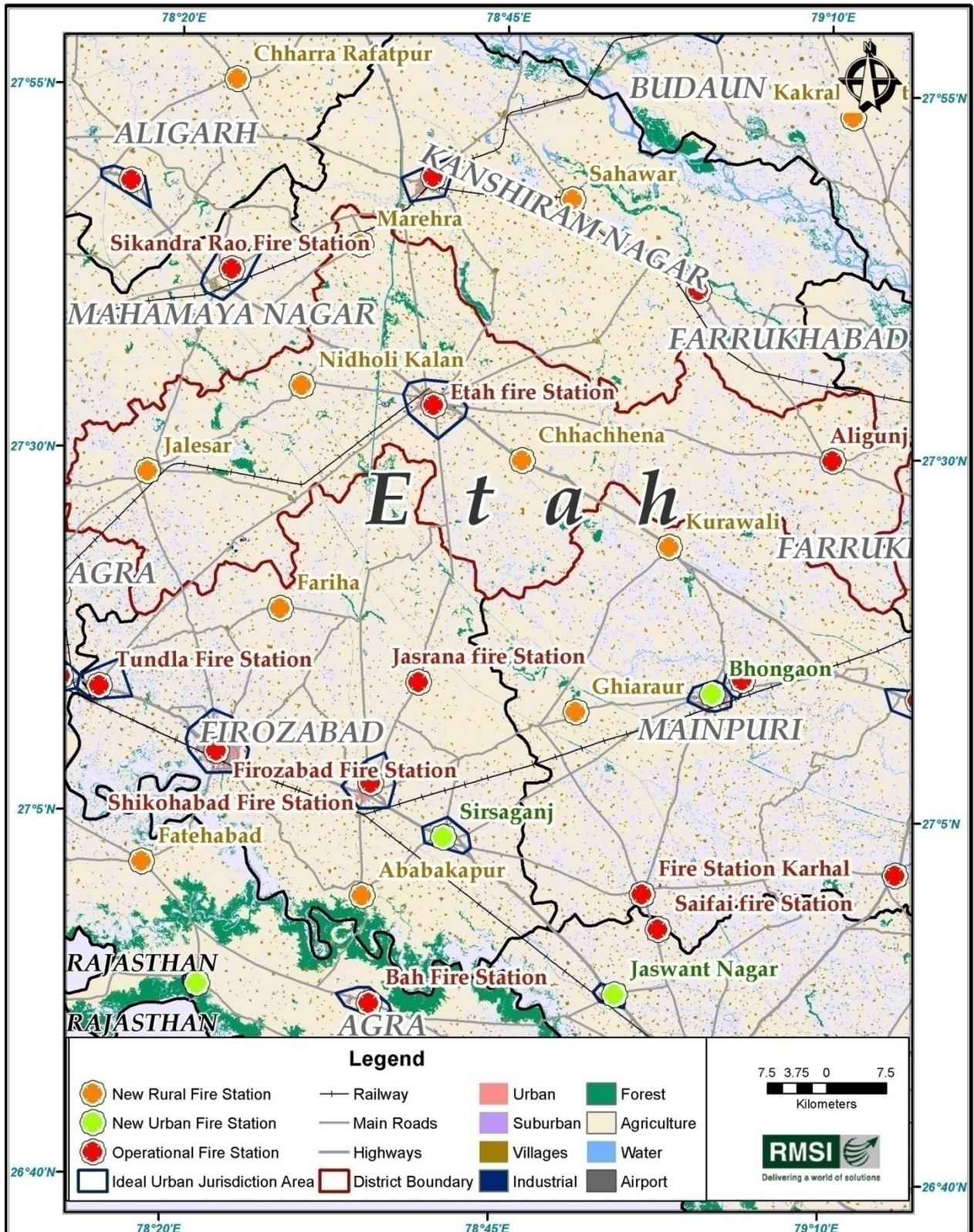


Figure 18-42: Fire stations gap analysis for Etah rural areas

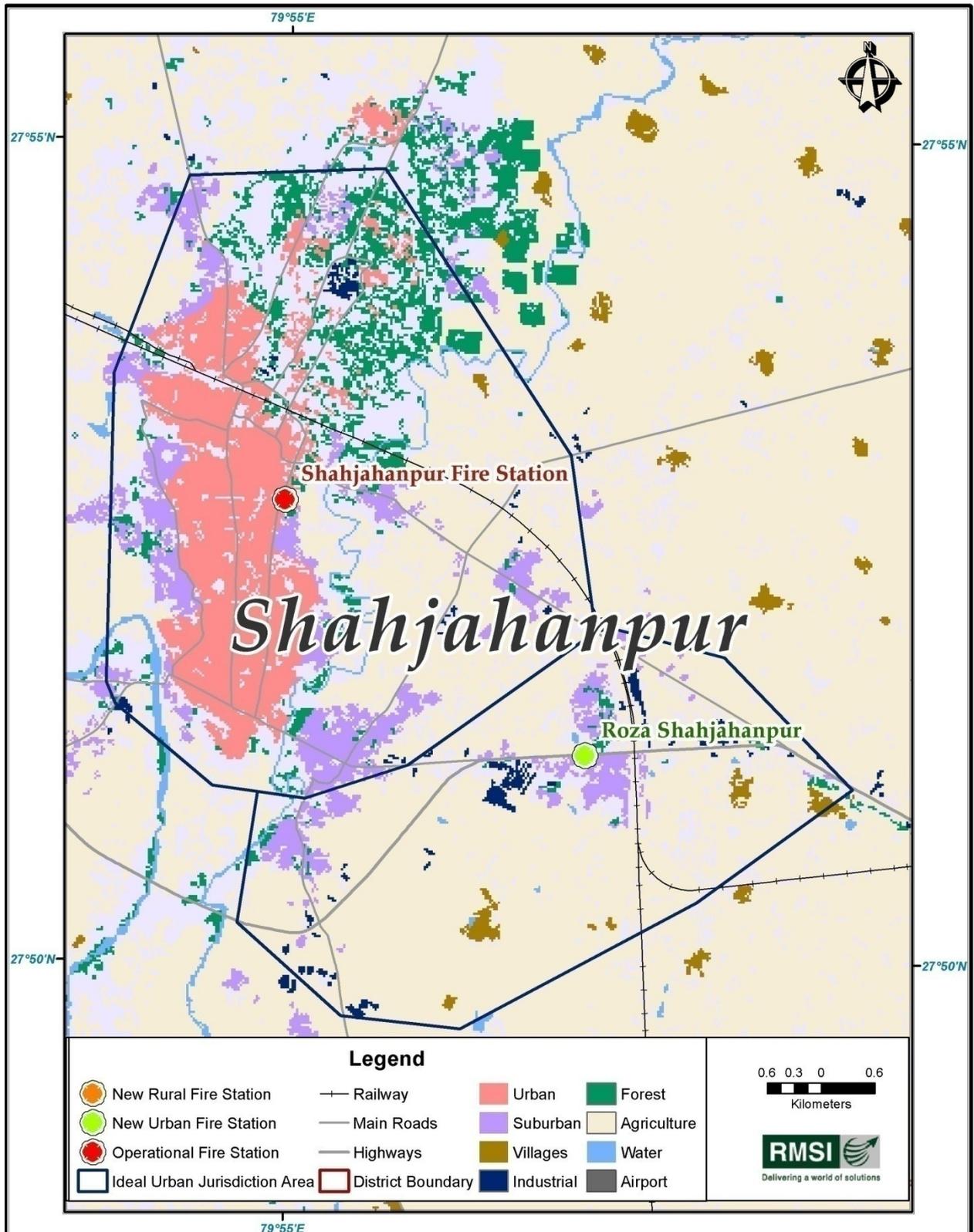


Figure 18-43: Fire stations gap analysis for Shahjahanpur urban areas

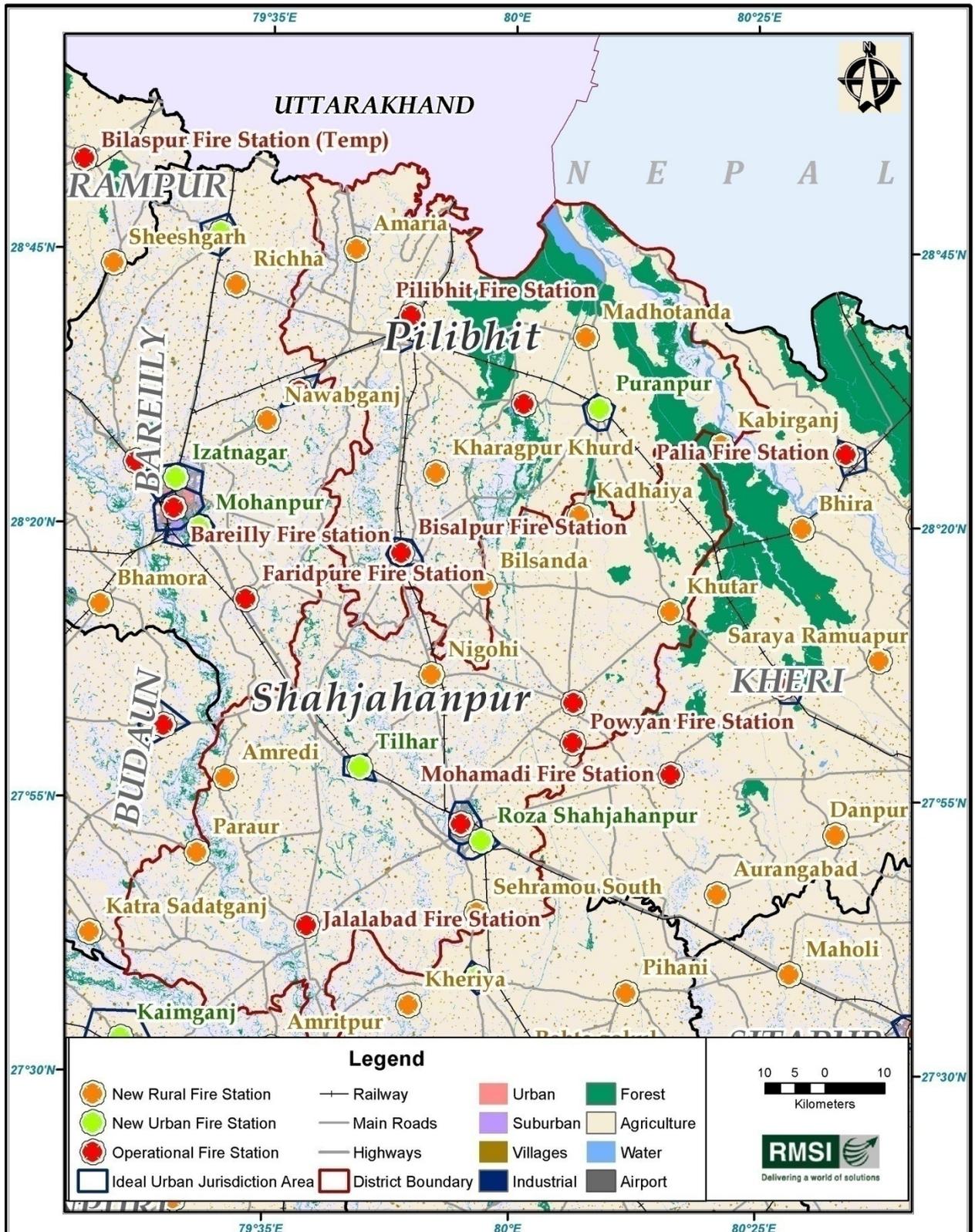


Figure 18-44: Fire stations gap analysis for Shahjahanpur and Pilibhit rural areas

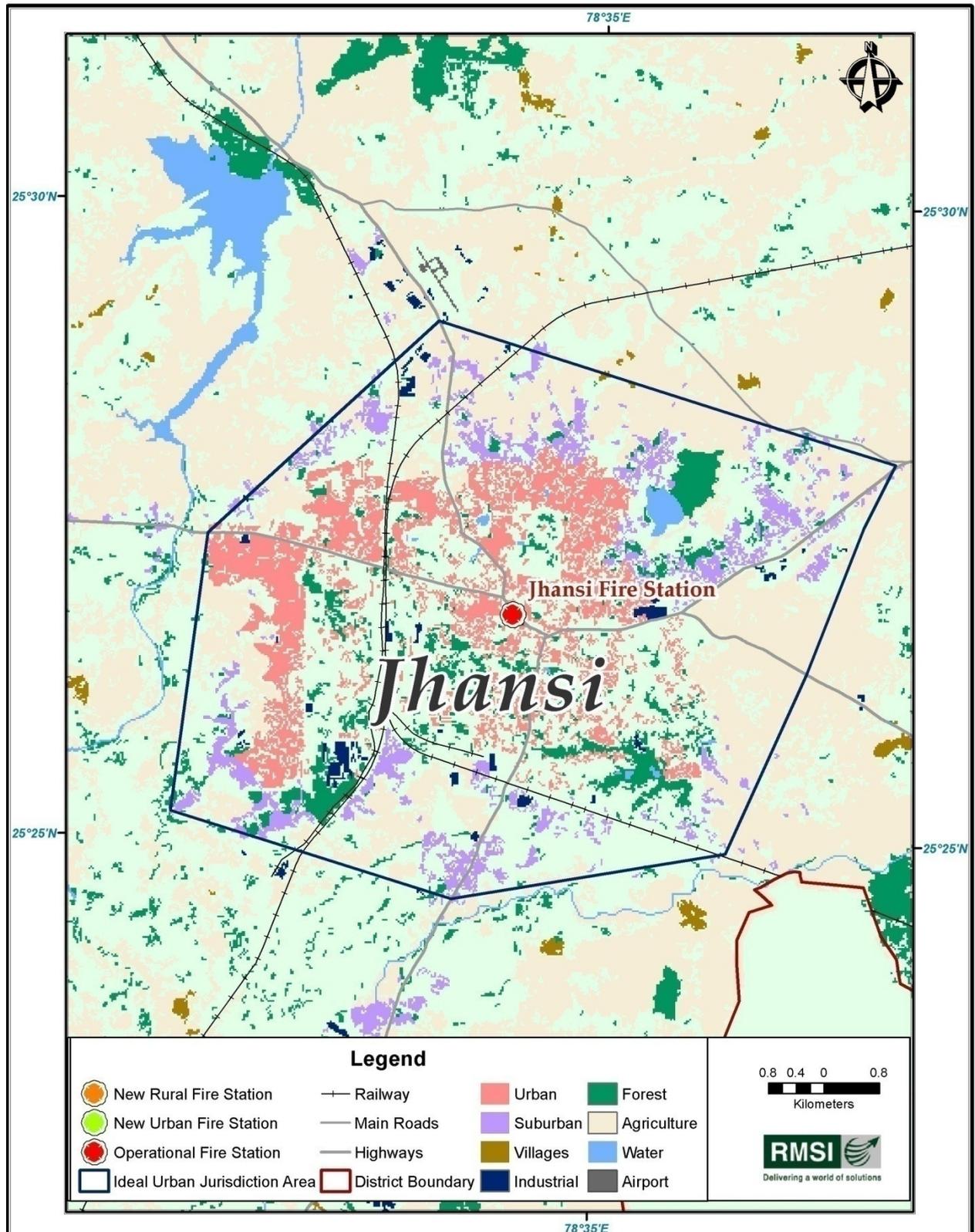


Figure 18-45: Fire stations gap analysis for Jhansi urban areas

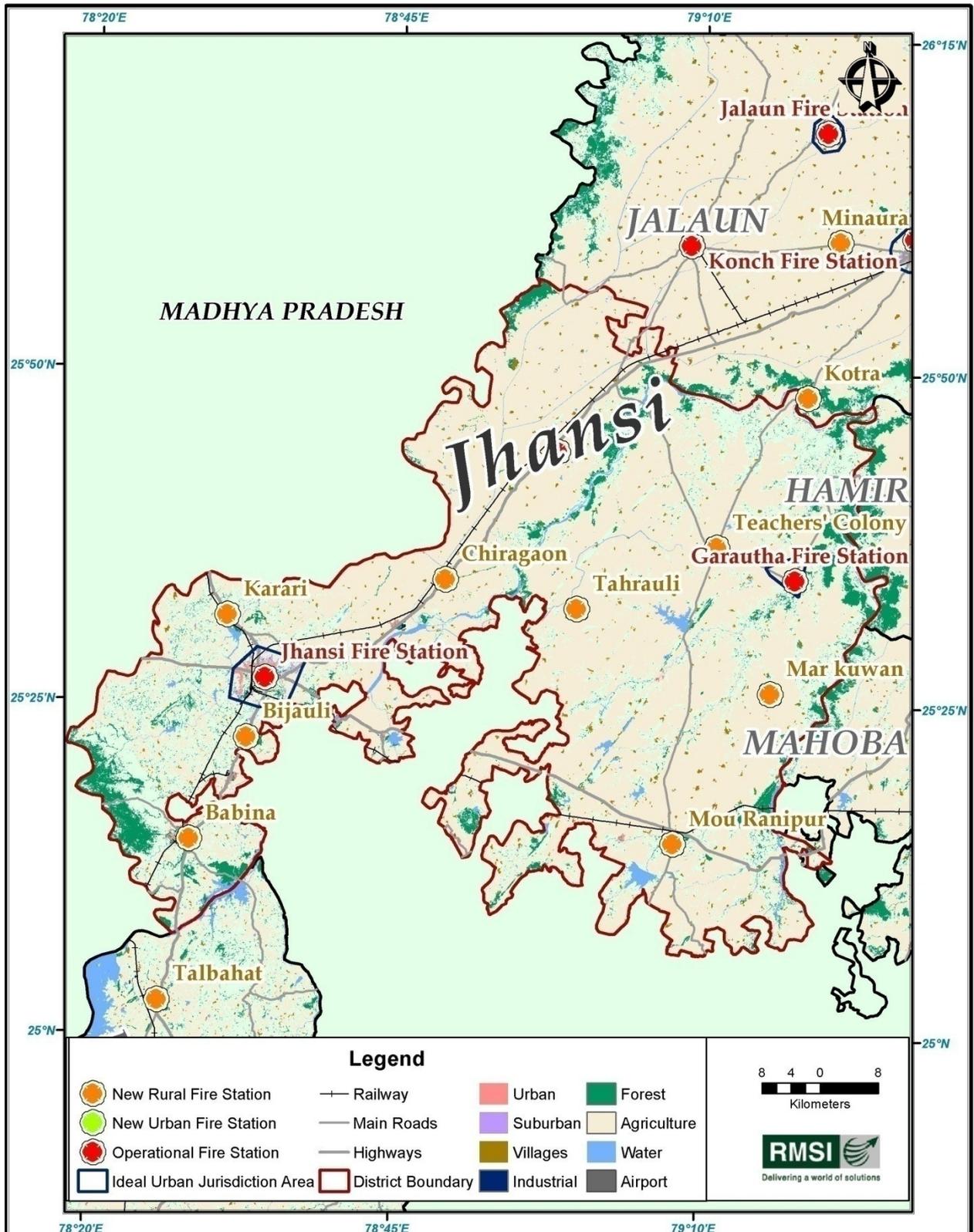


Figure 18-46: Fire stations gap analysis for Jhansi rural areas

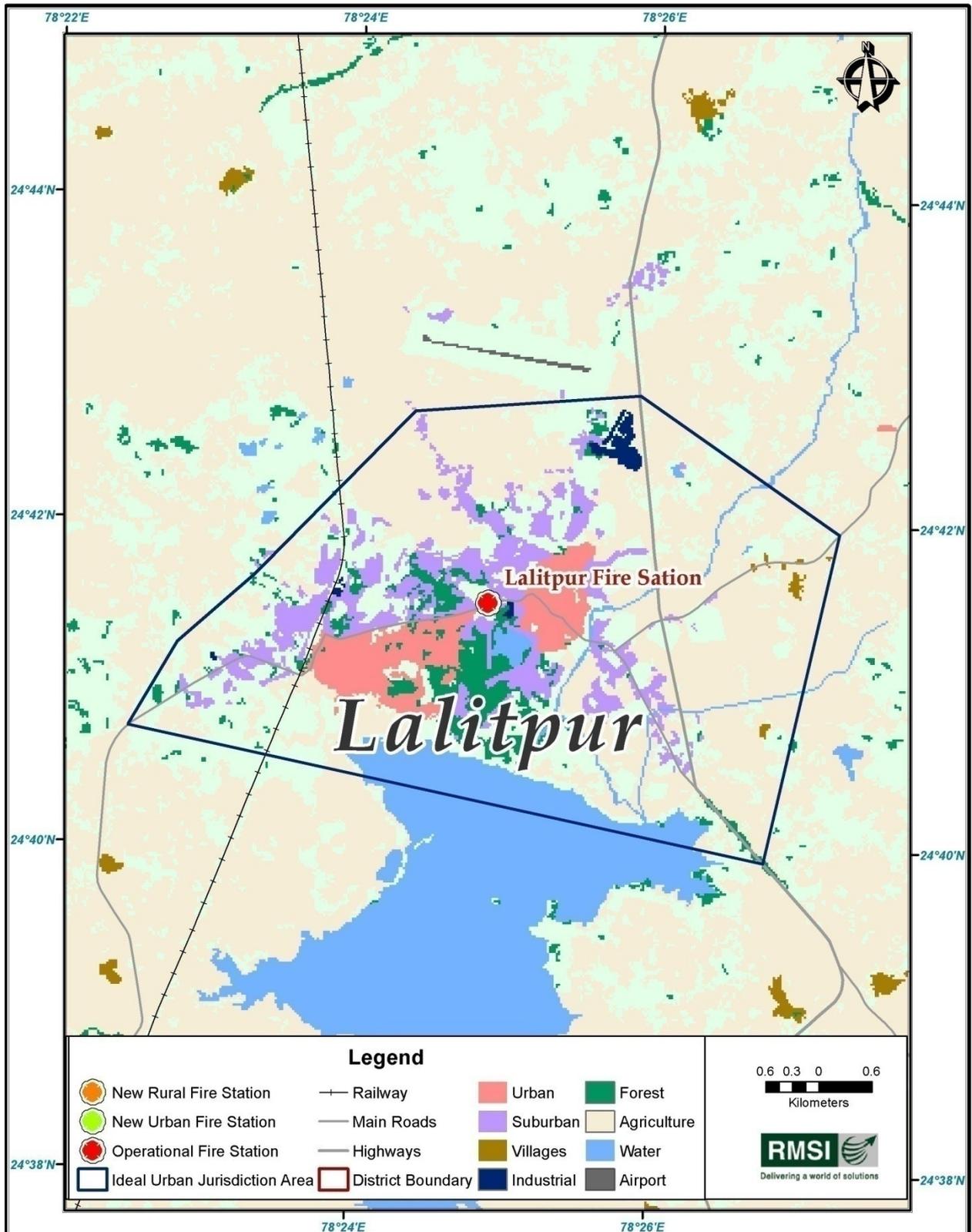


Figure 18-47: Fire stations gap analysis for Lalitpur urban areas

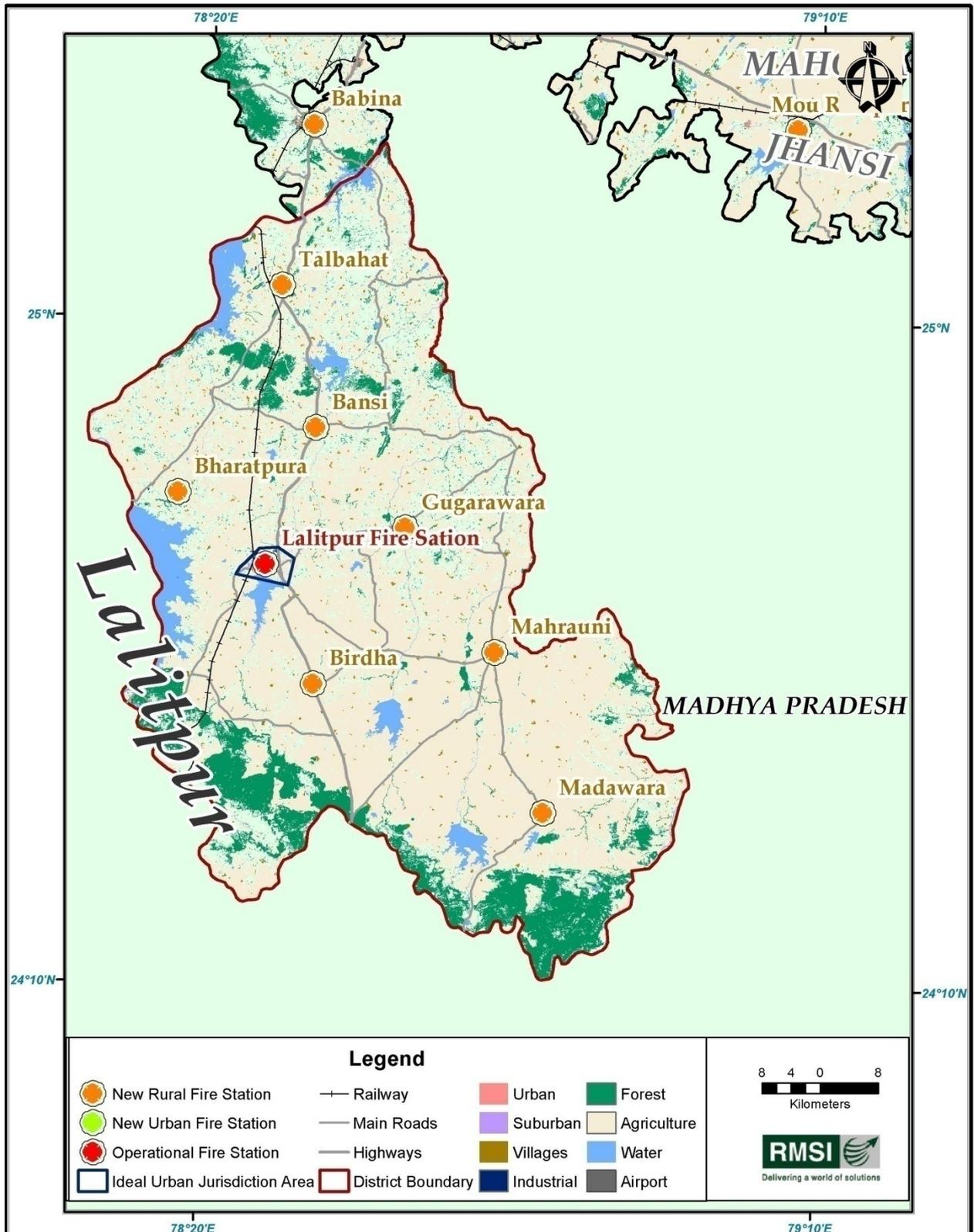


Figure 18-48: Fire stations gap analysis for Lalitpur rural areas

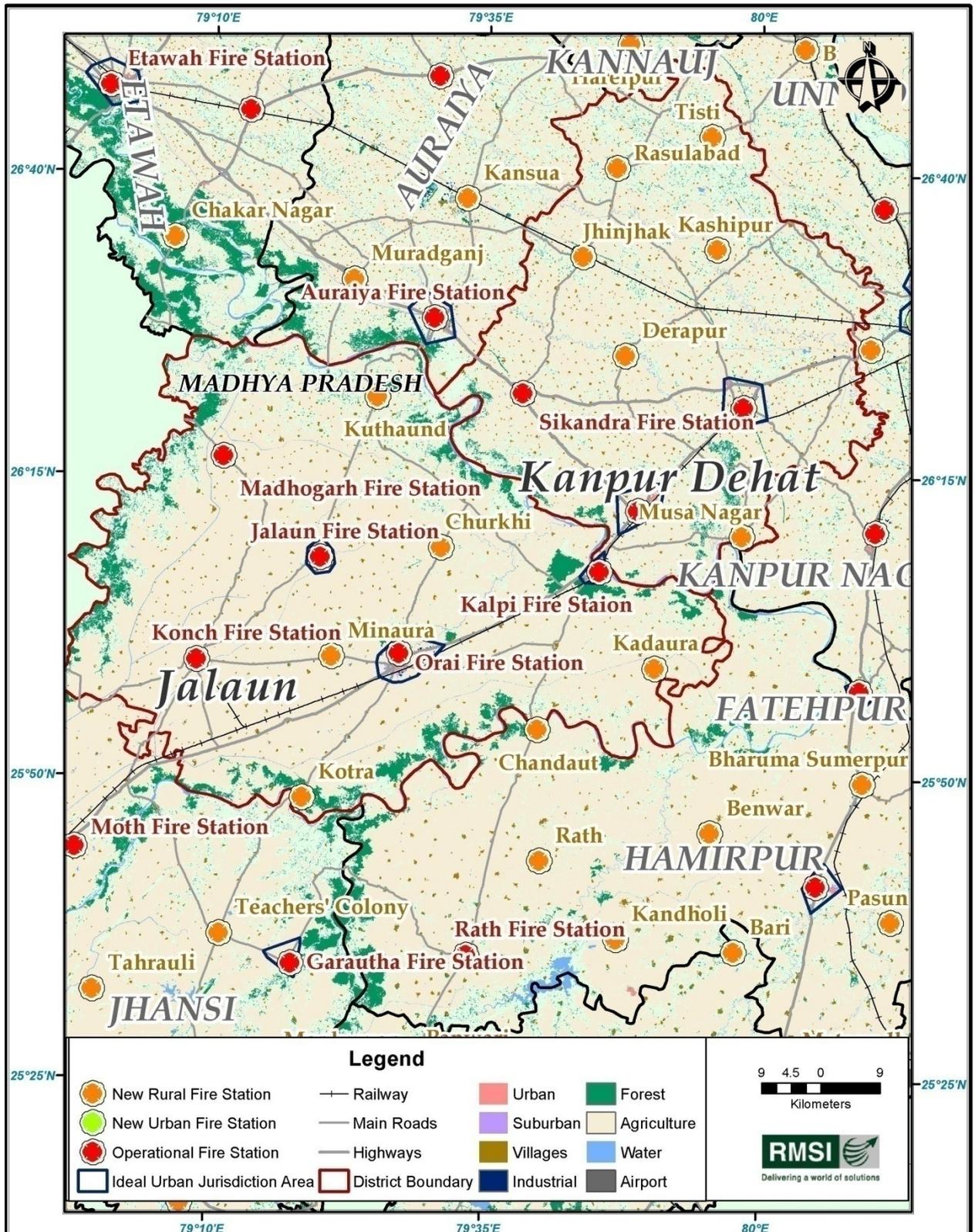


Figure 18-49: Fire stations gap analysis for Jalaun and Kanpur Dehat rural areas

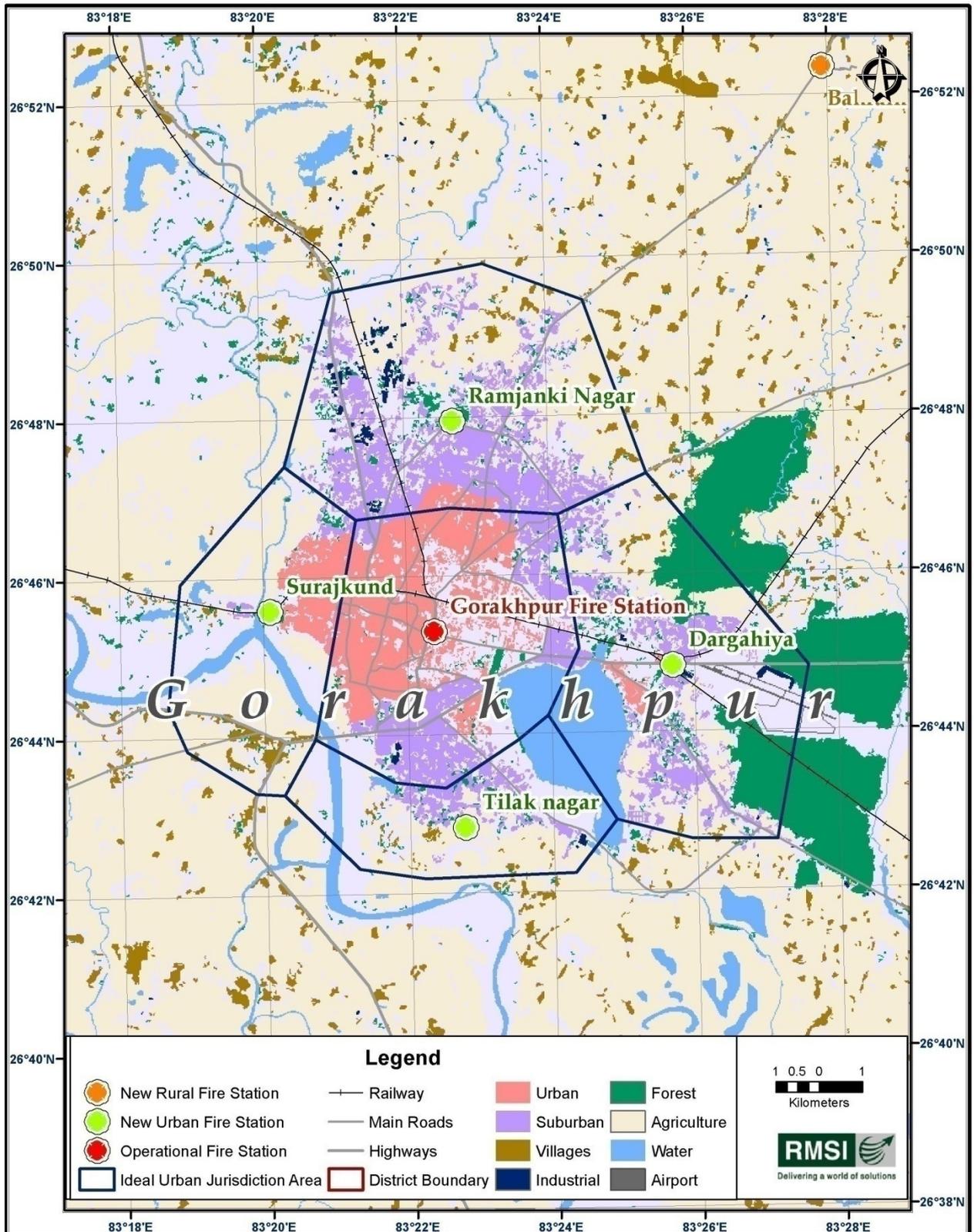


Figure 18-50: Fire stations gap analysis for Gorakhpur urban areas

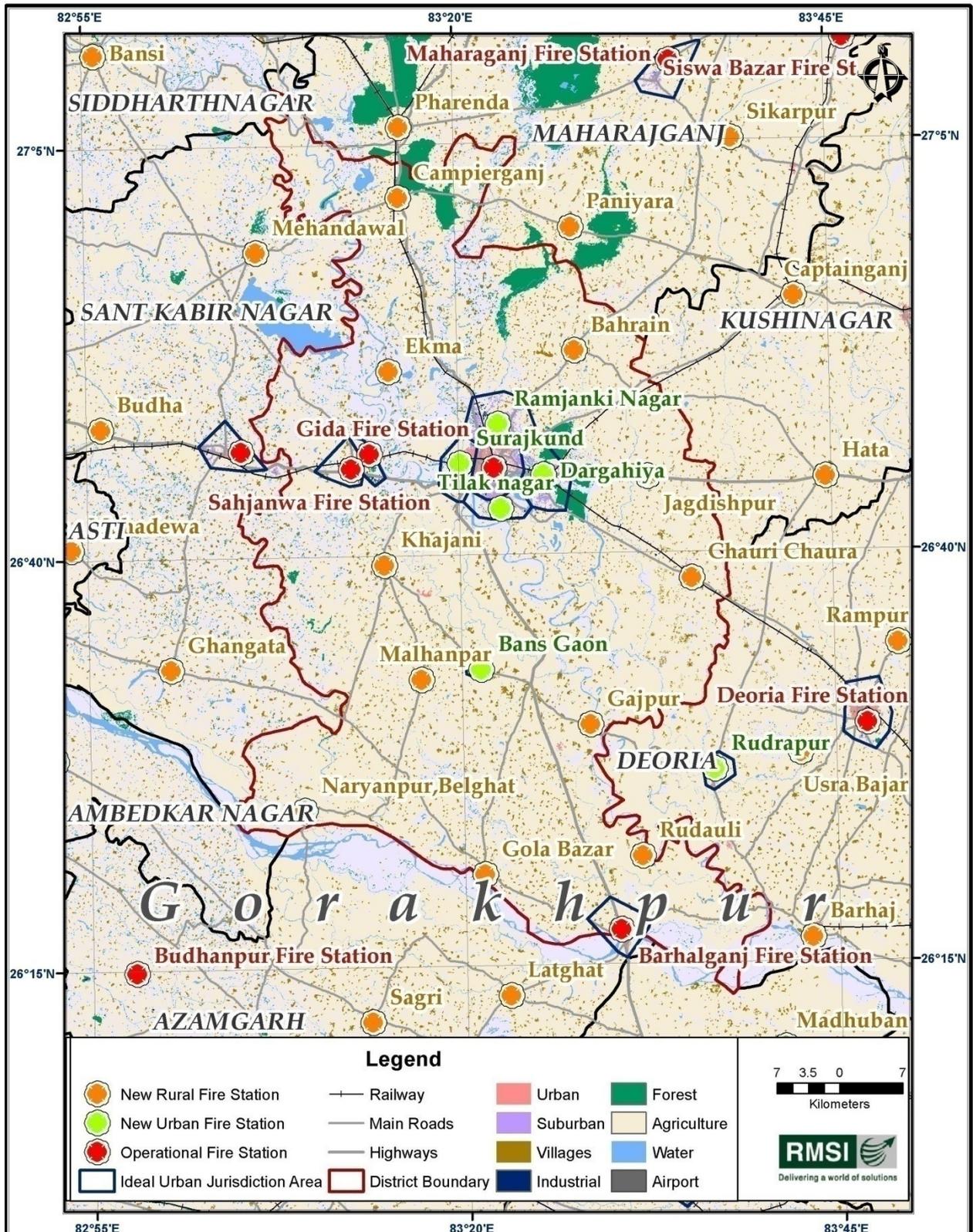


Figure 18-51: Fire stations gap analysis for Gorakhpur rural areas

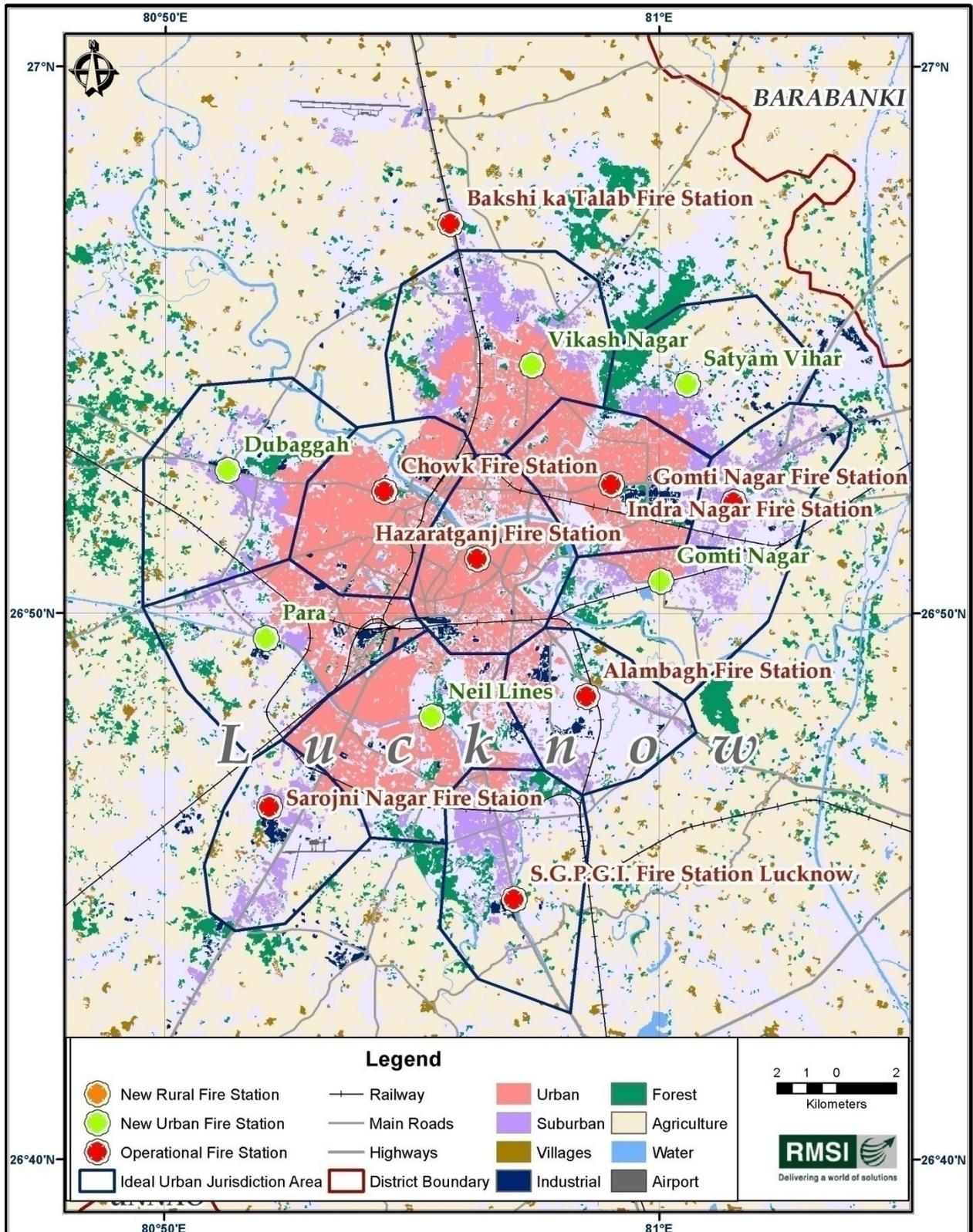


Figure 18-52: Fire stations gap analysis for Lucknow urban areas

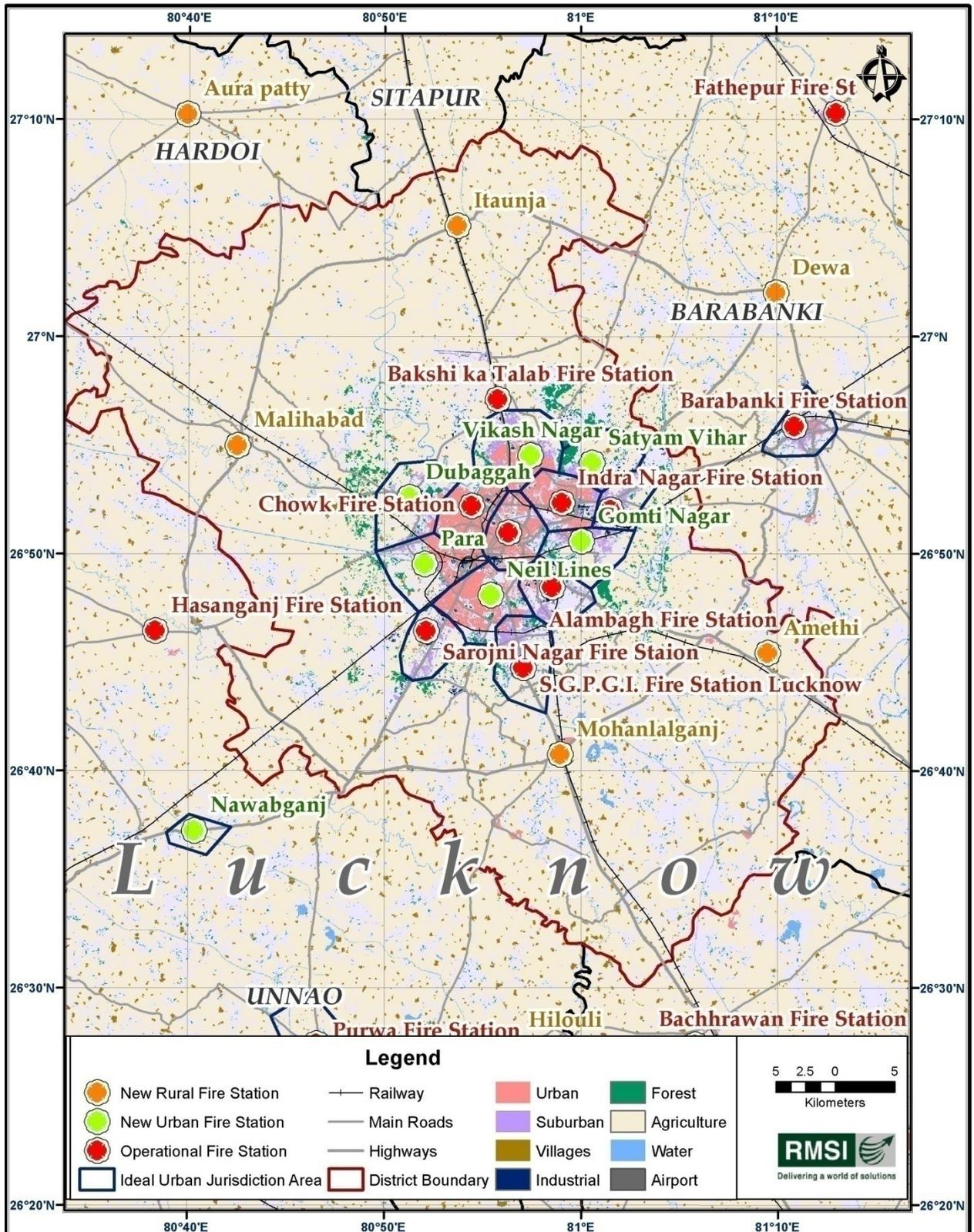


Figure 18-53: Fire stations gap analysis for Lucknow rural areas

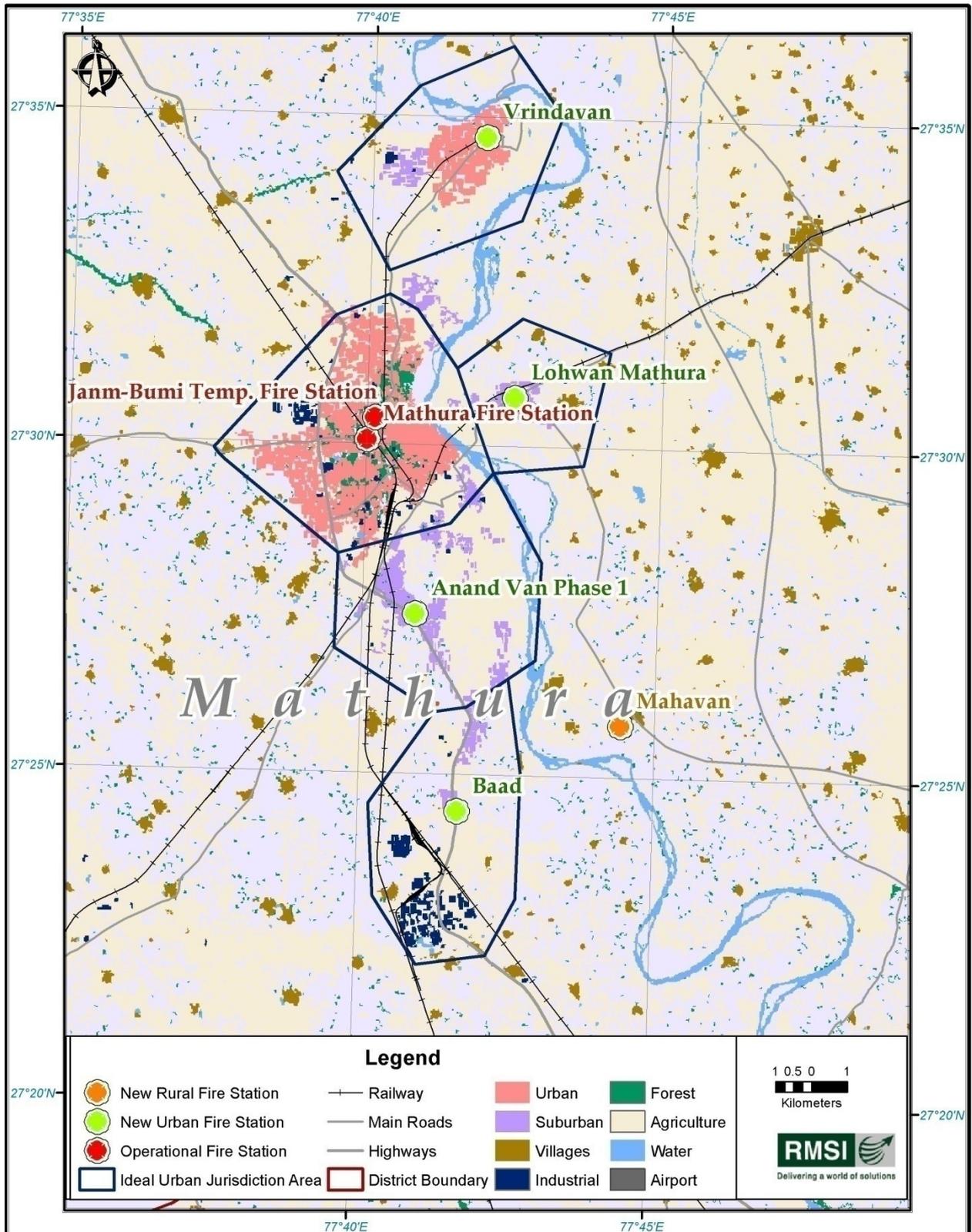


Figure 18-54: Fire stations gap analysis for Mathura urban areas

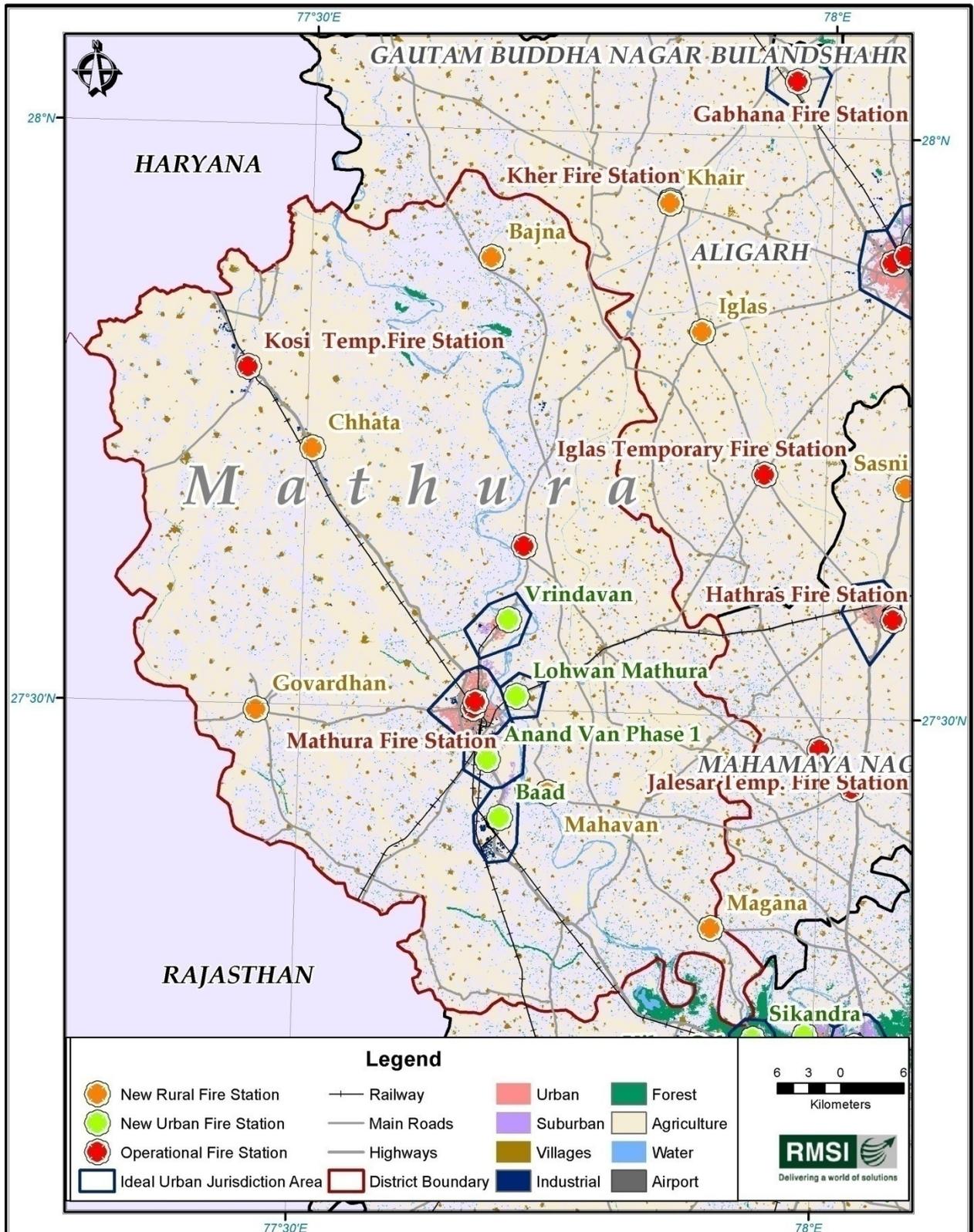


Figure 18-55: Fire stations gap analysis for Mathura rural areas

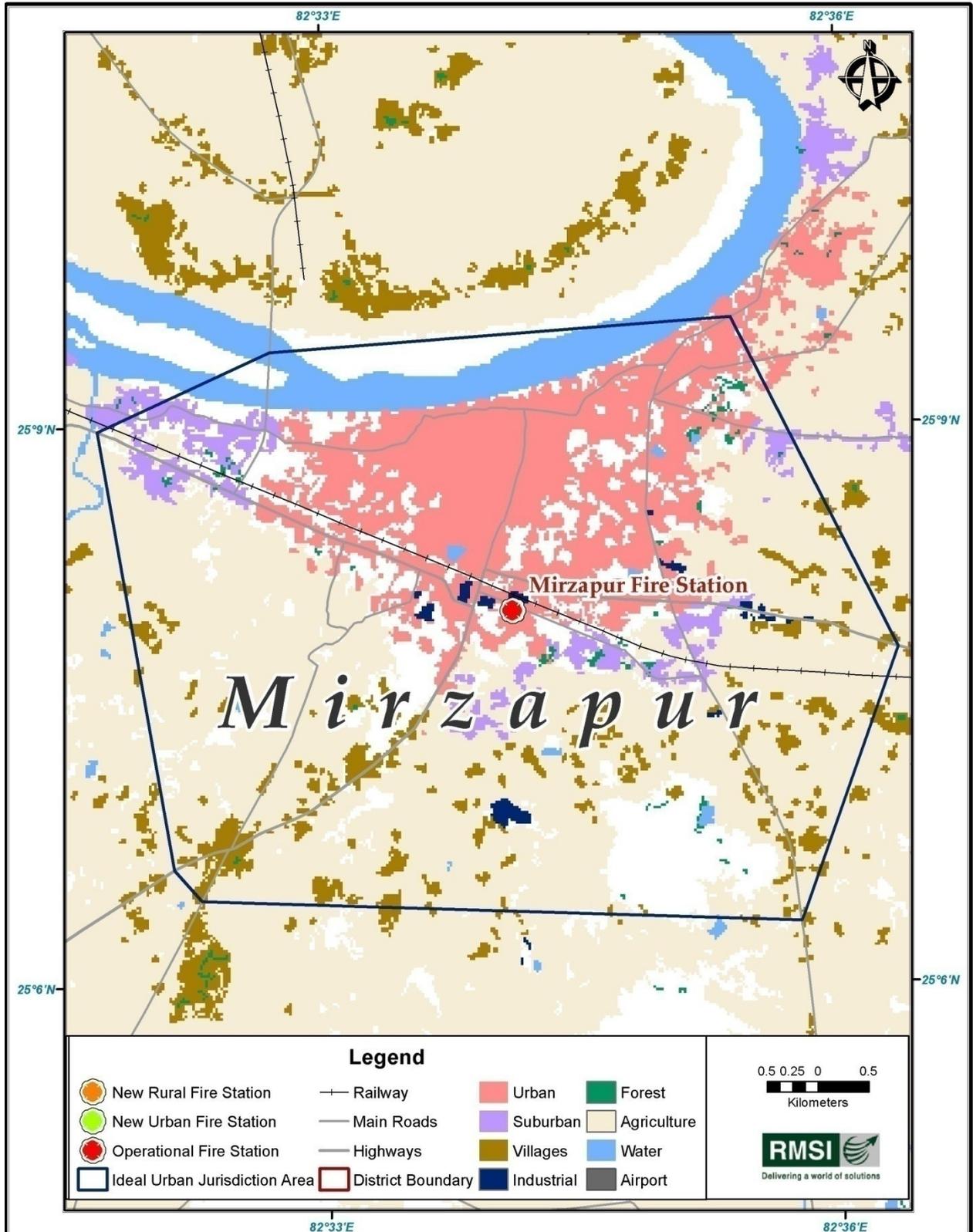


Figure 18-56: Fire stations gap analysis for Mirzapur urban areas

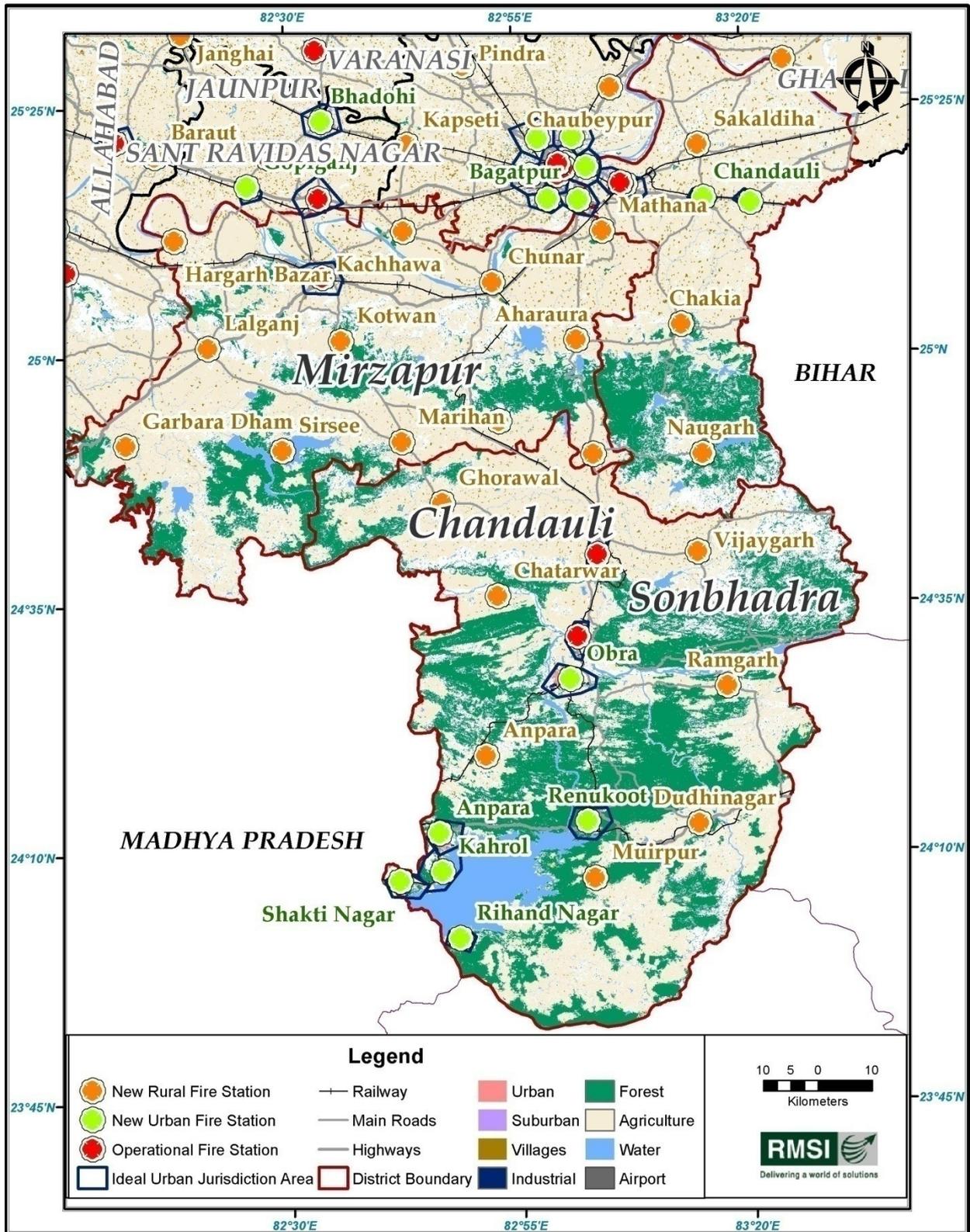


Figure 18-57: Fire stations gap analysis for Mirzapur, Chandauli and Sonbhadra rural areas

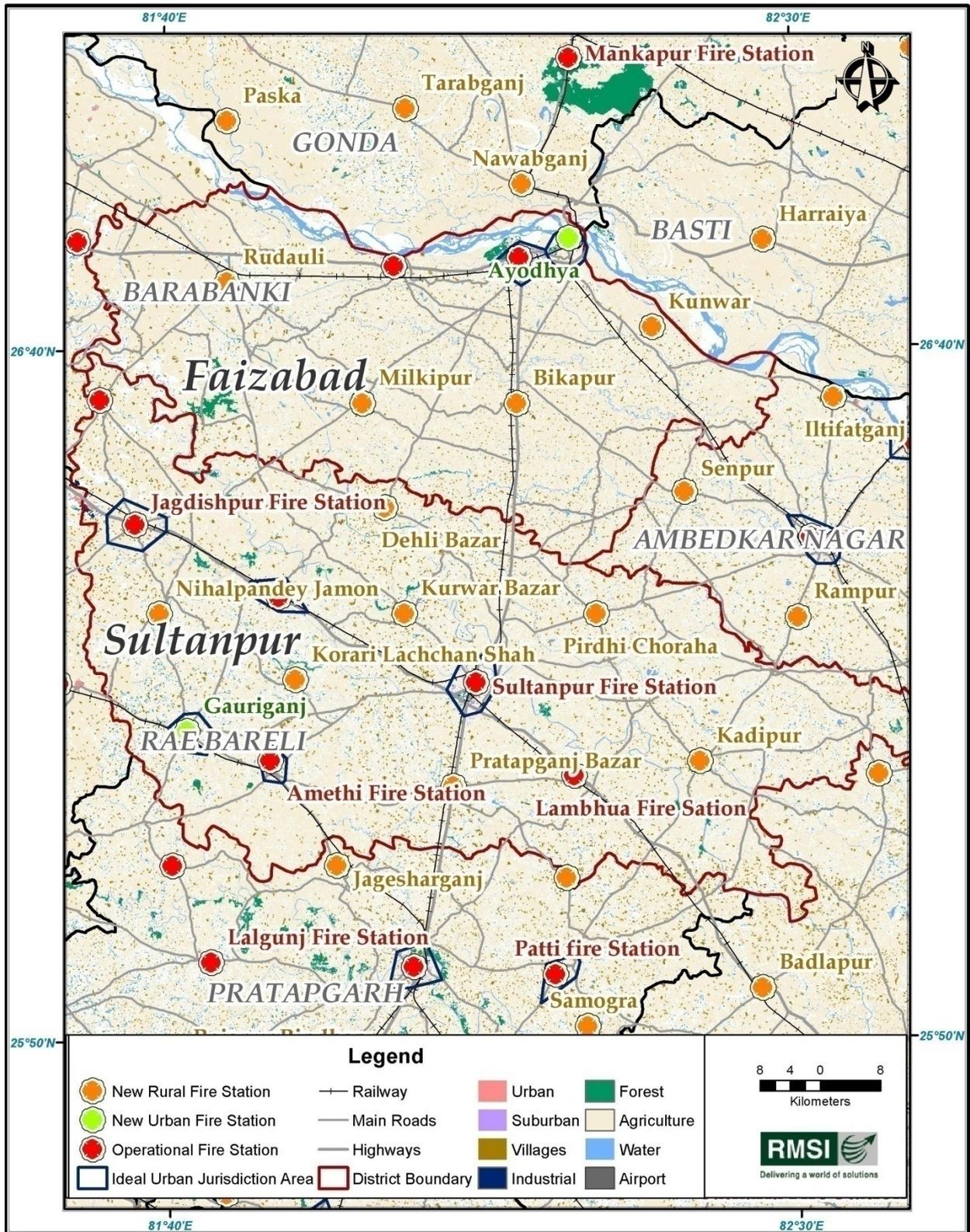


Figure 18-58: Fire stations gap analysis for Faizabad and Sultanpur rural areas

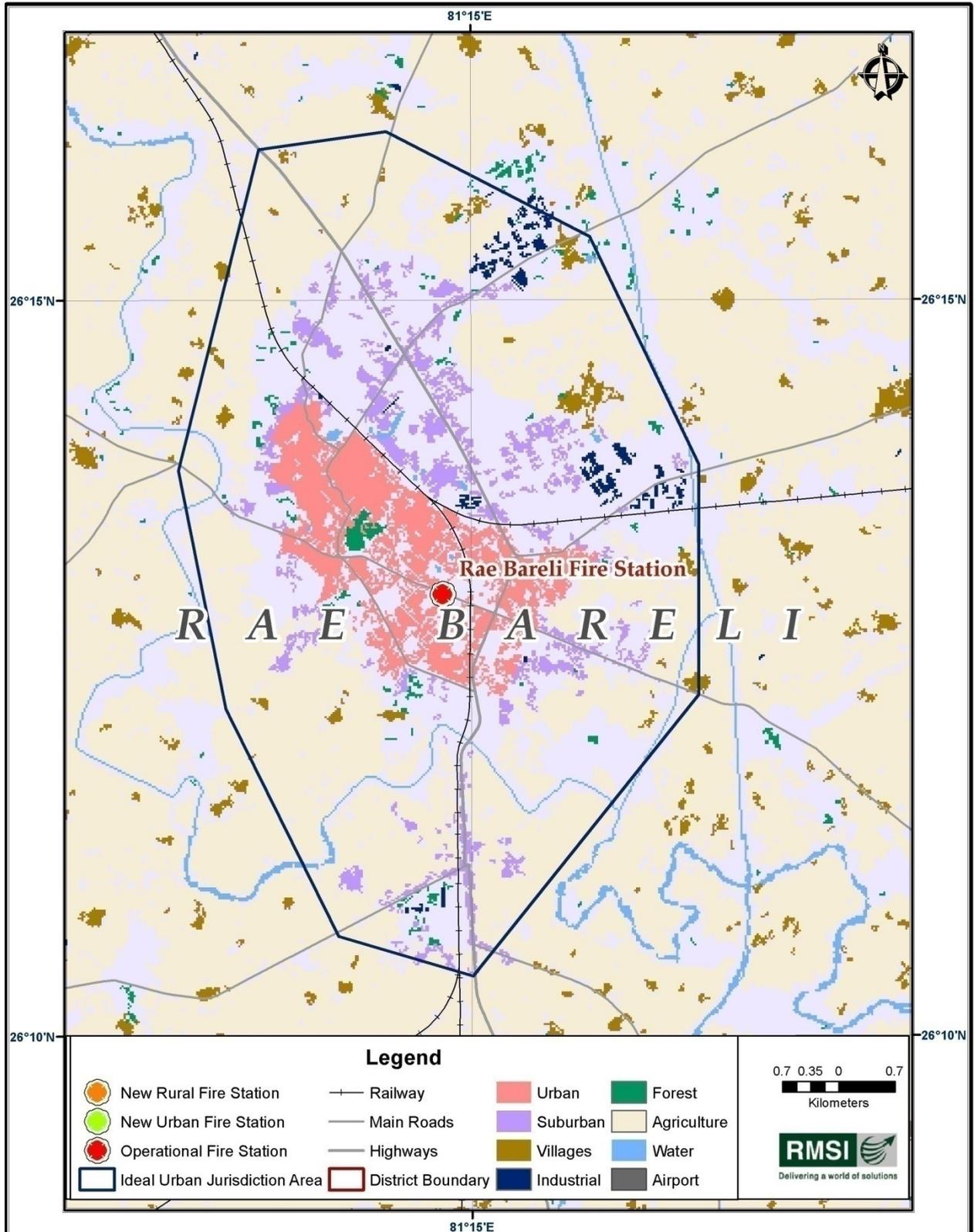


Figure 18-59: Fire stations gap analysis for Rae Bareilly urban areas

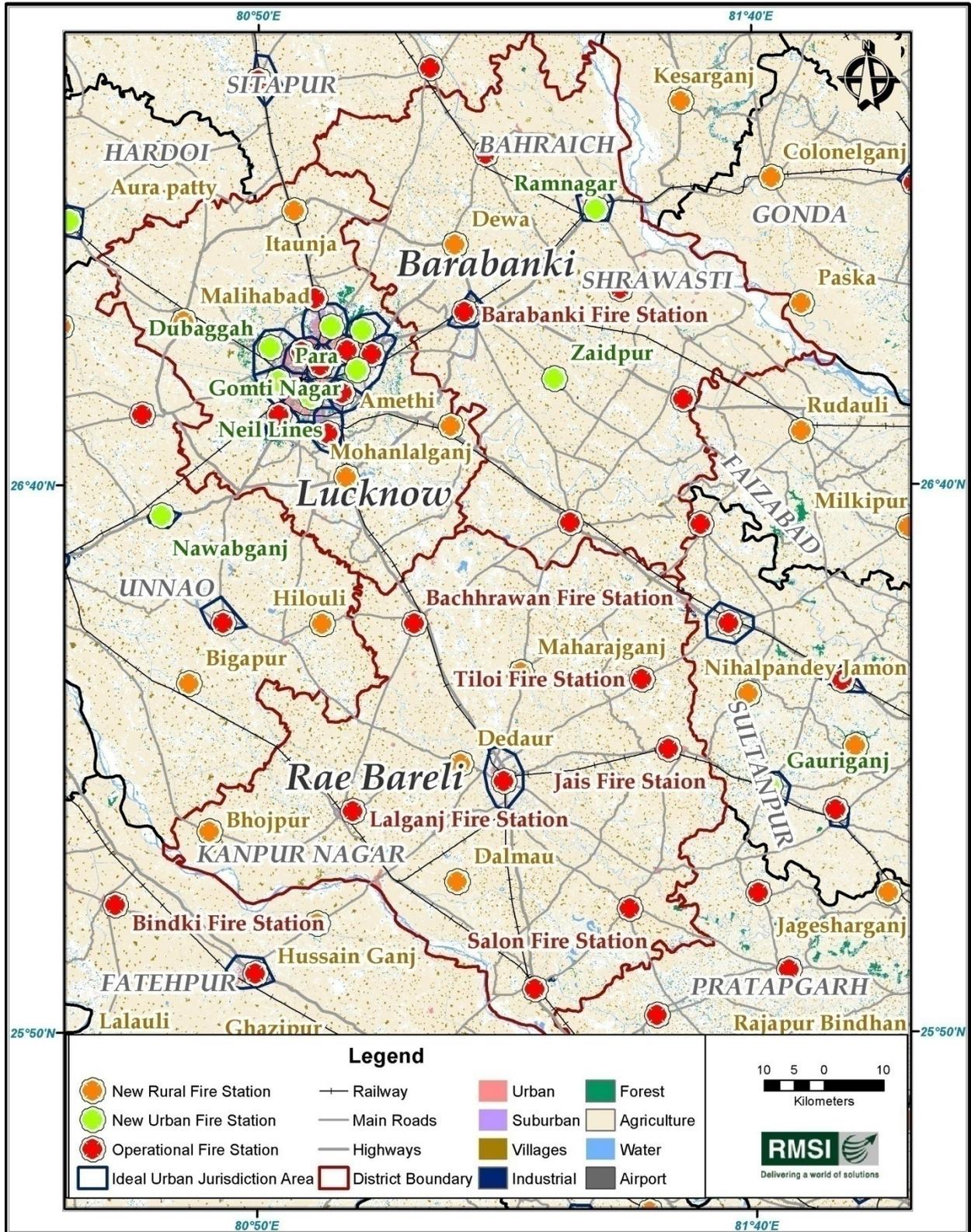


Figure 18-60: Fire stations gap analysis for Rae Bareilly, Barabanki and Lucknow rural areas

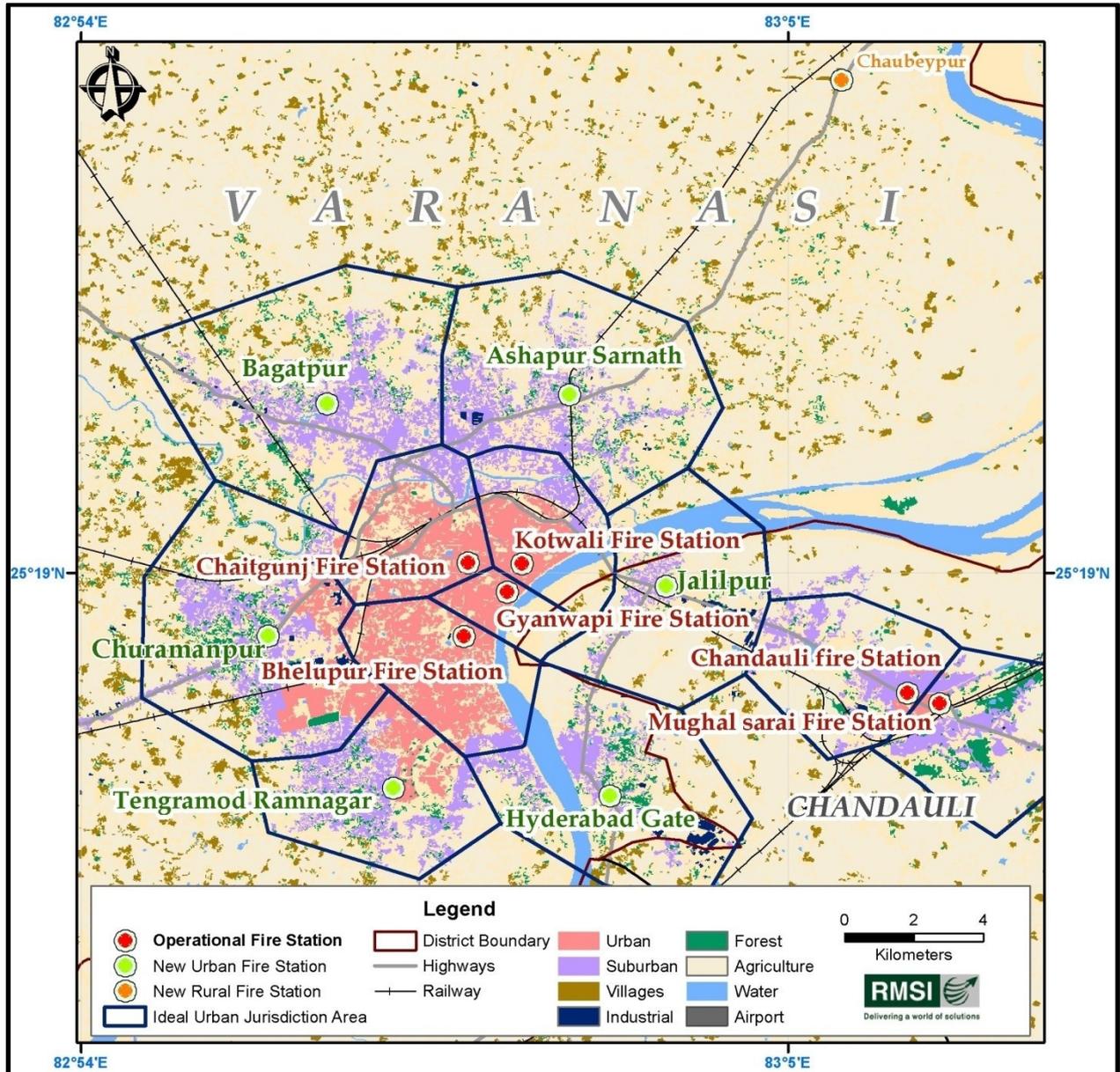


Figure 18-61: Fire stations gap analysis for Varanasi urban areas

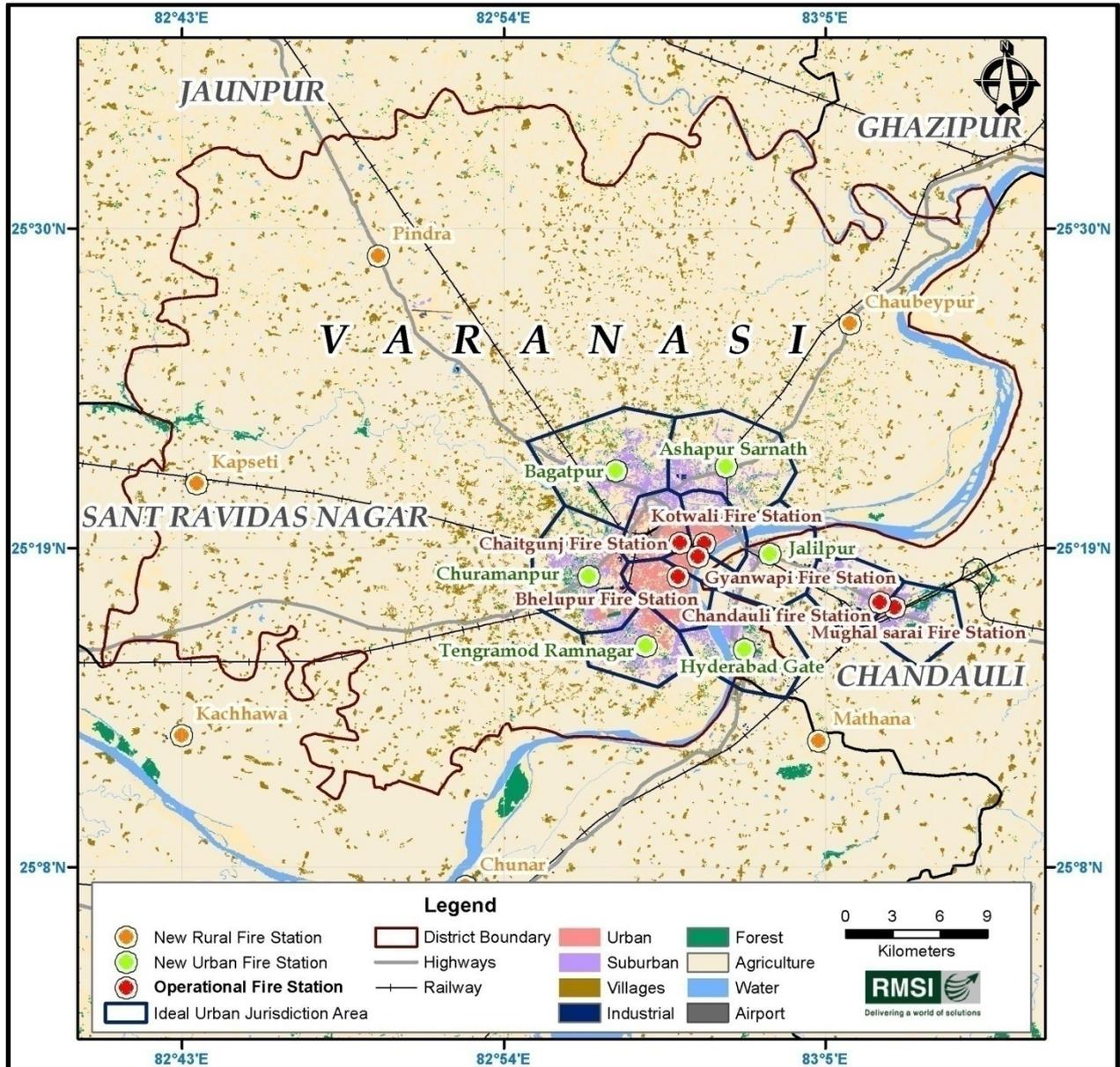


Figure 18-62: Fire stations gap analysis for Varanasi rural areas

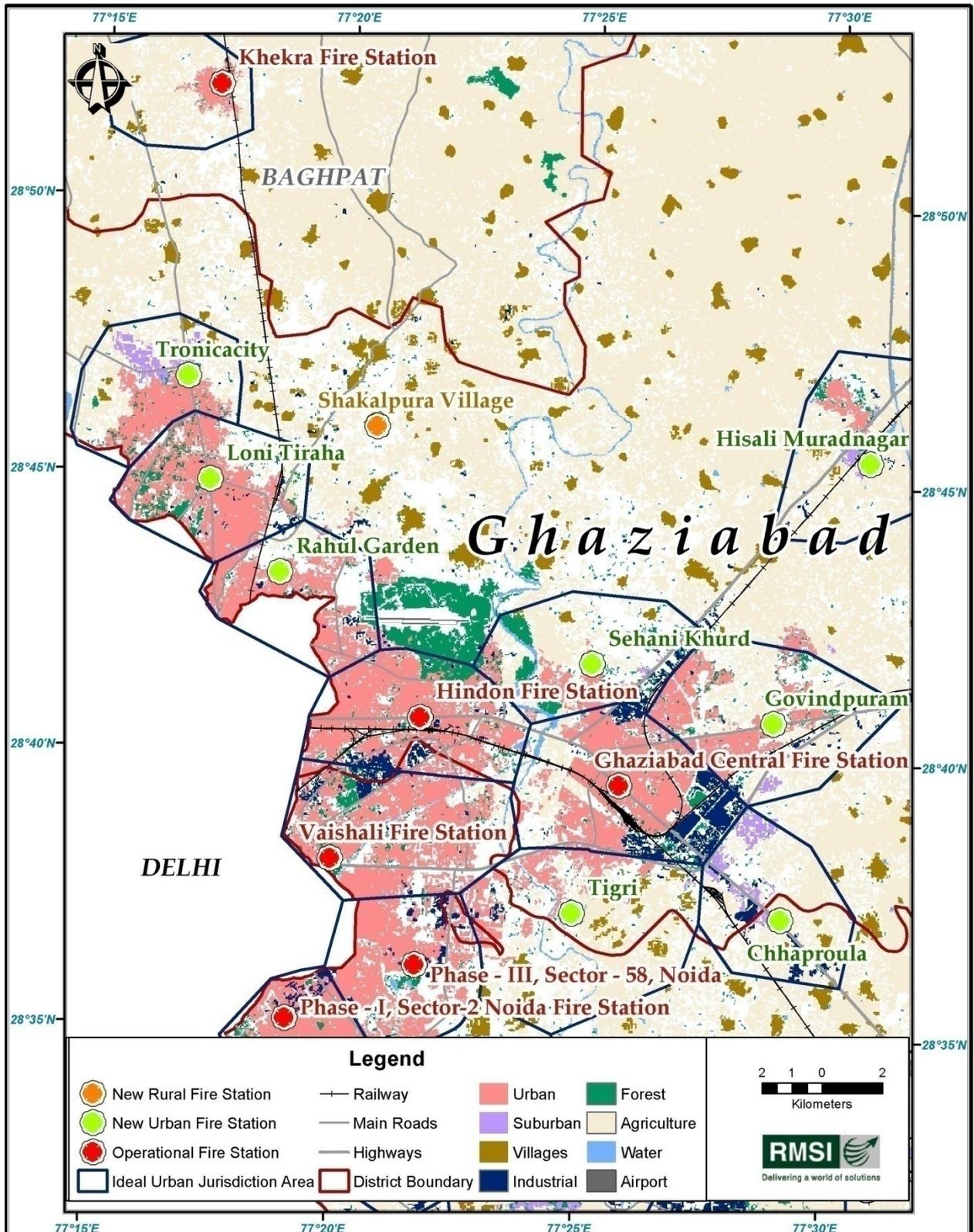


Figure 18-63: Fire stations gap analysis for Ghaziabad urban areas

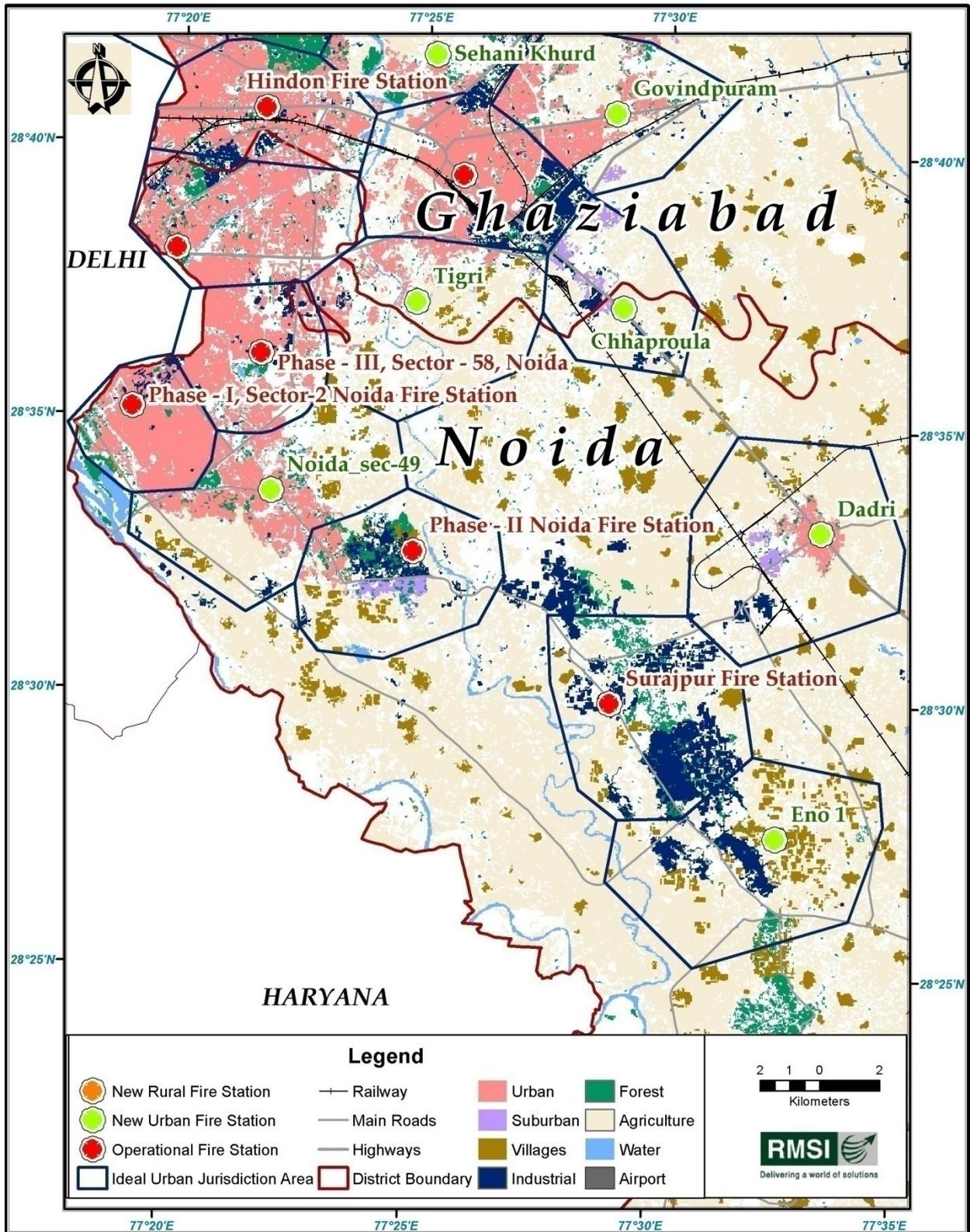


Figure 18-64: Fire stations gap analysis for Gautam Buddha Nagar (Noida) urban areas

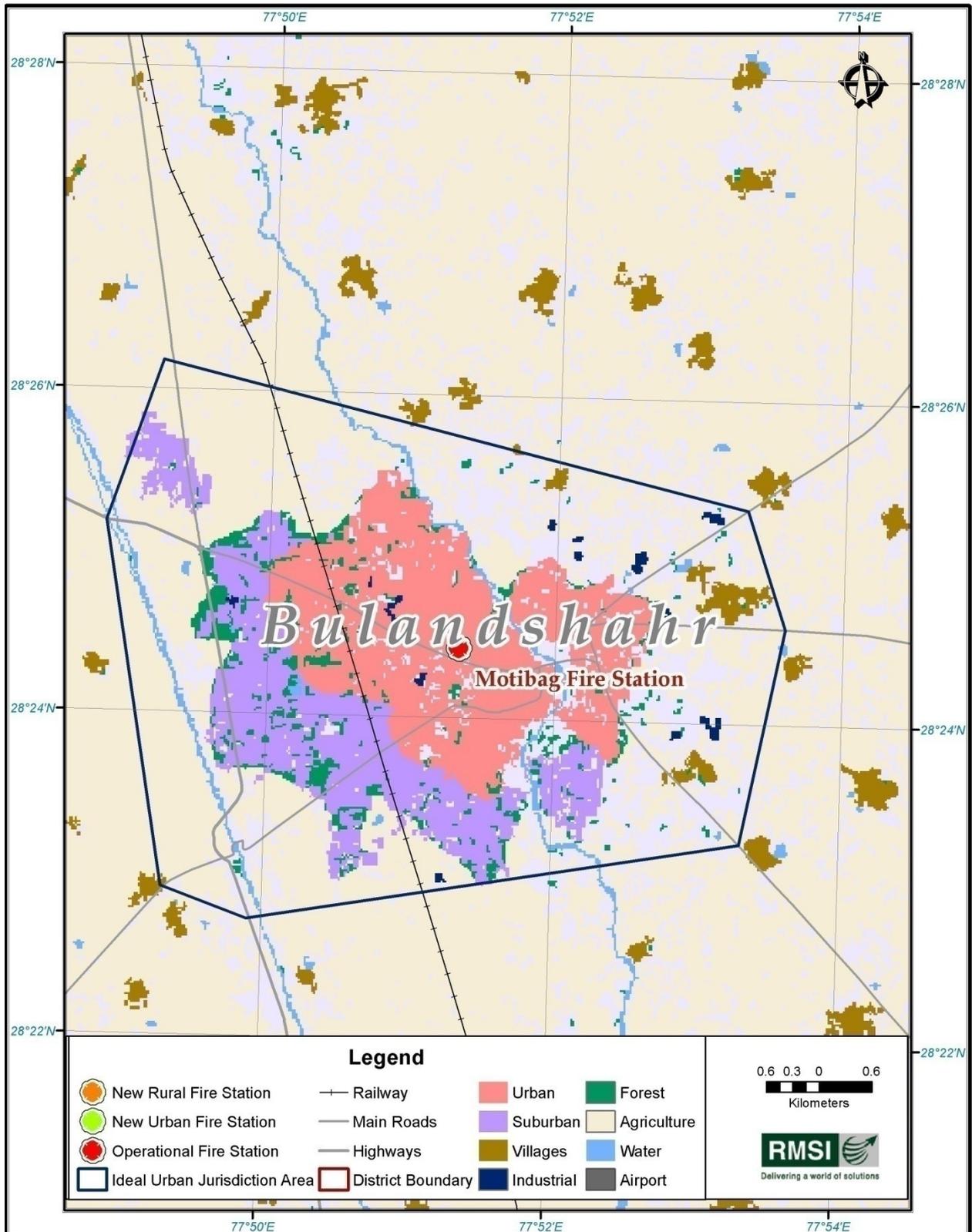


Figure 18-65: Fire stations gap analysis for Bulandshahr urban areas

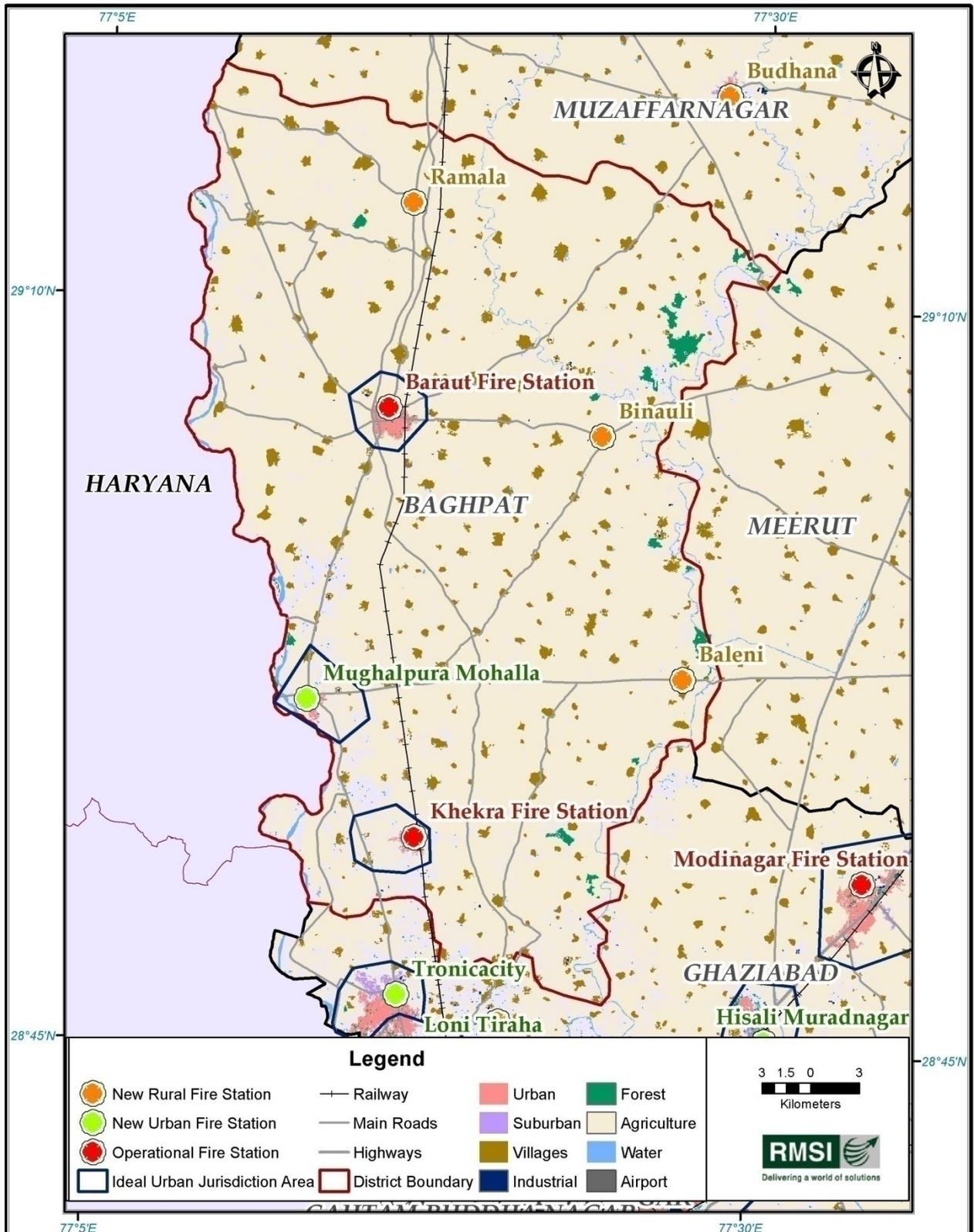


Figure 18-66: Fire stations gap analysis for Baghpat urban areas

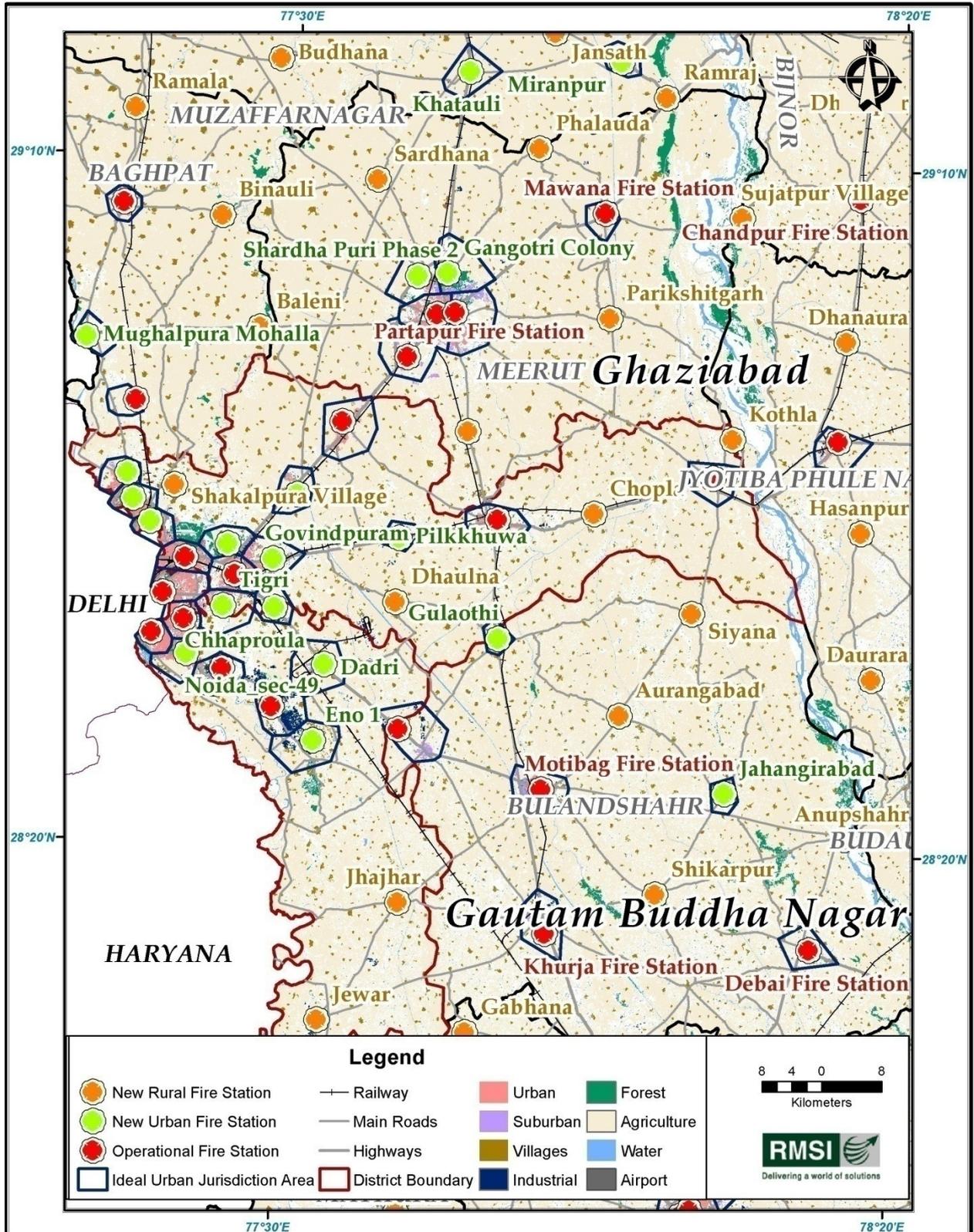


Figure 18-67: Fire stations gap analysis for Ghaziabad rural areas

18.3.2 FIREFIGHTING AND RESCUE VEHICLES AND EQUIPMENT GAP

For firefighting and rescue vehicles and specialized equipment gap analysis at the operational Fire Stations and the new Fire Stations in urban areas and Fire Stations/Fire Posts in rural areas, the following criteria have been followed, which have been basically taken from SFAC norms and minor changes have been made with expert opinion, for optimization of resources.

- **Pumping Unit:** For counting of existing pumping units at various Fire Stations, equipment such as Fire Tender, Water Bowser, Water Mist Mini Fire Tender, Foam Tender, Crash Fire Tender, Fire Engine, Jumbo Tanker, and Multi-purpose Tender have been counted as one pumping unit. The SFAC criteria with some modifications have been proposed for estimating the requirement of pumping units. Accordingly, one pumping unit per 50,000 populations (subject to minimum one) up to three lakhs population has been considered. For population of more than three Lakhs, one additional pumping unit per Lakhs of population has been considered. For example, if the population is 3, 50,000 or more but less than 4, 50,000, there should be 7 pumping units. At Fire Stations, where pumping unit requirements are coming to 2 or more units, half the units will be Water Tender and half the units will be Water Bowser, for example, for 2 pumping unit requirement, one will be Water Tender and one Water Bowser, however, for 3 pumping unit requirement, 2 will be Water Tender and 1 will be Water Bowser.
- **Note:** we have considered pumping unit as a complete unit with water carrying capacity pumping unit, however, trailer fire pump with towing vehicle or a jeep fire engine, QRT with mist unit, or motor cycle with mist set have not been considered as a pumping unit. QRT with mist unit or motor cycle with mist set has been considered as a unit to cut response time in congested areas in urban areas.
- **Foam Tender:** For those Fire Stations, in whose jurisdiction small industrial area also lie, one Water Tender should be replaced with Foam Tender.
- **DCP Tender:** Minimum one per district or one for 8-10 Fire Stations. Fire stations having a large industrial plot area (in their ideal jurisdiction of above) 1.0 - 3.0 sq km, should have additionally one DCP tender. For industrial areas more than 3.0 sq km to 6.0 sq km, there should be two DCP Tenders and so on.
- **Advanced Rescue Tender:** One per district (minimum) up to 10 Lakhs population, and one additional unit for every 10 Lakhs urban population.
- **Hydraulic Platform/ALP/TTL:** One per district (minimum) depending upon the presence of building blocks having high rise buildings (height more than 15 m). Additional unit is to be provided for districts having a large number of such building blocks, i.e., Central Business Districts. *It may be noted that ALP/TTL is not a replacement for in-built systems in high-rise buildings. Moreover, equipment is heavy and maneuvering on roads becomes difficult, where there are overhead electrical lines.*
- **HAZMAT Van:** Hazmat van is used rarely and is a very costly equipment requiring highly trained manpower. Hence, to optimize on resources and manpower, HAZMAT van is not recommended for future procurement in the State. However, for that purpose, an Advanced Rescue Responder is proposed (see above), which will have equipment to handle hazardous material release.
- **Crash Fire Tender:** Crash fire Tender is not recommended for State Fire Services. Instead, for Fire Stations in the funnel area on either side of the airport, one WT should be replaced with Foam Tender depending upon the State policy.

- **BA Van, Light Van and Control Van:** One each per district. However, to optimize on resources and manpower, we are proposing a BA Van- cum-Light Van – cum-Control Van.
- **Hose Tender:** One per district (minimum) or one for 8-10 Fire Stations.
- **Trailer Pump:** Though Trailer Pumps are prescribed in SFAC norms, it is not recommended for future use, as this needs an additional towing vehicle. In place of this, procurement of Portable Pump are recommended, which will be part of a Fire Tender (Specialized Equipment Sl. No. 12).
- **QRT:** One each at Fire Stations serving a population density (total population in the FS jurisdiction/area of jurisdiction, in sq km) above 30,000 persons/sq km in metro and big cities, above 15,000 persons/sq km in other cities, or in congested areas based on field-survey.

Note: The criteria of population density has been relaxed for hilly State from 15,000 person/sq km (in plains) to 5,000 person/sq km in the Fire Station jurisdiction.

- **Motorcycle with 2 water mist set:** One each at Fire Stations serving population density above 10,000 with QRT.
- **Ambulance:** It is seen that Ambulance services are also with some of the State fire services and in few other States this is looked after by the Ministry of Health department of the States. e.g., Rajasthan State has a modern fleet of Ambulances (108), well equipped with GPS, medical equipment and staff under National Rural Health Mission (Rajasthan), CATS (Centralized Accident Trauma Service, Ministry of Health) in case of Delhi State.

It is observed during visit to the Fire Stations by the RMSI team that wherever the Ambulance are available with fire services, they neither have the Paramedic staff, nor adequate life support/normal equipment, and cannot be considered as an efficient system. It is therefore felt that either ambulance service should be run by Health Department through various hospitals / health centers or provide fully trained staff to fire services with properly equipped Ambulances. Accordingly, cost of the ambulance is not included in the gap analysis of the present study. However, the ambulance cost may be added, in case, it is decided in a particular State that Ambulance service should be part of fire services.

- **Educational Van:** One per district and one additional unit for every 30 Lakhs district population

At rural Fire Station/ Fire Post level, if the estimated pumping units is two, then one water tender with a QRT on pickup truck having 500 - 600 liters of water mist capacity along with a motor cycle with two water mist backpacks will be provided. This will help in quick response, as a majority of inside roads within rural villages is narrow in width and congested. This will also help in optimization of resources.

It may be noted that if a fire is responded to immediately, it may not flare-up into large fire; hence, QRT and Motorcycle are considered as a quick responder and not as full-fledged fire units. In case of large fires, nearby Fire Station(s) will provide support with Water Tenders and Water Bowsers.

For reserve requirement, RMSI estimated reserve requirement of 20% at district level, and these will be distributed to individual Fire Stations by the concerned fire officials. This will help in optimizing the additional requirements of minimum one reserve at each Fire Station.

Specialized Equipment:

Specialized equipment for Fire Stations in urban areas shall be provided as per the following criteria:

- **Hydraulic Rescue Tool:** One for each Fire Station depending upon the seismic Zone IV and V, or Fire Station having urban population more than 1.5 Lakhs in its ideal jurisdiction or minimum one per district including Hydraulic Cutter, Hydraulic Spreader, Hydraulic Pump, Power Wedge, and Hydraulic Rescue Ram depending upon the seismic Zone IV and V.
- **Combi-Tool:** One Combi-Tool set shall be provided with each fire fighting vehicle.
- **B.A. Set with BA Compressor:** Four B. A. Sets per fire fighting vehicle with minimum 1 compressor per Fire Station
- **First Aid Box:** One for each fire fighting vehicle (minimum 2 at each Fire Station) with regular replacement of expired medicines
- **Thermal Imaging Camera:** One for each Fire Station depending upon the seismic Zone IV and V, or Fire Station having urban population more than 1.5 Lakhs in its ideal jurisdiction or minimum one per district
- **Personal Protection Equipment (PPE):** One Set for each pumping unit or a minimum of 2 for each Fire Station
- **Hydraulic Chain Saw/Cutter for Wood:** One for each Fire Station
- **Electric/Petrol Chain Saw/Cutter for Wood:** One for each Fire Station
- **Electric/Petrol Chain Saw/Cutter for Concrete:** One for each Fire Station
- **Hand Held Gas Detector:** One piece per Vehicle
- **Victim Location Device (Acoustic):** One for each Fire Station depending upon the seismic Zone IV and V, or Fire Station having urban population more than 1.5 Lakhs in its ideal jurisdiction or minimum one per district
- **Smoke Exhauster/PPV:** One per Fire Stations located in urban areas (minimum one per district)
- **Portable Pump:** One for each fire fighting unit
- **Pneumatic Lifting Bags:** One set for each Fire Station depending upon the seismic Zone IV and V, or Fire Station having urban population more than 1.5 Lakhs in its ideal jurisdiction or minimum one per district
- **Inflatable Lighting Tower:** One per Fire Station
- **High Capacity LED Torch Light:** One piece per vehicle

Note: Other smaller equipment such as ropes, Fireman Axe, Small Hammer, different Branches/Nozzles, Foam Compound has not been mentioned separately, as these are standard items for any Fire Station/post.

For rural Fire Stations/ Fire Posts, following specialized equipment has been recommended:

- **B.A. Set with BA Compressor:** Two B. A. set per QRT and four B.A. Sets per fire fighting vehicle with one compressor per Fire Station/post
- **Personal Protection Equipment (PPE):** One set per fire fighting vehicle
- **Electric/Petrol Chain Saw/Cutter for Wood:** One per Fire Station/post

- **Hydraulic Chain Saw/Cutter for Wood:** One per Fire Station/post
- **Portable Pump:** One for each fire fighting unit
- **Inflatable Lighting Tower:** One per Fire Station
- **High Capacity LED Torch Light:** One piece per fire fighting vehicle
- **First Aid Box:** One per fire fighting vehicle

For reserve requirement, RMSI estimated reserve requirement of 20% at district level, and these will be distributed to individual Fire Stations by the concerned fire officials. This will help in optimizing the additional requirements of minimum one reserve at each Fire Station.

Communication Equipment:

For better coordination between Fire Station and fire fighting staff, communication plays an important role. Hence, there is a need that each fire vehicle and Fire Station is equipped with a communication device. Accordingly, following communication equipment for urban Fire Station are recommended:

- **Static Wireless Set (VHF):** One set at each Fire Station
- **Mobile Wireless Set (VHF):** One per vehicle including QRT
- **Walky-Talky:** One per vehicle
- **Megaphone:** One set per Fire Station/Post

Additionally, at each rural Fire Post, each QRT should be equipped with one mobile wireless set and one walky-talky.

Detailed district level list of currently operational firefighting and rescue vehicles available with Uttar Pradesh Fire Services (As on Sep, 2012), vehicle gap in operational Fire Stations for ideal Jurisdiction area, additional firefighting and rescue vehicle required for new urban and rural Fire Stations and total firefighting and rescue vehicle gap for existing and new Urban Fire stations are shown in Table 18-4 to 18-8.

In the similar manner, gap analyses of specialized fire equipment are shown in Tables 18-9 to 18-18.

Table 18-4: List of operational firefighting and rescue vehicles available with Uttar Pradesh Fire Service (As on Sep, 2012)

District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Agra	5	749,337	8	2	3	0	0	0	0	0	0	0	0	0	0	0	13
Aligarh	8	1,510,737	9	0	0	0	0	0	0	0	0	0	0	0	1	0	10
Allahabad	6	1,489,431	9	1	1	0	0	0	0	0	0	0	0	0	0	0	11
Ambedkar Nagar	4	942,692	7	0	0	0	0	0	0	0	0	0	0	0	1	0	8
Auraiya	2	542,586	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Azamgarh	3	1,103,030	4	1	1	0	0	0	0	0	0	0	0	0	0	0	6
Baghpat	2	126,503	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Bahraich	1	154,113	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Ballia	3	975,932	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Balrampur	1	41,471	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Banda	1	138,454	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Bara Banki	5	2,143,586	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Bareilly	6	2,254,170	6	1	0	0	0	0	0	0	0	0	0	0	1	0	8
Basti	1	140,749	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
Bijnor	5	1,099,785	7	0	0	0	0	0	0	0	0	0	0	0	1	0	8
Budaun	4	625,172	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Bulandsahar	4	465,035	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Chandauli	2	195,344	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Chitrakoot	1	124,935	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
Deoria	1	143,358	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Etah	2	754,308	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Etawah	3	1,360,127	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3
Faizabad	3	533,377	6	1	1	0	0	0	0	0	0	0	0	0	0	0	8
Farrukhabad	1	71,464	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Fatehpur	3	905,357	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Firozabad	4	1,118,559	4	0	1	0	0	0	0	0	0	0	0	0	0	0	5

Fire-Risk and Hazard Analysis in the Country



District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Gautam Buddha Nagar	4	814,726	13	4	4	0	2	0	0	0	0	0	0	0	2	0	25
Ghaziabad	6	1,552,227	11	2	0	0	0	0	0	0	0	0	0	0	1	0	14
Ghazipur	3	928,703	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Gonda	2	483,918	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
Gorakhpur	4	443,692	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Hamirpur	3	221,941	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Hardoi	3	1,069,798	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Jalaun	5	722,030	4	0	0	0	0	0	0	0	0	0	0	0	1	0	5
Jaunpur	3	549,183	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Jhansi	3	736,553	7	0	0	0	0	0	0	0	0	0	0	0	1	0	8
Jyotiba Phule Nagar	2	263,486	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Kannauj	3	518,931	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Kanpur Dehat	3	364,227	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Kanpur Nagar	8	2,809,234	13	2	2	0	1	0	0	0	0	0	0	0	3	0	21
Kanshiram Nagar	2	500,622	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Kaushambi	3	814,823	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Kheri	5	887,892	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Kushinagar	3	974,829	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Lalitpur	1	135,702	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Lucknow	8	1,820,212	18	2	1	1	1	0	0	0	0	0	0	0	1	0	24
Mahamaya Nagar	4	806,635	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Maharajganj	2	333,365	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Mahoba	1	98,339	2	0	0	0	0	0	0	0	0	0	0	0	1	0	3
Mainpuri	4	959,546	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Mathura	4	903,507	6	1	1	0	0	0	0	0	0	0	0	0	1	0	9
Mau	1	143,586	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Meerut	4	1,305,162	15	1	0	0	0	0	0	0	0	0	0	0	0	0	16

Fire-Risk and Hazard Analysis in the Country



District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle	
Mirzapur	1	237,727	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Moradabad	5	838,656	9	1	1	0	0	0	0	0	0	0	0	0	0	0	0	11
Muzafarnagar	2	607,849	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Pilibhit	3	321,619	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Pratapgarh	6	975,421	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Rae Bareli	7	2,375,301	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Rampur	3	759,334	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Sant Kabir Nagar	1	49,540	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Sant Ravidas Nagar (Bhadohi)	2	777,388	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Shahjahanpur	4	1,193,745	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Sharanpur	4	783,594	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	7
Shrawasti	1	392,917	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Siddharthnagar	2	1,079,547	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Sitapur	5	1,692,692	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Sonbhadra	2	151,856	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Sultanpur	6	1,026,003	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Unnao	4	970,572	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Varanasi	4	565,725	9	2	1	0	1	0	0	0	0	0	0	0	1	0	0	14
Total	237	55,671,967	350	26	19	1	5	0	0	0	0	0	0	0	16	0	0	417

*: Fire fighting vehicles, which are under condemnation or off road for major repairs are not included. Replacement of such vehicles can be accounted for reserve vehicles in operational Fire Stations.

Table 18-5: Firefighting and rescue Vehicle gap in operational Fire Stations for their ideal jurisdiction area

District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Bowzers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Agra	5	749,337	-1	3	1	1	1	1	1	1	0	1	1	0	0	1	11
Aligarh	8	1,510,737	8	9	2	1	1	1	1	1	0	5	5	0	0	2	36
Allahabad	6	1,489,431	6	7	2	1	1	1	1	1	0	3	3	0	0	1	27
Ambedkar Nagar	4	942,692	5	5	2	1	0	1	1	1	0	2	2	0	0	1	21
Auraiya	2	542,586	3	3	1	1	0	1	1	1	0	1	1	0	0	1	14
Azamgarh	3	1,103,030	6	5	2	1	0	1	1	1	0	2	2	0	0	1	22
Baghpat	2	126,503	0	0	0	1	0	1	1	1	0	0	0	0	0	1	5
Bahraich	1	154,113	0	1	1	1	0	1	1	1	0	0	0	0	0	1	7
Ballia	3	975,932	6	7	2	1	0	1	1	1	0	1	1	0	0	1	22
Balrampur	1	41,471	0	0	0	1	0	1	1	1	0	0	0	0	0	1	5
Banda	1	138,454	-1	0	1	1	0	1	1	1	0	0	0	0	0	1	5
Bara Banki	5	2,143,586	15	12	4	1	0	1	1	1	0	4	4	0	0	1	44
Bareilly	6	2,254,170	13	12	5	1	1	1	1	1	0	4	4	0	0	1	44
Basti	1	140,749	-1	0	0	1	0	1	1	1	0	0	0	0	0	1	4
Bijnor	5	1,099,785	4	6	3	1	0	1	1	1	0	2	2	0	0	1	22
Budaun	4	625,172	3	4	2	1	0	1	1	1	0	1	1	0	0	1	16
Bulandsahar	4	465,035	1	3	2	1	0	1	1	1	0	0	0	0	0	2	12
Chandauli	2	195,344	0	0	1	1	0	1	1	1	0	0	0	0	0	1	6
Chitrakoot	1	124,935	-1	0	0	0	0	1	1	1	0	1	1	0	0	1	5
Deoria	1	143,358	0	0	1	1	0	1	1	1	0	0	0	0	0	1	6
Etah	2	754,308	4	4	2	1	0	1	1	1	0	1	1	0	0	1	17
Etawah	3	1,360,127	10	8	2	1	0	1	1	1	0	2	2	0	0	1	29
Faizabad	3	533,377	4	3	0	1	0	1	1	1	0	2	2	0	0	1	16
Farrukhabad	1	71,464	-1	0	1	1	0	1	1	1	0	0	0	0	0	1	5
Fatehpur	3	905,357	3	5	3	1	0	1	1	1	0	2	2	0	0	1	20

District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Firozabad	4	1,118,559	8	7	1	1	0	1	1	1	0	2	2	0	0	1	25
Gautam Buddha Nagar	4	814,726	-2	1	0	1	0	1	1	1	0	2	2	0	0	1	8
Ghaziabad	6	1,552,227	4	9	5	3	2	2	2	1	0	2	2	0	0	2	34
Ghazipur	3	928,703	6	6	2	1	0	1	1	1	0	3	3	0	0	1	25
Gonda	2	483,918	1	3	1	1	0	1	1	1	0	1	1	0	0	1	12
Gorakhpur	4	443,692	1	2	1	1	1	1	1	1	0	1	1	0	0	2	13
Hamirpur	3	221,941	1	1	0	1	0	1	1	1	0	1	1	0	0	1	9
Hardoi	3	1,069,798	5	8	3	1	0	1	1	1	0	2	2	0	0	1	25
Jalaun	5	722,030	6	5	1	1	0	1	1	1	0	2	2	0	0	1	21
Jaunpur	3	549,183	3	4	1	1	0	1	1	1	0	1	1	0	0	1	15
Jhansi	3	736,553	0	5	2	1	1	1	1	1	0	1	1	0	0	1	15
Jyotiba Phule Nagar	2	263,486	0	1	1	1	0	1	1	1	0	0	0	0	0	1	7
Kannauj	3	518,931	2	3	1	1	0	1	1	1	0	1	1	0	0	1	13
Kanpur Dehat	3	364,227	3	2	0	1	0	1	1	1	0	1	1	0	0	1	12
Kanpur Nagar	8	2,809,234	15	15	4	2	1	1	1	1	0	7	7	0	0	1	55
Kanshiram Nagar	2	500,622	2	3	1	1	0	1	1	1	0	1	1	0	0	1	13
Kaushambi	3	814,823	4	5	2	1	0	1	1	1	0	2	2	0	0	1	20
Kheri	5	887,892	7	6	2	1	0	1	1	1	0	2	2	0	0	2	25
Kushinagar	3	974,829	6	6	2	1	0	1	1	1	0	2	2	0	0	2	24
Lalitpur	1	135,702	-1	1	1	1	1	1	1	1	0	0	0	0	0	1	7
Lucknow	8	1,820,212	1	11	6	1	2	2	2	1	0	3	3	0	0	2	34
Mahamaya Nagar	4	806,635	7	6	1	1	0	1	1	1	0	2	2	0	0	1	23
Maharajganj	2	333,365	2	2	0	1	0	1	1	1	0	1	1	0	0	1	11
Mahoba	1	98,339	-1	0	1	1	0	1	1	1	0	0	0	0	0	1	5
Mainpuri	4	959,546	5	6	2	1	0	1	1	1	0	2	2	0	0	1	22
Mathura	4	903,507	6	7	0	1	1	1	1	1	0	3	3	0	0	1	25

District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Bowsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Mau	1	143,586	0	0	0	1	0	1	1	1	0	0	0	0	0	1	5
Meerut	4	1,305,162	-4	8	4	1	1	1	1	1	0	1	1	0	0	1	16
Mirzapur	1	237,727	1	1	1	1	1	1	1	1	0	0	0	0	0	1	9
Moradabad	5	838,656	3	4	1	1	1	1	1	1	0	2	2	0	0	2	19
Muzafarnagar	2	607,849	1	4	1	1	1	1	1	1	0	1	1	0	0	1	14
Pilibhit	3	321,619	0	2	1	1	0	1	1	1	0	1	1	0	0	1	10
Pratapgarh	6	975,421	4	5	2	1	0	1	1	1	0	3	3	0	0	2	23
Rae Bareli	7	2,375,301	16	15	5	1	0	1	1	1	0	6	6	0	0	2	54
Rampur	3	759,334	4	6	3	1	0	1	1	1	0	1	1	0	0	1	20
Sant Kabir Nagar	1	49,540	-2	0	0	1	0	1	1	1	0	0	0	0	0	1	3
Sant Ravidas Nagar (Bhadohi)	2	777,388	2	4	2	1	0	1	1	1	0	1	1	0	0	1	15
Shahjahanpur	4	1,193,745	11	10	1	1	1	1	1	1	0	3	3	0	0	1	34
Sharanpur	4	783,594	5	5	1	1	1	1	1	1	0	2	2	0	0	1	21
Shrawasti	1	392,917	3	4	0	0	0	1	1	1	0	1	1	0	0	1	13
Siddharthnagar	2	1,079,547	6	6	2	0	0	1	1	1	0	2	2	0	0	1	22
Sitapur	5	1,692,692	10	10	4	1	0	1	1	1	0	3	3	0	0	2	36
Sonbhadra	2	151,856	-1	1	1	1	0	1	1	1	0	0	0	0	0	1	6
Sultanpur	6	1,026,003	6	5	2	1	0	1	1	1	0	2	2	0	0	1	22
Unnao	4	970,572	4	6	3	1	0	1	1	1	0	2	2	0	0	1	22
Varanasi	4	565,725	0	2	2	2	0	1	1	1	0	2	2	0	0	2	15
Total	237	55,671,967	246	320	117	72	19	73	73	71	0	112	112	0	0	83	1298

Table 18-6: Additional firefighting and rescue vehicle required for new urban Fire Stations for their ideal jurisdiction areas

District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Bowsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Agra	8	1,103,860	13	8	5	1	0	1	1	0	0	2	2	0	0	1	34
Aligarh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Allahabad	3	442,251	6	3	2	0	1	1	1	0	0	0	0	0	0	1	15
Ambedkar Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auraiya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Azamgarh	2	81,827	2	0	0	0	0	0	0	0	0	0	0	0	0	1	3
Baghpat	1	38,348	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Bahraich	1	39,091	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2
Ballia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balrampur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Banda	4	77,521	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Bara Banki	2	85,186	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Bareilly	3	505,234	5	5	2	0	0	0	0	0	0	0	0	0	0	1	13
Basti	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bijnor	4	198,817	4	0	0	0	0	0	0	0	0	0	0	0	0	1	5
Budaun	2	97,041	2	0	0	0	0	0	0	0	0	0	0	0	0	1	3
Bulandsahar	2	44,731	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Chandauli	3	156,587	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Chitrakoot	2	104,589	2	1	0	1	0	0	0	0	0	0	0	0	0	0	4
Deoria	1	32,830	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Etah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Etawah	1	34,737	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Faizabad	1	54,182	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Farrukhabad	2	333,070	3	3	2	0	0	0	0	0	0	0	0	0	0	0	8
Fatehpur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Firozabad	1	44,009	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Gautam Buddha Nagar	4	434,371	5	4	1	0	0	0	0	0	0	0	0	0	0	0	10
Ghaziabad	8	1,158,800	13	9	5	0	0	0	0	0	0	0	0	0	0	0	27
Ghaziipur	1	97,553	1	1	0	0	0	0	0	0	0	0	0	0	0	1	3
Gonda	1	105,862	1	1	1	0	0	0	0	0	0	0	0	0	0	1	4
Gorakhpur	5	416,067	6	4	1	0	0	1	1	0	0	0	0	0	0	0	13
Hamirpur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hardoi	2	81,788	2	0	0	0	0	0	0	0	0	0	0	0	0	1	3
Jalaun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jaunpur	2	154,340	3	1	0	0	0	0	0	0	0	0	0	0	0	1	5
Jhansi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jyotiba Phule Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kannauj	2	91,884	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Kanpur Dehat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kanpur Nagar	4	853,783	9	8	4	1	0	0	0	0	0	1	1	0	0	1	25
Kanshiram Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kaushambi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kheri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kushinagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lalitpur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lucknow	6	1,351,488	15	10	4	1	0	0	0	0	0	1	1	0	0	0	32
Mahamaya Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maharajganj	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mahoba	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mainpuri	1	118,268	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3
Mathura	4	397,823	5	2	2	0	0	0	0	0	0	0	0	0	0	0	9
Mau	2	118,243	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3

District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Meerut	2	243,748	2	2	2	0	0	0	0	0	0	0	0	0	0	1	7
Mirzapur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moradabad	5	326,688	5	2	1	0	0	0	0	0	0	0	0	0	0	1	9
Muzafarnagar	3	202,967	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
Pilibhit	1	37,246	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pratapgarh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rae Bareli	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rampur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sant Kabir Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sant Ravidas Nagar (Bhadohi)	2	239,184	3	1	1	0	0	0	0	0	0	0	0	0	0	0	5
Shahjahanpur	2	111,422	2	1	0	0	0	0	0	0	0	0	0	0	0	1	4
Sharanpur	2	103,116	2	0	0	0	0	0	0	0	0	0	0	0	0	1	3
Shrawasti	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Siddharthnagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitapur	1	47,829	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Sonbhadra	6	529,838	6	4	3	0	0	0	0	0	0	0	0	0	0	0	13
Sultanpur	1	15,390	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2
Unnao	2	209,233	4	2	0	0	0	0	0	0	0	0	0	0	0	0	6
Varanasi	5	1,041,411	11	10	4	0	0	0	0	0	0	0	0	0	0	0	25
Total	117	11,962,253	160	86	41	4	1	3	3	0	0	4	4	0	0	17	323

Table 18-7: Total firefighting and rescue vehicle gap for operational and new urban Fire Stations

District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Agra	13	1,853,197	12	11	6	2	1	2	2	1	0	3	3	0	0	2	45
Aligarh	8	1,510,737	8	9	2	1	1	1	1	1	0	5	5	0	0	2	36
Allahabad	9	1,931,682	12	10	4	1	2	2	2	1	0	3	3	0	0	2	42
Ambedkar Nagar	4	942,692	5	5	2	1	0	1	1	1	0	2	2	0	0	1	21
Auraiya	2	542,586	3	3	1	1	0	1	1	1	0	1	1	0	0	1	14
Azamgarh	5	1,184,857	8	5	2	1	0	1	1	1	0	2	2	0	0	2	25
Baghpat	3	164,851	1	0	0	1	0	1	1	1	0	0	0	0	0	1	6
Bahraich	2	193,204	1	1	1	1	0	1	1	1	0	0	0	0	0	2	9
Ballia	3	975,932	6	7	2	1	0	1	1	1	0	1	1	0	0	1	22
Balrampur	1	41,471	0	0	0	1	0	1	1	1	0	0	0	0	0	1	5
Banda	5	215,975	3	0	1	1	0	1	1	1	0	0	0	0	0	1	9
Bara Banki	7	2,228,772	17	12	4	1	0	1	1	1	0	4	4	0	0	1	46
Bareilly	9	2,759,404	18	17	7	1	1	1	1	1	0	4	4	0	0	2	57
Basti	1	140,749	-1	0	0	1	0	1	1	1	0	0	0	0	0	1	4
Bijnor	9	1,298,602	8	6	3	1	0	1	1	1	0	2	2	0	0	2	27
Budaun	6	722,213	5	4	2	1	0	1	1	1	0	1	1	0	0	2	19
Bulandsahar	6	509,766	3	3	2	1	0	1	1	1	0	0	0	0	0	2	14
Chandauli	5	351,931	3	0	1	1	0	1	1	1	0	0	0	0	0	1	9
Chitrakoot	3	229,524	1	1	0	1	0	1	1	1	0	1	1	0	0	1	9
Deoria	2	176,188	1	0	1	1	0	1	1	1	0	0	0	0	0	1	7
Etah	2	754,308	4	4	2	1	0	1	1	1	0	1	1	0	0	1	17
Etawah	4	1,394,864	11	8	2	1	0	1	1	1	0	2	2	0	0	1	30
Faizabad	4	587,559	5	3	0	1	0	1	1	1	0	2	2	0	0	1	17
Farrukhabad	3	404,534	2	3	3	1	0	1	1	1	0	0	0	0	0	1	13

District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Fatehpur	3	905,357	3	5	3	1	0	1	1	1	0	2	2	0	0	1	20
Firozabad	5	1,162,568	9	7	1	1	0	1	1	1	0	2	2	0	0	1	26
Gautam Buddha Nagar	8	1,249,097	3	5	1	1	0	1	1	1	0	2	2	0	0	1	18
Ghaziabad	14	2,711,027	17	18	10	3	2	2	2	1	0	2	2	0	0	2	61
Ghazipur	4	1,026,256	7	7	2	1	0	1	1	1	0	3	3	0	0	2	28
Gonda	3	589,780	2	4	2	1	0	1	1	1	0	1	1	0	0	2	16
Gorakhpur	9	859,759	7	6	2	1	1	2	2	1	0	1	1	0	0	2	26
Hamirpur	3	221,941	1	1	0	1	0	1	1	1	0	1	1	0	0	1	9
Hardoi	5	1,151,586	7	8	3	1	0	1	1	1	0	2	2	0	0	2	28
Jalaun	5	722,030	6	5	1	1	0	1	1	1	0	2	2	0	0	1	21
Jaunpur	5	703,523	6	5	1	1	0	1	1	1	0	1	1	0	0	2	20
Jhansi	3	736,553	0	5	2	1	1	1	1	1	0	1	1	0	0	1	15
Jyotiba Phule Nagar	2	263,486	0	1	1	1	0	1	1	1	0	0	0	0	0	1	7
Kannauj	5	610,815	4	3	1	1	0	1	1	1	0	1	1	0	0	1	15
Kanpur Dehat	3	364,227	3	2	0	1	0	1	1	1	0	1	1	0	0	1	12
Kanpur Nagar	12	3,663,017	24	23	8	3	1	1	1	1	0	8	8	0	0	2	80
Kanshiram Nagar	2	500,622	2	3	1	1	0	1	1	1	0	1	1	0	0	1	13
Kaushambi	3	814,823	4	5	2	1	0	1	1	1	0	2	2	0	0	1	20
Kheri	5	887,892	7	6	2	1	0	1	1	1	0	2	2	0	0	2	25
Kushinagar	3	974,829	6	6	2	1	0	1	1	1	0	2	2	0	0	2	24
Lalitpur	1	135,702	-1	1	1	1	1	1	1	1	0	0	0	0	0	1	7
Lucknow	14	3,171,700	16	21	10	2	2	2	2	1	0	4	4	0	0	2	66
Mahamaya Nagar	4	806,635	7	6	1	1	0	1	1	1	0	2	2	0	0	1	23
Maharajganj	2	333,365	2	2	0	1	0	1	1	1	0	1	1	0	0	1	11
Mahoba	1	98,339	-1	0	1	1	0	1	1	1	0	0	0	0	0	1	5

District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Mainpuri	5	1,077,814	6	7	3	1	0	1	1	1	0	2	2	0	0	1	25
Mathura	8	1,301,330	11	9	2	1	1	1	1	1	0	3	3	0	0	1	34
Mau	3	261,829	2	1	0	1	0	1	1	1	0	0	0	0	0	1	8
Meerut	6	1,548,910	-2	10	6	1	1	1	1	1	0	1	1	0	0	2	23
Mirzapur	1	237,727	1	1	1	1	1	1	1	1	0	0	0	0	0	1	9
Moradabad	10	1,165,344	8	6	2	1	1	1	1	1	0	2	2	0	0	3	28
Muzafarnagar	5	810,816	4	6	1	1	1	1	1	1	0	1	1	0	0	1	19
Pilibhit	4	358,865	1	2	1	1	0	1	1	1	0	1	1	0	0	1	11
Pratapgarh	6	975,421	4	5	2	1	0	1	1	1	0	3	3	0	0	2	23
Rae Bareli	7	2,375,301	16	15	5	1	0	1	1	1	0	6	6	0	0	2	54
Rampur	3	759,334	4	6	3	1	0	1	1	1	0	1	1	0	0	1	20
Sant Kabir Nagar	1	49,540	-2	0	0	1	0	1	1	1	0	0	0	0	0	1	3
Sant Ravidas Nagar (Bhadohi)	4	1,016,572	5	5	3	1	0	1	1	1	0	1	1	0	0	1	20
Shahjahanpur	6	1,305,167	13	11	1	1	1	1	1	1	0	3	3	0	0	2	38
Sharanpur	6	886,710	7	5	1	1	1	1	1	1	0	2	2	0	0	2	24
Shrawasti	1	392,917	3	4	0	0	0	1	1	1	0	1	1	0	0	1	13
Siddharthnagar	2	1,079,547	6	6	2	0	0	1	1	1	0	2	2	0	0	1	22
Sitapur	6	1,740,521	11	10	4	1	0	1	1	1	0	3	3	0	0	2	37
Sonbhadra	8	681,694	5	5	4	1	0	1	1	1	0	0	0	0	0	1	19
Sultanpur	7	1,041,393	7	5	2	1	0	1	1	1	0	2	2	0	0	2	24
Unnao	6	1,179,805	8	8	3	1	0	1	1	1	0	2	2	0	0	1	28
Varanasi	9	1,607,136	11	12	6	2	0	1	1	1	0	2	2	0	0	2	40
Total	354	67,634,220	406	406	158	76	20	76	76	71	0	116	116	0	0	100	1621

Table 18-8: Additional vehicle required for new rural Fire Stations under their ideal jurisdiction areas

District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Agra	5	2,388,611	19	15	5	0	0	0	0	0	0	5	5	0	0	0	49
Aligarh	5	2,060,634	18	15	2	0	0	0	0	0	0	5	5	0	0	0	45
Allahabad	9	4,605,848	37	32	6	0	0	0	0	0	0	9	9	0	0	0	93
Ambedkar Nagar	4	1,499,058	14	11	2	0	0	0	0	0	0	4	4	0	0	0	35
Auraiya	2	649,788	7	6	0	0	0	0	0	0	0	2	2	0	0	0	17
Azamgarh	6	2,772,384	23	19	3	0	0	0	0	0	0	6	6	0	0	0	57
Baghpat	3	1,428,065	11	9	3	0	0	0	0	0	0	3	3	0	0	0	29
Bahraich	8	3,367,291	28	24	4	0	0	0	0	0	0	8	8	0	0	0	72
Ballia	5	1,848,729	18	15	0	0	0	0	0	0	0	5	5	0	0	0	43
Balrampur	5	2,224,940	19	16	1	0	0	0	0	0	0	5	5	0	0	0	46
Banda	9	1,539,698	16	13	0	0	0	0	0	0	0	9	9	0	0	0	47
Bara Banki	1	473,766	4	3	1	0	0	0	0	0	0	1	1	0	0	0	10
Bareilly	4	2,058,734	16	15	3	0	0	0	0	0	0	4	4	0	0	0	42
Basti	6	2,467,218	21	18	4	0	0	0	0	0	0	6	6	0	0	0	55
Bijnor	6	2,011,892	18	16	2	0	0	0	0	0	0	6	6	0	0	0	48
Budaun	6	2,356,536	21	17	3	0	0	0	0	0	0	6	6	0	0	0	53
Bulandsahar	5	2,730,824	19	18	5	0	0	0	0	0	0	5	5	0	0	0	52
Chandauli	3	1,012,176	9	7	1	0	0	0	0	0	0	3	3	0	0	0	23
Chitrakoot	4	718,259	8	5	0	0	0	0	0	0	0	4	4	0	0	0	21
Deoria	5	2,302,119	18	16	4	0	0	0	0	0	0	5	5	0	0	0	48
Etah	4	1,722,474	13	11	4	0	0	0	0	0	0	4	4	0	0	0	36
Etawah	1	161,254	2	1	0	0	0	0	0	0	0	1	1	0	0	0	5
Faizabad	4	1,408,774	14	12	1	0	0	0	0	0	0	4	4	0	0	0	35
Farrukhabad	3	1,539,631	11	11	3	0	0	0	0	0	0	3	3	0	0	0	31
Fatehpur	7	1,879,805	20	18	0	0	0	0	0	0	0	7	7	0	0	0	52

District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Firozabad	2	1,297,135	10	8	2	0	0	0	0	0	0	2	2	0	0	0	24
Gautam Buddha Nagar	2	774,270	7	5	1	0	0	0	0	0	0	2	2	0	0	0	17
Ghaziabad	4	1,939,603	15	13	3	0	0	0	0	0	0	4	4	0	0	0	39
Ghaziipur	7	3,611,257	28	25	5	0	0	0	0	0	0	7	7	0	0	0	72
Gonda	6	2,915,903	24	22	3	0	0	0	0	0	0	6	6	0	0	0	61
Gorakhpur	11	4,305,507	36	34	5	0	0	0	0	0	0	11	11	0	0	0	97
Hamirpur	6	773,398	7	5	0	0	0	0	0	0	0	6	6	0	0	0	24
Hardoi	9	2,973,767	29	24	2	0	0	0	0	0	0	9	9	0	0	0	73
Jalaun	5	995,998	11	8	0	0	0	0	0	0	0	5	5	0	0	0	29
Jaunpur	6	3,822,935	27	25	6	0	0	0	0	0	0	6	6	0	0	0	70
Jhansi	8	1,258,232	13	10	0	0	0	0	0	0	0	8	8	0	0	0	39
Jyotiba Phule Nagar	5	2,086,578	19	16	2	0	0	0	0	0	0	5	5	0	0	0	47
Kannauj	2	832,127	8	6	1	0	0	0	0	0	0	2	2	0	0	0	19
Kanpur Dehat	6	1,394,456	14	12	0	0	0	0	0	0	0	6	6	0	0	0	38
Kanpur Nagar	3	1,230,353	10	9	2	0	0	0	0	0	0	3	3	0	0	0	27
Kanshiram Nagar	1	512,328	4	3	1	0	0	0	0	0	0	1	1	0	0	0	10
Kaushambi	2	1,026,939	9	7	1	0	0	0	0	0	0	2	2	0	0	0	21
Kheri	10	2,907,862	31	24	1	0	0	0	0	0	0	10	10	0	0	0	76
Kushinagar	4	2,634,242	19	18	3	0	0	0	0	0	0	4	4	0	0	0	48
Lalitpur	7	1,070,995	11	8	0	0	0	0	0	0	0	7	7	0	0	0	33
Lucknow	4	1,782,832	14	12	3	0	0	0	0	0	0	4	4	0	0	0	37
Mahamaya Nagar	1	561,497	4	4	1	0	0	0	0	0	0	1	1	0	0	0	11
Maharajganj	6	2,334,740	22	18	1	0	0	0	0	0	0	6	6	0	0	0	53
Mahoba	4	774,123	9	5	0	0	0	0	0	0	0	4	4	0	0	0	22
Mainpuri	2	929,269	7	6	2	0	0	0	0	0	0	2	2	0	0	0	19
Mathura	5	1,428,832	17	13	0	0	0	0	0	0	0	5	5	0	0	0	40

District	Fire Stations	Ideally Served Population Estimates	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Mau	4	2,184,228	17	15	3	0	0	0	0	0	0	4	4	0	0	0	43
Meerut	5	1,894,684	17	13	3	0	0	0	0	0	0	5	5	0	0	0	43
Mirzapur	12	3,211,548	31	22	3	0	0	0	0	0	0	12	12	0	0	0	80
Moradabad	5	3,144,130	22	21	5	0	0	0	0	0	0	5	5	0	0	0	58
Muzafarnagar	10	3,548,424	32	28	3	0	0	0	0	0	0	10	10	0	0	0	83
Pilibhit	4	1,393,438	11	10	2	0	0	0	0	0	0	4	4	0	0	0	31
Pratapgarh	5	2,063,264	17	14	3	0	0	0	0	0	0	5	5	0	0	0	44
Rae Bareli	4	1,225,275	13	11	0	0	0	0	0	0	0	4	4	0	0	0	32
Rampur	4	1,942,793	15	13	4	0	0	0	0	0	0	4	4	0	0	0	40
Sant Kabir Nagar	3	1,452,369	11	11	2	0	0	0	0	0	0	3	3	0	0	0	30
Sant Ravidas Nagar (Bhadohi)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shahjahanpur	6	2,100,727	17	15	3	0	0	0	0	0	0	6	6	0	0	0	47
Sharanpur	9	2,316,890	22	20	2	0	0	0	0	0	0	9	9	0	0	0	62
Shrawasti	2	815,497	8	6	1	0	0	0	0	0	0	2	2	0	0	0	19
Siddharthnagar	3	1,205,961	12	9	1	0	0	0	0	0	0	3	3	0	0	0	28
Sitapur	7	2,723,802	24	21	3	0	0	0	0	0	0	7	7	0	0	0	62
Sonbhadra	7	934,209	11	6	0	0	0	0	0	0	0	7	7	0	0	0	31
Sultanpur	7	2,693,951	22	20	4	0	0	0	0	0	0	7	7	0	0	0	60
Unnao	4	1,669,437	13	12	3	0	0	0	0	0	0	4	4	0	0	0	36
Varanasi	3	2,022,944	15	12	3	0	0	0	0	0	0	3	3	0	0	0	36
Total	352	131,947,257	1139	962	150	0	0	0	0	0	0	352	352	0	0	0	2,955

Table 18-9: List of special equipment available with Uttar Pradesh Fire Service department (As on Sep, 2012)

District	Fire Stations	Ideally Served Population Estimates	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters/ Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Agra	5	749,337	0	0	17	0	0	0	0	1	0	1	0	0	7	0
Aligarh	8	1,510,737	0	0	7	0	2	0	0	0	0	4	0	0	7	2
Allahabad	6	1,489,431	0	0	15	0	4	0	3	1	0	10	0	0	9	0
Ambedkar Nagar	4	942,692	0	0	11	0	6	0	0	0	0	4	0	0	6	1
Auraiya	2	542,586	0	0	4	0	0	0	0	0	0	0	0	0	2	0
Azamgarh	3	1,103,030	0	0	6	0	5	0	0	0	0	2	0	0	7	0
Baghpat	2	126,503	0	0	3	0	2	0	0	1	0	1	0	0	3	0
Bahraich	1	154,113	0	0	4	0	0	0	0	0	0	3	0	0	4	2
Ballia	3	975,932	0	0	3	0	0	0	0	0	0	0	0	0	6	4
Balrampur	1	41,471	0	0	2	0	0	0	0	0	0	2	0	0	4	2
Banda	1	138,454	0	0	2	0	3	0	0	0	0	1	0	0	4	3
Bara Banki	5	2,143,586	0	0	4	0	1	0	1	1	0	0	0	0	6	3
Bareilly	6	2,254,170	0	0	3	2	0	0	0	0	0	4	0	0	7	0
Basti	1	140,749	0	0	10	0	3	0	0	0	0	4	0	0	7	1
Bijnor	5	1,099,785	0	0	6	0	2	0	1	1	0	3	0	0	5	0
Budaun	4	625,172	0	0	1	0	0	0	0	0	0	0	0	0	1	0
Bulandsahar	4	465,035	0	0	8	0	6	0	0	0	0	0	0	0	8	2
Chandauli	2	195,344	0	0	5	0	4	0	0	1	1	3	0	0	5	0
Chitrakoot	1	124,935	0	0	8	0	0	0	0	0	0	2	0	0	6	2
Deoria	1	143,358	0	0	4	0	0	0	0	0	0	2	0	0	5	0
Etah	2	754,308	0	0	3	0	3	0	0	0	0	2	0	0	2	0
Etawah	3	1,360,127	0	0	1	0	0	0	0	0	0	0	0	0	4	0
Faizabad	3	533,377	0	0	6	0	0	0	0	1	0	3	0	0	3	0
Farrukhabad	1	71,464	0	0	3	1	1	0	0	1	0	0	0	0	2	0

District	Fire Stations	Ideally Served Population Estimates	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters/ Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Fatehpur	3	905,357	0	0	5	0	1	0	0	0	0	2	0	0	4	0
Firozabad	4	1,118,559	0	0	7	0	1	0	0	1	0	1	0	0	4	0
Gautam Buddha Nagar	4	814,726	0	6	24	1	13	0	0	0	0	14	0	0	5	0
Ghaziabad	6	1,552,227	0	7	11	0	3	0	0	0	0	3	0	0	7	1
Ghazipur	3	928,703	0	0	3	0	2	0	0	0	0	0	0	0	5	0
Gonda	2	483,918	0	0	4	0	0	0	0	0	0	1	0	0	5	2
Gorakhpur	4	443,692	0	0	14	0	5	0	0	0	0	8	0	0	7	4
Hamirpur	3	221,941	0	0	5	0	1	0	0	0	0	2	0	0	3	1
Hardoi	3	1,069,798	0	0	5	0	3	0	0	0	0	2	0	0	4	1
Jalaun	5	722,030	0	0	4	0	1	0	1	1	0	2	0	0	3	0
Jaunpur	3	549,183	0	0	8	0	2	0	0	0	0	2	0	0	8	0
Jhansi	3	736,553	0	0	11	0	5	0	1	1	0	2	0	0	3	3
Jyotiba Phule Nagar	2	263,486	0	0	6	0	0	0	0	0	0	2	0	0	5	0
Kannauj	3	518,931	0	0	10	0	4	0	0	0	0	0	0	0	3	0
Kanpur Dehat	3	364,227	0	0	4	0	0	0	0	0	0	2	0	0	3	0
Kanpur Nagar	8	2,809,234	0	0	23	1	5	0	1	1	0	3	0	0	12	0
Kanshiram Nagar	2	500,622	0	0	4	0	0	0	0	0	0	2	0	0	2	0
Kaushambi	3	814,823	0	0	1	0	1	0	0	0	0	0	0	0	4	2
Kheri	5	887,892	0	0	7	1	2	0	0	0	0	1	0	0	5	0
Kushinagar	3	974,829	0	0	2	0	0	0	0	0	0	0	0	0	6	3
Lalitpur	1	135,702	0	0	2	0	0	0	0	0	0	0	0	0	3	1
Lucknow	8	1,820,212	0	0	22	2	13	0	9	1	1	9	0	0	9	2
Mahamaya Nagar	4	806,635	0	0	8	0	4	0	0	0	0	4	0	0	5	0
Maharajganj	2	333,365	0	0	2	0	2	0	0	0	0	0	0	0	5	3
Mahoba	1	98,339	0	0	2	0	2	0	0	1	0	1	0	0	3	2

District	Fire Stations	Ideally Served Population Estimates	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters/ Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Mainpuri	4	959,546	0	0	12	0	3	0	0	0	0	4	0	0	3	0
Mathura	4	903,507	0	0	7	0	0	0	0	0	0	7	0	0	4	0
Mau	1	143,586	0	0	4	0	5	0	0	0	0	2	0	0	4	2
Meerut	4	1,305,162	0	0	25	1	7	0	1	1	0	11	0	0	10	1
Mirzapur	1	237,727	0	0	6	0	0	0	0	0	0	1	0	0	6	0
Moradabad	5	838,656	0	0	16	0	1	0	1	1	0	5	0	0	8	0
Muzafarnagar	2	607,849	0	0	7	0	1	0	0	0	0	2	0	0	6	3
Pilibhit	3	321,619	0	0	2	0	1	0	0	0	0	0	0	0	3	0
Pratapgarh	6	975,421	0	0	2	0	1	0	0	0	0	3	0	0	5	0
Rae Bareli	7	2,375,301	0	0	11	0	1	0	0	0	0	2	0	0	4	1
Rampur	3	759,334	0	0	3	0	0	0	0	0	0	0	0	0	4	0
Sant Kabir Nagar	1	49,540	0	0	12	0	4	0	0	0	0	1	0	0	3	0
Sant Ravidas Nagar (Bhadohi)	2	777,388	0	0	6	0	3	0	0	0	0	4	0	0	1	2
Shahjahanpur	4	1,193,745	0	0	5	0	1	0	0	0	0	2	0	0	2	0
Sharanpur	4	783,594	0	0	10	0	0	0	1	2	0	6	0	0	8	0
Shrawasti	1	392,917	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Siddharthnagar	2	1,079,547	0	0	2	0	0	0	0	0	0	0	0	0	8	3
Sitapur	5	1,692,692	0	0	6	0	1	0	0	0	0	2	0	0	5	0
Sonbhadra	2	151,856	0	0	5	0	0	0	0	0	0	1	0	0	5	0
Sultanpur	6	1,026,003	0	0	9	0	2	0	0	0	0	2	0	0	8	1
Unnao	4	970,572	0	0	5	1	1	0	1	1	0	0	0	0	5	1
Varanasi	4	565,725	0	0	19	1	8	0	2	1	0	5	0	0	10	0
Total	237	55,671,967	0	13	504	11	153	0	23	20	2	174	0	0	355	61

**Table 18-10: List of specialized equipment available with Uttar Pradesh Fire Service department (As on Sep, 2012)
continued....**

District	Fire Stations	Ideally Served Population Estimates	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega Phones	Total
Agra	5	749,337	0	0	1	0	0	1	0	2	11	3	0	44
Aligarh	8	1,510,737	0	0	1	0	0	0	0	3	15	3	0	44
Allahabad	6	1,489,431	0	0	1	0	0	7	0	0	0	0	0	50
Ambedkar Nagar	4	942,692	0	0	1	0	0	2	0	2	8	1	0	42
Auraiya	2	542,586	0	0	0	0	0	0	0	1	1	2	0	10
Azamgarh	3	1,103,030	0	0	1	0	0	3	0	2	4	4	0	34
Baghpat	2	126,503	0	0	1	0	0	0	0	1	5	0	0	17
Bahraich	1	154,113	0	0	1	0	0	0	0	1	3	2	0	20
Ballia	3	975,932	0	0	1	0	0	2	0	2	8	2	0	28
Balrampur	1	41,471	0	0	1	0	0	1	0	1	3	3	0	19
Banda	1	138,454	0	0	1	0	0	3	0	1	8	0	0	26
Bara Banki	5	2,143,586	0	0	1	0	0	1	0	4	5	1	0	28
Bareilly	6	2,254,170	0	0	1	0	0	0	0	5	7	5	0	34
Basti	1	140,749	0	0	1	0	0	1	0	1	0	1	0	29
Bijnor	5	1,099,785	0	0	1	0	0	2	0	3	8	4	0	36
Budaun	4	625,172	0	0	0	1	0	1	0	2	3	0	0	9
Bulandsahar	4	465,035	0	0	0	1	0	0	0	4	10	5	0	44
Chandauli	2	195,344	0	0	4	0	0	3	0	4	0	0	0	30
Chitrakoot	1	124,935	0	0	1	0	0	1	0	6	2	0	0	28
Deoria	1	143,358	0	0	1	0	0	2	0	1	6	1	0	22
Etah	2	754,308	0	0	1	0	0	2	0	1	1	5	0	20
Etawah	3	1,360,127	0	0	1	0	0	2	0	2	3	2	0	15
Faizabad	3	533,377	0	0	1	0	0	1	0	2	10	4	0	31
Farrukhabad	1	71,464	0	0	1	0	0	1	0	1	4	3	0	18

District	Fire Stations	Ideally Served Population Estimates	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega Phones	Total
Fatehpur	3	905,357	0	0	1	0	0	2	0	7	5	0	0	27
Firozabad	4	1,118,559	0	0	0	0	0	4	0	1	4	5	0	28
Gautam Buddha Nagar	4	814,726	0	0	0	0	0	0	0	4	19	7	0	93
Ghaziabad	6	1,552,227	0	0	0	0	0	5	0	5	14	8	0	64
Ghaziipur	3	928,703	0	0	1	0	0	1	0	1	3	1	0	17
Gonda	2	483,918	0	0	1	0	0	1	0	2	6	5	0	27
Gorakhpur	4	443,692	0	0	1	1	0	1	0	2	12	4	0	59
Hamirpur	3	221,941	0	0	1	0	0	1	0	2	2	0	0	18
Hardoi	3	1,069,798	0	0	1	0	0	1	0	2	7	1	0	27
Jalaun	5	722,030	0	0	0	1	0	3	0	4	6	1	0	27
Jaunpur	3	549,183	0	0	1	0	0	1	0	0	0	0	0	22
Jhansi	3	736,553	0	0	1	0	0	4	0	3	7	0	0	41
Jyotiba Phule Nagar	2	263,486	0	0	0	0	0	2	0	2	1	4	0	22
Kannauj	3	518,931	0	0	1	0	0	2	0	1	5	0	0	26
Kanpur Dehat	3	364,227	0	0	1	0	0	1	0	1	3	1	0	16
Kanpur Nagar	8	2,809,234	0	0	1	0	0	4	0	5	23	9	0	88
Kanshiram Nagar	2	500,622	0	0	0	0	0	0	0	1	2	2	0	13
Kaushambi	3	814,823	0	0	1	0	0	1	0	6	4	0	0	20
Kheri	5	887,892	0	0	0	0	0	0	0	3	6	3	0	28
Kushinagar	3	974,829	0	0	1	0	0	1	0	1	4	1	0	19
Lalitpur	1	135,702	0	0	1	0	0	1	0	1	2	0	0	11
Lucknow	8	1,820,212	0	0	2	0	1	7	0	8	30	8	0	124
Mahamaya Nagar	4	806,635	0	0	0	0	0	4	0	0	6	4	0	35
Maharajganj	2	333,365	0	0	1	0	0	1	0	2	7	2	0	25
Mahoba	1	98,339	0	0	1	0	0	1	0	1	4	0	0	18
Mainpuri	4	959,546	0	0	0	0	0	0	0	1	6	2	0	31

District	Fire Stations	Ideally Served Population Estimates	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega Phones	Total
Mathura	4	903,507	0	0	1	0	0	7	0	2	5	4	0	37
Mau	1	143,586	0	0	1	0	0	2	0	4	0	2	0	26
Meerut	4	1,305,162	0	0	1	0	0	11	0	4	15	4	0	92
Mirzapur	1	237,727	0	0	1	0	0	1	0	1	3	1	0	20
Moradabad	5	838,656	0	0	0	0	0	1	0	4	12	3	0	52
Muzafarnagar	2	607,849	0	0	1	0	0	3	0	2	7	2	0	34
Pilibhit	3	321,619	0	0	1	0	0	1	0	2	6	2	0	18
Pratapgarh	6	975,421	0	0	0	0	0	3	0	5	6	0	0	25
Rae Bareli	7	2,375,301	0	0	1	0	0	3	0	2	8	1	0	34
Rampur	3	759,334	0	0	1	0	0	1	0	1	4	2	0	16
Sant Kabir Nagar	1	49,540	0	0	1	0	0	7	0	1	4	5	0	38
Sant Ravidas Nagar (Bhadohi)	2	777,388	0	0	1	0	0	4	0	2	1	0	0	24
Shahjahanpur	4	1,193,745	0	0	1	0	0	0	0	2	4	0	0	17
Sharanpur	4	783,594	0	0	1	0	0	0	0	4	8	4	0	44
Shrawasti	1	392,917	0	0	0	0	0	2	0	0	3	2	0	8
Siddharthnagar	2	1,079,547	0	0	1	0	0	2	0	2	5	2	0	25
Sitapur	5	1,692,692	0	0	1	0	0	3	0	2	7	2	0	29
Sonbhadra	2	151,856	0	0	1	0	0	2	0	6	2	0	0	22
Sultanpur	6	1,026,003	0	0	1	0	0	1	0	1	10	7	0	42
Unnao	4	970,572	0	0	1	0	0	1	0	3	5	1	0	26
Varanasi	4	565,725	0	0	1	0	0	3	0	14	1	5	0	70
Total	237	55,671,967	0	0	60	4	1	143	0	182	429	168	0	2,303

Table 18-11: Special Equipment Gap in operational Fire Stations for ideal jurisdiction area

District	Fire Stations	Ideally Served Population Estimates	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters/ Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Agra	5	749,337	2	20	62	6	23	2	6	5	6	22	20	2	10	0
Aligarh	8	1,510,737	5	25	139	10	40	5	6	10	10	38	25	5	26	0
Allahabad	6	1,489,431	2	20	117	7	32	2	2	6	7	26	20	2	20	0
Ambedkar Nagar	4	942,692	1	6	85	5	19	1	2	5	5	21	6	1	15	0
Auraiya	2	542,586	1	1	42	2	13	1	1	2	2	13	1	1	8	0
Azamgarh	3	1,103,030	1	4	90	4	20	1	1	4	4	23	4	1	14	0
Baghpat	2	126,503	2	4	11	2	2	2	2	1	2	3	4	2	0	0
Bahraich	1	154,113	1	5	15	1	5	1	1	1	1	2	5	1	0	0
Ballia	3	975,932	1	10	86	4	23	1	2	4	4	23	10	1	13	0
Balrampur	1	41,471	1	2	8	1	2	1	1	1	1	0	2	1	-2	0
Banda	1	138,454	1	4	12	1	1	1	1	1	1	3	4	1	-1	0
Bara Banki	5	2,143,586	1	5	178	6	47	1	0	5	6	48	5	1	34	0
Bareilly	6	2,254,170	2	18	184	5	50	2	4	7	7	46	18	2	34	0
Basti	1	140,749	1	4	4	1	1	1	1	1	1	0	4	1	-4	0
Bijnor	5	1,099,785	4	7	95	6	25	4	3	5	6	24	7	4	17	0
Budaun	4	625,172	1	6	59	5	17	1	4	5	5	17	6	1	12	0
Bulandsahar	4	465,035	5	14	50	5	8	5	5	5	5	14	14	5	4	0
Chandauli	2	195,344	1	5	14	2	1	1	2	1	1	2	5	1	-1	0
Chitrakoot	1	124,935	1	0	4	1	4	1	0	1	1	2	0	1	-3	0
Deoria	1	143,358	1	4	10	1	4	1	1	1	1	2	4	1	-2	0
Etah	2	754,308	1	5	62	2	14	1	1	2	2	15	5	1	12	0
Etawah	3	1,360,127	1	7	114	4	30	1	1	4	4	30	7	1	21	0
Faizabad	3	533,377	2	11	71	4	20	2	2	3	4	17	11	2	14	0
Farrukhabad	1	71,464	1	2	7	0	1	1	1	0	1	2	2	1	0	0

Fire-Risk and Hazard Analysis in the Country



District	Fire Stations	Ideally Served Population Estimates	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters/ Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Fatehpur	3	905,357	1	5	77	4	21	1	1	4	4	20	5	1	14	0
Firozabad	4	1,118,559	1	18	99	5	27	1	4	4	5	27	18	1	19	0
Gautam Buddha Nagar	4	814,726	5	20	77	4	13	5	5	5	5	12	26	5	17	0
Ghaziabad	6	1,552,227	7	33	143	7	37	7	7	7	7	37	40	7	26	0
Ghazipur	3	928,703	1	5	86	4	22	1	1	4	4	24	5	1	15	0
Gonda	2	483,918	1	2	42	2	12	1	1	2	2	11	2	1	5	0
Gorakhpur	4	443,692	4	14	41	5	12	4	5	5	5	9	14	4	5	0
Hamirpur	3	221,941	1	2	21	4	8	1	2	4	4	7	2	1	3	0
Hardoi	3	1,069,798	1	6	91	4	22	1	1	4	4	23	6	1	17	0
Jalaun	5	722,030	1	6	78	6	22	1	3	5	6	21	6	1	15	0
Jaunpur	3	549,183	1	5	47	4	12	1	2	4	4	12	5	1	4	0
Jhansi	3	736,553	1	12	59	4	14	1	1	3	4	17	12	1	12	0
Jyotiba Phule Nagar	2	263,486	2	7	23	2	7	2	2	2	2	5	7	2	1	0
Kannauj	3	518,931	1	2	40	4	11	1	2	4	4	15	2	1	8	0
Kanpur Dehat	3	364,227	1	2	32	4	11	1	2	4	4	9	2	1	5	0
Kanpur Nagar	8	2,809,234	5	52	239	9	65	5	6	9	10	67	52	5	46	0
Kanshiram Nagar	2	500,622	1	2	42	2	12	1	1	2	2	10	2	1	8	0
Kaushambi	3	814,823	1	1	71	4	19	1	1	4	4	20	1	1	12	0
Kheri	5	887,892	2	8	89	5	24	2	4	6	6	25	8	2	16	0
Kushinagar	3	974,829	1	2	84	4	23	1	1	4	4	23	2	1	13	0
Lalitpur	1	135,702	1	4	12	1	4	1	1	1	1	4	4	1	0	0
Lucknow	8	1,820,212	6	43	172	8	37	6	-1	9	9	41	43	6	33	0
Mahamaya Nagar	4	806,635	1	6	78	5	20	1	2	5	5	20	6	1	14	0
Maharajganj	2	333,365	1	2	34	2	8	1	1	2	2	10	2	1	3	0
Mahoba	1	98,339	1	2	8	1	0	1	1	0	1	1	2	1	-1	0

District	Fire Stations	Ideally Served Population Estimates	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters/ Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Mainpuri	4	959,546	1	2	74	5	21	1	2	5	5	20	2	1	16	0
Mathura	4	903,507	1	12	101	5	29	1	2	5	5	22	12	1	20	0
Mau	1	143,586	1	4	10	1	-1	1	1	1	1	2	4	1	-1	0
Meerut	4	1,305,162	5	30	93	4	23	5	4	4	5	19	30	5	15	0
Mirzapur	1	237,727	1	7	23	1	7	1	1	1	1	6	7	1	0	0
Moradabad	5	838,656	6	25	80	6	25	6	5	5	6	21	25	6	13	0
Muzafarnagar	2	607,849	2	14	48	2	13	2	2	2	2	12	14	2	6	0
Pilibhit	3	321,619	1	6	34	4	9	1	2	4	4	10	6	1	5	0
Pratapgarh	6	975,421	1	7	101	7	28	1	4	7	7	26	7	1	18	0
Rae Bareli	7	2,375,301	1	6	210	8	58	1	1	8	8	57	6	1	45	0
Rampur	3	759,334	2	11	76	4	20	2	2	4	4	20	11	2	13	0
Sant Kabir Nagar	1	49,540	1	2	-2	1	-2	1	1	1	1	1	2	1	-1	0
Sant Ravidas Nagar (Bhadohi)	2	777,388	1	2	54	2	13	1	1	2	2	12	2	1	12	0
Shahjahanpur	4	1,193,745	1	8	127	5	34	1	1	5	5	33	8	1	27	0
Sharanpur	4	783,594	5	24	81	5	26	5	4	3	5	20	24	5	12	0
Shrawasti	1	392,917	1	0	46	1	11	1	0	1	1	12	0	1	10	0
Siddharthnagar	2	1,079,547	1	0	84	2	23	1	0	2	2	23	0	1	11	0
Sitapur	5	1,692,692	1	6	140	6	38	1	2	6	6	37	6	1	27	0
Sonbhadra	2	151,856	1	5	14	2	6	1	2	2	2	5	5	1	-1	0
Sultanpur	6	1,026,003	1	7	92	7	27	1	5	7	7	27	7	1	14	0
Unnao	4	970,572	1	6	86	4	24	1	1	4	5	25	6	1	15	0
Varanasi	4	565,725	2	22	63	4	14	2	3	4	5	17	22	2	8	0
Total	237	55,671,967	127	656	4939	275	1311	127	152	266	284	1290	669	127	835	0

Table 18-12: Special Equipment Gap in Operational Fire Stations for ideal jurisdiction area (continue ...)

District	Fire Stations	Ideally Served Population Estimates	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega Phones	Total
Agra	5	749,337	0	0	5	6	2	19	0	4	9	20	6	257
Aligarh	8	1,510,737	0	0	9	6	5	40	0	7	25	39	6	481
Allahabad	6	1,489,431	0	0	6	5	2	28	0	7	35	36	5	387
Ambedkar Nagar	4	942,692	0	0	4	2	1	23	0	3	17	24	2	248
Auraiya	2	542,586	0	0	2	1	1	12	0	1	11	11	1	128
Azamgarh	3	1,103,030	0	0	3	1	1	22	0	2	21	21	1	243
Baghpat	2	126,503	0	0	1	2	2	4	0	1	-1	4	2	52
Bahraich	1	154,113	0	0	0	1	1	5	0	0	2	3	1	52
Ballia	3	975,932	0	0	3	2	1	21	0	2	15	21	2	249
Balrampur	1	41,471	0	0	0	1	1	1	0	0	-1	-1	1	21
Banda	1	138,454	0	0	0	1	1	1	0	0	-4	4	1	34
Bara Banki	5	2,143,586	0	0	5	1	1	47	0	2	43	47	1	484
Bareilly	6	2,254,170	0	0	6	4	2	49	0	2	42	45	4	533
Basti	1	140,749	0	0	0	1	1	3	0	0	4	3	1	29
Bijnor	5	1,099,785	0	0	5	4	4	24	0	3	18	23	4	292
Budaun	4	625,172	0	0	5	3	1	15	0	3	13	17	4	200
Bulandsahar	4	465,035	0	0	5	4	5	14	0	1	4	9	5	186
Chandauli	2	195,344	0	0	-2	2	1	2	0	-2	5	5	2	48
Chitrakoot	1	124,935	0	0	0	0	1	3	0	-5	2	4	0	18
Deoria	1	143,358	0	0	0	1	1	2	0	0	-2	3	1	35
Etah	2	754,308	0	0	1	1	1	15	0	1	16	12	1	171
Etawah	3	1,360,127	0	0	3	1	1	28	0	2	27	28	1	316
Faizabad	3	533,377	0	0	3	2	2	19	0	2	10	16	2	219
Farrukhabad	1	71,464	0	0	0	1	1	1	0	0	-2	-1	1	20
Fatehpur	3	905,357	0	0	3	1	1	20	0	-3	17	22	1	220

District	Fire Stations	Ideally Served Population Estimates	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega Phones	Total
Firozabad	4	1,118,559	0	0	5	4	1	24	0	4	24	23	4	318
Gautam Buddha Nagar	4	814,726	0	0	5	5	5	26	0	1	7	19	5	272
Ghaziabad	6	1,552,227	0	0	7	7	7	35	0	2	26	32	7	488
Ghazipur	3	928,703	0	0	3	1	1	23	0	3	21	23	1	249
Gonda	2	483,918	0	0	1	1	1	11	0	0	6	7	1	112
Gorakhpur	4	443,692	0	0	4	4	4	13	0	3	2	13	5	175
Hamirpur	3	221,941	0	0	3	2	1	6	0	2	5	9	2	90
Hardoi	3	1,069,798	0	0	3	1	1	24	0	2	18	24	1	255
Jalaun	5	722,030	0	0	6	3	1	19	0	2	16	22	4	244
Jaunpur	3	549,183	0	0	3	2	1	13	0	4	14	14	2	155
Jhansi	3	736,553	0	0	3	2	1	14	0	1	11	19	2	194
Jyotiba Phule Nagar	2	263,486	0	0	2	2	2	5	0	0	6	3	2	86
Kannauj	3	518,931	0	0	3	2	1	11	0	3	8	15	2	140
Kanpur Dehat	3	364,227	0	0	3	2	1	9	0	3	7	10	2	115
Kanpur Nagar	8	2,809,234	0	0	9	7	5	66	0	5	47	61	7	777
Kanshiram Nagar	2	500,622	0	0	2	1	1	12	0	1	10	10	1	124
Kaushambi	3	814,823	0	0	3	1	1	18	0	-2	15	20	1	197
Kheri	5	887,892	0	0	6	4	2	25	0	3	19	23	4	283
Kushinagar	3	974,829	0	0	3	1	1	22	0	3	19	22	1	235
Lalitpur	1	135,702	0	0	0	1	1	3	0	0	2	4	1	47
Lucknow	8	1,820,212	0	0	8	8	5	43	0	2	20	42	8	548
Mahamaya Nagar	4	806,635	0	0	5	2	1	19	0	5	17	20	2	235
Maharajganj	2	333,365	0	0	1	1	1	9	0	0	3	8	1	93
Mahoba	1	98,339	0	0	0	1	1	1	0	0	-2	2	1	22
Mainpuri	4	959,546	0	0	5	2	1	23	0	4	17	22	2	231
Mathura	4	903,507	0	0	4	2	1	22	0	3	24	25	2	299

District	Fire Stations	Ideally Served Population Estimates	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega Phones	Total
Mau	1	143,586	0	0	0	1	1	2	0	-3	4	2	1	33
Meerut	4	1,305,162	0	0	4	5	5	19	0	1	15	26	5	322
Mirzapur	1	237,727	0	0	0	1	1	6	0	0	4	6	1	76
Moradabad	5	838,656	0	0	6	6	6	24	0	2	13	23	6	315
Muzafarnagar	2	607,849	0	0	1	2	2	11	0	0	7	12	2	158
Pilibhit	3	321,619	0	0	3	2	1	9	0	2	4	8	2	118
Pratapgarh	6	975,421	0	0	7	4	1	25	0	2	22	29	4	309
Rae Bareli	7	2,375,301	0	0	7	1	1	56	0	6	51	58	1	591
Rampur	3	759,334	0	0	3	2	2	19	0	3	16	18	2	236
Sant Kabir Nagar	1	49,540	0	0	0	1	1	-5	0	0	-2	-3	1	0
Sant Ravidas Nagar (Bhadohi)	2	777,388	0	0	1	1	1	12	0	0	15	16	1	152
Shahjahanpur	4	1,193,745	0	0	4	1	1	35	0	3	31	35	1	367
Sharanpur	4	783,594	0	0	4	5	5	24	0	1	16	22	5	301
Shrawasti	1	392,917	0	0	1	0	1	10	0	1	9	10	0	117
Siddharthnagar	2	1,079,547	0	0	1	0	1	21	0	0	18	21	0	212
Sitapur	5	1,692,692	0	0	5	2	1	35	0	4	31	37	2	394
Sonbhadra	2	151,856	0	0	1	2	1	3	0	-4	3	6	2	59
Sultanpur	6	1,026,003	0	0	6	5	1	25	0	6	16	22	5	289
Unnao	4	970,572	0	0	4	2	1	23	0	2	19	24	2	256
Varanasi	4	565,725	0	0	4	5	2	19	0	-9	21	17	5	232
Total	237	55,671,967	0	0	226	171	126	1287	0	104	1001	1296	175	15,444

Table 18-13: Additional equipment required for new urban Fire Stations under their ideal jurisdiction areas

District	Fire Stations	Ideally Served Population Estimates	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters/ Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Agra	8	1,103,860	4	34	130	10	36	4	10	10	10	36	34	4	28	0
Aligarh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Allahabad	3	442,251	2	13	53	4	14	2	4	4	4	14	13	2	11	0
Ambedkar Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auraiya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Azamgarh	2	81,827	0	2	10	2	4	0	2	2	2	4	2	0	2	0
Baghpat	1	38,348	1	1	5	1	2	1	1	1	1	2	1	1	1	0
Bahraich	1	39,091	1	1	5	1	2	1	1	1	1	2	1	1	1	0
Ballia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balrampur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Banda	4	77,521	0	5	19	5	8	0	5	5	5	8	5	0	4	0
Bara Banki	2	85,186	0	2	10	2	4	0	2	2	2	4	2	0	2	0
Bareilly	3	505,234	2	14	58	4	14	2	4	4	4	14	14	2	12	0
Basti	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bijnor	4	198,817	5	5	19	5	8	5	5	5	5	8	5	5	4	0
Budaun	2	97,041	1	2	10	2	4	1	2	2	2	4	2	1	2	0
Bulandsahar	2	44,731	2	2	10	2	4	2	2	2	2	4	2	2	2	0
Chandauli	3	156,587	0	4	14	4	6	0	4	4	4	6	4	0	3	0
Chitrakoot	2	104,589	0	4	14	2	4	0	2	2	2	4	4	0	3	0
Deoria	1	32,830	0	1	5	1	2	0	1	1	1	2	1	0	1	0
Etah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Etawah	1	34,737	0	1	5	1	2	0	1	1	1	2	1	0	1	0
Faizabad	1	54,182	0	1	5	1	2	0	1	1	1	2	1	0	1	0

District	Fire Stations	Ideally Served Population Estimates	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters/ Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Farrukhabad	2	333,070	1	10	38	2	10	1	2	2	2	10	10	1	8	0
Fatehpur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Firozabad	1	44,009	0	1	5	1	2	0	1	1	1	2	1	0	1	0
Gautam Buddha Nagar	4	434,371	5	12	48	5	13	5	5	5	5	13	12	5	10	0
Ghaziabad	8	1,158,800	10	32	130	10	34	10	10	10	10	34	32	10	27	0
Ghazipur	1	97,553	0	2	10	1	2	0	1	1	1	2	2	0	2	0
Gonda	1	105,862	0	4	14	1	4	0	1	1	1	4	4	0	3	0
Gorakhpur	5	416,067	5	13	53	6	15	5	6	6	6	15	13	5	11	0
Hamirpur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hardoi	2	81,788	0	2	10	2	4	0	2	2	2	4	2	0	2	0
Jalaun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jaunpur	2	154,340	0	5	19	2	6	0	2	2	2	6	5	0	4	0
Jhansi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jyotiba Phule Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kannauj	2	91,884	0	2	10	2	4	0	2	2	2	4	2	0	2	0
Kanpur Dehat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kanpur Nagar	4	853,783	4	26	103	5	26	4	5	5	5	26	26	4	22	0
Kanshiram Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kaushambi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kheri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kushinagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lalitpur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lucknow	6	1,351,488	5	36	142	7	37	5	7	7	7	37	36	5	30	0
Mahamaya Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maharajanj	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

District	Fire Stations	Ideally Served Population Estimates	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters/ Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Mahoba	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mainpuri	1	118,268	0	4	14	1	4	0	1	1	1	4	4	0	3	0
Mathura	4	397,823	1	11	43	5	12	1	5	5	5	12	11	1	9	0
Mau	2	118,243	0	4	14	2	4	0	2	2	2	4	4	0	3	0
Meerut	2	243,748	2	7	29	2	7	2	2	2	2	7	7	2	6	0
Mirzapur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moradabad	5	326,688	6	10	38	6	12	6	6	6	6	12	10	6	8	0
Muzafarnagar	3	202,967	4	6	24	4	7	4	4	4	4	7	6	4	5	0
Pilibhit	1	37,246	1	1	5	1	2	1	1	1	1	2	1	1	1	0
Pratapgarh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rae Bareli	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rampur	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sant Kabir Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sant Ravidas Nagar (Bhadohi)	2	239,184	1	6	24	2	7	1	2	2	2	7	6	1	5	0
Shahjahanpur	2	111,422	0	4	14	2	4	0	2	2	2	4	4	0	3	0
Sharanpur	2	103,116	2	2	10	2	4	2	2	2	2	4	2	2	2	0
Shrawasti	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Siddharthnagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitapur	1	47,829	0	1	5	1	2	0	1	1	1	2	1	0	1	0
Sonbhadra	6	529,838	0	16	62	7	17	0	7	7	7	17	16	0	13	0
Sultanpur	1	15,390	0	1	5	1	2	0	1	1	1	2	1	0	1	0
Unnao	2	209,233	1	7	29	2	8	1	2	2	2	8	7	1	6	0
Varanasi	5	1,041,411	4	30	120	6	30	4	6	6	6	30	30	4	25	0
Total	117	11,962,253	70	347	1390	135	395	70	135	135	135	395	347	70	291	0

Table 18-14: Additional equipment required for new urban Fire Stations under their ideal jurisdiction areas (Continue)

District	Fire Stations	Ideally Served Population Estimates	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega Phones	Total
Agra	8	1,103,860	0	0	10	10	4	34	0	10	34	36	10	498
Aligarh	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Allahabad	3	442,251	0	0	4	4	2	13	0	4	13	14	4	198
Ambedkar Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auraiya	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Azamgarh	2	81,827	0	0	2	2	0	2	0	2	2	4	2	48
Baghpat	1	38,348	0	0	1	1	1	1	0	1	1	2	1	28
Bahraich	1	39,091	0	0	1	1	1	1	0	1	1	2	1	28
Ballia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Balrampur	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Banda	4	77,521	0	0	5	5	0	5	0	5	5	8	5	107
Bara Banki	2	85,186	0	0	2	2	0	2	0	2	2	4	2	48
Bareilly	3	505,234	0	0	4	4	2	14	0	4	14	14	4	208
Basti	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bijnor	4	198,817	0	0	5	5	5	5	0	5	5	8	5	127
Budaun	2	97,041	0	0	2	2	1	2	0	2	2	4	2	52
Bulandsahar	2	44,731	0	0	2	2	2	2	0	2	2	4	2	56
Chandauli	3	156,587	0	0	4	4	0	4	0	4	4	6	4	83
Chitrakoot	2	104,589	0	0	2	2	0	4	0	2	4	4	2	61
Deoria	1	32,830	0	0	1	1	0	1	0	1	1	2	1	24
Etah	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Etawah	1	34,737	0	0	1	1	0	1	0	1	1	2	1	24
Faizabad	1	54,182	0	0	1	1	0	1	0	1	1	2	1	24
Farrukhabad	2	333,070	0	0	2	2	1	10	0	2	10	10	2	136
Fatehpur	0	0	0	0	0	0	0	0	0	0	0	0	0	0

District	Fire Stations	Ideally Served Population Estimates	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega Phones	Total
Firozabad	1	44,009	0	0	1	1	0	1	0	1	1	2	1	24
Gautam Buddha Nagar	4	434,371	0	0	5	5	5	12	0	5	12	13	5	205
Ghaziabad	8	1,158,800	0	0	10	10	10	32	0	10	32	34	10	507
Ghazipur	1	97,553	0	0	1	1	0	2	0	1	2	2	1	34
Gonda	1	105,862	0	0	1	1	0	4	0	1	4	4	1	53
Gorakhpur	5	416,067	0	0	6	6	5	13	0	6	13	15	6	229
Hamirpur	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hardoi	2	81,788	0	0	2	2	0	2	0	2	2	4	2	48
Jalaun	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jaunpur	2	154,340	0	0	2	2	0	5	0	2	5	6	2	77
Jhansi	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jyotiba Phule Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kannauj	2	91,884	0	0	2	2	0	2	0	2	2	4	2	48
Kanpur Dehat	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kanpur Nagar	4	853,783	0	0	5	5	4	26	0	5	26	26	5	363
Kanshiram Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kaushambi	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kheri	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kushinagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lalitpur	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lucknow	6	1,351,488	0	0	7	7	5	36	0	7	36	37	7	503
Mahamaya Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maharajganj	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mahoba	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mainpuri	1	118,268	0	0	1	1	0	4	0	1	4	4	1	53
Mathura	4	397,823	0	0	5	5	1	11	0	5	11	12	5	176

District	Fire Stations	Ideally Served Population Estimates	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega Phones	Total
Mau	2	118,243	0	0	2	2	0	4	0	2	4	4	2	61
Meerut	2	243,748	0	0	2	2	2	7	0	2	7	7	2	108
Mirzapur	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moradabad	5	326,688	0	0	6	6	6	10	0	6	10	12	6	194
Muzafarnagar	3	202,967	0	0	4	4	4	6	0	4	6	7	4	122
Pilibhit	1	37,246	0	0	1	1	1	1	0	1	1	2	1	28
Pratapgarh	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rae Bareli	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rampur	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sant Kabir Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sant Ravidas Nagar (Bhadohi)	2	239,184	0	0	2	2	1	6	0	2	6	7	2	94
Shahjahanpur	2	111,422	0	0	2	2	0	4	0	2	4	4	2	61
Sharanpur	2	103,116	0	0	2	2	2	2	0	2	2	4	2	56
Shrawasti	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Siddharthnagar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitapur	1	47,829	0	0	1	1	0	1	0	1	1	2	1	24
Sonbhadra	6	529,838	0	0	7	7	0	16	0	7	16	17	7	246
Sultanpur	1	15,390	0	0	1	1	0	1	0	1	1	2	1	24
Unnao	2	209,233	0	0	2	2	1	7	0	2	7	8	2	107
Varanasi	5	1,041,411	0	0	6	6	4	30	0	6	30	30	6	419
Total	117	11,962,253	0	0	135	135	70	347	0	135	347	395	135	5,614

Table 18-15: Total gap in specialized equipment for operational and new urban Fire Stations

District	Fire Stations	Ideally Served Population Estimates	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters/ Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Agra	13	1,853,197	6	54	192	16	59	6	16	15	16	58	54	6	38	0
Aligarh	8	1,510,737	5	25	139	10	40	5	6	10	10	38	25	5	26	0
Allahabad	9	1,931,682	4	33	170	11	46	4	6	10	11	40	33	4	31	0
Ambedkar Nagar	4	942,692	1	6	85	5	19	1	2	5	5	21	6	1	15	0
Auraiya	2	542,586	1	1	42	2	13	1	1	2	2	13	1	1	8	0
Azamgarh	5	1,184,857	1	6	100	6	24	1	3	6	6	27	6	1	16	0
Baghpat	3	164,851	3	5	16	3	4	3	3	2	3	5	5	3	1	0
Bahraich	2	193,204	2	6	20	2	7	2	2	2	2	4	6	2	1	0
Ballia	3	975,932	1	10	86	4	23	1	2	4	4	23	10	1	13	0
Balrampur	1	41,471	1	2	8	1	2	1	1	1	1	0	2	1	-2	0
Banda	5	215,975	1	9	31	6	9	1	6	6	6	11	9	1	3	0
Bara Banki	7	2,228,772	1	7	188	8	51	1	2	7	8	52	7	1	36	0
Bareilly	9	2,759,404	4	32	242	9	64	4	8	11	11	60	32	4	46	0
Basti	1	140,749	1	4	4	1	1	1	1	1	1	0	4	1	-4	0
Bijnor	9	1,298,602	9	12	114	11	33	9	8	10	11	32	12	9	21	0
Budaun	6	722,213	2	8	69	7	21	2	6	7	7	21	8	2	14	0
Bulandsahar	6	509,766	7	16	60	7	12	7	7	7	7	18	16	7	6	0
Chandauli	5	351,931	1	9	28	6	7	1	6	5	5	8	9	1	2	0
Chitrakoot	3	229,524	1	4	18	3	8	1	2	3	3	6	4	1	0	0
Deoria	2	176,188	1	5	15	2	6	1	2	2	2	4	5	1	-1	0
Etah	2	754,308	1	5	62	2	14	1	1	2	2	15	5	1	12	0
Etawah	4	1,394,864	1	8	119	5	32	1	2	5	5	32	8	1	22	0
Faizabad	4	587,559	2	12	76	5	22	2	3	4	5	19	12	2	15	0
Farrukhabad	3	404,534	2	12	45	2	11	2	3	2	3	12	12	2	8	0

District	Fire Stations	Ideally Served Population Estimates	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters/ Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Fatehpur	3	905,357	1	5	77	4	21	1	1	4	4	20	5	1	14	0
Firozabad	5	1,162,568	1	19	104	6	29	1	5	5	6	29	19	1	20	0
Gautam Buddha Nagar	8	1,249,097	10	32	125	9	26	10	10	10	10	25	38	10	27	0
Ghaziabad	14	2,711,027	17	65	273	17	71	17	17	17	17	71	72	17	53	0
Ghaziipur	4	1,026,256	1	7	96	5	24	1	2	5	5	26	7	1	17	0
Gonda	3	589,780	1	6	56	3	16	1	2	3	3	15	6	1	8	0
Gorakhpur	9	859,759	9	27	94	11	27	9	11	11	11	24	27	9	16	0
Hamirpur	3	221,941	1	2	21	4	8	1	2	4	4	7	2	1	3	0
Hardoi	5	1,151,586	1	8	101	6	26	1	3	6	6	27	8	1	19	0
Jalaun	5	722,030	1	6	78	6	22	1	3	5	6	21	6	1	15	0
Jaunpur	5	703,523	1	10	66	6	18	1	4	6	6	18	10	1	8	0
Jhansi	3	736,553	1	12	59	4	14	1	1	3	4	17	12	1	12	0
Jyotiba Phule Nagar	2	263,486	2	7	23	2	7	2	2	2	2	5	7	2	1	0
Kannauj	5	610,815	1	4	50	6	15	1	4	6	6	19	4	1	10	0
Kanpur Dehat	3	364,227	1	2	32	4	11	1	2	4	4	9	2	1	5	0
Kanpur Nagar	12	3,663,017	9	78	342	14	91	9	11	14	15	93	78	9	68	0
Kanshiram Nagar	2	500,622	1	2	42	2	12	1	1	2	2	10	2	1	8	0
Kaushambi	3	814,823	1	1	71	4	19	1	1	4	4	20	1	1	12	0
Kheri	5	887,892	2	8	89	5	24	2	4	6	6	25	8	2	16	0
Kushinagar	3	974,829	1	2	84	4	23	1	1	4	4	23	2	1	13	0
Lalitpur	1	135,702	1	4	12	1	4	1	1	1	1	4	4	1	0	0
Lucknow	14	3,171,700	11	79	314	15	74	11	6	16	16	78	79	11	63	0
Mahamaya Nagar	4	806,635	1	6	78	5	20	1	2	5	5	20	6	1	14	0
Maharajganj	2	333,365	1	2	34	2	8	1	1	2	2	10	2	1	3	0
Mahoba	1	98,339	1	2	8	1	0	1	1	0	1	1	2	1	-1	0
Mainpuri	5	1,077,814	1	6	88	6	25	1	3	6	6	24	6	1	19	0

Fire-Risk and Hazard Analysis in the Country



District	Fire Stations	Ideally Served Population Estimates	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters/ Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Mathura	8	1,301,330	2	23	144	10	41	2	7	10	10	34	23	2	29	0
Mau	3	261,829	1	8	24	3	3	1	3	3	3	6	8	1	2	0
Meerut	6	1,548,910	7	37	122	6	30	7	6	6	7	26	37	7	21	0
Mirzapur	1	237,727	1	7	23	1	7	1	1	1	1	6	7	1	0	0
Moradabad	10	1,165,344	12	35	118	12	37	12	11	11	12	33	35	12	21	0
Muzafarnagar	5	810,816	6	20	72	6	20	6	6	6	6	19	20	6	11	0
Pilibhit	4	358,865	2	7	39	5	11	2	3	5	5	12	7	2	6	0
Pratapgarh	6	975,421	1	7	101	7	28	1	4	7	7	26	7	1	18	0
Rae Bareli	7	2,375,301	1	6	210	8	58	1	1	8	8	57	6	1	45	0
Rampur	3	759,334	2	11	76	4	20	2	2	4	4	20	11	2	13	0
Sant Kabir Nagar	1	49,540	1	2	-2	1	-2	1	1	1	1	1	2	1	-1	0
Sant Ravidas Nagar (Bhadohi)	4	1,016,572	2	8	78	4	20	2	3	4	4	19	8	2	17	0
Shahjahanpur	6	1,305,167	1	12	141	7	38	1	3	7	7	37	12	1	30	0
Sharanpur	6	886,710	7	26	91	7	30	7	6	5	7	24	26	7	14	0
Shrawasti	1	392,917	1	0	46	1	11	1	0	1	1	12	0	1	10	0
Siddharthnagar	2	1,079,547	1	0	84	2	23	1	0	2	2	23	0	1	11	0
Sitapur	6	1,740,521	1	7	145	7	40	1	3	7	7	39	7	1	28	0
Sonbhadra	8	681,694	1	21	76	9	23	1	9	9	9	22	21	1	12	0
Sultanpur	7	1,041,393	1	8	97	8	29	1	6	8	8	29	8	1	15	0
Unnao	6	1,179,805	2	13	115	6	32	2	3	6	7	33	13	2	21	0
Varanasi	9	1,607,136	6	52	183	10	44	6	9	10	11	47	52	6	33	0
Total	354	67,634,220	197	1003	6329	410	1706	197	287	401	419	1685	1016	197	1126	0

Table 18-16: Total gap in specialized equipment for operational and new urban Fire Stations (continue...)

District	Fire Stations	Ideally Served Population Estimates	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega Phones	Total
Agra	13	1,853,197	0	0	15	16	6	53	0	14	43	56	16	755
Aligarh	8	1,510,737	0	0	9	6	5	40	0	7	25	39	6	481
Allahabad	9	1,931,682	0	0	10	9	4	41	0	11	48	50	9	585
Ambedkar Nagar	4	942,692	0	0	4	2	1	23	0	3	17	24	2	248
Auraiya	2	542,586	0	0	2	1	1	12	0	1	11	11	1	128
Azamgarh	5	1,184,857	0	0	5	3	1	24	0	4	23	25	3	291
Baghpat	3	164,851	0	0	2	3	3	5	0	2	0	6	3	80
Bahraich	2	193,204	0	0	1	2	2	6	0	1	3	5	2	80
Ballia	3	975,932	0	0	3	2	1	21	0	2	15	21	2	249
Balrampur	1	41,471	0	0	0	1	1	1	0	0	-1	-1	1	21
Banda	5	215,975	0	0	5	6	1	6	0	5	1	12	6	141
Bara Banki	7	2,228,772	0	0	7	3	1	49	0	4	45	51	3	532
Bareilly	9	2,759,404	0	0	10	8	4	63	0	6	56	59	8	741
Basti	1	140,749	0	0	0	1	1	3	0	0	4	3	1	29
Bijnor	9	1,298,602	0	0	10	9	9	29	0	8	23	31	9	419
Budaun	6	722,213	0	0	7	5	2	17	0	5	15	21	6	252
Bulandsahar	6	509,766	0	0	7	6	7	16	0	3	6	13	7	242
Chandauli	5	351,931	0	0	2	6	1	6	0	2	9	11	6	131
Chitrakoot	3	229,524	0	0	2	2	1	7	0	-3	6	8	2	79
Deoria	2	176,188	0	0	1	2	1	3	0	1	-1	5	2	59
Etah	2	754,308	0	0	1	1	1	15	0	1	16	12	1	171
Etawah	4	1,394,864	0	0	4	2	1	29	0	3	28	30	2	340
Faizabad	4	587,559	0	0	4	3	2	20	0	3	11	18	3	243
Farrukhabad	3	404,534	0	0	2	3	2	11	0	2	8	9	3	156
Fatehpur	3	905,357	0	0	3	1	1	20	0	-3	17	22	1	220

District	Fire Stations	Ideally Served Population Estimates	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega Phones	Total
Firozabad	5	1,162,568	0	0	6	5	1	25	0	5	25	25	5	342
Gautam Buddha Nagar	8	1,249,097	0	0	10	10	10	38	0	6	19	32	10	477
Ghaziabad	14	2,711,027	0	0	17	17	17	67	0	12	58	66	17	995
Ghazipur	4	1,026,256	0	0	4	2	1	25	0	4	23	25	2	283
Gonda	3	589,780	0	0	2	2	1	15	0	1	10	11	2	165
Gorakhpur	9	859,759	0	0	10	10	9	26	0	9	15	28	11	404
Hamirpur	3	221,941	0	0	3	2	1	6	0	2	5	9	2	90
Hardoi	5	1,151,586	0	0	5	3	1	26	0	4	20	28	3	303
Jalaun	5	722,030	0	0	6	3	1	19	0	2	16	22	4	244
Jaunpur	5	703,523	0	0	5	4	1	18	0	6	19	20	4	232
Jhansi	3	736,553	0	0	3	2	1	14	0	1	11	19	2	194
Jyotiba Phule Nagar	2	263,486	0	0	2	2	2	5	0	0	6	3	2	86
Kannauj	5	610,815	0	0	5	4	1	13	0	5	10	19	4	188
Kanpur Dehat	3	364,227	0	0	3	2	1	9	0	3	7	10	2	115
Kanpur Nagar	12	3,663,017	0	0	14	12	9	92	0	10	73	87	12	1140
Kanshiram Nagar	2	500,622	0	0	2	1	1	12	0	1	10	10	1	124
Kaushambi	3	814,823	0	0	3	1	1	18	0	-2	15	20	1	197
Kheri	5	887,892	0	0	6	4	2	25	0	3	19	23	4	283
Kushinagar	3	974,829	0	0	3	1	1	22	0	3	19	22	1	235
Lalitpur	1	135,702	0	0	0	1	1	3	0	0	2	4	1	47
Lucknow	14	3,171,700	0	0	15	15	10	79	0	9	56	79	15	1051
Mahamaya Nagar	4	806,635	0	0	5	2	1	19	0	5	17	20	2	235
Maharajganj	2	333,365	0	0	1	1	1	9	0	0	3	8	1	93
Mahoba	1	98,339	0	0	0	1	1	1	0	0	-2	2	1	22
Mainpuri	5	1,077,814	0	0	6	3	1	27	0	5	21	26	3	284
Mathura	8	1,301,330	0	0	9	7	2	33	0	8	35	37	7	475

District	Fire Stations	Ideally Served Population Estimates	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega Phones	Total
Mau	3	261,829	0	0	2	3	1	6	0	-1	8	6	3	94
Meerut	6	1,548,910	0	0	6	7	7	26	0	3	22	33	7	430
Mirzapur	1	237,727	0	0	0	1	1	6	0	0	4	6	1	76
Moradabad	10	1,165,344	0	0	12	12	12	34	0	8	23	35	12	509
Muzafarnagar	5	810,816	0	0	5	6	6	17	0	4	13	19	6	280
Pilibhit	4	358,865	0	0	4	3	2	10	0	3	5	10	3	146
Pratapgarh	6	975,421	0	0	7	4	1	25	0	2	22	29	4	309
Rae Bareli	7	2,375,301	0	0	7	1	1	56	0	6	51	58	1	591
Rampur	3	759,334	0	0	3	2	2	19	0	3	16	18	2	236
Sant Kabir Nagar	1	49,540	0	0	0	1	1	-5	0	0	-2	-3	1	0
Sant Ravidas Nagar (Bhadohi)	4	1,016,572	0	0	3	3	2	18	0	2	21	23	3	246
Shahjahanpur	6	1,305,167	0	0	6	3	1	39	0	5	35	39	3	428
Sharanpur	6	886,710	0	0	6	7	7	26	0	3	18	26	7	357
Shrawasti	1	392,917	0	0	1	0	1	10	0	1	9	10	0	117
Siddharthnagar	2	1,079,547	0	0	1	0	1	21	0	0	18	21	0	212
Sitapur	6	1,740,521	0	0	6	3	1	36	0	5	32	39	3	418
Sonbhadra	8	681,694	0	0	8	9	1	19	0	3	19	23	9	305
Sultanpur	7	1,041,393	0	0	7	6	1	26	0	7	17	24	6	313
Unnao	6	1,179,805	0	0	6	4	2	30	0	4	26	32	4	363
Varanasi	9	1,607,136	0	0	10	11	6	49	0	-3	51	47	11	651
Total	354	67,634,220	0	0	361	306	196	1634	0	239	1348	1691	310	21058

Table 18-17: Additional specialized equipment required for new rural Fire Stations

District	Fire Stations	Ideally Served Population Estimates	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters / Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Agra	5	2,388,611	0	0	199	6	53	0	0	6	6	53	0	0	44	0
Aligarh	5	2,060,634	0	0	180	6	48	0	0	6	6	48	0	0	40	0
Allahabad	9	4,605,848	0	0	382	11	101	0	0	11	11	101	0	0	84	0
Ambedkar Nagar	4	1,499,058	0	0	139	5	37	0	0	5	5	37	0	0	31	0
Auraiya	2	649,788	0	0	67	2	18	0	0	2	2	18	0	0	15	0
Azamgarh	6	2,772,384	0	0	230	7	61	0	0	7	7	61	0	0	51	0
Baghpat	3	1,428,065	0	0	118	4	31	0	0	4	4	31	0	0	26	0
Bahraich	8	3,367,291	0	0	288	10	77	0	0	10	10	77	0	0	64	0
Ballia	5	1,848,729	0	0	170	6	46	0	0	6	6	46	0	0	38	0
Balrampur	5	2,224,940	0	0	185	6	49	0	0	6	6	49	0	0	41	0
Banda	9	1,539,698	0	0	161	11	46	0	0	11	11	46	0	0	38	0
Bara Banki	1	473,766	0	0	41	1	11	0	0	1	1	11	0	0	9	0
Bareilly	4	2,058,734	0	0	173	5	46	0	0	5	5	46	0	0	38	0
Basti	6	2,467,218	0	0	221	7	59	0	0	7	7	59	0	0	49	0
Bijnor	6	2,011,892	0	0	187	7	50	0	0	7	7	50	0	0	42	0
Budaun	6	2,356,536	0	0	211	7	56	0	0	7	7	56	0	0	47	0
Bulandsahar	5	2,730,824	0	0	214	6	56	0	0	6	6	56	0	0	47	0
Chandauli	3	1,012,176	0	0	89	4	24	0	0	4	4	24	0	0	20	0
Chitrakoot	4	718,259	0	0	72	5	20	0	0	5	5	20	0	0	17	0
Deoria	5	2,302,119	0	0	194	6	52	0	0	6	6	52	0	0	43	0
Etah	4	1,722,474	0	0	144	5	38	0	0	5	5	38	0	0	32	0
Etawah	1	161,254	0	0	17	1	5	0	0	1	1	5	0	0	4	0
Faizabad	4	1,408,774	0	0	139	5	37	0	0	5	5	37	0	0	31	0
Farrukhabad	3	1,539,631	0	0	127	4	34	0	0	4	4	34	0	0	28	0

District	Fire Stations	Ideally Served Population Estimates	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters / Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Fatehpur	7	1,879,805	0	0	199	8	54	0	0	8	8	54	0	0	45	0
Firozabad	2	1,297,135	0	0	101	2	26	0	0	2	2	26	0	0	22	0
Gautam Buddha Nagar	2	774,270	0	0	67	2	18	0	0	2	2	18	0	0	15	0
Ghaziabad	4	1,939,603	0	0	158	5	42	0	0	5	5	42	0	0	35	0
Ghazipur	7	3,611,257	0	0	295	8	78	0	0	8	8	78	0	0	65	0
Gonda	6	2,915,903	0	0	250	7	66	0	0	7	7	66	0	0	55	0
Gorakhpur	11	4,305,507	0	0	386	13	103	0	0	13	13	103	0	0	86	0
Hamirpur	6	773,398	0	0	72	7	22	0	0	7	7	22	0	0	18	0
Hardoi	9	2,973,767	0	0	286	11	77	0	0	11	11	77	0	0	64	0
Jalaun	5	995,998	0	0	103	6	29	0	0	6	6	29	0	0	24	0
Jaunpur	6	3,822,935	0	0	293	7	77	0	0	7	7	77	0	0	64	0
Jhansi	8	1,258,232	0	0	130	10	37	0	0	10	10	37	0	0	31	0
Jyotiba Phule Nagar	5	2,086,578	0	0	190	6	50	0	0	6	6	50	0	0	42	0
Kannauj	2	832,127	0	0	77	2	20	0	0	2	2	20	0	0	17	0
Kanpur Dehat	6	1,394,456	0	0	139	7	38	0	0	7	7	38	0	0	32	0
Kanpur Nagar	3	1,230,353	0	0	108	4	29	0	0	4	4	29	0	0	24	0
Kanshiram Nagar	1	512,328	0	0	41	1	11	0	0	1	1	11	0	0	9	0
Kaushambi	2	1,026,939	0	0	86	2	23	0	0	2	2	23	0	0	19	0
Kheri	10	2,907,862	0	0	293	12	79	0	0	12	12	79	0	0	66	0
Kushinagar	4	2,634,242	0	0	202	5	53	0	0	5	5	53	0	0	44	0
Lalitpur	7	1,070,995	0	0	108	8	31	0	0	8	8	31	0	0	26	0
Lucknow	4	1,782,832	0	0	149	5	40	0	0	5	5	40	0	0	33	0
Mahamaya Nagar	1	561,497	0	0	46	1	12	0	0	1	1	12	0	0	10	0
Maharajganj	6	2,334,740	0	0	211	7	56	0	0	7	7	56	0	0	47	0
Mahoba	4	774,123	0	0	77	5	22	0	0	5	5	22	0	0	18	0
Mainpuri	2	929,269	0	0	77	2	20	0	0	2	2	20	0	0	17	0

District	Fire Stations	Ideally Served Population Estimates	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters / Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Mathura	5	1,428,832	0	0	156	6	42	0	0	6	6	42	0	0	35	0
Mau	4	2,184,228	0	0	178	5	47	0	0	5	5	47	0	0	39	0
Meerut	5	1,894,684	0	0	170	6	46	0	0	6	6	46	0	0	38	0
Mirzapur	12	3,211,548	0	0	298	14	82	0	0	14	14	82	0	0	68	0
Moradabad	5	3,144,130	0	0	242	6	64	0	0	6	6	64	0	0	53	0
Muzafarnagar	10	3,548,424	0	0	326	12	88	0	0	12	12	88	0	0	73	0
Pilibhit	4	1,393,438	0	0	120	5	32	0	0	5	5	32	0	0	27	0
Pratapgarh	5	2,063,264	0	0	175	6	47	0	0	6	6	47	0	0	39	0
Rae Bareli	4	1,225,275	0	0	125	5	34	0	0	5	5	34	0	0	28	0
Rampur	4	1,942,793	0	0	163	5	43	0	0	5	5	43	0	0	36	0
Sant Kabir Nagar	3	1,452,369	0	0	122	4	32	0	0	4	4	32	0	0	27	0
Sant Ravidas Nagar (Bhadohi)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shahjahanpur	6	2,100,727	0	0	182	7	49	0	0	7	7	49	0	0	41	0
Sharanpur	9	2,316,890	0	0	233	11	64	0	0	11	11	64	0	0	53	0
Shrawasti	2	815,497	0	0	77	2	20	0	0	2	2	20	0	0	17	0
Siddharthnagar	3	1,205,961	0	0	113	4	30	0	0	4	4	30	0	0	25	0
Sitapur	7	2,723,802	0	0	247	8	66	0	0	8	8	66	0	0	55	0
Sonbhadra	7	934,209	0	0	98	8	29	0	0	8	8	29	0	0	24	0
Sultanpur	7	2,693,951	0	0	238	8	64	0	0	8	8	64	0	0	53	0
Unnao	4	1,669,437	0	0	144	5	38	0	0	5	5	38	0	0	32	0
Varanasi	3	2,022,944	0	0	151	4	40	0	0	4	4	40	0	0	33	0
Total	352	131,947,257	0	0	11650	421	3125	0	0	421	421	3125	0	0	2603	0

Table 18-18: Additional specialized equipment required for new rural Fire Stations (continued...)

District	Fire Stations	Ideally Served Population Estimates	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega Phones	Total
Agra	5	2,388,611	0	0	6	0	0	53	0	6	53	53	6	544
Aligarh	5	2,060,634	0	0	6	0	0	48	0	6	48	48	6	496
Allahabad	9	4,605,848	0	0	11	0	0	101	0	11	101	101	11	1037
Ambedkar Nagar	4	1,499,058	0	0	5	0	0	37	0	5	37	37	5	385
Auraiya	2	649,788	0	0	2	0	0	18	0	2	18	18	2	184
Azamgarh	6	2,772,384	0	0	7	0	0	61	0	7	61	61	7	628
Baghpat	3	1,428,065	0	0	4	0	0	31	0	4	31	31	4	323
Bahraich	8	3,367,291	0	0	10	0	0	77	0	10	77	77	10	797
Ballia	5	1,848,729	0	0	6	0	0	46	0	6	46	46	6	474
Balrampur	5	2,224,940	0	0	6	0	0	49	0	6	49	49	6	507
Banda	9	1,539,698	0	0	11	0	0	46	0	11	46	46	11	495
Bara Banki	1	473,766	0	0	1	0	0	11	0	1	11	11	1	111
Bareilly	4	2,058,734	0	0	5	0	0	46	0	5	46	46	5	471
Basti	6	2,467,218	0	0	7	0	0	59	0	7	59	59	7	607
Bijnor	6	2,011,892	0	0	7	0	0	50	0	7	50	50	7	521
Budaun	6	2,356,536	0	0	7	0	0	56	0	7	56	56	7	580
Bulandsahar	5	2,730,824	0	0	6	0	0	56	0	6	56	56	6	577
Chandauli	3	1,012,176	0	0	4	0	0	24	0	4	24	24	4	253
Chitrakoot	4	718,259	0	0	5	0	0	20	0	5	20	20	5	219
Deoria	5	2,302,119	0	0	6	0	0	52	0	6	52	52	6	533
Etah	4	1,722,474	0	0	5	0	0	38	0	5	38	38	5	396
Etawah	1	161,254	0	0	1	0	0	5	0	1	5	5	1	52
Faizabad	4	1,408,774	0	0	5	0	0	37	0	5	37	37	5	385
Farrukhabad	3	1,539,631	0	0	4	0	0	34	0	4	34	34	4	349
Fatehpur	7	1,879,805	0	0	8	0	0	54	0	8	54	54	8	562

District	Fire Stations	Ideally Served Population Estimates	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega Phones	Total
Firozabad	2	1,297,135	0	0	2	0	0	26	0	2	26	26	2	265
Gautam Buddha Nagar	2	774,270	0	0	2	0	0	18	0	2	18	18	2	184
Ghaziabad	4	1,939,603	0	0	5	0	0	42	0	5	42	42	5	433
Ghazipur	7	3,611,257	0	0	8	0	0	78	0	8	78	78	8	798
Gonda	6	2,915,903	0	0	7	0	0	66	0	7	66	66	7	677
Gorakhpur	11	4,305,507	0	0	13	0	0	103	0	13	103	103	13	1065
Hamirpur	6	773,398	0	0	7	0	0	22	0	7	22	22	7	242
Hardoi	9	2,973,767	0	0	11	0	0	77	0	11	77	77	11	801
Jalaun	5	995,998	0	0	6	0	0	29	0	6	29	29	6	308
Jaunpur	6	3,822,935	0	0	7	0	0	77	0	7	77	77	7	784
Jhansi	8	1,258,232	0	0	10	0	0	37	0	10	37	37	10	406
Jyotiba Phule Nagar	5	2,086,578	0	0	6	0	0	50	0	6	50	50	6	518
Kannauj	2	832,127	0	0	2	0	0	20	0	2	20	20	2	206
Kanpur Dehat	6	1,394,456	0	0	7	0	0	38	0	7	38	38	7	403
Kanpur Nagar	3	1,230,353	0	0	4	0	0	29	0	4	29	29	4	301
Kanshiram Nagar	1	512,328	0	0	1	0	0	11	0	1	11	11	1	111
Kaushambi	2	1,026,939	0	0	2	0	0	23	0	2	23	23	2	232
Kheri	10	2,907,862	0	0	12	0	0	79	0	12	79	79	12	826
Kushinagar	4	2,634,242	0	0	5	0	0	53	0	5	53	53	5	541
Lalitpur	7	1,070,995	0	0	8	0	0	31	0	8	31	31	8	337
Lucknow	4	1,782,832	0	0	5	0	0	40	0	5	40	40	5	412
Mahamaya Nagar	1	561,497	0	0	1	0	0	12	0	1	12	12	1	122
Maharajganj	6	2,334,740	0	0	7	0	0	56	0	7	56	56	7	580
Mahoba	4	774,123	0	0	5	0	0	22	0	5	22	22	5	235
Mainpuri	2	929,269	0	0	2	0	0	20	0	2	20	20	2	206
Mathura	5	1,428,832	0	0	6	0	0	42	0	6	42	42	6	437

District	Fire Stations	Ideally Served Population Estimates	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega Phones	Total
Mau	4	2,184,228	0	0	5	0	0	47	0	5	47	47	5	482
Meerut	5	1,894,684	0	0	6	0	0	46	0	6	46	46	6	474
Mirzapur	12	3,211,548	0	0	14	0	0	82	0	14	82	82	14	860
Moradabad	5	3,144,130	0	0	6	0	0	64	0	6	64	64	6	651
Muzafarnagar	10	3,548,424	0	0	12	0	0	88	0	12	88	88	12	911
Pilibhit	4	1,393,438	0	0	5	0	0	32	0	5	32	32	5	337
Pratapgarh	5	2,063,264	0	0	6	0	0	47	0	6	47	47	6	485
Rae Bareli	4	1,225,275	0	0	5	0	0	34	0	5	34	34	5	353
Rampur	4	1,942,793	0	0	5	0	0	43	0	5	43	43	5	444
Sant Kabir Nagar	3	1,452,369	0	0	4	0	0	32	0	4	32	32	4	333
Sant Ravidas Nagar (Bhadohi)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shahjahanpur	6	2,100,727	0	0	7	0	0	49	0	7	49	49	7	510
Sharanpur	9	2,316,890	0	0	11	0	0	64	0	11	64	64	11	672
Shrawasti	2	815,497	0	0	2	0	0	20	0	2	20	20	2	206
Siddharthnagar	3	1,205,961	0	0	4	0	0	30	0	4	30	30	4	312
Sitapur	7	2,723,802	0	0	8	0	0	66	0	8	66	66	8	680
Sonbhadra	7	934,209	0	0	8	0	0	29	0	8	29	29	8	315
Sultanpur	7	2,693,951	0	0	8	0	0	64	0	8	64	64	8	659
Unnao	4	1,669,437	0	0	5	0	0	38	0	5	38	38	5	396
Varanasi	3	2,022,944	0	0	4	0	0	40	0	4	40	40	4	408
Total	352	131,947,257	0	0	421	0	0	3125	0	421	3125	3125	421	32404

18.3.3 FIRE MANPOWER GAP

SFAC guidelines have suggested manpower, including reserve for duty off, training, leave for Station Officer, Sub-Officer (75%) and Leading Firemen and lower staff (25%). The duty pattern varies from State/UT to State/UT. In Uttar Pradesh State, in general, presently prevailing duty pattern is of twenty-four hours for seven days.

However, Delhi Administrative Reform Department (ARD), Govt of India has studied the fire manpower requirement, and optimized it further for 2- shifts duty pattern. Thus for optimization on resources, following manpower criteria have been suggested for manpower gap analysis.

From Tables 18-19 and 18-20, it is quite clear that The Administrative Reform Department (ARD, Delhi), has already optimized the fire manpower requirement in comparison of what has been suggested in SFAC norms. It may be noted that total number of staff is coming in decimal places, as calculations are on pumping units including reserve staff, which has been rounded of in the fire man power gap analysis at district and State levels (Table 18-20).

Accordingly, total firefighting manpower gap in both urban and rural Fire Stations in Uttar Pradesh State has been estimated, which comes to 84,479 (Tables 18-22 to 18-25) persons against a total present manpower of about 4,613 persons.

The three shifts versus two shifts duty patterns have been discussed with MHA officials in the project review meeting held on January 09, 2012. The outcome of the discussion is that RMSI team should recommend 2-shifts duty pattern as it further optimize the huge manpower gap and is advantageous in comparison to 3-shifts duty pattern (Tables 18-19 and 18-20).

Table 18-19: Manpower requirement for Station officer and lower staff as per SFAC norm (2- shifts)

Sr No	Size of Station (Pumping Unit)	Station Officer	Sub-Officer*	Leading Firemen (L.F.)	Additional LFM	Total LFM	Drivers/ Operators	Fire men	Additional FM per FS (FAD,HID, DISP, WRO)	Total Fire men	Total
1	One	0	1.75	2.5	1.25	3.75	5	15	10	25	35.50
2	Two	1.75	1.75	5	1.25	6.25	7.5	30	10	40	57.25
3	Three	1.75	3.5	7.5	1.25	8.75	10	45	10	55	79.00
4	Four	3.5	3.5	10	1.25	11.25	15	60	10	70	103.25
5	Five	3.5	5.25	12.5	1.25	13.75	17.5	75	10	85	125.00
6	Six	3.5	7	15	1.25	16.25	22.5	90	10	100	149.25
7	Seven	5.25	7	17.5	1.25	18.75	25	105	10	115	171.00

*: Where extent of fire risk may justify Sub-Officers may be replaced with Station Officers

Table 18-20: Manpower requirement for Station officer and lower staffs as per ARD, Delhi (2-shifts)

Sr No	Fire Station (Pumping Unit)	Station Officer	Sub-Officer	LFM	Firemen-cum-Driver-cum Operator	Total Staff
1	One	0	2.5	2.5	15.625	20.6
2	Two	1.25	2.5	2.5	31.250	37.5
3	Three	1.25	3.75	7.5	46.875	59.4

Sr No	Fire Station (Pumping Unit)	Station Officer	Sub-Officer	LFM	Firemen-cum-Driver-cum Operator	Total Staff
4	Four	2.5	4.6875	9.375	60.000	76.6
5	Five	2.5	5.625	11.25	73.125	92.5
6	Six	3.75	6.5625	13.125	87.188	110.6
7	Seven	3.75	7.5	15	101.250	127.5

Accordingly, as per Table 18-20, gap analysis for all the districts in Uttar Pradesh State have been carried out (Tables 18-21 to 18-25).

In addition to fire fighting staffs, there is an urgent need of senior level fire officers for making a well coordinated State level hierarchy and fire prevention wing for inspection, awareness generation and training, so that recurrence of the fire incidences similar to that of Advance Medical Research Institute (AMRI), Kolkata, in terms of their magnitude and frequency can be reduced. Accordingly, to support Director General (Police), Uttar Pradesh Fire Service, additional officer at the levels of Director (Technical), Joint Director (Technical), Deputy Director (Technical), Chief Fire Officers (CFO), Deputy Chief Fire Officers (DyCFO), Division Fire Officers (DFO), and Assistant Divisional Officer (ADO) have been suggested. To meet the ideal requirement of officials, following numbers of total officials have been proposed (including existing officials), which may be recruited in a phased manner approach::

- Director (Technical) : 1
- Joint Director (Technical) : 2
- Deputy Director (Technical) : 4
- Chief Fire Offices : 71
- Deputy Chief Fire Officer : 71 (one per CFO)
- DFO/DO : 88 (one per 8 Fire Stations)
- ADFO : 177 (one per 4 Fire Stations)

It may be noted that for cleaning staff, we recommend hiring of Cleaners on contract basis. For computation in financial analysis, we have assumed a fixed salary of Rs 7,000/pm, and without any reserve over that.

Accordingly, existing fire manpower and gap analysis for all the districts in Uttar Pradesh State have been carried out.

Table 18-21: List of manpower available for operational Fire Stations (As on Sep, 2012)

District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff
Agra	5	0	1	0	0	0	0	2	0	20	133	0	156
Aligarh	8	0	1	0	0	0	0	2	0	7	56	5	71
Allahabad	6	0	1	0	0	0	0	4	4	17	98	0	124
Ambedkar Nagar	4	0	0	0	0	0	0	1	0	7	57	2	67
Auraiya	2	0	0	0	0	0	0	0	1	4	24	0	29
Azamgarh	3	0	0	0	0	0	0	2	0	6	59	0	67
Baghpat	2	0	0	0	0	0	0	1	0	4	32	1	38
Bahraich	1	0	0	0	0	0	0	1	0	2	22	0	25
Ballia	3	0	0	0	0	0	0	1	0	7	39	0	47
Balrampur	1	0	0	0	0	0	0	0	0	3	13	0	16
Banda	1	0	1	0	0	0	0	0	0	3	23	1	28
Bara Banki	5	0	0	0	0	0	0	2	0	8	72	2	84
Bareilly	6	0	1	0	0	0	0	3	0	10	70	5	89
Basti	1	0	0	0	0	0	0	1	0	2	26	0	29
Bijnor	5	0	0	0	0	0	0	2	2	9	68	3	84
Budaun	4	0	0	0	0	0	0	0	0	3	27	0	30
Bulandsahar	4	0	1	0	0	0	0	4	0	8	67	4	84
Chandauli	2	0	0	0	0	0	0	0	0	6	49	2	57
Chitrakoot	1	0	0	0	0	0	0	0	0	2	16	1	19
Deoria	1	0	0	0	0	0	0	1	0	3	24	0	28
Etah	2	0	1	0	0	0	0	0	0	2	25	0	28
Etawah	3	0	1	0	0	0	0	0	0	7	42	0	50
Faizabad	3	0	1	0	0	0	0	2	0	11	67	2	83
Farrukhabad	1	0	0	0	0	0	0	1	1	3	30	0	35
Fatehpur	3	0	0	0	0	0	0	2	1	6	48	2	59
Firozabad	4	0	1	0	0	0	0	2	0	7	68	0	78
Gautam Buddha Nagar	4	0	1	0	0	0	0	4	0	18	101	5	129
Ghaziabad	6	0	0	0	0	0	0	5	2	22	138	3	170
Ghazipur	3	0	0	0	0	0	0	1	0	2	21	0	24
Gonda	2	0	0	0	0	0	0	0	0	4	39	0	43

Fire-Risk and Hazard Analysis in the Country



District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff
Gorakhpur	4	0	1	0	0	0	0	2	0	12	79	0	94
Hamirpur	3	0	0	0	0	0	0	1	0	2	31	1	35
Hardoi	3	0	0	0	0	0	0	2	1	6	25	2	36
Jalaun	5	0	1	0	0	0	0	3	1	7	62	3	77
Jaunpur	3	0	0	0	0	0	0	1	0	3	34	0	38
Jhansi	3	0	1	0	0	0	0	2	0	6	40	2	51
Jyotiba Phule Nagar	2	0	0	0	0	0	0	1	0	5	45	2	53
Kannauj	3	0	0	0	0	0	0	1	0	3	18	0	22
Kanpur Dehat	3	0	1	0	0	0	0	1	0	5	30	0	37
Kanpur Nagar	8	0	0	0	0	0	0	5	1	30	184	0	220
Kanshiram Nagar	2	0	0	0	0	0	0	1	0	3	18	0	22
Kaushambi	3	0	0	0	0	0	0	2	0	5	38	2	47
Kheri	5	0	1	0	0	0	0	1	0	7	36	3	48
Kushinagar	3	0	0	0	0	0	0	1	0	1	30	0	32
Lalitpur	1	0	0	0	0	0	0	0	0	3	25	1	29
Lucknow	8	3	1	0	0	0	0	6	1	40	230	0	281
Mahamaya Nagar	4	0	0	0	0	0	0	0	0	4	30	0	34
Maharajganj	2	0	0	0	0	0	0	1	0	4	45	0	50
Mahoba	1	0	0	0	0	0	0	1	0	2	19	0	22
Mainpuri	4	0	1	0	0	0	0	0	1	9	68	1	80
Mathura	4	0	1	0	0	0	0	0	0	9	66	0	76
Mau	1	0	0	0	0	0	0	1	0	2	26	0	29
Meerut	4	0	1	0	0	0	0	4	0	16	101	0	122
Mirzapur	1	0	1	0	0	0	0	0	0	4	31	0	36
Moradabad	5	0	1	0	0	0	0	2	1	17	108	3	132
Muzafarnagar	2	0	1	0	0	0	0	2	0	4	62	2	71
Pilibhit	3	0	0	0	0	0	0	2	0	3	34	1	40
Pratapgarh	6	0	1	0	0	0	0	2	0	6	79	2	90
Rae Bareli	7	0	1	0	0	0	0	2	0	10	93	1	107
Rampur	3	0	0	0	0	0	0	0	0	4	33	0	37
Sant Kabir Nagar	1	0	0	0	0	0	0	1	0	3	23	0	27
Sant Ravidas Nagar	2	0	0	0	0	0	0	0	1	5	43	0	49

District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff
(Bhadohi)													
Shahjahanpur	4	0	0	0	0	0	0	1	0	6	36	1	44
Sharanpur	4	0	2	0	0	0	0	2	0	14	72	0	90
Shrawasti	1	0	0	0	0	0	0	0	0	4	27	0	31
Siddharthnagar	2	0	0	0	0	0	0	0	0	4	40	0	44
Sitapur	5	0	0	0	0	0	0	1	0	7	44	1	53
Sonbhadra	2	0	0	0	0	0	0	1	0	4	36	0	41
Sultanpur	6	0	0	0	0	0	0	3	0	9	83	2	97
Unnao	4	0	0	0	0	0	0	2	0	8	57	0	67
Varanasi	4	0	1	0	0	0	0	2	1	16	145	1	166
Total	237	3	28	0	0	0	0	104	19	525	3880	69	4628

- Temporary/ private staff or staff on contract are not accounted in above

Level 10: Director/Joint Director/Deputy Director; **Level 9:** CFO/ CO; **Level 8:** Deputy CFO; **Level 7:** Deputy Controller; **Level 6:** DO/ADO/Fire Officer/Fire Supervisor/Astt. Controller/Revenue Inspector; **Level 5:** ADO/ADFO/AFO/Fire In-charge; **Level 4:** St.O/Sub Inspector/Station In-charge/Ast O./AEO; **Level 3:** S O/Assistant Sub Inspector/ASO/Sub-Fire Officer; **Level 2 :** LFM/ Mechanic Driver/Head Constable/Store Superintendent; **Level 1 :** FM/ FM Driver/Radio Technician/ SGFM/ Driver/ Police Constable/ Wireless Technician/ Radio Technician/ Asst FM/ Sanitary Inspector, FO/FO Driver/Driver Operator/Driver/Ambulance Driver/ Clerk; **Level 0:** Cleaner, Fire Coolie, Supporting Staff, Attendant, Labourer, Peon, Security Guard, Tindal.

Table 18-22: Manpower gap in operational Fire Stations for ideal jurisdiction area

District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff
Agra	5	0	0	1	0	2	3	9	28	39	272	5	359
Aligarh	8	0	0	1	0	1	2	17	43	89	597	3	753
Allahabad	6	0	0	1	0	2	3	13	34	72	520	6	651
Ambedkar Nagar	4	0	1	1	0	1	2	14	26	59	403	2	509
Auraiya	2	0	1	1	0	1	2	9	14	34	234	2	298
Azamgarh	3	0	1	1	0	1	3	12	25	61	403	3	510
Baghpat	2	0	1	1	0	1	2	3	10	13	85	1	117
Bahraich	1	0	1	1	0	1	2	4	9	25	168	1	212
Ballia	3	0	1	1	0	2	3	13	24	58	429	3	534
Balrampur	1	0	1	1	0	1	2	4	7	12	88	1	117
Banda	1	0	0	1	0	1	2	5	8	22	148	0	187
Bara Banki	5	0	1	1	0	1	2	22	44	113	756	3	943

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District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff
Bareilly	6	0	0	1	0	1	2	23	47	107	761	1	943
Basti	1	0	1	1	0	1	3	4	8	23	145	1	187
Bijnor	5	0	1	1	0	1	2	12	26	51	352	2	448
Budaun	4	0	1	1	0	1	3	9	21	42	276	4	358
Bulandsahar	4	0	0	1	0	1	2	6	20	37	270	0	337
Chandauli	2	0	1	1	0	1	2	5	10	11	83	0	114
Chitrakoot	1	0	1	1	0	1	2	4	7	11	71	0	98
Deoria	1	0	1	1	0	1	3	4	8	22	147	1	188
Etah	2	0	0	1	0	1	2	10	19	53	355	2	443
Etawah	3	0	0	1	0	1	2	16	29	78	547	3	677
Faizabad	3	0	0	1	0	1	3	9	22	41	290	1	368
Farrukhabad	1	0	1	1	0	1	2	3	6	12	71	1	98
Fatehpur	3	0	1	1	0	1	2	10	22	48	316	1	402
Firozabad	4	0	0	1	0	1	2	13	29	60	400	4	510
Gautam Buddha Nagar	4	0	0	1	0	2	3	12	29	49	376	-1	471
Ghaziabad	6	0	1	1	0	2	3	20	44	88	635	3	797
Ghazipur	3	0	1	1	0	1	2	11	23	53	352	3	447
Gonda	2	0	1	1	0	1	2	7	15	26	163	2	218
Gorakhpur	4	0	0	1	0	2	3	8	22	35	268	4	343
Hamirpur	3	0	1	1	0	1	2	4	13	21	119	2	164
Hardoi	3	0	1	1	0	1	3	12	24	54	386	1	483
Jalaun	5	0	0	1	0	1	2	8	24	40	248	2	326
Jaunpur	3	0	1	1	0	1	3	8	17	29	200	3	263
Jhansi	3	0	0	1	0	2	3	10	23	48	340	1	428
Jyotiba Phule Nagar	2	0	1	1	0	1	2	5	12	25	176	0	223
Kannauj	3	0	1	1	0	1	2	8	18	38	256	3	328
Kanpur Dehat	3	0	0	1	0	1	3	5	15	22	146	3	196
Kanpur Nagar	8	1	1	1	0	2	3	30	63	119	854	8	1082
Kanshiram Nagar	2	0	1	1	0	1	2	6	15	27	184	2	239
Kaushambi	3	0	1	1	0	1	2	9	21	36	238	1	310
Kheri	5	0	0	1	0	1	2	11	29	57	391	2	494

Fire-Risk and Hazard Analysis in the Country



District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff
Kushinagar	3	0	1	1	0	1	3	11	24	56	362	3	462
Lalitpur	1	0	1	1	0	1	2	5	9	24	165	0	208
Lucknow	8	0	0	1	0	2	4	23	55	96	714	8	903
Mahamaya Nagar	4	0	1	1	0	1	2	11	25	52	350	4	447
Maharajganj	2	0	1	1	0	1	2	5	13	22	129	2	176
Mahoba	1	0	1	1	0	1	2	3	7	13	82	1	111
Mainpuri	4	0	0	1	0	1	2	12	24	47	307	3	397
Mathura	4	0	0	1	0	2	3	15	30	60	409	4	524
Mau	1	0	1	1	0	1	3	4	8	23	145	1	187
Meerut	4	2	0	1	0	2	4	14	32	66	490	4	615
Mirzapur	1	0	0	1	0	2	3	7	12	31	216	1	273
Moradabad	5	0	0	1	0	2	3	13	29	49	358	2	457
Muzafarnagar	2	0	0	1	0	2	3	9	18	41	273	0	347
Pilibhit	3	0	1	1	0	1	3	4	14	29	203	2	258
Pratapgarh	6	0	0	1	0	1	2	12	30	58	364	4	472
Rae Bareli	7	0	0	1	0	1	3	28	53	113	742	6	947
Rampur	3	0	1	1	0	1	2	11	23	50	331	3	423
Sant Kabir Nagar	1	0	1	1	0	1	3	3	7	12	78	1	107
Sant Ravidas Nagar (Bhadohi)	2	0	1	1	0	1	2	10	17	40	267	2	341
Shahjahanpur	4	0	1	1	0	2	3	18	34	73	506	3	641
Sharanpur	4	0	-1	1	0	2	3	12	28	56	415	4	520
Shrawasti	1	0	1	1	0	1	3	7	13	33	239	1	299
Siddharthnagar	2	0	1	1	0	1	2	12	22	58	397	2	496
Sitapur	5	0	1	1	0	1	2	19	37	90	639	4	794
Sonbhadra	2	0	1	1	0	1	3	4	11	23	151	2	197
Sultanpur	6	0	1	1	0	1	2	11	31	62	393	4	506
Unnao	4	0	1	1	0	1	2	10	26	50	337	4	432
Varanasi	4	1	0	1	0	2	4	13	25	42	290	3	381
Total	237	4	43	71	0	88	177	733	1610	3329	22871	168	29094

Level 10: Director/Joint Director/Deputy Director; **Level 9:** CFO/ CO; **Level 8:** Deputy CFO; **Level 7:** Deputy Controller; **Level 6:** DO/ADO/Fire Officer/Fire Supervisor/Astt. Controller/Revenue Inspector; **Level 5:** ADO/ADFO/AFO/Fire In-charge; **Level 4:** St.O/Sub Inspector/Station In-charge/Ast O./AEO; **Level 3:**

S O/Assistant Sub Inspector/ASO/Sub-Fire Officer/; **Level 2** : LFM/ Mechanic Driver/Head Constable/Store Superintendent; **Level 1** : FM/ FM Driver/Radio Technician/ SGFM/ Driver/ Police Constable/ Wireless Technician/ Radio Technician/ Asst FM/ Sanitary Inspector, FO/FO Driver/Driver Operator/Driver/Ambulance Driver/ Clerk; **Level 0**: Cleaner, Fire Coolie, Supporting Staff, Attendant, Labourer, Peon, Security Guard, Tindal.

Table 18-23: Additional staff required for new urban Fire Stations under their ideal jurisdiction areas

District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff
Agra	8	0	0	0	0	0	0	15	37	66	446	8	572
Aligarh	0	0	0	0	0	0	0	0	0	0	0	0	0
Allahabad	3	0	0	0	0	0	0	9	18	42	285	3	357
Ambedkar Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0
Auraiya	0	0	0	0	0	0	0	0	0	0	0	0	0
Azamgarh	2	0	0	0	0	0	0	1	5	5	47	2	60
Baghpat	1	0	0	0	0	0	0	0	2	2	16	1	21
Bahraich	1	0	0	0	0	0	0	1	2	2	31	1	37
Ballia	0	0	0	0	0	0	0	0	0	0	0	0	0
Balrampur	0	0	0	0	0	0	0	0	0	0	0	0	0
Banda	4	0	0	0	0	0	0	0	10	10	62	4	86
Bara Banki	2	0	0	0	0	0	0	0	5	5	31	2	43
Bareilly	3	0	0	0	0	0	0	7	15	27	192	3	244
Basti	0	0	0	0	0	0	0	0	0	0	0	0	0
Bijnor	4	0	0	0	0	0	0	1	10	10	78	4	103
Budaun	2	0	0	0	0	0	0	1	5	5	47	2	60
Bulandsahar	2	0	0	0	0	0	0	0	5	5	31	2	43
Chandauli	3	0	0	0	0	0	0	0	7	7	47	3	64
Chitrakoot	2	0	0	0	0	0	0	1	6	10	62	2	81
Deoria	1	0	0	0	0	0	0	0	2	2	16	1	21
Etah	0	0	0	0	0	0	0	0	0	0	0	0	0
Etawah	1	0	0	0	0	0	0	0	2	2	16	1	21
Faizabad	1	0	0	0	0	0	0	0	2	2	16	1	21
Farrukhabad	2	0	0	0	0	0	0	4	9	19	120	2	154
Fatehpur	0	0	0	0	0	0	0	0	0	0	0	0	0
Firozabad	1	0	0	0	0	0	0	0	2	2	16	1	21
Gautam Buddha Nagar	4	0	0	0	0	0	0	5	13	19	151	4	192

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District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff
Ghaziabad	8	0	0	0	0	0	0	14	34	60	404	8	520
Ghazipur	1	0	0	0	0	0	0	1	4	7	47	1	60
Gonda	1	0	0	0	0	0	0	2	5	9	60	1	77
Gorakhpur	5	0	0	0	0	0	0	6	18	28	196	5	253
Hamirpur	0	0	0	0	0	0	0	0	0	0	0	0	0
Hardoi	2	0	0	0	0	0	0	1	5	5	47	2	60
Jalaun	0	0	0	0	0	0	0	0	0	0	0	0	0
Jaunpur	2	0	0	0	0	0	0	2	7	12	76	2	99
Jhansi	0	0	0	0	0	0	0	0	0	0	0	0	0
Jyotiba Phule Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0
Kannauj	2	0	0	0	0	0	0	0	5	5	31	2	43
Kanpur Dehat	0	0	0	0	0	0	0	0	0	0	0	0	0
Kanpur Nagar	4	0	0	0	0	0	0	14	25	59	392	4	494
Kanshiram Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0
Kaushambi	0	0	0	0	0	0	0	0	0	0	0	0	0
Kheri	0	0	0	0	0	0	0	0	0	0	0	0	0
Kushinagar	0	0	0	0	0	0	0	0	0	0	0	0	0
Lalitpur	0	0	0	0	0	0	0	0	0	0	0	0	0
Lucknow	6	0	0	0	0	0	0	18	34	81	566	6	705
Mahamaya Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0
Maharajganj	0	0	0	0	0	0	0	0	0	0	0	0	0
Mahoba	0	0	0	0	0	0	0	0	0	0	0	0	0
Mainpuri	1	0	0	0	0	0	0	1	4	7	47	1	60
Mathura	4	0	0	0	0	0	0	4	13	22	138	4	181
Mau	2	0	0	0	0	0	0	1	5	5	47	2	60
Meerut	2	0	0	0	0	0	0	4	8	17	107	2	138
Mirzapur	0	0	0	0	0	0	0	0	0	0	0	0	0
Moradabad	5	0	0	0	0	0	0	4	15	19	138	5	181
Muzafarnagar	3	0	0	0	0	0	0	2	7	7	78	3	97
Pilibhit	1	0	0	0	0	0	0	0	2	2	16	1	21
Pratapgarh	0	0	0	0	0	0	0	0	0	0	0	0	0
Rae Bareli	0	0	0	0	0	0	0	0	0	0	0	0	0

District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff
Rampur	0	0	0	0	0	0	0	0	0	0	0	0	0
Sant Kabir Nagar	0	0	0	0	0	0	0	0	0	0	0	0	0
Sant Ravidas Nagar (Bhadohi)	2	0	0	0	0	0	0	2	7	12	76	2	99
Shahjahanpur	2	0	0	0	0	0	0	1	6	10	62	2	81
Sharanpur	2	0	0	0	0	0	0	1	5	5	47	2	60
Shrawasti	0	0	0	0	0	0	0	0	0	0	0	0	0
Siddharthnagar	0	0	0	0	0	0	0	0	0	0	0	0	0
Sitapur	1	0	0	0	0	0	0	0	2	2	16	1	21
Sonbhadra	6	0	0	0	0	0	0	5	19	30	203	6	263
Sultanpur	1	0	0	0	0	0	0	1	2	2	31	1	37
Unnao	2	0	0	0	0	0	0	2	8	14	89	2	115
Varanasi	5	0	0	0	0	0	0	14	28	61	423	5	531
Total	117	0	0	0	0	0	0	145	425	723	5047	117	6457

Level 10: Director/Joint Director/Deputy Director; **Level 9:** CFO/ CO; **Level 8:** Deputy CFO; **Level 7:** Deputy Controller; **Level 6:** DO/Fire Supervisor/Astt. Controller/Revenue Inspector; **Level 5:** ADO/ADFO/AFO/Fire In-charge; **Level 4:** St.O/Sub Inspector/Station In-charge/Ast O./AEO; **Level 3:** S O/Assistant Sub Inspector/ASO/Sub-Fire Officer; **Level 2 :** LFM/ Mechanic Driver/Head Constable/Store Superintendent; **Level 1 :** FM/ FM Driver/Radio Technician/SGFM/ Driver/ Police Constable/ Wireless Technician/ Radio Technician/ Asst FM/ Sanitary Inspector, FO/FO Driver/Driver Operator/Driver/Ambulance Driver/ Clerk; **Level 0:** Cleaner, Fire Coolie, Supporting Staff, Attendant, Labourer, Peon, Security Guard, Tindal.

Table 18-24: Total staff gap for operational and new urban Fire Stations

District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff
Agra	13	0	0	1	0	2	3	24	65	105	718	13	931
Aligarh	8	0	0	1	0	1	2	17	43	89	597	3	753
Allahabad	9	0	0	1	0	2	3	22	52	114	805	9	1008
Ambedkar Nagar	4	0	1	1	0	1	2	14	26	59	403	2	509
Auraiya	2	0	1	1	0	1	2	9	14	34	234	2	298
Azamgarh	5	0	1	1	0	1	3	13	30	66	450	5	570
Baghpat	3	0	1	1	0	1	2	3	12	15	101	2	138
Bahraich	2	0	1	1	0	1	2	5	11	27	199	2	249
Ballia	3	0	1	1	0	2	3	13	24	58	429	3	534
Balrampur	1	0	1	1	0	1	2	4	7	12	88	1	117

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District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff
Banda	5	0	0	1	0	1	2	5	18	32	210	4	273
Bara Banki	7	0	1	1	0	1	2	22	49	118	787	5	986
Bareilly	9	0	0	1	0	1	2	30	62	134	953	4	1187
Basti	1	0	1	1	0	1	3	4	8	23	145	1	187
Bijnor	9	0	1	1	0	1	2	13	36	61	430	6	551
Budaun	6	0	1	1	0	1	3	10	26	47	323	6	418
Bulandsahar	6	0	0	1	0	1	2	6	25	42	301	2	380
Chandauli	5	0	1	1	0	1	2	5	17	18	130	3	178
Chitrakoot	3	0	1	1	0	1	2	5	13	21	133	2	179
Deoria	2	0	1	1	0	1	3	4	10	24	163	2	209
Etah	2	0	0	1	0	1	2	10	19	53	355	2	443
Etawah	4	0	0	1	0	1	2	16	31	80	563	4	698
Faizabad	4	0	0	1	0	1	3	9	24	43	306	2	389
Farrukhabad	3	0	1	1	0	1	2	7	15	31	191	3	252
Fatehpur	3	0	1	1	0	1	2	10	22	48	316	1	402
Firozabad	5	0	0	1	0	1	2	13	31	62	416	5	531
Gautam Buddha Nagar	8	0	0	1	0	2	3	17	42	68	527	3	663
Ghaziabad	14	0	1	1	0	2	3	34	78	148	1039	11	1317
Ghazipur	4	0	1	1	0	1	2	12	27	60	399	4	507
Gonda	3	0	1	1	0	1	2	9	20	35	223	3	295
Gorakhpur	9	0	0	1	0	2	3	14	40	63	464	9	596
Hamirpur	3	0	1	1	0	1	2	4	13	21	119	2	164
Hardoi	5	0	1	1	0	1	3	13	29	59	433	3	543
Jalaun	5	0	0	1	0	1	2	8	24	40	248	2	326
Jaunpur	5	0	1	1	0	1	3	10	24	41	276	5	362
Jhansi	3	0	0	1	0	2	3	10	23	48	340	1	428
Jyotiba Phule Nagar	2	0	1	1	0	1	2	5	12	25	176	0	223
Kannauj	5	0	1	1	0	1	2	8	23	43	287	5	371
Kanpur Dehat	3	0	0	1	0	1	3	5	15	22	146	3	196
Kanpur Nagar	12	1	1	1	0	2	3	44	88	178	1246	12	1576
Kanshiram Nagar	2	0	1	1	0	1	2	6	15	27	184	2	239

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District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff
Kaushambi	3	0	1	1	0	1	2	9	21	36	238	1	310
Kheri	5	0	0	1	0	1	2	11	29	57	391	2	494
Kushinagar	3	0	1	1	0	1	3	11	24	56	362	3	462
Lalitpur	1	0	1	1	0	1	2	5	9	24	165	0	208
Lucknow	14	0	0	1	0	2	4	41	89	177	1280	14	1608
Mahamaya Nagar	4	0	1	1	0	1	2	11	25	52	350	4	447
Maharajganj	2	0	1	1	0	1	2	5	13	22	129	2	176
Mahoba	1	0	1	1	0	1	2	3	7	13	82	1	111
Mainpuri	5	0	0	1	0	1	2	13	28	54	354	4	457
Mathura	8	0	0	1	0	2	3	19	43	82	547	8	705
Mau	3	0	1	1	0	1	3	5	13	28	192	3	247
Meerut	6	2	0	1	0	2	4	18	40	83	597	6	753
Mirzapur	1	0	0	1	0	2	3	7	12	31	216	1	273
Moradabad	10	0	0	1	0	2	3	17	44	68	496	7	638
Muzafarnagar	5	0	0	1	0	2	3	11	25	48	351	3	444
Pilibhit	4	0	1	1	0	1	3	4	16	31	219	3	279
Pratapgarh	6	0	0	1	0	1	2	12	30	58	364	4	472
Rae Bareli	7	0	0	1	0	1	3	28	53	113	742	6	947
Rampur	3	0	1	1	0	1	2	11	23	50	331	3	423
Sant Kabir Nagar	1	0	1	1	0	1	3	3	7	12	78	1	107
Sant Ravidas Nagar (Bhadohi)	4	0	1	1	0	1	2	12	24	52	343	4	440
Shahjahanpur	6	0	1	1	0	2	3	19	40	83	568	5	722
Sharanpur	6	0	-1	1	0	2	3	13	33	61	462	6	580
Shrawasti	1	0	1	1	0	1	3	7	13	33	239	1	299
Siddharthnagar	2	0	1	1	0	1	2	12	22	58	397	2	496
Sitapur	6	0	1	1	0	1	2	19	39	92	655	5	815
Sonbhadra	8	0	1	1	0	1	3	9	30	53	354	8	460
Sultanpur	7	0	1	1	0	1	2	12	33	64	424	5	543
Unnao	6	0	1	1	0	1	2	12	34	64	426	6	547
Varanasi	9	1	0	1	0	2	4	27	53	103	713	8	912
Total	354	4	43	71	0	88	177	878	2035	4052	27918	285	35551

Level 10: Director/Joint Director/Deputy Director; **Level 9:** CFO/ CO; **Level 8:** Deputy CFO; **Level 7:** Deputy Controller; **Level 6:** DO/Fire Supervisor/Astt. Controller/Revenue Inspector; **Level 5:** ADO/ADFO/AFO/Fire In-charge; **Level 4:** St.O/Sub Inspector/Station In-charge/ASt O./AEO; **Level 3:** S O/Assistant Sub Inspector/ASO/Sub-Fire Officer; **Level 2 :** LFM/ Mechanic Driver/Head Constable/Store Superintendent; **Level 1 :** FM/ FM Driver/Radio Technician/SGFM/ Driver/ Police Constable/ Wireless Technician/ Radio Technician/ Asst FM/ Sanitary Inspector, FO/FO Driver/Driver Operator/Driver/Ambulance Driver/ Clerk; **Level 0:** Cleaner, Fire Coolie, Supporting Staff, Attendant, Labourer, Peon, Security Guard, Tindal.

Table 18-25: Additional staff required for new rural Fire Stations under their ideal jurisdiction areas

District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff
Agra	5	0	0	0	0	0	0	24	42	108	739	5	918
Aligarh	5	0	0	0	0	0	0	20	38	93	633	5	789
Allahabad	9	0	0	0	0	0	0	43	80	204	1403	9	1739
Ambedkar Nagar	4	0	0	0	0	0	0	15	29	66	447	4	561
Auraiya	2	0	0	0	0	0	0	7	14	28	188	2	239
Azamgarh	6	0	0	0	0	0	0	26	48	121	822	6	1023
Baghpat	3	0	0	0	0	0	0	14	24	65	443	3	549
Bahraich	8	0	0	0	0	0	0	32	60	145	983	8	1228
Ballia	5	0	0	0	0	0	0	19	36	79	535	5	674
Balrampur	5	0	0	0	0	0	0	21	39	93	632	5	790
Banda	9	0	0	0	0	0	0	16	35	62	442	9	564
Bara Banki	1	0	0	0	0	0	0	5	8	25	171	1	210
Bareilly	4	0	0	0	0	0	0	19	36	97	671	4	827
Basti	6	0	0	0	0	0	0	26	46	116	789	6	983
Bijnor	6	0	0	0	0	0	0	21	39	79	524	6	669
Budaun	6	0	0	0	0	0	0	24	44	113	765	6	952
Bulandsahar	5	0	0	0	0	0	0	24	44	122	842	5	1037
Chandauli	3	0	0	0	0	0	0	10	20	46	312	3	391
Chitrakoot	4	0	0	0	0	0	0	6	17	31	197	4	255
Deoria	5	0	0	0	0	0	0	21	41	106	725	5	898
Etah	4	0	0	0	0	0	0	16	30	68	461	4	579
Etawah	1	0	0	0	0	0	0	1	4	7	47	1	60
Faizabad	4	0	0	0	0	0	0	16	29	66	447	4	562
Farrukhabad	3	0	0	0	0	0	0	14	26	62	430	3	535
Fatehpur	7	0	0	0	0	0	0	22	42	84	556	7	711
Firozabad	2	0	0	0	0	0	0	12	21	60	418	2	513

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District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff
Gautam Buddha Nagar	2	0	0	0	0	0	0	7	14	36	244	2	303
Ghaziabad	4	0	0	0	0	0	0	17	33	76	523	4	653
Ghazipur	7	0	0	0	0	0	0	34	61	165	1133	7	1400
Gonda	6	0	0	0	0	0	0	29	52	131	903	6	1121
Gorakhpur	11	0	0	0	0	0	0	42	81	178	1203	11	1515
Hamirpur	6	0	0	0	0	0	0	6	16	20	187	6	235
Hardoi	9	0	0	0	0	0	0	31	60	129	860	9	1089
Jalaun	5	0	0	0	0	0	0	10	22	45	287	5	369
Jaunpur	6	0	0	0	0	0	0	34	61	167	1165	6	1433
Jhansi	8	0	0	0	0	0	0	12	28	46	353	8	447
Jyotiba Phule Nagar	5	0	0	0	0	0	0	20	40	96	656	5	817
Kannauj	2	0	0	0	0	0	0	9	16	40	272	2	339
Kanpur Dehat	6	0	0	0	0	0	0	15	30	57	387	6	495
Kanpur Nagar	3	0	0	0	0	0	0	12	23	53	359	3	450
Kanshiram Nagar	1	0	0	0	0	0	0	5	8	25	171	1	210
Kaushambi	2	0	0	0	0	0	0	10	18	45	310	2	385
Kheri	10	0	0	0	0	0	0	31	62	124	819	10	1046
Kushinagar	4	0	0	0	0	0	0	24	42	120	836	4	1026
Lalitpur	7	0	0	0	0	0	0	10	23	39	294	7	373
Lucknow	4	0	0	0	0	0	0	17	31	78	530	4	660
Mahamaya Nagar	1	0	0	0	0	0	0	5	9	27	190	1	232
Maharajganj	6	0	0	0	0	0	0	24	44	96	649	6	819
Mahoba	4	0	0	0	0	0	0	6	17	34	214	4	275
Mainpuri	2	0	0	0	0	0	0	9	16	40	272	2	339
Mathura	5	0	0	0	0	0	0	16	33	66	436	5	556
Mau	4	0	0	0	0	0	0	20	37	92	639	4	792
Meerut	5	0	0	0	0	0	0	19	36	87	591	5	738
Mirzapur	12	0	0	0	0	0	0	30	64	145	998	12	1249
Moradabad	5	0	0	0	0	0	0	28	50	145	1007	5	1235
Muzafarnagar	10	0	0	0	0	0	0	35	69	146	976	10	1236
Pilibhit	4	0	0	0	0	0	0	12	25	59	398	4	498
Pratapgarh	5	0	0	0	0	0	0	20	37	81	548	5	691



District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff
Rae Bareli	4	0	0	0	0	0	0	14	26	52	349	4	445
Rampur	4	0	0	0	0	0	0	19	34	85	582	4	724
Sant Kabir Nagar	3	0	0	0	0	0	0	14	25	67	462	3	571
Sant Ravidas Nagar (Bhadohi)	0	0	0	0	0	0	0	0	0	0	0	0	0
Shahjahanpur	6	0	0	0	0	0	0	20	38	85	568	6	717
Sharanpur	9	0	0	0	0	0	0	25	50	95	645	9	824
Shrawasti	2	0	0	0	0	0	0	9	16	40	272	2	339
Siddharthnagar	3	0	0	0	0	0	0	12	23	55	373	3	466
Sitapur	7	0	0	0	0	0	0	26	52	112	755	7	952
Sonbhadra	7	0	0	0	0	0	0	7	24	35	257	7	330
Sultanpur	7	0	0	0	0	0	0	26	50	107	722	7	912
Unnao	4	0	0	0	0	0	0	16	30	68	461	4	579
Varanasi	3	0	0	0	0	0	0	19	31	90	627	3	770
Total	352	0	0	0	0	0	0	1280	2449	5725	39105	352	48911

Level 10: Director/Joint Director/Deputy Director; **Level 9:** CFO/ CO; **Level 8:** Deputy CFO; **Level 7:** Deputy Controller; **Level 6:** DO/Fire Supervisor/Astt. Controller/Revenue Inspector; **Level 5:** ADO/ADFO/AFO/Fire In-charge; **Level 4:** St.O/Sub Inspector/Station In-charge/Ast O./AEO; **Level 3:** S O/Assistant Sub Inspector/ASO/Sub-Fire Officer; **Level 2 :** LFM/ Mechanic Driver/Head Constable/Store Superintendent; **Level 1 :** FM/ FM Driver/Radio Technician/ SGFM/ Driver/ Police Constable/ Wireless Technician/ Radio Technician/ Asst FM/ Sanitary Inspector, FO/FO Driver/Driver Operator/Driver/Ambulance Driver/ Clerk; **Level 0:** Cleaner, Fire Coolie, Supporting Staff, Attendant, Labourer, Peon, Security Guard, Tindal.

18.3.4 FIRE STATION BUILDING INFRASTRUCTURE GAP

Depending upon the number of pumping units, no of bays in a Fire Station has been estimated. However, in order to consider future growth in population and expansion of Fire Station, a minimum two bay Fire Station has been proposed, even at a Fire Station having requirement of one pumping unit. Accordingly, gaps in operational Fire Stations, new urban Fire Stations, and new rural Fire Stations have been given in Tables 18-30 and 18-27.

Table 18-26: Fire station building required for gap in operational and new urban Fire Stations (no of Bays)

District	Fire Stations	Bay1	Bay2	Bay3	Bay4	Bay5	Bay6	Bay7	Bay More Than 7
Agra	13	5	1	2	0	0	1	3	0
Aligarh	8	3	0	0	0	0	1	2	0
Allahabad	9	4	-1	-1	2	0	0	3	0
Ambedkar Nagar	4	0	1	0	0	0	1	2	0
Auraiya	2	0	-1	0	0	0	1	1	0
Azamgarh	5	1	-1	0	0	0	0	3	0
Baghpat	3	2	0	0	0	0	0	1	0
Bahraich	2	0	0	0	0	0	0	1	0
Ballia	3	0	-1	0	0	0	0	2	0
Balrampur	1	0	0	0	0	0	0	1	0
Banda	5	4	-1	0	0	0	0	1	0
Bara Banki	7	2	-2	0	0	0	1	4	0
Bareilly	9	1	2	0	0	1	2	3	0
Basti	1	0	0	-1	0	0	0	1	0
Bijnor	9	3	1	0	0	0	0	3	0
Budaun	6	2	1	0	0	0	0	2	0
Bulandsahar	6	2	0	1	0	0	0	1	0
Chandauli	5	3	1	0	0	0	0	1	0
Chitrakoot	3	1	0	1	0	0	1	0	0
Deoria	2	1	0	-1	0	0	0	1	0
Etah	2	0	0	0	0	0	0	2	0
Etawah	4	1	0	0	0	0	0	3	0
Faizabad	4	1	-1	1	0	0	0	2	0
Farrukhabad	3	0	-1	1	0	1	0	1	0
Fatehpur	3	-1	-1	0	0	0	2	1	0
Firozabad	5	2	0	-1	0	0	0	2	0
Gautam Buddha Nagar	8	1	-1	0	1	1	0	2	0
Ghaziabad	14	2	-1	2	-1	2	2	3	0
Ghaziipur	4	0	-1	1	0	0	0	3	0
Gonda	3	-1	-1	0	1	0	0	2	0
Gorakhpur	9	3	2	0	0	1	0	1	0
Hamirpur	3	1	-1	1	0	0	1	0	0
Hardoi	5	1	1	-1	0	0	0	3	0
Jalaun	5	0	-1	0	0	1	2	0	0
Jaunpur	5	1	0	0	1	0	0	2	0
Jhansi	3	1	-1	0	1	0	0	1	0
Jyotiba Phule Nagar	2	0	0	-1	0	0	0	1	0
Kannauj	5	3	0	0	0	0	1	1	0

District	Fire Stations	Bay1	Bay2	Bay3	Bay4	Bay5	Bay6	Bay7	Bay More Than 7
Kanpur Dehat	3	1	-1	0	0	1	1	0	0
Kanpur Nagar	12	1	-2	1	0	1	3	4	0
Kanshiram Nagar	2	0	0	0	0	0	0	2	0
Kaushambi	3	0	-1	0	0	0	2	1	0
Kheri	5	1	-1	1	0	1	0	2	0
Kushinagar	3	-1	0	0	0	0	0	3	0
Lalitpur	1	-1	0	0	0	0	0	1	0
Lucknow	14	1	-1	1	3	1	1	5	0
Mahamaya Nagar	4	1	-1	0	0	1	0	2	0
Maharajganj	2	0	-1	0	0	1	0	1	0
Mahoba	1	-1	0	0	0	0	0	1	0
Mainpuri	5	1	-1	1	0	0	1	2	0
Mathura	8	3	-2	1	1	1	0	2	0
Mau	3	1	1	0	0	0	0	1	0
Meerut	6	-1	1	2	1	0	0	1	0
Mirzapur	1	0	-1	0	0	0	0	1	0
Moradabad	10	2	2	1	1	-1	1	1	0
Muzafarnagar	5	0	2	0	0	0	0	1	0
Pilibhit	4	2	0	0	0	0	0	1	0
Pratapgarh	6	0	0	0	1	2	0	1	0
Rae Bareli	7	0	-3	0	0	0	5	2	0
Rampur	3	-1	0	0	0	1	0	2	0
Sant Kabir Nagar	1	0	-1	0	0	0	0	1	0
Sant Ravidas Nagar (Bhadohi)	4	0	0	0	1	0	0	2	0
Shahjahanpur	6	1	0	0	0	0	2	2	0
Sharanpur	6	1	0	0	0	0	0	2	0
Shrawasti	1	0	0	0	0	0	0	1	0
Siddharthnagar	2	-1	0	0	0	0	0	2	0
Sitapur	6	0	0	0	0	0	0	4	0
Sonbhadra	8	2	1	3	0	0	0	1	0
Sultanpur	7	-1	1	0	0	0	1	2	0
Unnao	6	2	-1	0	0	0	1	2	0
Varanasi	9	-1	2	1	0	1	1	3	0
Total	354	61	-14	16	13	17	35	125	0

- considering only pacca permanent structure

Table 18-27: Fire station building required for new rural Fire Stations (no of Bays)

District	Fire Stations	Bay1	Bay2	Bay3	Bay4	Bay5	Bay6	Bay7	Bay More Than 7
Agra	5	0	0	0	0	0	1	4	0
Aligarh	5	0	0	0	1	1	0	3	0
Allahabad	9	0	0	0	0	1	0	8	0
Ambedkar Nagar	4	0	0	0	0	1	0	3	0
Auraiya	2	0	0	0	0	0	1	1	0
Azamgarh	6	0	0	0	0	0	1	5	0
Baghpat	3	0	0	0	0	0	0	3	0
Bahraich	8	0	0	0	1	0	1	6	0
Ballia	5	0	0	0	1	0	0	4	0
Balrampur	5	0	0	0	0	0	1	4	0
Banda	9	0	3	3	2	0	1	0	0
Bara Banki	1	0	0	0	0	0	0	1	0
Bareilly	4	0	0	0	0	0	0	4	0
Basti	6	0	0	0	0	0	2	4	0
Bijnor	6	0	0	0	1	0	3	2	0
Budaun	6	0	0	0	0	2	1	3	0
Bulandsahar	5	0	0	0	0	0	0	5	0
Chandauli	3	1	0	0	0	0	1	1	0
Chitrakoot	4	1	0	2	0	0	1	0	0
Deoria	5	0	0	0	0	1	0	4	0
Etah	4	0	0	0	0	0	1	3	0
Etawah	1	0	0	1	0	0	0	0	0
Faizabad	4	0	0	0	0	0	2	2	0
Farrukhabad	3	0	0	0	0	0	0	3	0
Fatehpur	7	0	0	0	2	1	3	1	0
Firozabad	2	0	0	0	0	0	0	2	0
Gautam Buddha Nagar	2	0	0	0	0	1	0	1	0
Ghaziabad	4	0	0	0	0	1	0	3	0
Ghazipur	7	0	0	0	0	0	0	7	0
Gonda	6	0	0	0	0	0	2	4	0
Gorakhpur	11	0	0	0	1	0	2	8	0
Hamirpur	6	1	4	1	0	0	0	0	0
Hardoi	9	0	0	0	1	2	3	3	0
Jalaun	5	0	0	2	2	1	0	0	0
Jaunpur	6	0	0	0	0	0	0	6	0
Jhansi	8	0	4	3	0	0	1	0	0
Jyotiba Phule Nagar	5	0	0	0	0	1	0	4	0
Kannauj	2	0	0	0	0	0	0	2	0
Kanpur Dehat	6	0	1	2	0	0	3	0	0
Kanpur Nagar	3	0	0	0	0	0	1	2	0
Kanshiram Nagar	1	0	0	0	0	0	0	1	0
Kaushambi	2	0	0	0	0	0	0	2	0
Kheri	10	0	0	2	0	1	4	3	0

District	Fire Stations	Bay1	Bay2	Bay3	Bay4	Bay5	Bay6	Bay7	Bay More Than 7
Kushinagar	4	0	0	0	0	0	0	4	0
Lalitpur	7	0	3	3	1	0	0	0	0
Lucknow	4	0	0	0	0	0	1	3	0
Mahamaya Nagar	1	0	0	0	0	0	0	1	0
Maharajganj	6	0	0	0	0	0	2	4	0
Mahoba	4	0	0	3	0	1	0	0	0
Mainpuri	2	0	0	0	0	0	0	2	0
Mathura	5	0	0	0	0	2	1	2	0
Mau	4	0	0	0	0	0	0	4	0
Meerut	5	0	0	1	0	0	0	4	0
Mirzapur	12	1	2	3	0	2	0	4	0
Moradabad	5	0	0	0	0	0	0	5	0
Muzafarnagar	10	0	0	0	1	2	2	5	0
Pilibhit	4	0	0	1	1	0	0	2	0
Pratapgarh	5	0	0	0	0	0	2	3	0
Rae Bareli	4	0	0	0	0	1	2	1	0
Rampur	4	0	0	0	0	0	0	4	0
Sant Kabir Nagar	3	0	0	0	0	0	0	3	0
Sant Ravidas Nagar (Bhadohi)	0	0	0	0	0	0	0	0	0
Shahjahanpur	6	0	0	1	1	0	1	3	0
Sharanpur	9	1	1	0	2	0	2	3	0
Shrawasti	2	0	0	0	0	0	0	2	0
Siddharthnagar	3	0	0	0	0	0	0	3	0
Sitapur	7	0	0	0	0	1	1	5	0
Sonbhadra	7	3	2	1	0	0	0	1	0
Sultanpur	7	0	0	0	0	1	2	4	0
Unnao	4	0	0	0	0	0	1	3	0
Varanasi	3	0	0	0	0	0	0	3	0
Total	352	8	20	29	18	24	53	200	0

18.4 Investment and Financial Analysis

18.4.1 CAPITAL COST

Building Infrastructure Cost:

Table 18-28 and 18-29 provides details of the Fire Station infrastructural gap analysis in Uttar Pradesh State. The ideal requirement of land for a Fire Station is 2 ½ acres, however, a 2 bay Fire Station may be constructed even in a one acre land. It may be noted that land cost will vary from time to time and place to place; hence it has not been added in cost estimates. The civil construction cost estimation involves cost of Fire Station building including stores, offices, residential quarters, static water tanks, which will vary in size depending upon the number of bays (garage) in a Fire Station. Accordingly, total cost estimates for one, two, three, five, and seven bay Fire Stations (based on the P.W. D. norms) is about 150 Lakhs, 300 Lakhs, 450 Lakhs, 700 Lakhs, 950 Lakhs respectively (Tables 18-28 to 18-29). To start with, rural-Fire Station/ Fire Post may be stationed in a government building, such as school/ hospital or a Panchayat ghar.

Table 18-28: Cost of Fire Station building (no of bays) required for gap in operational and new urban Fire Stations (in Lakhs Rupees)

District	Fire Stations	Bay1	Bay2	Bay3	Bay4	Bay5	Bay6	Bay7	Bay More Than 7	Total Bay Construction Cost
Agra	13	750.0	300.0	900.0	0.0	0.0	825.0	2850.0	0.0	5625.0
Aligarh	8	450.0	0.0	0.0	0.0	0.0	825.0	1900.0	0.0	3175.0
Allahabad	9	600.0	-300.0	-450.0	1150.0	0.0	0.0	2850.0	0.0	3850.0
Ambedkar Nagar	4	0.0	300.0	0.0	0.0	0.0	825.0	1900.0	0.0	3025.0
Auraiya	2	0.0	-300.0	0.0	0.0	0.0	825.0	950.0	0.0	1475.0
Azamgarh	5	150.0	-300.0	0.0	0.0	0.0	0.0	2850.0	0.0	2700.0
Baghpat	3	300.0	0.0	0.0	0.0	0.0	0.0	950.0	0.0	1250.0
Bahraich	2	0.0	0.0	0.0	0.0	0.0	0.0	950.0	0.0	950.0
Ballia	3	0.0	-300.0	0.0	0.0	0.0	0.0	1900.0	0.0	1600.0
Balrampur	1	0.0	0.0	0.0	0.0	0.0	0.0	950.0	0.0	950.0
Banda	5	600.0	-300.0	0.0	0.0	0.0	0.0	950.0	0.0	1250.0
Bara Banki	7	300.0	-600.0	0.0	0.0	0.0	825.0	3800.0	0.0	4325.0
Bareilly	9	150.0	600.0	0.0	0.0	700.0	1650.0	2850.0	0.0	5950.0
Basti	1	0.0	0.0	-450.0	0.0	0.0	0.0	950.0	0.0	500.0
Bijnor	9	450.0	300.0	0.0	0.0	0.0	0.0	2850.0	0.0	3600.0
Budaun	6	300.0	300.0	0.0	0.0	0.0	0.0	1900.0	0.0	2500.0

District	Fire Stations	Bay1	Bay2	Bay3	Bay4	Bay5	Bay6	Bay7	Bay More Than 7	Total Bay Construction Cost
Bulandsahar	6	300.0	0.0	450.0	0.0	0.0	0.0	950.0	0.0	1700.0
Chandauli	5	450.0	300.0	0.0	0.0	0.0	0.0	950.0	0.0	1700.0
Chitrakoot	3	150.0	0.0	450.0	0.0	0.0	825.0	0.0	0.0	1425.0
Deoria	2	150.0	0.0	-450.0	0.0	0.0	0.0	950.0	0.0	650.0
Etah	2	0.0	0.0	0.0	0.0	0.0	0.0	1900.0	0.0	1900.0
Etawah	4	150.0	0.0	0.0	0.0	0.0	0.0	2850.0	0.0	3000.0
Faizabad	4	150.0	-300.0	450.0	0.0	0.0	0.0	1900.0	0.0	2200.0
Farrukhabad	3	0.0	-300.0	450.0	0.0	700.0	0.0	950.0	0.0	1800.0
Fatehpur	3	-150.0	-300.0	0.0	0.0	0.0	1650.0	950.0	0.0	2150.0
Firozabad	5	300.0	0.0	-450.0	0.0	0.0	0.0	1900.0	0.0	1750.0
Gautam Buddha Nagar	8	150.0	-300.0	0.0	575.0	700.0	0.0	1900.0	0.0	3025.0
Ghaziabad	14	300.0	-300.0	900.0	-575.0	1400.0	1650.0	2850.0	0.0	6225.0
Ghazipur	4	0.0	-300.0	450.0	0.0	0.0	0.0	2850.0	0.0	3000.0
Gonda	3	-150.0	-300.0	0.0	575.0	0.0	0.0	1900.0	0.0	2025.0
Gorakhpur	9	450.0	600.0	0.0	0.0	700.0	0.0	950.0	0.0	2700.0
Hamirpur	3	150.0	-300.0	450.0	0.0	0.0	825.0	0.0	0.0	1125.0
Hardoi	5	150.0	300.0	-450.0	0.0	0.0	0.0	2850.0	0.0	2850.0
Jalaun	5	0.0	-300.0	0.0	0.0	700.0	1650.0	0.0	0.0	2050.0
Jaunpur	5	150.0	0.0	0.0	575.0	0.0	0.0	1900.0	0.0	2625.0
Jhansi	3	150.0	-300.0	0.0	575.0	0.0	0.0	950.0	0.0	1375.0
Jyotiba Phule Nagar	2	0.0	0.0	-450.0	0.0	0.0	0.0	950.0	0.0	500.0
Kannauj	5	450.0	0.0	0.0	0.0	0.0	825.0	950.0	0.0	2225.0
Kanpur Dehat	3	150.0	-300.0	0.0	0.0	700.0	825.0	0.0	0.0	1375.0
Kanpur Nagar	12	150.0	-600.0	450.0	0.0	700.0	2475.0	3800.0	0.0	6975.0
Kanshiram Nagar	2	0.0	0.0	0.0	0.0	0.0	0.0	1900.0	0.0	1900.0
Kaushambi	3	0.0	-300.0	0.0	0.0	0.0	1650.0	950.0	0.0	2300.0
Kheri	5	150.0	-300.0	450.0	0.0	700.0	0.0	1900.0	0.0	2900.0
Kushinagar	3	-150.0	0.0	0.0	0.0	0.0	0.0	2850.0	0.0	2700.0
Lalitpur	1	-150.0	0.0	0.0	0.0	0.0	0.0	950.0	0.0	800.0
Lucknow	14	150.0	-300.0	450.0	1725.0	700.0	825.0	4750.0	0.0	8300.0

District	Fire Stations	Bay1	Bay2	Bay3	Bay4	Bay5	Bay6	Bay7	Bay More Than 7	Total Bay Construction Cost
Mahamaya Nagar	4	150.0	-300.0	0.0	0.0	700.0	0.0	1900.0	0.0	2450.0
Maharajganj	2	0.0	-300.0	0.0	0.0	700.0	0.0	950.0	0.0	1350.0
Mahoba	1	-150.0	0.0	0.0	0.0	0.0	0.0	950.0	0.0	800.0
Mainpuri	5	150.0	-300.0	450.0	0.0	0.0	825.0	1900.0	0.0	3025.0
Mathura	8	450.0	-600.0	450.0	575.0	700.0	0.0	1900.0	0.0	3475.0
Mau	3	150.0	300.0	0.0	0.0	0.0	0.0	950.0	0.0	1400.0
Meerut	6	-150.0	300.0	900.0	575.0	0.0	0.0	950.0	0.0	2575.0
Mirzapur	1	0.0	-300.0	0.0	0.0	0.0	0.0	950.0	0.0	650.0
Moradabad	10	300.0	600.0	450.0	575.0	-700.0	825.0	950.0	0.0	3000.0
Muzafarnagar	5	0.0	600.0	0.0	0.0	0.0	0.0	950.0	0.0	1550.0
Pilibhit	4	300.0	0.0	0.0	0.0	0.0	0.0	950.0	0.0	1250.0
Pratapgarh	6	0.0	0.0	0.0	575.0	1400.0	0.0	950.0	0.0	2925.0
Rae Bareli	7	0.0	-900.0	0.0	0.0	0.0	4125.0	1900.0	0.0	5125.0
Rampur	3	-150.0	0.0	0.0	0.0	700.0	0.0	1900.0	0.0	2450.0
Sant Kabir Nagar	1	0.0	-300.0	0.0	0.0	0.0	0.0	950.0	0.0	650.0
Sant Ravidas Nagar (Bhadohi)	4	0.0	0.0	0.0	575.0	0.0	0.0	1900.0	0.0	2475.0
Shahjahanpur	6	150.0	0.0	0.0	0.0	0.0	1650.0	1900.0	0.0	3700.0
Sharanpur	6	150.0	0.0	0.0	0.0	0.0	0.0	1900.0	0.0	2050.0
Shrawasti	1	0.0	0.0	0.0	0.0	0.0	0.0	950.0	0.0	950.0
Siddharthnagar	2	-150.0	0.0	0.0	0.0	0.0	0.0	1900.0	0.0	1750.0
Sitapur	6	0.0	0.0	0.0	0.0	0.0	0.0	3800.0	0.0	3800.0
Sonbhadra	8	300.0	300.0	1350.0	0.0	0.0	0.0	950.0	0.0	2900.0
Sultanpur	7	-150.0	300.0	0.0	0.0	0.0	825.0	1900.0	0.0	2875.0
Unnao	6	300.0	-300.0	0.0	0.0	0.0	825.0	1900.0	0.0	2725.0
Varanasi	9	-150.0	600.0	450.0	0.0	700.0	825.0	2850.0	0.0	5275.0
Total	354	9150.0	-4200.0	7200.0	7475.0	11900.0	28875.0	118750.0	0.0	179150.0

Table 18-29: Additional cost of Fire Stations building (no of bays) required for rural Fire Stations

District	Fire Stations	Bay1	Bay2	Bay3	Bay4	Bay5	Bay6	Bay7	Bay More Than 7	Total Bay Construction Cost
Agra	5	0.0	0.0	0.0	0.0	0.0	825.0	3800.0	0.0	4625.0
Aligarh	5	0.0	0.0	0.0	575.0	700.0	0.0	2850.0	0.0	4125.0
Allahabad	9	0.0	0.0	0.0	0.0	700.0	0.0	7600.0	0.0	8300.0
Ambedkar Nagar	4	0.0	0.0	0.0	0.0	700.0	0.0	2850.0	0.0	3550.0
Auraiya	2	0.0	0.0	0.0	0.0	0.0	825.0	950.0	0.0	1775.0
Azamgarh	6	0.0	0.0	0.0	0.0	0.0	825.0	4750.0	0.0	5575.0
Baghpat	3	0.0	0.0	0.0	0.0	0.0	0.0	2850.0	0.0	2850.0
Bahraich	8	0.0	0.0	0.0	575.0	0.0	825.0	5700.0	0.0	7100.0
Ballia	5	0.0	0.0	0.0	575.0	0.0	0.0	3800.0	0.0	4375.0
Balrampur	5	0.0	0.0	0.0	0.0	0.0	825.0	3800.0	0.0	4625.0
Banda	9	0.0	900.0	1350.0	1150.0	0.0	825.0	0.0	0.0	4225.0
Bara Banki	1	0.0	0.0	0.0	0.0	0.0	0.0	950.0	0.0	950.0
Bareilly	4	0.0	0.0	0.0	0.0	0.0	0.0	3800.0	0.0	3800.0
Basti	6	0.0	0.0	0.0	0.0	0.0	1650.0	3800.0	0.0	5450.0
Bijnor	6	0.0	0.0	0.0	575.0	0.0	2475.0	1900.0	0.0	4950.0
Budaun	6	0.0	0.0	0.0	0.0	1400.0	825.0	2850.0	0.0	5075.0
Bulandsahar	5	0.0	0.0	0.0	0.0	0.0	0.0	4750.0	0.0	4750.0
Chandauli	3	150.0	0.0	0.0	0.0	0.0	825.0	950.0	0.0	1925.0
Chitrakoot	4	150.0	0.0	900.0	0.0	0.0	825.0	0.0	0.0	1875.0
Deoria	5	0.0	0.0	0.0	0.0	700.0	0.0	3800.0	0.0	4500.0
Etah	4	0.0	0.0	0.0	0.0	0.0	825.0	2850.0	0.0	3675.0
Etawah	1	0.0	0.0	450.0	0.0	0.0	0.0	0.0	0.0	450.0
Faizabad	4	0.0	0.0	0.0	0.0	0.0	1650.0	1900.0	0.0	3550.0
Farrukhabad	3	0.0	0.0	0.0	0.0	0.0	0.0	2850.0	0.0	2850.0
Fatehpur	7	0.0	0.0	0.0	1150.0	700.0	2475.0	950.0	0.0	5275.0
Firozabad	2	0.0	0.0	0.0	0.0	0.0	0.0	1900.0	0.0	1900.0
Gautam Buddha Nagar	2	0.0	0.0	0.0	0.0	700.0	0.0	950.0	0.0	1650.0
Ghaziabad	4	0.0	0.0	0.0	0.0	700.0	0.0	2850.0	0.0	3550.0

District	Fire Stations	Bay1	Bay2	Bay3	Bay4	Bay5	Bay6	Bay7	Bay More Than 7	Total Bay Construction Cost
Ghazipur	7	0.0	0.0	0.0	0.0	0.0	0.0	6650.0	0.0	6650.0
Gonda	6	0.0	0.0	0.0	0.0	0.0	1650.0	3800.0	0.0	5450.0
Gorakhpur	11	0.0	0.0	0.0	575.0	0.0	1650.0	7600.0	0.0	9825.0
Hamirpur	6	150.0	1200.0	450.0	0.0	0.0	0.0	0.0	0.0	1800.0
Hardoi	9	0.0	0.0	0.0	575.0	1400.0	2475.0	2850.0	0.0	7300.0
Jalaun	5	0.0	0.0	900.0	1150.0	700.0	0.0	0.0	0.0	2750.0
Jaunpur	6	0.0	0.0	0.0	0.0	0.0	0.0	5700.0	0.0	5700.0
Jhansi	8	0.0	1200.0	1350.0	0.0	0.0	825.0	0.0	0.0	3375.0
Jyotiba Phule Nagar	5	0.0	0.0	0.0	0.0	700.0	0.0	3800.0	0.0	4500.0
Kannauj	2	0.0	0.0	0.0	0.0	0.0	0.0	1900.0	0.0	1900.0
Kanpur Dehat	6	0.0	300.0	900.0	0.0	0.0	2475.0	0.0	0.0	3675.0
Kanpur Nagar	3	0.0	0.0	0.0	0.0	0.0	825.0	1900.0	0.0	2725.0
Kanshiram Nagar	1	0.0	0.0	0.0	0.0	0.0	0.0	950.0	0.0	950.0
Kaushambi	2	0.0	0.0	0.0	0.0	0.0	0.0	1900.0	0.0	1900.0
Kheri	10	0.0	0.0	900.0	0.0	700.0	3300.0	2850.0	0.0	7750.0
Kushinagar	4	0.0	0.0	0.0	0.0	0.0	0.0	3800.0	0.0	3800.0
Lalitpur	7	0.0	900.0	1350.0	575.0	0.0	0.0	0.0	0.0	2825.0
Lucknow	4	0.0	0.0	0.0	0.0	0.0	825.0	2850.0	0.0	3675.0
Mahamaya Nagar	1	0.0	0.0	0.0	0.0	0.0	0.0	950.0	0.0	950.0
Maharajganj	6	0.0	0.0	0.0	0.0	0.0	1650.0	3800.0	0.0	5450.0
Mahoba	4	0.0	0.0	1350.0	0.0	700.0	0.0	0.0	0.0	2050.0
Mainpuri	2	0.0	0.0	0.0	0.0	0.0	0.0	1900.0	0.0	1900.0
Mathura	5	0.0	0.0	0.0	0.0	1400.0	825.0	1900.0	0.0	4125.0
Mau	4	0.0	0.0	0.0	0.0	0.0	0.0	3800.0	0.0	3800.0
Meerut	5	0.0	0.0	450.0	0.0	0.0	0.0	3800.0	0.0	4250.0
Mirzapur	12	150.0	600.0	1350.0	0.0	1400.0	0.0	3800.0	0.0	7300.0
Moradabad	5	0.0	0.0	0.0	0.0	0.0	0.0	4750.0	0.0	4750.0
Muzafarnagar	10	0.0	0.0	0.0	575.0	1400.0	1650.0	4750.0	0.0	8375.0
Pilibhit	4	0.0	0.0	450.0	575.0	0.0	0.0	1900.0	0.0	2925.0
Pratapgarh	5	0.0	0.0	0.0	0.0	0.0	1650.0	2850.0	0.0	4500.0

District	Fire Stations	Bay1	Bay2	Bay3	Bay4	Bay5	Bay6	Bay7	Bay More Than 7	Total Bay Construction Cost
Rae Bareli	4	0.0	0.0	0.0	0.0	700.0	1650.0	950.0	0.0	3300.0
Rampur	4	0.0	0.0	0.0	0.0	0.0	0.0	3800.0	0.0	3800.0
Sant Kabir Nagar	3	0.0	0.0	0.0	0.0	0.0	0.0	2850.0	0.0	2850.0
Sant Ravidas Nagar (Bhadohi)	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shahjahanpur	6	0.0	0.0	450.0	575.0	0.0	825.0	2850.0	0.0	4700.0
Sharanpur	9	150.0	300.0	0.0	1150.0	0.0	1650.0	2850.0	0.0	6100.0
Shrawasti	2	0.0	0.0	0.0	0.0	0.0	0.0	1900.0	0.0	1900.0
Siddharthnagar	3	0.0	0.0	0.0	0.0	0.0	0.0	2850.0	0.0	2850.0
Sitapur	7	0.0	0.0	0.0	0.0	700.0	825.0	4750.0	0.0	6275.0
Sonbhadra	7	450.0	600.0	450.0	0.0	0.0	0.0	950.0	0.0	2450.0
Sultanpur	7	0.0	0.0	0.0	0.0	700.0	1650.0	3800.0	0.0	6150.0
Unnao	4	0.0	0.0	0.0	0.0	0.0	825.0	2850.0	0.0	3675.0
Varanasi	3	0.0	0.0	0.0	0.0	0.0	0.0	2850.0	0.0	2850.0
Total	352	1200.0	6000.0	13050.0	10350.0	16800.0	43725.0	190000.0	0.0	281125.0

Thus, total estimated capital cost for the Fire Stations building development for all the proposed and new urban Fire Stations will be about **Rs. 1,792 Crores**. In addition, about **Rs. 2,811 Crores** will be required for rural Fire Station building structure.

Vehicles and Equipment Cost:

The costs of different fire vehicles and specialized equipment including communication sets (static and mobile VHF sets) have been taken as approximate rates quoted by fire equipment supplier. Accordingly, capital cost for fire vehicles and equipment for all the districts in Uttar Pradesh has been estimated (Tables 18-30 -8-35).

Table 18-30: Cost estimates (in Lakhs Rupees) for gap in fire fighting vehicles for operational and new urban Fire Stations

District	Fire Stations	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Agra	13	12.0	11.0	6.0	2.0	1.0	2.0	2.0	1.0	0.0	3.0	3.0	0.0	0.0	2.0	45.0
Aligarh	8	8.0	9.0	2.0	1.0	1.0	1.0	1.0	1.0	0.0	5.0	5.0	0.0	0.0	2.0	36.0
Allahabad	9	12.0	10.0	4.0	1.0	2.0	2.0	2.0	1.0	0.0	3.0	3.0	0.0	0.0	2.0	42.0
Ambedkar Nagar	4	5.0	5.0	2.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	1.0	21.0
Auraiya	2	3.0	3.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	14.0
Azamgarh	5	8.0	5.0	2.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	2.0	25.0
Baghpat	3	1.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	6.0
Bahraich	2	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	2.0	9.0
Ballia	3	6.0	7.0	2.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	22.0
Balrampur	1	0.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	5.0
Banda	5	3.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	9.0
Bara Banki	7	17.0	12.0	4.0	1.0	0.0	1.0	1.0	1.0	0.0	4.0	4.0	0.0	0.0	1.0	46.0
Bareilly	9	18.0	17.0	7.0	1.0	1.0	1.0	1.0	1.0	0.0	4.0	4.0	0.0	0.0	2.0	57.0
Basti	1	-1.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	4.0
Bijnor	9	8.0	6.0	3.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	2.0	27.0
Budaun	6	5.0	4.0	2.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	2.0	19.0
Bulandsahar	6	3.0	3.0	2.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	2.0	14.0
Chandauli	5	3.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	9.0
Chitrakoot	3	1.0	1.0	0.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	9.0
Deoria	2	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	7.0
Etah	2	4.0	4.0	2.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	17.0
Etawah	4	11.0	8.0	2.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	1.0	30.0
Faizabad	4	5.0	3.0	0.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	1.0	17.0
Farrukhabad	3	2.0	3.0	3.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	13.0
Fatehpur	3	3.0	5.0	3.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	1.0	20.0
Firozabad	5	9.0	7.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	1.0	26.0

District	Fire Stations	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Gautam Buddha Nagar	8	3.0	5.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	1.0	18.0
Ghaziabad	14	17.0	18.0	10.0	3.0	2.0	2.0	2.0	1.0	0.0	2.0	2.0	0.0	0.0	2.0	61.0
Ghazipur	4	7.0	7.0	2.0	1.0	0.0	1.0	1.0	1.0	0.0	3.0	3.0	0.0	0.0	2.0	28.0
Gonda	3	2.0	4.0	2.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	2.0	16.0
Gorakhpur	9	7.0	6.0	2.0	1.0	1.0	2.0	2.0	1.0	0.0	1.0	1.0	0.0	0.0	2.0	26.0
Hamirpur	3	1.0	1.0	0.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	9.0
Hardoi	5	7.0	8.0	3.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	2.0	28.0
Jalaun	5	6.0	5.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	1.0	21.0
Jaunpur	5	6.0	5.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	2.0	20.0
Jhansi	3	0.0	5.0	2.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	15.0
Jyotiba Phule Nagar	2	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	7.0
Kannauj	5	4.0	3.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	15.0
Kanpur Dehat	3	3.0	2.0	0.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	12.0
Kanpur Nagar	12	24.0	23.0	8.0	3.0	1.0	1.0	1.0	1.0	0.0	8.0	8.0	0.0	0.0	2.0	80.0
Kanshiram Nagar	2	2.0	3.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	13.0
Kaushambi	3	4.0	5.0	2.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	1.0	20.0
Kheri	5	7.0	6.0	2.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	2.0	25.0
Kushinagar	3	6.0	6.0	2.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	2.0	24.0
Lalitpur	1	-1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	7.0
Lucknow	14	16.0	21.0	10.0	2.0	2.0	2.0	2.0	1.0	0.0	4.0	4.0	0.0	0.0	2.0	66.0
Mahamaya Nagar	4	7.0	6.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	1.0	23.0
Maharajganj	2	2.0	2.0	0.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	11.0
Mahoba	1	-1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	5.0
Mainpuri	5	6.0	7.0	3.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	1.0	25.0
Mathura	8	11.0	9.0	2.0	1.0	1.0	1.0	1.0	1.0	0.0	3.0	3.0	0.0	0.0	1.0	34.0
Mau	3	2.0	1.0	0.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	8.0

District	Fire Stations	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Meerut	6	-2.0	10.0	6.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	2.0	23.0
Mirzapur	1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	9.0
Moradabad	10	8.0	6.0	2.0	1.0	1.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	3.0	28.0
Muzafarnagar	5	4.0	6.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	19.0
Pilibhit	4	1.0	2.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	11.0
Pratapgarh	6	4.0	5.0	2.0	1.0	0.0	1.0	1.0	1.0	0.0	3.0	3.0	0.0	0.0	2.0	23.0
Rae Bareli	7	16.0	15.0	5.0	1.0	0.0	1.0	1.0	1.0	0.0	6.0	6.0	0.0	0.0	2.0	54.0
Rampur	3	4.0	6.0	3.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	20.0
Sant Kabir Nagar	1	-2.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	3.0
Sant Ravidas Nagar (Bhadohi)	4	5.0	5.0	3.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	20.0
Shahjahanpur	6	13.0	11.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	3.0	3.0	0.0	0.0	2.0	38.0
Sharanpur	6	7.0	5.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	2.0	24.0
Shrawasti	1	3.0	4.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	13.0
Siddharthnagar	2	6.0	6.0	2.0	0.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	1.0	22.0
Sitapur	6	11.0	10.0	4.0	1.0	0.0	1.0	1.0	1.0	0.0	3.0	3.0	0.0	0.0	2.0	37.0
Sonbhadra	8	5.0	5.0	4.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	19.0
Sultanpur	7	7.0	5.0	2.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	2.0	24.0
Unnao	6	8.0	8.0	3.0	1.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	1.0	28.0
Varanasi	9	11.0	12.0	6.0	2.0	0.0	1.0	1.0	1.0	0.0	2.0	2.0	0.0	0.0	2.0	40.0
Total	354	406.0	406.0	158.0	76.0	20.0	76.0	76.0	71.0	0.0	116.0	116.0	0.0	0.0	100.0	1621.0

Table 18-31: Cost estimates (in Lakhs Rupees) for gap in firefighting vehicles for new rural Fire Stations

District	Fire Stations	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Agra	5	19.0	15.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	49.0
Aligarh	5	18.0	15.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	45.0
Allahabad	9	37.0	32.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	9.0	0.0	0.0	0.0	93.0
Ambedkar Nagar	4	14.0	11.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	35.0
Auraiya	2	7.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	17.0
Azamgarh	6	23.0	19.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	57.0
Baghpat	3	11.0	9.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	0.0	29.0
Bahraich	8	28.0	24.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	8.0	0.0	0.0	0.0	72.0
Ballia	5	18.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	43.0
Balrampur	5	19.0	16.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	46.0
Banda	9	16.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	9.0	0.0	0.0	0.0	47.0
Bara Banki	1	4.0	3.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	10.0
Bareilly	4	16.0	15.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	42.0
Basti	6	21.0	18.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	55.0
Bijnor	6	18.0	16.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	48.0
Budaun	6	21.0	17.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	53.0
Bulandsahar	5	19.0	18.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	52.0
Chandauli	3	9.0	7.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	0.0	23.0
Chitrakoot	4	8.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	21.0
Deoria	5	18.0	16.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	48.0
Etah	4	13.0	11.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	36.0
Etawah	1	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	5.0
Faizabad	4	14.0	12.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	35.0
Farrukhabad	3	11.0	11.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	0.0	31.0
Fatehpur	7	20.0	18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	7.0	0.0	0.0	0.0	52.0

District	Fire Stations	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Firozabad	2	10.0	8.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	24.0
Gautam Buddha Nagar	2	7.0	5.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	17.0
Ghaziabad	4	15.0	13.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	39.0
Ghaziipur	7	28.0	25.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	7.0	0.0	0.0	0.0	72.0
Gonda	6	24.0	22.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	61.0
Gorakhpur	11	36.0	34.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	11.0	0.0	0.0	0.0	97.0
Hamirpur	6	7.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	24.0
Hardoi	9	29.0	24.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	9.0	0.0	0.0	0.0	73.0
Jalaun	5	11.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	29.0
Jaunpur	6	27.0	25.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	70.0
Jhansi	8	13.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	8.0	0.0	0.0	0.0	39.0
Jyotiba Phule Nagar	5	19.0	16.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	47.0
Kannauj	2	8.0	6.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	19.0
Kanpur Dehat	6	14.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	38.0
Kanpur Nagar	3	10.0	9.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	0.0	27.0
Kanshiram Nagar	1	4.0	3.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	10.0
Kaushambi	2	9.0	7.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	21.0
Kheri	10	31.0	24.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	0.0	0.0	76.0
Kushinagar	4	19.0	18.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	48.0
Lalitpur	7	11.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	7.0	0.0	0.0	0.0	33.0
Lucknow	4	14.0	12.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	37.0
Mahamaya Nagar	1	4.0	4.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	11.0
Maharajganj	6	22.0	18.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	53.0
Mahoba	4	9.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	22.0
Mainpuri	2	7.0	6.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	19.0
Mathura	5	17.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	40.0

District	Fire Stations	Water Tenders	Water Browsers	Foam Tenders	Advanced Rescue Responders	Sky Lifts / TTL	DCP Tenders	Hose Tenders	BA Vans	Hazmat Vans	QRT	Motor Cycle Mists	Fire Boats	Ambulances	Education Vans	Total Vehicle
Mau	4	17.0	15.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	43.0
Meerut	5	17.0	13.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	43.0
Mirzapur	12	31.0	22.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	12.0	0.0	0.0	0.0	80.0
Moradabad	5	22.0	21.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	58.0
Muzafarnagar	10	32.0	28.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	0.0	0.0	0.0	83.0
Pilibhit	4	11.0	10.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	31.0
Pratapgarh	5	17.0	14.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	44.0
Rae Bareli	4	13.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	32.0
Rampur	4	15.0	13.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	40.0
Sant Kabir Nagar	3	11.0	11.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	0.0	30.0
Sant Ravidas Nagar (Bhadohi)	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shahjahanpur	6	17.0	15.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	0.0	0.0	47.0
Sharanpur	9	22.0	20.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	9.0	0.0	0.0	0.0	62.0
Shrawasti	2	8.0	6.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	19.0
Siddharthnagar	3	12.0	9.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	0.0	28.0
Sitapur	7	24.0	21.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	7.0	0.0	0.0	0.0	62.0
Sonbhadra	7	11.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	7.0	0.0	0.0	0.0	31.0
Sultanpur	7	22.0	20.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	7.0	0.0	0.0	0.0	60.0
Unnao	4	13.0	12.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	0.0	0.0	0.0	36.0
Varanasi	3	15.0	12.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	0.0	36.0
Total	352	1139.0	962.0	150.0	0.0	0.0	0.0	0.0	0.0	0.0	352.0	352.0	0.0	0.0	0.0	2955.0

Table 18-32: Cost estimate (in Lakhs Rupees) for gap in specialized firefighting equipment for operational and new urban Fire Stations

District	Fire Stations	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters / Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Agra	13	90.0	135.0	76.8	24.0	5.9	60.0	12.8	7.5	4.8	145.0	16.2	39.0	76.0	0.0
Aligarh	8	75.0	62.5	55.6	15.0	4.0	50.0	4.8	5.0	3.0	95.0	7.5	32.5	52.0	0.0
Allahabad	9	60.0	82.5	68.0	16.5	4.6	40.0	4.8	5.0	3.3	100.0	9.9	26.0	62.0	0.0
Ambedkar Nagar	4	15.0	15.0	34.0	7.5	1.9	10.0	1.6	2.5	1.5	52.5	1.8	6.5	30.0	0.0
Auraiya	2	15.0	2.5	16.8	3.0	1.3	10.0	0.8	1.0	0.6	32.5	0.3	6.5	16.0	0.0
Azamgarh	5	15.0	15.0	40.0	9.0	2.4	10.0	2.4	3.0	1.8	67.5	1.8	6.5	32.0	0.0
Baghpat	3	45.0	12.5	6.4	4.5	0.4	30.0	2.4	1.0	0.9	12.5	1.5	19.5	2.0	0.0
Bahraich	2	30.0	15.0	8.0	3.0	0.7	20.0	1.6	1.0	0.6	10.0	1.8	13.0	2.0	0.0
Ballia	3	15.0	25.0	34.4	6.0	2.3	10.0	1.6	2.0	1.2	57.5	3.0	6.5	26.0	0.0
Balrampur	1	15.0	5.0	3.2	1.5	0.2	10.0	0.8	0.5	0.3	0.0	0.6	6.5	-4.0	0.0
Banda	5	15.0	22.5	12.4	9.0	0.9	10.0	4.8	3.0	1.8	27.5	2.7	6.5	6.0	0.0
Bara Banki	7	15.0	17.5	75.2	12.0	5.1	10.0	1.6	3.5	2.4	130.0	2.1	6.5	72.0	0.0
Bareilly	9	60.0	80.0	96.8	13.5	6.4	40.0	6.4	5.5	3.3	150.0	9.6	26.0	92.0	0.0
Basti	1	15.0	10.0	1.6	1.5	0.1	10.0	0.8	0.5	0.3	0.0	1.2	6.5	-8.0	0.0
Bijnor	9	135.0	30.0	45.6	16.5	3.3	90.0	6.4	5.0	3.3	80.0	3.6	58.5	42.0	0.0
Budaun	6	30.0	20.0	27.6	10.5	2.1	20.0	4.8	3.5	2.1	52.5	2.4	13.0	28.0	0.0
Bulandsahar	6	105.0	40.0	24.0	10.5	1.2	70.0	5.6	3.5	2.1	45.0	4.8	45.5	12.0	0.0
Chandauli	5	15.0	22.5	11.2	9.0	0.7	10.0	4.8	2.5	1.5	20.0	2.7	6.5	4.0	0.0
Chitrakoot	3	15.0	10.0	7.2	4.5	0.8	10.0	1.6	1.5	0.9	15.0	1.2	6.5	0.0	0.0
Deoria	2	15.0	12.5	6.0	3.0	0.6	10.0	1.6	1.0	0.6	10.0	1.5	6.5	-2.0	0.0
Etah	2	15.0	12.5	24.8	3.0	1.4	10.0	0.8	1.0	0.6	37.5	1.5	6.5	24.0	0.0
Etawah	4	15.0	20.0	47.6	7.5	3.2	10.0	1.6	2.5	1.5	80.0	2.4	6.5	44.0	0.0

District	Fire Stations	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters / Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Faizabad	4	30.0	30.0	30.4	7.5	2.2	20.0	2.4	2.0	1.5	47.5	3.6	13.0	30.0	0.0
Farrukhabad	3	30.0	30.0	18.0	3.0	1.1	20.0	2.4	1.0	0.9	30.0	3.6	13.0	16.0	0.0
Fatehpur	3	15.0	12.5	30.8	6.0	2.1	10.0	0.8	2.0	1.2	50.0	1.5	6.5	28.0	0.0
Firozabad	5	15.0	47.5	41.6	9.0	2.9	10.0	4.0	2.5	1.8	72.5	5.7	6.5	40.0	0.0
Gautam Buddha Nagar	8	150.0	80.0	50.0	13.5	2.6	100.0	8.0	5.0	3.0	62.5	11.4	65.0	54.0	0.0
Ghaziabad	14	255.0	162.5	109.2	25.5	7.1	170.0	13.6	8.5	5.1	177.5	21.6	110.5	106.0	0.0
Ghazipur	4	15.0	17.5	38.4	7.5	2.4	10.0	1.6	2.5	1.5	65.0	2.1	6.5	34.0	0.0
Gonda	3	15.0	15.0	22.4	4.5	1.6	10.0	1.6	1.5	0.9	37.5	1.8	6.5	16.0	0.0
Gorakhpur	9	135.0	67.5	37.6	16.5	2.7	90.0	8.8	5.5	3.3	60.0	8.1	58.5	32.0	0.0
Hamirpur	3	15.0	5.0	8.4	6.0	0.8	10.0	1.6	2.0	1.2	17.5	0.6	6.5	6.0	0.0
Hardoi	5	15.0	20.0	40.4	9.0	2.6	10.0	2.4	3.0	1.8	67.5	2.4	6.5	38.0	0.0
Jalaun	5	15.0	15.0	31.2	9.0	2.2	10.0	2.4	2.5	1.8	52.5	1.8	6.5	30.0	0.0
Jaunpur	5	15.0	25.0	26.4	9.0	1.8	10.0	3.2	3.0	1.8	45.0	3.0	6.5	16.0	0.0
Jhansi	3	15.0	30.0	23.6	6.0	1.4	10.0	0.8	1.5	1.2	42.5	3.6	6.5	24.0	0.0
Jyotiba Phule Nagar	2	30.0	17.5	9.2	3.0	0.7	20.0	1.6	1.0	0.6	12.5	2.1	13.0	2.0	0.0
Kannauj	5	15.0	10.0	20.0	9.0	1.5	10.0	3.2	3.0	1.8	47.5	1.2	6.5	20.0	0.0
Kanpur Dehat	3	15.0	5.0	12.8	6.0	1.1	10.0	1.6	2.0	1.2	22.5	0.6	6.5	10.0	0.0
Kanpur Nagar	12	135.0	195.0	136.8	21.0	9.1	90.0	8.8	7.0	4.5	232.5	23.4	58.5	136.0	0.0
Kanshiram Nagar	2	15.0	5.0	16.8	3.0	1.2	10.0	0.8	1.0	0.6	25.0	0.6	6.5	16.0	0.0
Kaushambi	3	15.0	2.5	28.4	6.0	1.9	10.0	0.8	2.0	1.2	50.0	0.3	6.5	24.0	0.0
Kheri	5	30.0	20.0	35.6	7.5	2.4	20.0	3.2	3.0	1.8	62.5	2.4	13.0	32.0	0.0
Kushinagar	3	15.0	5.0	33.6	6.0	2.3	10.0	0.8	2.0	1.2	57.5	0.6	6.5	26.0	0.0
Lalitpur	1	15.0	10.0	4.8	1.5	0.4	10.0	0.8	0.5	0.3	10.0	1.2	6.5	0.0	0.0

District	Fire Stations	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters / Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Lucknow	14	165.0	197.5	125.6	22.5	7.4	110.0	4.8	8.0	4.8	195.0	23.7	71.5	126.0	0.0
Mahamaya Nagar	4	15.0	15.0	31.2	7.5	2.0	10.0	1.6	2.5	1.5	50.0	1.8	6.5	28.0	0.0
Maharajganj	2	15.0	5.0	13.6	3.0	0.8	10.0	0.8	1.0	0.6	25.0	0.6	6.5	6.0	0.0
Mahoba	1	15.0	5.0	3.2	1.5	0.0	10.0	0.8	0.0	0.3	2.5	0.6	6.5	-2.0	0.0
Mainpuri	5	15.0	15.0	35.2	9.0	2.5	10.0	2.4	3.0	1.8	60.0	1.8	6.5	38.0	0.0
Mathura	8	30.0	57.5	57.6	15.0	4.1	20.0	5.6	5.0	3.0	85.0	6.9	13.0	58.0	0.0
Mau	3	15.0	20.0	9.6	4.5	0.3	10.0	2.4	1.5	0.9	15.0	2.4	6.5	4.0	0.0
Meerut	6	105.0	92.5	48.8	9.0	3.0	70.0	4.8	3.0	2.1	65.0	11.1	45.5	42.0	0.0
Mirzapur	1	15.0	17.5	9.2	1.5	0.7	10.0	0.8	0.5	0.3	15.0	2.1	6.5	0.0	0.0
Moradabad	10	180.0	87.5	47.2	18.0	3.7	120.0	8.8	5.5	3.6	82.5	10.5	78.0	42.0	0.0
Muzafarnagar	5	90.0	50.0	28.8	9.0	2.0	60.0	4.8	3.0	1.8	47.5	6.0	39.0	22.0	0.0
Pilibhit	4	30.0	17.5	15.6	7.5	1.1	20.0	2.4	2.5	1.5	30.0	2.1	13.0	12.0	0.0
Pratapgarh	6	15.0	17.5	40.4	10.5	2.8	10.0	3.2	3.5	2.1	65.0	2.1	6.5	36.0	0.0
Rae Bareli	7	15.0	15.0	84.0	12.0	5.8	10.0	0.8	4.0	2.4	142.5	1.8	6.5	90.0	0.0
Rampur	3	30.0	27.5	30.4	6.0	2.0	20.0	1.6	2.0	1.2	50.0	3.3	13.0	26.0	0.0
Sant Kabir Nagar	1	15.0	5.0	-0.8	1.5	-0.2	10.0	0.8	0.5	0.3	2.5	0.6	6.5	-2.0	0.0
Sant Ravidas Nagar (Bhadohi)	4	30.0	20.0	31.2	6.0	2.0	20.0	2.4	2.0	1.2	47.5	2.4	13.0	34.0	0.0
Shahjahanpur	6	15.0	30.0	56.4	10.5	3.8	10.0	2.4	3.5	2.1	92.5	3.6	6.5	60.0	0.0
Sharanpur	6	105.0	65.0	36.4	10.5	3.0	70.0	4.8	2.5	2.1	60.0	7.8	45.5	28.0	0.0
Shrawasti	1	15.0	0.0	18.4	1.5	1.1	10.0	0.0	0.5	0.3	30.0	0.0	6.5	20.0	0.0
Siddharthnagar	2	15.0	0.0	33.6	3.0	2.3	10.0	0.0	1.0	0.6	57.5	0.0	6.5	22.0	0.0
Sitapur	6	15.0	17.5	58.0	10.5	4.0	10.0	2.4	3.5	2.1	97.5	2.1	6.5	56.0	0.0
Sonbhadra	8	15.0	52.5	30.4	13.5	2.3	10.0	7.2	4.5	2.7	55.0	6.3	6.5	24.0	0.0
Sultanpur	7	15.0	20.0	38.8	12.0	2.9	10.0	4.8	4.0	2.4	72.5	2.4	6.5	30.0	0.0

District	Fire Stations	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters / Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Unnao	6	30.0	32.5	46.0	9.0	3.2	20.0	2.4	3.0	2.1	82.5	3.9	13.0	42.0	0.0
Varanasi	9	90.0	130.0	73.2	15.0	4.4	60.0	7.2	5.0	3.3	117.5	15.6	39.0	66.0	0.0
Total	354	2955.0	2507.5	2531.6	615.0	170.6	1970.0	229.6	200.5	125.7	4212.5	304.8	1280.5	2252.0	0.0

Table 18-33: Cost estimate (in Lakhs Rupees) for gap in specialized firefighting equipment for operational and new urban Fire Stations (Continue.....)

District	Fire Stations	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega {hone	Total
Agra	13	0.0	0.0	31.5	16.0	30.0	21.2	0.0	3.8	7.3	6.7	4.8	814.3
Aligarh	8	0.0	0.0	18.9	6.0	25.0	16.0	0.0	1.9	4.3	4.7	1.8	540.4
Allahabad	9	0.0	0.0	21.0	9.0	20.0	16.4	0.0	3.0	8.2	6.0	2.7	568.8
Ambedkar Nagar	4	0.0	0.0	8.4	2.0	5.0	9.2	0.0	0.8	2.9	2.9	0.6	211.6
Auraiya	2	0.0	0.0	4.2	1.0	5.0	4.8	0.0	0.3	1.9	1.3	0.3	125.1
Azamgarh	5	0.0	0.0	10.5	3.0	5.0	9.6	0.0	1.1	3.9	3.0	0.9	243.4
Baghpat	3	0.0	0.0	4.2	3.0	15.0	2.0	0.0	0.5	0.0	0.7	0.9	165.0
Bahraich	2	0.0	0.0	2.1	2.0	10.0	2.4	0.0	0.3	0.5	0.6	0.6	125.2
Ballia	3	0.0	0.0	6.3	2.0	5.0	8.4	0.0	0.5	2.6	2.5	0.6	218.4
Balrampur	1	0.0	0.0	0.0	1.0	5.0	0.4	0.0	0.0	-0.2	-0.1	0.3	46.0
Banda	5	0.0	0.0	10.5	6.0	5.0	2.4	0.0	1.4	0.2	1.4	1.8	150.8
Bara Banki	7	0.0	0.0	14.7	3.0	5.0	19.6	0.0	1.1	7.7	6.1	0.9	411.0
Bareilly	9	0.0	0.0	21.0	8.0	20.0	25.2	0.0	1.6	9.5	7.1	2.4	684.3

District	Fire Stations	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega {hone	Total
Basti	1	0.0	0.0	0.0	1.0	5.0	1.2	0.0	0.0	0.7	0.4	0.3	48.0
Bijnor	9	0.0	0.0	21.0	9.0	45.0	11.6	0.0	2.2	3.9	3.7	2.7	618.3
Budaun	6	0.0	0.0	14.7	5.0	10.0	6.8	0.0	1.4	2.6	2.5	1.8	261.2
Bulandsahar	6	0.0	0.0	14.7	6.0	35.0	6.4	0.0	0.8	1.0	1.6	2.1	436.8
Chandauli	5	0.0	0.0	4.2	6.0	5.0	2.4	0.0	0.5	1.5	1.3	1.8	133.2
Chitrakoot	3	0.0	0.0	4.2	2.0	5.0	2.8	0.0	-0.8	1.0	1.0	0.6	90.0
Deoria	2	0.0	0.0	2.1	2.0	5.0	1.2	0.0	0.3	-0.2	0.6	0.6	77.9
Etah	2	0.0	0.0	2.1	1.0	5.0	6.0	0.0	0.3	2.7	1.4	0.3	157.4
Etawah	4	0.0	0.0	8.4	2.0	5.0	11.6	0.0	0.8	4.8	3.6	0.6	278.6
Faizabad	4	0.0	0.0	8.4	3.0	10.0	8.0	0.0	0.8	1.9	2.2	0.9	255.2
Farrukhabad	3	0.0	0.0	4.2	3.0	10.0	4.4	0.0	0.5	1.4	1.1	0.9	194.5
Fatehpur	3	0.0	0.0	6.3	1.0	5.0	8.0	0.0	-0.8	2.9	2.6	0.3	191.7
Firozabad	5	0.0	0.0	12.6	5.0	5.0	10.0	0.0	1.4	4.3	3.0	1.5	301.7
Gautam Buddha Nagar	8	0.0	0.0	21.0	10.0	50.0	15.2	0.0	1.6	3.2	3.8	3.0	712.9
Ghaziabad	14	0.0	0.0	35.7	17.0	85.0	26.8	0.0	3.2	9.9	7.9	5.1	1362.7
Ghazipur	4	0.0	0.0	8.4	2.0	5.0	10.0	0.0	1.1	3.9	3.0	0.6	238.0
Gonda	3	0.0	0.0	4.2	2.0	5.0	6.0	0.0	0.3	1.7	1.3	0.6	155.4
Gorakhpur	9	0.0	0.0	21.0	10.0	45.0	10.4	0.0	2.4	2.6	3.4	3.3	623.5
Hamirpur	3	0.0	0.0	6.3	2.0	5.0	2.4	0.0	0.5	0.9	1.1	0.6	99.4
Hardoi	5	0.0	0.0	10.5	3.0	5.0	10.4	0.0	1.1	3.4	3.4	0.9	256.2
Jalaun	5	0.0	0.0	12.6	3.0	5.0	7.6	0.0	0.5	2.7	2.6	1.2	215.2
Jaunpur	5	0.0	0.0	10.5	4.0	5.0	7.2	0.0	1.6	3.2	2.4	1.2	200.9
Jhansi	3	0.0	0.0	6.3	2.0	5.0	5.6	0.0	0.3	1.9	2.3	0.6	190.0
Jyotiba Phule Nagar	2	0.0	0.0	4.2	2.0	10.0	2.0	0.0	0.0	1.0	0.4	0.6	133.4
Kannauj	5	0.0	0.0	10.5	4.0	5.0	5.2	0.0	1.4	1.7	2.3	1.2	179.9

District	Fire Stations	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega {hone	Total
Kanpur Dehat	3	0.0	0.0	6.3	2.0	5.0	3.6	0.0	0.8	1.2	1.2	0.6	115.0
Kanpur Nagar	12	0.0	0.0	29.4	12.0	45.0	36.8	0.0	2.7	12.4	10.4	3.6	1210.0
Kanshiram Nagar	2	0.0	0.0	4.2	1.0	5.0	4.8	0.0	0.3	1.7	1.2	0.3	120.0
Kaushambi	3	0.0	0.0	6.3	1.0	5.0	7.2	0.0	-0.5	2.6	2.4	0.3	172.8
Kheri	5	0.0	0.0	12.6	4.0	10.0	10.0	0.0	0.8	3.2	2.8	1.2	278.0
Kushinagar	3	0.0	0.0	6.3	1.0	5.0	8.8	0.0	0.8	3.2	2.6	0.3	194.6
Lalitpur	1	0.0	0.0	0.0	1.0	5.0	1.2	0.0	0.0	0.3	0.5	0.3	69.3
Lucknow	14	0.0	0.0	31.5	15.0	50.0	31.6	0.0	2.4	9.5	9.5	4.5	1215.8
Mahamaya Nagar	4	0.0	0.0	10.5	2.0	5.0	7.6	0.0	1.4	2.9	2.4	0.6	204.9
Maharajganj	2	0.0	0.0	2.1	1.0	5.0	3.6	0.0	0.0	0.5	1.0	0.3	101.4
Mahoba	1	0.0	0.0	0.0	1.0	5.0	0.4	0.0	0.0	-0.3	0.2	0.3	50.0
Mainpuri	5	0.0	0.0	12.6	3.0	5.0	10.8	0.0	1.4	3.6	3.1	0.9	240.5
Mathura	8	0.0	0.0	18.9	7.0	10.0	13.2	0.0	2.2	6.0	4.4	2.1	424.5
Mau	3	0.0	0.0	4.2	3.0	5.0	2.4	0.0	-0.3	1.4	0.7	0.9	109.4
Meerut	6	0.0	0.0	12.6	7.0	35.0	10.4	0.0	0.8	3.7	4.0	2.1	577.4
Mirzapur	1	0.0	0.0	0.0	1.0	5.0	2.4	0.0	0.0	0.7	0.7	0.3	89.2
Moradabad	10	0.0	0.0	25.2	12.0	60.0	13.6	0.0	2.2	3.9	4.2	3.6	812.0
Muzafarnagar	5	0.0	0.0	10.5	6.0	30.0	6.8	0.0	1.1	2.2	2.3	1.8	424.6
Pilibhit	4	0.0	0.0	8.4	3.0	10.0	4.0	0.0	0.8	0.9	1.2	0.9	184.4
Pratapgarh	6	0.0	0.0	14.7	4.0	5.0	10.0	0.0	0.5	3.7	3.5	1.2	257.3
Rae Bareli	7	0.0	0.0	14.7	1.0	5.0	22.4	0.0	1.6	8.7	7.0	0.3	450.5
Rampur	3	0.0	0.0	6.3	2.0	10.0	7.6	0.0	0.8	2.7	2.2	0.6	245.2
Sant Kabir Nagar	1	0.0	0.0	0.0	1.0	5.0	-2.0	0.0	0.0	-0.3	-0.4	0.3	43.3
Sant Ravidas Nagar (Bhadohi)	4	0.0	0.0	6.3	3.0	10.0	7.2	0.0	0.5	3.6	2.8	0.9	246.0
Shahjahanpur	6	0.0	0.0	12.6	3.0	5.0	15.6	0.0	1.4	6.0	4.7	0.9	345.4

District	Fire Stations	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega {hone	Total
Sharanpur	6	0.0	0.0	12.6	7.0	35.0	10.4	0.0	0.8	3.1	3.1	2.1	514.7
Shrawasti	1	0.0	0.0	2.1	0.0	5.0	4.0	0.0	0.3	1.5	1.2	0.0	117.4
Siddharthnagar	2	0.0	0.0	2.1	0.0	5.0	8.4	0.0	0.0	3.1	2.5	0.0	172.6
Sitapur	6	0.0	0.0	12.6	3.0	5.0	14.4	0.0	1.4	5.4	4.7	0.9	332.5
Sonbhadra	8	0.0	0.0	16.8	9.0	5.0	7.6	0.0	0.8	3.2	2.8	2.7	277.8
Sultanpur	7	0.0	0.0	14.7	6.0	5.0	10.4	0.0	1.9	2.9	2.9	1.8	266.9
Unnao	6	0.0	0.0	12.6	4.0	10.0	12.0	0.0	1.1	4.4	3.8	1.2	338.7
Varanasi	9	0.0	0.0	21.0	11.0	30.0	19.6	0.0	-0.8	8.7	5.6	3.3	724.6
Total	354	0.0	0.0	758.1	306.0	980.0	653.6	0.0	64.5	229.2	202.9	93.0	22642.6

Table 18-34: Cost estimate (in Lakhs Rupees) for gap fire fighting specialized equipment for new rural Fire Stations

District	Fire Stations	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters / Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Agra	5	0.0	0.0	79.6	9.0	5.3	0.0	0.0	3.0	1.8	132.5	0.0	0.0	88.0	0.0
Aligarh	5	0.0	0.0	72.0	9.0	4.8	0.0	0.0	3.0	1.8	120.0	0.0	0.0	80.0	0.0
Allahabad	9	0.0	0.0	152.8	16.5	10.1	0.0	0.0	5.5	3.3	252.5	0.0	0.0	168.0	0.0
Ambedkar Nagar	4	0.0	0.0	55.6	7.5	3.7	0.0	0.0	2.5	1.5	92.5	0.0	0.0	62.0	0.0
Auraiya	2	0.0	0.0	26.8	3.0	1.8	0.0	0.0	1.0	0.6	45.0	0.0	0.0	30.0	0.0
Azamgarh	6	0.0	0.0	92.0	10.5	6.1	0.0	0.0	3.5	2.1	152.5	0.0	0.0	102.0	0.0
Baghpat	3	0.0	0.0	47.2	6.0	3.1	0.0	0.0	2.0	1.2	77.5	0.0	0.0	52.0	0.0

District	Fire Stations	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters / Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Bahraich	8	0.0	0.0	115.2	15.0	7.7	0.0	0.0	5.0	3.0	192.5	0.0	0.0	128.0	0.0
Ballia	5	0.0	0.0	68.0	9.0	4.6	0.0	0.0	3.0	1.8	115.0	0.0	0.0	76.0	0.0
Balrampur	5	0.0	0.0	74.0	9.0	4.9	0.0	0.0	3.0	1.8	122.5	0.0	0.0	82.0	0.0
Banda	9	0.0	0.0	64.4	16.5	4.6	0.0	0.0	5.5	3.3	115.0	0.0	0.0	76.0	0.0
Bara Banki	1	0.0	0.0	16.4	1.5	1.1	0.0	0.0	0.5	0.3	27.5	0.0	0.0	18.0	0.0
Bareilly	4	0.0	0.0	69.2	7.5	4.6	0.0	0.0	2.5	1.5	115.0	0.0	0.0	76.0	0.0
Basti	6	0.0	0.0	88.4	10.5	5.9	0.0	0.0	3.5	2.1	147.5	0.0	0.0	98.0	0.0
Bijnor	6	0.0	0.0	74.8	10.5	5.0	0.0	0.0	3.5	2.1	125.0	0.0	0.0	84.0	0.0
Budaun	6	0.0	0.0	84.4	10.5	5.6	0.0	0.0	3.5	2.1	140.0	0.0	0.0	94.0	0.0
Bulandsahar	5	0.0	0.0	85.6	9.0	5.6	0.0	0.0	3.0	1.8	140.0	0.0	0.0	94.0	0.0
Chandauli	3	0.0	0.0	35.6	6.0	2.4	0.0	0.0	2.0	1.2	60.0	0.0	0.0	40.0	0.0
Chitrakoot	4	0.0	0.0	28.8	7.5	2.0	0.0	0.0	2.5	1.5	50.0	0.0	0.0	34.0	0.0
Deoria	5	0.0	0.0	77.6	9.0	5.2	0.0	0.0	3.0	1.8	130.0	0.0	0.0	86.0	0.0
Etah	4	0.0	0.0	57.6	7.5	3.8	0.0	0.0	2.5	1.5	95.0	0.0	0.0	64.0	0.0
Etawah	1	0.0	0.0	6.8	1.5	0.5	0.0	0.0	0.5	0.3	12.5	0.0	0.0	8.0	0.0
Faizabad	4	0.0	0.0	55.6	7.5	3.7	0.0	0.0	2.5	1.5	92.5	0.0	0.0	62.0	0.0
Farrukhabad	3	0.0	0.0	50.8	6.0	3.4	0.0	0.0	2.0	1.2	85.0	0.0	0.0	56.0	0.0
Fatehpur	7	0.0	0.0	79.6	12.0	5.4	0.0	0.0	4.0	2.4	135.0	0.0	0.0	90.0	0.0
Firozabad	2	0.0	0.0	40.4	3.0	2.6	0.0	0.0	1.0	0.6	65.0	0.0	0.0	44.0	0.0
Gautam Buddha Nagar	2	0.0	0.0	26.8	3.0	1.8	0.0	0.0	1.0	0.6	45.0	0.0	0.0	30.0	0.0
Ghaziabad	4	0.0	0.0	63.2	7.5	4.2	0.0	0.0	2.5	1.5	105.0	0.0	0.0	70.0	0.0
Ghazipur	7	0.0	0.0	118.0	12.0	7.8	0.0	0.0	4.0	2.4	195.0	0.0	0.0	130.0	0.0
Gonda	6	0.0	0.0	100.0	10.5	6.6	0.0	0.0	3.5	2.1	165.0	0.0	0.0	110.0	0.0
Gorakhpur	11	0.0	0.0	154.4	19.5	10.3	0.0	0.0	6.5	3.9	257.5	0.0	0.0	172.0	0.0
Hamirpur	6	0.0	0.0	28.8	10.5	2.2	0.0	0.0	3.5	2.1	55.0	0.0	0.0	36.0	0.0

District	Fire Stations	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters / Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Hardoi	9	0.0	0.0	114.4	16.5	7.7	0.0	0.0	5.5	3.3	192.5	0.0	0.0	128.0	0.0
Jalaun	5	0.0	0.0	41.2	9.0	2.9	0.0	0.0	3.0	1.8	72.5	0.0	0.0	48.0	0.0
Jaunpur	6	0.0	0.0	117.2	10.5	7.7	0.0	0.0	3.5	2.1	192.5	0.0	0.0	128.0	0.0
Jhansi	8	0.0	0.0	52.0	15.0	3.7	0.0	0.0	5.0	3.0	92.5	0.0	0.0	62.0	0.0
Jyotiba Phule Nagar	5	0.0	0.0	76.0	9.0	5.0	0.0	0.0	3.0	1.8	125.0	0.0	0.0	84.0	0.0
Kannauj	2	0.0	0.0	30.8	3.0	2.0	0.0	0.0	1.0	0.6	50.0	0.0	0.0	34.0	0.0
Kanpur Dehat	6	0.0	0.0	55.6	10.5	3.8	0.0	0.0	3.5	2.1	95.0	0.0	0.0	64.0	0.0
Kanpur Nagar	3	0.0	0.0	43.2	6.0	2.9	0.0	0.0	2.0	1.2	72.5	0.0	0.0	48.0	0.0
Kanshiram Nagar	1	0.0	0.0	16.4	1.5	1.1	0.0	0.0	0.5	0.3	27.5	0.0	0.0	18.0	0.0
Kaushambi	2	0.0	0.0	34.4	3.0	2.3	0.0	0.0	1.0	0.6	57.5	0.0	0.0	38.0	0.0
Kheri	10	0.0	0.0	117.2	18.0	7.9	0.0	0.0	6.0	3.6	197.5	0.0	0.0	132.0	0.0
Kushinagar	4	0.0	0.0	80.8	7.5	5.3	0.0	0.0	2.5	1.5	132.5	0.0	0.0	88.0	0.0
Lalitpur	7	0.0	0.0	43.2	12.0	3.1	0.0	0.0	4.0	2.4	77.5	0.0	0.0	52.0	0.0
Lucknow	4	0.0	0.0	59.6	7.5	4.0	0.0	0.0	2.5	1.5	100.0	0.0	0.0	66.0	0.0
Mahamaya Nagar	1	0.0	0.0	18.4	1.5	1.2	0.0	0.0	0.5	0.3	30.0	0.0	0.0	20.0	0.0
Maharajganj	6	0.0	0.0	84.4	10.5	5.6	0.0	0.0	3.5	2.1	140.0	0.0	0.0	94.0	0.0
Mahoba	4	0.0	0.0	30.8	7.5	2.2	0.0	0.0	2.5	1.5	55.0	0.0	0.0	36.0	0.0
Mainpuri	2	0.0	0.0	30.8	3.0	2.0	0.0	0.0	1.0	0.6	50.0	0.0	0.0	34.0	0.0
Mathura	5	0.0	0.0	62.4	9.0	4.2	0.0	0.0	3.0	1.8	105.0	0.0	0.0	70.0	0.0
Mau	4	0.0	0.0	71.2	7.5	4.7	0.0	0.0	2.5	1.5	117.5	0.0	0.0	78.0	0.0
Meerut	5	0.0	0.0	68.0	9.0	4.6	0.0	0.0	3.0	1.8	115.0	0.0	0.0	76.0	0.0
Mirzapur	12	0.0	0.0	119.2	21.0	8.2	0.0	0.0	7.0	4.2	205.0	0.0	0.0	136.0	0.0
Moradabad	5	0.0	0.0	96.8	9.0	6.4	0.0	0.0	3.0	1.8	160.0	0.0	0.0	106.0	0.0
Muzafarnagar	10	0.0	0.0	130.4	18.0	8.8	0.0	0.0	6.0	3.6	220.0	0.0	0.0	146.0	0.0
Pilibhit	4	0.0	0.0	48.0	7.5	3.2	0.0	0.0	2.5	1.5	80.0	0.0	0.0	54.0	0.0

District	Fire Stations	Hydraulic Rescue Tools	Combi Tools	B.A. Sets	BA Compressors	First-Aid Boxes	Thermal Imaging Cameras	Electric Chain Saws / Cutters / Hammers for Concrete	Electric Chain Saws / Cutters / Hammers for Wood	Hydraulic / Manual Chain Saws / Cutters for Wood	Personal Protection Equipment	Hand Held Gas Detector Kits	Life Locator Equipment	Portable Pumps	Floating Pumps
Pratapgarh	5	0.0	0.0	70.0	9.0	4.7	0.0	0.0	3.0	1.8	117.5	0.0	0.0	78.0	0.0
Rae Bareli	4	0.0	0.0	50.0	7.5	3.4	0.0	0.0	2.5	1.5	85.0	0.0	0.0	56.0	0.0
Rampur	4	0.0	0.0	65.2	7.5	4.3	0.0	0.0	2.5	1.5	107.5	0.0	0.0	72.0	0.0
Sant Kabir Nagar	3	0.0	0.0	48.8	6.0	3.2	0.0	0.0	2.0	1.2	80.0	0.0	0.0	54.0	0.0
Sant Ravidas Nagar (Bhadohi)	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shahjahanpur	6	0.0	0.0	72.8	10.5	4.9	0.0	0.0	3.5	2.1	122.5	0.0	0.0	82.0	0.0
Sharanpur	9	0.0	0.0	93.2	16.5	6.4	0.0	0.0	5.5	3.3	160.0	0.0	0.0	106.0	0.0
Shrawasti	2	0.0	0.0	30.8	3.0	2.0	0.0	0.0	1.0	0.6	50.0	0.0	0.0	34.0	0.0
Siddharthnagar	3	0.0	0.0	45.2	6.0	3.0	0.0	0.0	2.0	1.2	75.0	0.0	0.0	50.0	0.0
Sitapur	7	0.0	0.0	98.8	12.0	6.6	0.0	0.0	4.0	2.4	165.0	0.0	0.0	110.0	0.0
Sonbhadra	7	0.0	0.0	39.2	12.0	2.9	0.0	0.0	4.0	2.4	72.5	0.0	0.0	48.0	0.0
Sultanpur	7	0.0	0.0	95.2	12.0	6.4	0.0	0.0	4.0	2.4	160.0	0.0	0.0	106.0	0.0
Unnao	4	0.0	0.0	57.6	7.5	3.8	0.0	0.0	2.5	1.5	95.0	0.0	0.0	64.0	0.0
Varanasi	3	0.0	0.0	60.4	6.0	4.0	0.0	0.0	2.0	1.2	100.0	0.0	0.0	66.0	0.0
Total	352	0.0	0.0	4660.0	631.5	312.5	0.0	0.0	210.5	126.3	7812.5	0.0	0.0	5206.0	0.0

Table 18-35: Cost estimate (in Lakhs Rupees) for gap fire fighting specialized equipment for new rural Fire Stations (Continue....)

District	Fire Stations	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega phone	Total
Agra	5	0.0	0.0	12.6	0.0	0.0	21.2	0.0	1.6	9.0	6.4	1.8	371.8
Aligarh	5	0.0	0.0	12.6	0.0	0.0	19.2	0.0	1.6	8.2	5.8	1.8	339.7
Allahabad	9	0.0	0.0	23.1	0.0	0.0	40.4	0.0	3.0	17.2	12.1	3.3	707.8
Ambedkar Nagar	4	0.0	0.0	10.5	0.0	0.0	14.8	0.0	1.4	6.3	4.4	1.5	264.2
Auraiya	2	0.0	0.0	4.2	0.0	0.0	7.2	0.0	0.5	3.1	2.2	0.6	126.0
Azamgarh	6	0.0	0.0	14.7	0.0	0.0	24.4	0.0	1.9	10.4	7.3	2.1	429.5
Baghpat	3	0.0	0.0	8.4	0.0	0.0	12.4	0.0	1.1	5.3	3.7	1.2	221.1
Bahraich	8	0.0	0.0	21.0	0.0	0.0	30.8	0.0	2.7	13.1	9.2	3.0	546.2
Ballia	5	0.0	0.0	12.6	0.0	0.0	18.4	0.0	1.6	7.8	5.5	1.8	325.2
Balrampur	5	0.0	0.0	12.6	0.0	0.0	19.6	0.0	1.6	8.3	5.9	1.8	347.0
Banda	9	0.0	0.0	23.1	0.0	0.0	18.4	0.0	3.0	7.8	5.5	3.3	346.4
Bara Banki	1	0.0	0.0	2.1	0.0	0.0	4.4	0.0	0.3	1.9	1.3	0.3	75.6
Bareilly	4	0.0	0.0	10.5	0.0	0.0	18.4	0.0	1.4	7.8	5.5	1.5	321.4
Basti	6	0.0	0.0	14.7	0.0	0.0	23.6	0.0	1.9	10.0	7.1	2.1	415.3
Bijnor	6	0.0	0.0	14.7	0.0	0.0	20.0	0.0	1.9	8.5	6.0	2.1	358.1
Budaun	6	0.0	0.0	14.7	0.0	0.0	22.4	0.0	1.9	9.5	6.7	2.1	397.4
Bulandsahar	5	0.0	0.0	12.6	0.0	0.0	22.4	0.0	1.6	9.5	6.7	1.8	393.7
Chandauli	3	0.0	0.0	8.4	0.0	0.0	9.6	0.0	1.1	4.1	2.9	1.2	174.4
Chitrakoot	4	0.0	0.0	10.5	0.0	0.0	8.0	0.0	1.4	3.4	2.4	1.5	153.5
Deoria	5	0.0	0.0	12.6	0.0	0.0	20.8	0.0	1.6	8.8	6.2	1.8	364.5
Etah	4	0.0	0.0	10.5	0.0	0.0	15.2	0.0	1.4	6.5	4.6	1.5	271.5
Etawah	1	0.0	0.0	2.1	0.0	0.0	2.0	0.0	0.3	0.9	0.6	0.3	36.2
Faizabad	4	0.0	0.0	10.5	0.0	0.0	14.8	0.0	1.4	6.3	4.4	1.5	264.2
Farrukhabad	3	0.0	0.0	8.4	0.0	0.0	13.6	0.0	1.1	5.8	4.1	1.2	238.5
Fatehpur	7	0.0	0.0	16.8	0.0	0.0	21.6	0.0	2.2	9.2	6.5	2.4	387.0

District	Fire Stations	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega phone	Total
Firozabad	2	0.0	0.0	4.2	0.0	0.0	10.4	0.0	0.5	4.4	3.1	0.6	179.9
Gautam Buddha Nagar	2	0.0	0.0	4.2	0.0	0.0	7.2	0.0	0.5	3.1	2.2	0.6	126.0
Ghaziabad	4	0.0	0.0	10.5	0.0	0.0	16.8	0.0	1.4	7.1	5.0	1.5	296.2
Ghazipur	7	0.0	0.0	16.8	0.0	0.0	31.2	0.0	2.2	13.3	9.4	2.4	544.4
Gonda	6	0.0	0.0	14.7	0.0	0.0	26.4	0.0	1.9	11.2	7.9	2.1	461.9
Gorakhpur	11	0.0	0.0	27.3	0.0	0.0	41.2	0.0	3.5	17.5	12.4	3.9	729.9
Hamirpur	6	0.0	0.0	14.7	0.0	0.0	8.8	0.0	1.9	3.7	2.6	2.1	172.0
Hardoi	9	0.0	0.0	23.1	0.0	0.0	30.8	0.0	3.0	13.1	9.2	3.3	550.4
Jalaun	5	0.0	0.0	12.6	0.0	0.0	11.6	0.0	1.6	4.9	3.5	1.8	214.4
Jaunpur	6	0.0	0.0	14.7	0.0	0.0	30.8	0.0	1.9	13.1	9.2	2.1	533.3
Jhansi	8	0.0	0.0	21.0	0.0	0.0	14.8	0.0	2.7	6.3	4.4	3.0	285.4
Jyotiba Phule Nagar	5	0.0	0.0	12.6	0.0	0.0	20.0	0.0	1.6	8.5	6.0	1.8	354.3
Kannauj	2	0.0	0.0	4.2	0.0	0.0	8.0	0.0	0.5	3.4	2.4	0.6	140.5
Kanpur Dehat	6	0.0	0.0	14.7	0.0	0.0	15.2	0.0	1.9	6.5	4.6	2.1	279.4
Kanpur Nagar	3	0.0	0.0	8.4	0.0	0.0	11.6	0.0	1.1	4.9	3.5	1.2	206.5
Kanshiram Nagar	1	0.0	0.0	2.1	0.0	0.0	4.4	0.0	0.3	1.9	1.3	0.3	75.6
Kaushambi	2	0.0	0.0	4.2	0.0	0.0	9.2	0.0	0.5	3.9	2.8	0.6	158.0
Kheri	10	0.0	0.0	25.2	0.0	0.0	31.6	0.0	3.2	13.4	9.5	3.6	568.8
Kushinagar	4	0.0	0.0	10.5	0.0	0.0	21.2	0.0	1.4	9.0	6.4	1.5	368.0
Lalitpur	7	0.0	0.0	16.8	0.0	0.0	12.4	0.0	2.2	5.3	3.7	2.4	237.0
Lucknow	4	0.0	0.0	10.5	0.0	0.0	16.0	0.0	1.4	6.8	4.8	1.5	282.1
Mahamaya Nagar	1	0.0	0.0	2.1	0.0	0.0	4.8	0.0	0.3	2.0	1.4	0.3	82.9
Maharajganj	6	0.0	0.0	14.7	0.0	0.0	22.4	0.0	1.9	9.5	6.7	2.1	397.4
Mahoba	4	0.0	0.0	10.5	0.0	0.0	8.8	0.0	1.4	3.7	2.6	1.5	164.0
Mainpuri	2	0.0	0.0	4.2	0.0	0.0	8.0	0.0	0.5	3.4	2.4	0.6	140.5
Mathura	5	0.0	0.0	12.6	0.0	0.0	16.8	0.0	1.6	7.1	5.0	1.8	300.4
Mau	4	0.0	0.0	10.5	0.0	0.0	18.8	0.0	1.4	8.0	5.6	1.5	328.7

District	Fire Stations	Diving Suits (Dry Type)	Diving Suits (Wet Type)	Inflatable Lighting Towers	Smoke Exhausters / PPV	Pneumatic lifting bags	High Capacity LED Torches	Rescue Boats	Static Wireless Sets	Mobile Wireless Sets	Walky Talky	Mega phone	Total
Meerut	5	0.0	0.0	12.6	0.0	0.0	18.4	0.0	1.6	7.8	5.5	1.8	325.2
Mirzapur	12	0.0	0.0	29.4	0.0	0.0	32.8	0.0	3.8	13.9	9.8	4.2	594.6
Moradabad	5	0.0	0.0	12.6	0.0	0.0	25.6	0.0	1.6	10.9	7.7	1.8	443.2
Muzafarnagar	10	0.0	0.0	25.2	0.0	0.0	35.2	0.0	3.2	15.0	10.6	3.6	625.6
Pilibhit	4	0.0	0.0	10.5	0.0	0.0	12.8	0.0	1.4	5.4	3.8	1.5	232.1
Pratapgarh	5	0.0	0.0	12.6	0.0	0.0	18.8	0.0	1.6	8.0	5.6	1.8	332.5
Rae Bareli	4	0.0	0.0	10.5	0.0	0.0	13.6	0.0	1.4	5.8	4.1	1.5	242.7
Rampur	4	0.0	0.0	10.5	0.0	0.0	17.2	0.0	1.4	7.3	5.2	1.5	303.5
Sant Kabir Nagar	3	0.0	0.0	8.4	0.0	0.0	12.8	0.0	1.1	5.4	3.8	1.2	228.0
Sant Ravidas Nagar (Bhadohi)	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shahjahanpur	6	0.0	0.0	14.7	0.0	0.0	19.6	0.0	1.9	8.3	5.9	2.1	350.8
Sharanpur	9	0.0	0.0	23.1	0.0	0.0	25.6	0.0	3.0	10.9	7.7	3.3	464.4
Shrawasti	2	0.0	0.0	4.2	0.0	0.0	8.0	0.0	0.5	3.4	2.4	0.6	140.5
Siddharthnagar	3	0.0	0.0	8.4	0.0	0.0	12.0	0.0	1.1	5.1	3.6	1.2	213.8
Sitapur	7	0.0	0.0	16.8	0.0	0.0	26.4	0.0	2.2	11.2	7.9	2.4	465.7
Sonbhadra	7	0.0	0.0	16.8	0.0	0.0	11.6	0.0	2.2	4.9	3.5	2.4	222.4
Sultanpur	7	0.0	0.0	16.8	0.0	0.0	25.6	0.0	2.2	10.9	7.7	2.4	451.5
Unnao	4	0.0	0.0	10.5	0.0	0.0	15.2	0.0	1.4	6.5	4.6	1.5	271.5
Varanasi	3	0.0	0.0	8.4	0.0	0.0	16.0	0.0	1.1	6.8	4.8	1.2	277.9
Total	352	0.0	0.0	884.1	0.0	0.0	1250.0	0.0	113.7	531.3	375.0	126.3	22239.6

18.4.2 RECURRING COST

Manpower Cost

The manpower cost estimation per year have been carried out by taking into account pay-scale structure for different levels of employee. Accordingly, cost estimate for manpower requirements at various levels (district level) is shown in Tables 18-36 and 18-37 considering 2-shifts duty pattern.

Table 18-36: Annual cost estimate (in Lakhs Rupees) for manpower for Uttar Pradesh Fire Service after filling gap in operational and new urban Fire Stations

District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff Salary
Agra	13	0.0	0.0	8.6	0.0	12.8	17.2	121.2	279.5	347.6	2326.3	10.9	3124.1
Aligarh	8	0.0	0.0	8.6	0.0	6.4	11.4	85.9	184.9	294.6	1934.3	2.5	2528.6
Allahabad	9	0.0	0.0	8.6	0.0	12.8	17.2	111.1	223.6	377.3	2608.2	7.6	3366.4
Ambedkar Nagar	4	0.0	13.8	8.6	0.0	6.4	11.4	70.7	111.8	195.3	1305.7	1.7	1725.4
Auraiya	2	0.0	13.8	8.6	0.0	6.4	11.4	45.5	60.2	112.5	758.2	1.7	1018.2
Azamgarh	5	0.0	13.8	8.6	0.0	6.4	17.2	65.7	129.0	218.5	1458.0	4.2	1921.2
Baghpat	3	0.0	13.8	8.6	0.0	6.4	11.4	15.2	51.6	49.7	327.2	1.7	485.5
Bahraich	2	0.0	13.8	8.6	0.0	6.4	11.4	25.3	47.3	89.4	644.8	1.7	848.6
Ballia	3	0.0	13.8	8.6	0.0	12.8	17.2	65.7	103.2	192.0	1390.0	2.5	1805.6
Balrampur	1	0.0	13.8	8.6	0.0	6.4	11.4	20.2	30.1	39.7	285.1	0.8	416.2
Banda	5	0.0	0.0	8.6	0.0	6.4	11.4	25.3	77.4	105.9	680.4	3.4	918.8
Bara Banki	7	0.0	13.8	8.6	0.0	6.4	11.4	111.1	210.7	390.6	2549.9	4.2	3306.7
Bareilly	9	0.0	0.0	8.6	0.0	6.4	11.4	151.5	266.6	443.5	3087.7	3.4	3979.2
Basti	1	0.0	13.8	8.6	0.0	6.4	17.2	20.2	34.4	76.1	469.8	0.8	647.3
Bijnor	9	0.0	13.8	8.6	0.0	6.4	11.4	65.7	154.8	201.9	1393.2	5.0	1860.8
Budaun	6	0.0	13.8	8.6	0.0	6.4	17.2	50.5	111.8	155.6	1046.5	5.0	1415.4
Bulandsahar	6	0.0	0.0	8.6	0.0	6.4	11.4	30.3	107.5	139.0	975.2	1.7	1280.2
Chandauli	5	0.0	13.8	8.6	0.0	6.4	11.4	25.3	73.1	59.6	421.2	2.5	621.9
Chitrakoot	3	0.0	13.8	8.6	0.0	6.4	11.4	25.3	55.9	69.5	430.9	1.7	623.5
Deoria	2	0.0	13.8	8.6	0.0	6.4	17.2	20.2	43.0	79.4	528.1	1.7	718.4
Etah	2	0.0	0.0	8.6	0.0	6.4	11.4	50.5	81.7	175.4	1150.2	1.7	1486.0
Etawah	4	0.0	0.0	8.6	0.0	6.4	11.4	80.8	133.3	264.8	1824.1	3.4	2332.8

Fire-Risk and Hazard Analysis in the Country



District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff Salary
Faizabad	4	0.0	0.0	8.6	0.0	6.4	17.2	45.5	103.2	142.3	991.4	1.7	1316.3
Farrukhabad	3	0.0	13.8	8.6	0.0	6.4	11.4	35.4	64.5	102.6	618.8	2.5	864.0
Fatehpur	3	0.0	13.8	8.6	0.0	6.4	11.4	50.5	94.6	158.9	1023.8	0.8	1368.9
Firozabad	5	0.0	0.0	8.6	0.0	6.4	11.4	65.7	133.3	205.2	1347.8	4.2	1782.7
Gautam Buddha Nagar	8	0.0	0.0	8.6	0.0	12.8	17.2	85.9	180.6	225.1	1707.5	2.5	2240.1
Ghaziabad	14	0.0	13.8	8.6	0.0	12.8	17.2	171.7	335.4	489.9	3366.4	9.2	4424.9
Ghazipur	4	0.0	13.8	8.6	0.0	6.4	11.4	60.6	116.1	198.6	1292.8	3.4	1711.6
Gonda	3	0.0	13.8	8.6	0.0	6.4	11.4	45.5	86.0	115.9	722.5	2.5	1012.5
Gorakhpur	9	0.0	0.0	8.6	0.0	12.8	17.2	70.7	172.0	208.5	1503.4	7.6	2000.7
Hamirpur	3	0.0	13.8	8.6	0.0	6.4	11.4	20.2	55.9	69.5	385.6	1.7	573.1
Hardoi	5	0.0	13.8	8.6	0.0	6.4	17.2	65.7	124.7	195.3	1402.9	2.5	1837.0
Jalaun	5	0.0	0.0	8.6	0.0	6.4	11.4	40.4	103.2	132.4	803.5	1.7	1107.7
Jaunpur	5	0.0	13.8	8.6	0.0	6.4	17.2	50.5	103.2	135.7	894.2	4.2	1233.8
Jhansi	3	0.0	0.0	8.6	0.0	12.8	17.2	50.5	98.9	158.9	1101.6	0.8	1449.3
Jyotiba Phule Nagar	2	0.0	13.8	8.6	0.0	6.4	11.4	25.3	51.6	82.8	570.2	0.0	770.0
Kannauj	5	0.0	13.8	8.6	0.0	6.4	11.4	40.4	98.9	142.3	929.9	4.2	1255.9
Kanpur Dehat	3	0.0	0.0	8.6	0.0	6.4	17.2	25.3	64.5	72.8	473.0	2.5	670.3
Kanpur Nagar	12	14.8	13.8	8.6	0.0	12.8	17.2	222.2	378.4	589.2	4037.0	10.1	5304.0
Kanshiram Nagar	2	0.0	13.8	8.6	0.0	6.4	11.4	30.3	64.5	89.4	596.2	1.7	822.2
Kaushambi	3	0.0	13.8	8.6	0.0	6.4	11.4	45.5	90.3	119.2	771.1	0.8	1067.1
Kheri	5	0.0	0.0	8.6	0.0	6.4	11.4	55.6	124.7	188.7	1266.8	1.7	1663.9
Kushinagar	3	0.0	13.8	8.6	0.0	6.4	17.2	55.6	103.2	185.4	1172.9	2.5	1565.4
Lalitpur	1	0.0	13.8	8.6	0.0	6.4	11.4	25.3	38.7	79.4	534.6	0.0	718.2
Lucknow	14	0.0	0.0	8.6	0.0	12.8	22.9	207.1	382.7	585.9	4147.2	11.8	5378.9
Mahamaya Nagar	4	0.0	13.8	8.6	0.0	6.4	11.4	55.6	107.5	172.1	1134.0	3.4	1512.7
Maharajganj	2	0.0	13.8	8.6	0.0	6.4	11.4	25.3	55.9	72.8	418.0	1.7	613.8
Mahoba	1	0.0	13.8	8.6	0.0	6.4	11.4	15.2	30.1	43.0	265.7	0.8	395.0
Mainpuri	5	0.0	0.0	8.6	0.0	6.4	11.4	65.7	120.4	178.7	1147.0	3.4	1541.6
Mathura	8	0.0	0.0	8.6	0.0	12.8	17.2	96.0	184.9	271.4	1772.3	6.7	2369.8

District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff Salary
Mau	3	0.0	13.8	8.6	0.0	6.4	17.2	25.3	55.9	92.7	622.1	2.5	844.4
Meerut	6	29.5	0.0	8.6	0.0	12.8	22.9	90.9	172.0	274.7	1934.3	5.0	2550.8
Mirzapur	1	0.0	0.0	8.6	0.0	12.8	17.2	35.4	51.6	102.6	699.8	0.8	928.8
Moradabad	10	0.0	0.0	8.6	0.0	12.8	17.2	85.9	189.2	225.1	1607.0	5.9	2151.6
Muzafarnagar	5	0.0	0.0	8.6	0.0	12.8	17.2	55.6	107.5	158.9	1137.2	2.5	1500.3
Pilibhit	4	0.0	13.8	8.6	0.0	6.4	17.2	20.2	68.8	102.6	709.6	2.5	949.6
Pratapgarh	6	0.0	0.0	8.6	0.0	6.4	11.4	60.6	129.0	192.0	1179.4	3.4	1590.8
Rae Bareli	7	0.0	0.0	8.6	0.0	6.4	17.2	141.4	227.9	374.0	2404.1	5.0	3184.6
Rampur	3	0.0	13.8	8.6	0.0	6.4	11.4	55.6	98.9	165.5	1072.4	2.5	1435.1
Sant Kabir Nagar	1	0.0	13.8	8.6	0.0	6.4	17.2	15.2	30.1	39.7	252.7	0.8	384.5
Sant Ravidas Nagar (Bhadohi)	4	0.0	13.8	8.6	0.0	6.4	11.4	60.6	103.2	172.1	1111.3	3.4	1490.8
Shahjahanpur	6	0.0	13.8	8.6	0.0	12.8	17.2	96.0	172.0	274.7	1840.3	4.2	2439.5
Sharanpur	6	0.0	-13.8	8.6	0.0	12.8	17.2	65.7	141.9	201.9	1496.9	5.0	1936.2
Shrawasti	1	0.0	13.8	8.6	0.0	6.4	17.2	35.4	55.9	109.2	774.4	0.8	1021.6
Siddharthnagar	2	0.0	13.8	8.6	0.0	6.4	11.4	60.6	94.6	192.0	1286.3	1.7	1675.3
Sitapur	6	0.0	13.8	8.6	0.0	6.4	11.4	96.0	167.7	304.5	2122.2	4.2	2734.8
Sonbhadra	8	0.0	13.8	8.6	0.0	6.4	17.2	45.5	129.0	175.4	1147.0	6.7	1549.5
Sultanpur	7	0.0	13.8	8.6	0.0	6.4	11.4	60.6	141.9	211.8	1373.8	4.2	1832.5
Unnao	6	0.0	13.8	8.6	0.0	6.4	11.4	60.6	146.2	211.8	1380.2	5.0	1844.1
Varanasi	9	14.8	0.0	8.6	0.0	12.8	22.9	136.4	227.9	340.9	2310.1	6.7	3081.1
Total	354	59.0	591.3	611.3	0.0	563.2	1012.4	4433.9	8750.5	13412.1	90454.3	239.4	120127.5

Table 18-37: Additional annual cost estimates (in Lakhs Rupees) for manpower requirement for new rural Fire Stations

District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff Salary
Agra	5	0.0	0.0	0.0	0.0	0.0	0.0	121.2	180.6	357.5	2394.4	4.2	3057.8
Aligarh	5	0.0	0.0	0.0	0.0	0.0	0.0	101.0	163.4	307.8	2050.9	4.2	2627.4
Allahabad	9	0.0	0.0	0.0	0.0	0.0	0.0	217.2	344.0	675.2	4545.7	7.6	5789.7
Ambedkar Nagar	4	0.0	0.0	0.0	0.0	0.0	0.0	75.8	124.7	218.5	1448.3	3.4	1870.6

District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff Salary
Auraiya	2	0.0	0.0	0.0	0.0	0.0	0.0	35.4	60.2	92.7	609.1	1.7	799.0
Azamgarh	6	0.0	0.0	0.0	0.0	0.0	0.0	131.3	206.4	400.5	2663.3	5.0	3406.5
Baghpat	3	0.0	0.0	0.0	0.0	0.0	0.0	70.7	103.2	215.2	1435.3	2.5	1826.9
Bahraich	8	0.0	0.0	0.0	0.0	0.0	0.0	161.6	258.0	480.0	3184.9	6.7	4091.2
Ballia	5	0.0	0.0	0.0	0.0	0.0	0.0	96.0	154.8	261.5	1733.4	4.2	2249.8
Balrampur	5	0.0	0.0	0.0	0.0	0.0	0.0	106.1	167.7	307.8	2047.7	4.2	2633.5
Banda	9	0.0	0.0	0.0	0.0	0.0	0.0	80.8	150.5	205.2	1432.1	7.6	1876.2
Bara Banki	1	0.0	0.0	0.0	0.0	0.0	0.0	25.3	34.4	82.8	554.0	0.8	697.3
Bareilly	4	0.0	0.0	0.0	0.0	0.0	0.0	96.0	154.8	321.1	2174.0	3.4	2749.2
Basti	6	0.0	0.0	0.0	0.0	0.0	0.0	131.3	197.8	384.0	2556.4	5.0	3274.5
Bijnor	6	0.0	0.0	0.0	0.0	0.0	0.0	106.1	167.7	261.5	1697.8	5.0	2238.0
Budaun	6	0.0	0.0	0.0	0.0	0.0	0.0	121.2	189.2	374.0	2478.6	5.0	3168.1
Bulandsahar	5	0.0	0.0	0.0	0.0	0.0	0.0	121.2	189.2	403.8	2728.1	4.2	3446.5
Chandauli	3	0.0	0.0	0.0	0.0	0.0	0.0	50.5	86.0	152.3	1010.9	2.5	1302.2
Chitrakoot	4	0.0	0.0	0.0	0.0	0.0	0.0	30.3	73.1	102.6	638.3	3.4	847.7
Deoria	5	0.0	0.0	0.0	0.0	0.0	0.0	106.1	176.3	350.9	2349.0	4.2	2986.4
Etah	4	0.0	0.0	0.0	0.0	0.0	0.0	80.8	129.0	225.1	1493.6	3.4	1931.9
Etawah	1	0.0	0.0	0.0	0.0	0.0	0.0	5.1	17.2	23.2	152.3	0.8	198.5
Faizabad	4	0.0	0.0	0.0	0.0	0.0	0.0	80.8	124.7	218.5	1448.3	3.4	1875.6
Farrukhabad	3	0.0	0.0	0.0	0.0	0.0	0.0	70.7	111.8	205.2	1393.2	2.5	1783.4
Fatehpur	7	0.0	0.0	0.0	0.0	0.0	0.0	111.1	180.6	278.0	1801.4	5.9	2377.1
Firozabad	2	0.0	0.0	0.0	0.0	0.0	0.0	60.6	90.3	198.6	1354.3	1.7	1705.5
Gautam Buddha Nagar	2	0.0	0.0	0.0	0.0	0.0	0.0	35.4	60.2	119.2	790.6	1.7	1007.0
Ghaziabad	4	0.0	0.0	0.0	0.0	0.0	0.0	85.9	141.9	251.6	1694.5	3.4	2177.2
Ghazipur	7	0.0	0.0	0.0	0.0	0.0	0.0	171.7	262.3	546.2	3670.9	5.9	4657.0
Gonda	6	0.0	0.0	0.0	0.0	0.0	0.0	146.5	223.6	433.6	2925.7	5.0	3734.4
Gorakhpur	11	0.0	0.0	0.0	0.0	0.0	0.0	212.1	348.3	589.2	3897.7	9.2	5056.5
Hamirpur	6	0.0	0.0	0.0	0.0	0.0	0.0	30.3	68.8	66.2	605.9	5.0	776.2
Hardoi	9	0.0	0.0	0.0	0.0	0.0	0.0	156.6	258.0	427.0	2786.4	7.6	3635.5

District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff Salary
Jalaun	5	0.0	0.0	0.0	0.0	0.0	0.0	50.5	94.6	149.0	929.9	4.2	1228.1
Jaunpur	6	0.0	0.0	0.0	0.0	0.0	0.0	171.7	262.3	552.8	3774.6	5.0	4766.4
Jhansi	8	0.0	0.0	0.0	0.0	0.0	0.0	60.6	120.4	152.3	1143.7	6.7	1483.7
Jyotiba Phule Nagar	5	0.0	0.0	0.0	0.0	0.0	0.0	101.0	172.0	317.8	2125.4	4.2	2720.4
Kannauj	2	0.0	0.0	0.0	0.0	0.0	0.0	45.5	68.8	132.4	881.3	1.7	1129.6
Kanpur Dehat	6	0.0	0.0	0.0	0.0	0.0	0.0	75.8	129.0	188.7	1253.9	5.0	1652.3
Kanpur Nagar	3	0.0	0.0	0.0	0.0	0.0	0.0	60.6	98.9	175.4	1163.2	2.5	1500.6
Kanshiram Nagar	1	0.0	0.0	0.0	0.0	0.0	0.0	25.3	34.4	82.8	554.0	0.8	697.3
Kaushambi	2	0.0	0.0	0.0	0.0	0.0	0.0	50.5	77.4	149.0	1004.4	1.7	1282.9
Kheri	10	0.0	0.0	0.0	0.0	0.0	0.0	156.6	266.6	410.4	2653.6	8.4	3495.6
Kushinagar	4	0.0	0.0	0.0	0.0	0.0	0.0	121.2	180.6	397.2	2708.6	3.4	3411.0
Lalitpur	7	0.0	0.0	0.0	0.0	0.0	0.0	50.5	98.9	129.1	952.6	5.9	1236.9
Lucknow	4	0.0	0.0	0.0	0.0	0.0	0.0	85.9	133.3	258.2	1717.2	3.4	2197.9
Mahamaya Nagar	1	0.0	0.0	0.0	0.0	0.0	0.0	25.3	38.7	89.4	615.6	0.8	769.8
Maharajganj	6	0.0	0.0	0.0	0.0	0.0	0.0	121.2	189.2	317.8	2102.8	5.0	2736.0
Mahoba	4	0.0	0.0	0.0	0.0	0.0	0.0	30.3	73.1	112.5	693.4	3.4	912.7
Mainpuri	2	0.0	0.0	0.0	0.0	0.0	0.0	45.5	68.8	132.4	881.3	1.7	1129.6
Mathura	5	0.0	0.0	0.0	0.0	0.0	0.0	80.8	141.9	218.5	1412.6	4.2	1858.0
Mau	4	0.0	0.0	0.0	0.0	0.0	0.0	101.0	159.1	304.5	2070.4	3.4	2638.3
Meerut	5	0.0	0.0	0.0	0.0	0.0	0.0	96.0	154.8	288.0	1914.8	4.2	2457.8
Mirzapur	12	0.0	0.0	0.0	0.0	0.0	0.0	151.5	275.2	480.0	3233.5	10.1	4150.3
Moradabad	5	0.0	0.0	0.0	0.0	0.0	0.0	141.4	215.0	480.0	3262.7	4.2	4103.2
Muzafarnagar	10	0.0	0.0	0.0	0.0	0.0	0.0	176.8	296.7	483.3	3162.2	8.4	4127.4
Pilibhit	4	0.0	0.0	0.0	0.0	0.0	0.0	60.6	107.5	195.3	1289.5	3.4	1656.3
Pratapgarh	5	0.0	0.0	0.0	0.0	0.0	0.0	101.0	159.1	268.1	1775.5	4.2	2307.9
Rae Bareli	4	0.0	0.0	0.0	0.0	0.0	0.0	70.7	111.8	172.1	1130.8	3.4	1488.7
Rampur	4	0.0	0.0	0.0	0.0	0.0	0.0	96.0	146.2	281.4	1885.7	3.4	2412.5
Sant Kabir Nagar	3	0.0	0.0	0.0	0.0	0.0	0.0	70.7	107.5	221.8	1496.9	2.5	1899.4
Sant Ravidas Nagar (Bhadohi)	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

District	Fire Stations	Level 10	Level 9	Level 8	Level 7	Level 6	Level 5	Level 4	Level 3	Level 2	Level 1	Level 0	Total Staff Salary
Shahjahanpur	6	0.0	0.0	0.0	0.0	0.0	0.0	101.0	163.4	281.4	1840.3	5.0	2391.1
Sharanpur	9	0.0	0.0	0.0	0.0	0.0	0.0	126.3	215.0	314.5	2089.8	7.6	2753.1
Shrawasti	2	0.0	0.0	0.0	0.0	0.0	0.0	45.5	68.8	132.4	881.3	1.7	1129.6
Siddharthnagar	3	0.0	0.0	0.0	0.0	0.0	0.0	60.6	98.9	182.1	1208.5	2.5	1552.6
Sitapur	7	0.0	0.0	0.0	0.0	0.0	0.0	131.3	223.6	370.7	2446.2	5.9	3177.7
Sonbhadra	7	0.0	0.0	0.0	0.0	0.0	0.0	35.4	103.2	115.9	832.7	5.9	1093.0
Sultanpur	7	0.0	0.0	0.0	0.0	0.0	0.0	131.3	215.0	354.2	2339.3	5.9	3045.6
Unnao	4	0.0	0.0	0.0	0.0	0.0	0.0	80.8	129.0	225.1	1493.6	3.4	1931.9
Varanasi	3	0.0	0.0	0.0	0.0	0.0	0.0	96.0	133.3	297.9	2031.5	2.5	2561.2
Total	352	0.0	0.0	0.0	0.0	0.0	0.0	6464.0	10530.7	18949.8	126700.2	295.7	162940.3

Level 10: Director/Joint Director/Deputy Director; **Level 9:** CFO/ CO; **Level 8:** Deputy CFO; **Level 7:** Deputy Controller; **Level 6:** DFO/ADO/Fire Officer/Fire Supervisor/Astt. Controller/Revenue Inspector; **Level 5:** DFO/ADFO/AFO/Fire In-charge; **Level 4:** St.O/Sub Inspector/Station In-charge/Ast O./AEO; **Level 3:** S O/Assistant Sub Inspector/ASO/Sub-Fire Officer; **Level 2 :** LFM/ Mechanic Driver/Head Constable/Store Superintendent; **Level 1 :** FM/ FM Driver/Radio Technician/ SGFM/ Driver/ Police Constable/ Wireless Technician/ Radio Technician/ Asst FM/ Sanitary Inspector, FO/FO Driver/Driver Operator/Driver/Ambulance Driver/ Clerk; **Level 0:** Cleaner, Fire Coolie, Supporting Staff, Attendant, Labourer, Peon, Security Guard, Tindal.

Annual Maintenance & Repairs, and PDL Cost

For Gap analysis, annual maintenance & repairs costs have been estimated based on the current expenditure (average factor of total vehicles in cost in percentage on vehicle maintenance & repairs, specialised equipment, building maintenance, office expenses, training expenses and Petrol, Diesel & Lubricant (PDL)) (Table 18-38).

Table 18-38: Annual Recurring Cost estimates (in Lakhs Rupees) for petrol, diesel, and lubricants in operational and new urban areas

District	Num of Fire Stations	Annual Vehicle Maintenance	Annual PDL Cost	Annual Equipment Maintenance	Annual Building Maintenance	Office Expenses	Training Expenses
Agra	13	76.73	57.55	67.47	126.50	229.64	40.10
Aligarh	8	52.05	39.04	46.02	75.50	173.96	30.37
Allahabad	9	72.29	54.22	50.08	92.00	238.85	41.70
Ambedkar Nagar	4	31.36	23.52	19.56	60.50	122.22	21.34
Auraiya	2	22.46	16.84	10.51	35.50	70.15	12.25
Azamgarh	5	33.28	24.96	21.62	66.00	134.97	23.57
Baghpat	3	18.12	13.59	14.29	25.00	38.32	6.69
Bahraich	2	19.44	14.58	11.79	25.00	58.69	10.25
Ballia	3	29.66	22.24	19.25	44.00	123.49	21.56
Balrampur	1	16.44	12.33	5.24	19.00	29.50	5.15
Banda	5	20.76	15.57	13.62	31.00	64.12	11.20
Bara Banki	7	47.23	35.42	34.68	98.50	225.43	39.36
Bareilly	9	68.83	51.62	57.42	119.00	269.15	46.99
Basti	1	17.16	12.87	6.42	19.00	46.82	8.18
Bijnor	9	36.04	27.03	51.62	81.00	134.32	23.45
Budaun	6	27.14	20.35	21.29	53.00	95.30	16.64
Bulandsahar	6	26.88	20.16	37.04	46.00	98.35	17.17
Chandauli	5	20.76	15.57	13.17	34.00	50.54	8.82
Chitrakoot	3	19.10	14.32	9.33	28.50	43.01	7.51
Deoria	2	18.24	13.68	7.90	22.00	51.10	8.92
Etah	2	25.82	19.36	13.75	38.00	100.00	17.46
Etawah	4	35.08	26.31	23.29	60.00	157.87	27.56
Faizabad	4	28.60	21.45	22.15	50.00	100.50	17.55
Farrukhabad	3	23.16	17.37	16.45	42.00	61.77	10.79
Fatehpur	3	28.72	21.54	17.00	52.00	98.30	17.16
Firozabad	5	33.40	25.05	25.50	53.00	129.15	22.55
Gautam Buddha Nagar	8	64.72	48.54	63.24	84.50	167.90	29.32
Ghaziabad	14	113.32	84.99	113.13	168.00	313.82	54.79
Ghazipur	4	31.73	23.80	20.22	66.00	112.85	19.70
Gonda	3	25.34	19.00	14.09	49.50	72.58	12.67
Gorakhpur	9	47.18	35.38	53.94	71.50	146.18	25.52
Hamirpur	3	19.22	14.41	9.35	28.50	43.22	7.55
Hardoi	5	33.04	24.78	22.15	66.00	123.10	21.49
Jalaun	5	28.72	21.54	18.69	59.00	86.15	15.04
Jaunpur	5	27.74	20.80	18.22	58.50	85.61	14.95
Jhansi	3	38.78	29.08	17.27	33.50	102.33	17.87

District	Num of Fire Stations	Annual Vehicle Maintenance	Annual PDL Cost	Annual Equipment Maintenance	Annual Building Maintenance	Office Expenses	Training Expenses
Jyotiba Phule Nagar	2	19.80	14.85	12.22	25.00	59.16	10.33
Kannauj	5	24.98	18.73	15.55	44.50	83.74	14.62
Kanpur Dehat	3	20.78	15.58	10.48	33.50	50.58	8.83
Kanpur Nagar	12	125.66	94.25	101.12	172.00	379.83	66.32
Kanshiram Nagar	2	22.46	16.84	10.51	38.00	56.42	9.85
Kaushambi	3	26.92	20.19	15.05	52.00	76.77	13.40
Kheri	5	31.48	23.61	23.78	64.00	114.98	20.08
Kushinagar	3	29.80	22.35	17.12	57.00	105.27	18.38
Lalitpur	1	29.28	21.96	6.42	19.00	51.03	8.91
Lucknow	14	134.23	100.67	103.97	184.00	399.99	69.84
Mahamaya Nagar	4	29.20	21.90	18.53	55.00	102.26	17.85
Maharajganj	2	20.78	15.58	9.59	33.00	49.01	8.56
Mahoba	1	16.80	12.60	5.24	19.00	29.50	5.15
Mainpuri	5	31.84	23.88	21.05	66.50	114.07	19.92
Mathura	8	52.49	39.37	36.76	81.50	165.51	28.90
Mau	3	19.68	14.76	10.46	28.00	59.24	10.34
Meerut	6	52.22	39.16	52.00	73.50	186.79	32.61
Mirzapur	1	31.68	23.76	8.76	19.00	66.54	11.62
Moradabad	10	50.68	38.01	68.17	80.00	163.07	28.47
Muzafarnagar	5	39.98	29.98	36.22	40.00	109.61	19.14
Pilibhit	4	21.74	16.30	15.64	31.00	68.08	11.89
Pratapgarh	6	32.81	24.61	22.34	67.50	119.20	20.81
Rae Bareli	7	52.43	39.32	37.94	120.50	223.25	38.98
Rampur	3	28.22	21.16	20.65	52.00	97.98	17.11
Sant Kabir Nagar	1	16.44	12.33	5.08	19.00	29.86	5.21
Sant Ravidas Nagar (Bhadohi)	4	29.18	21.88	21.37	52.50	104.01	18.16
Shahjahanpur	6	51.53	38.65	28.78	83.00	162.66	28.40
Sharanpur	6	44.32	33.24	44.52	59.00	141.97	24.79
Shrawasti	1	10.22	7.66	9.52	19.00	70.71	12.35
Siddharthnagar	2	17.32	12.99	15.75	38.00	114.55	20.00
Sitapur	6	40.85	30.64	28.42	85.00	183.10	31.97
Sonbhadra	8	28.92	21.69	23.77	61.00	106.12	18.53
Sultanpur	7	33.28	24.96	23.84	75.50	135.33	23.63
Unnao	6	35.08	26.31	28.71	74.50	130.12	22.72
Varanasi	9	73.84	55.38	62.16	120.00	228.87	39.96
Total	354	2,605.37	1,954.03	1,958.24	4,223.00	8,538.43	1,490.84

18.5 Detailed Roadmap for Financial and Investment Plan

State level summary of Capital and recurring expenditure required for filling the gap is shown in Table 18-39 and 18-40 respectively.

Table 18-39: State level summary of capital expenditure required for filling the gap (in crore rupees)

Capital Expenditure				
Operational Type	Fire Station Building Infrastructure	Vehicles Cost	Equipment Cost	Total Capital Cost
Operational Fire Stations	320.00	169.50	18.35	507.85
Gap in Operational Fire Stations	1,352.50	786.89	157.92	2,297.31
New Urban Fire Stations	439.00	129.18	68.51	636.69
Total Gap in New Urban and Operational Fire Stations	1,791.50	916.07	226.43	2,934.00
New Rural Fire Stations	2,811.25	802.69	222.40	3,836.34
Total Gap in New Urban ,New Rural and Operational Fire Stations	4,602.75	1,718.76	448.82	6,770.33

Table 18-40: State level summary of recurring expenditure required for filling the gap (in crore rupees)

Recurring Expenditure								
Operational Type	Annual Staff Salary	Annual Vehicle Maintenance	Annual Maintenance Contract (Specialized Equipment)	Annual Petrol diesel and Lubricant Cost	Annual Building maintenance	Annual Office Expenses	Annual Training Expenses	Total Recurring Expenditure
Operational Fire Stations	154.03	4.07	1.47	3.05	6.40	9.70	1.69	180.42
Gap in Operational Fire Stations	987.24	18.89	12.63	14.16	27.05	62.20	10.86	1,133.03
New Urban Fire Stations	214.03	3.10	5.48	2.33	8.78	13.48	2.35	249.56
Total Gap in New Urban and Operational Fire Stations	1,201.27	21.99	18.11	16.49	35.83	75.68	13.21	1,382.59
New Rural Fire Stations	1,629.40	19.26	17.79	14.45	56.23	102.65	17.92	1,857.71
Total Gap in New Urban ,New Rural and Operational Fire Stations	2,830.68	41.25	35.91	30.94	92.06	178.33	31.14	3,240.30

All the above detailed capital and recurring expenses have been taken into consideration, while finalizing the detailed investment plan for Uttar Pradesh State. The detailed investment plan for next 10-years for Uttar Pradesh Fire Services considering 2-shifts duty pattern are given in Tables 18-41 and 18-42.

A few assumptions have been made, while preparing the detailed roadmap for investment plan for the next 10 years. For example, existing gaps in terms of manpower, fire fighting vehicles, and equipment will be filled up in first two years and 40% gaps in Fire Station buildings will be filled up in first two year, and subsequently 10% gap in each year. The average annual rate on expenses on fire vehicle maintenance, petrol, diesel & lubricants, and office expenses, training, uniform will remain the same as that in F.Y. 2010-11, however, on top of that an annual inflation factor of 8% (fire vehicle maintenance, petrol, diesel & lubricants), 5% (office expenses, training, uniform) has been added. Building construction cost will increase on an average by about 11% per year and building maintenance cost by about 1% of total building construction cost as in 2010-11. The salary costs at each level have been estimated from the present pay scales for each level and an annual growth of 12% has been added for subsequent years.

Table 18-41: State level Investment plan (in Crores Rupees) for Uttar Pradesh Fire Services only considering gap in operational and new urban Fire Stations

Year	Capital Expenditure		Recurring Expenditure					Total
	Building Infrastructure	Vehicles and Equipment	Annual Vehicle Maintenance & PDL AMC	Annual Staff Salary	Annual Office Expenses	Annual Training Office Expenses	Annual Bldg. maintenance	
First Year	358.30	472.41	31.43	647.65	40.80	7.12	19.93	1,577.64
Second Year	397.71	496.02	58.61	1,278.23	80.53	13.18	33.79	2,358.07
Third Year	220.73	43.59	65.85	1,485.31	93.57	14.36	35.91	1,959.33
Forth Year	245.01	45.77	73.86	1,723.69	108.59	15.62	38.08	2,250.62
Fifth Year	271.97	24.03	81.25	1,964.21	123.75	16.69	39.38	2,521.27
Sixth Year	301.89	25.23	89.35	2,237.63	140.97	17.83	40.69	2,853.59
Seventh Year	335.08	26.49	98.23	2,548.39	160.55	19.03	42.03	3,229.82
Eighth Year	371.95	27.82	107.96	2,901.52	182.79	20.32	43.39	3,655.75
Ninth Year	0.00	29.21	118.62	3,302.69	208.07	21.68	44.78	3,725.05
Tenth Year	0.00	30.67	130.29	3,758.37	236.78	23.13	46.19	4,225.42
Total	2,502.64	1,221.23	855.46	21,847.69	1,376.40	168.96	384.17	28,356.55

Table 18-42: Investment plan (in Crores Rupees) for Uttar Pradesh Fire Services considering gap in operational, new urban and new rural Fire Stations

Year	Capital Expenditure		Recurring Expenditure					Total
	Building Infrastructure	Vehicles and Equipment	Annual Vehicle Maintenance & PDL AMC	Annual Staff Salary	Annual Office Expenses	Annual Training Office Expenses	Annual Bldg. maintenance	
First Year	920.55	472.41	31.43	647.65	40.80	7.12	19.93	2,139.89
Second Year	1,021.81	496.02	58.61	1,278.23	80.53	13.18	33.79	2,982.17
Third Year	567.10	269.62	77.86	1,894.09	119.33	18.31	47.39	2,993.71
Forth Year	629.47	283.10	99.81	2,639.37	166.28	23.92	61.25	3,903.20
Fifth Year	698.74	148.63	116.29	3,246.15	204.51	27.58	68.63	4,510.53
Sixth Year	775.61	156.06	134.76	3,960.56	249.51	31.55	76.15	5,384.21
Seventh Year	860.90	163.86	155.45	4,799.68	302.38	35.85	83.81	6,401.93
Eighth Year	955.62	172.06	178.58	5,783.17	364.34	40.49	91.62	7,585.87
Ninth Year	0.00	180.66	204.42	6,933.58	436.81	45.51	99.57	7,900.56
Tenth Year	0.00	189.69	233.25	8,276.81	521.44	50.93	107.68	9,379.80
Total	6,429.81	2,532.11	1,290.45	39,459.30	2,485.93	294.46	689.82	53,181.88

18.6 Prioritization of Fire Stations/Fire Posts

For prioritization of Fire Stations, the RMSI team has strictly followed risk categorization and population as criteria. Accordingly, the priority for establishing new urban Fire Stations and rural Fire Stations/Posts has been given in Tables 18-44 and 18-45, respectively.

It may be noted that actual implementation of priority depends upon a number of factors such as land availability, land possession, tackling any encroachment on available land, getting construction clearances from various authorities for implementation of construction work by PWD. Hence, Uttar Pradesh State Fire Services may change the priority of a Fire Station depending upon the local situation and requirements.

18.7 Avenues of Fund Generation

Uttar Pradesh State can generate new avenues for funds from the followings:

- Introduction of Fire Tax (1% of existing property tax) throughout the State
- Introduction of Fire Cess, which can be collected for auditing and inspecting various types of occupancies (residential, commercial, and industrial) for adoption of fire safety measures besides training public for use of first aid firefighting equipment
- Training programs at different levels and duration to private sector employee on chargeable basis
- Capitation fees can be charged for scrutiny of building plans
- Clearance of building plans from fire safety point of view
- Sale of condemned fire appliances, equipment, uniform articles and general store items
- The fee on deployment of members of fire services along-with necessary equipment and appliances beyond the jurisdiction of the State fire services
- Standby charges on deployment of members of fire services along-with equipment and appliances in the area to stand by for a specific duration, which can be made exceptional for the visits of government authorities or in public interest asked by the district administration
- Training Charges from the external trainees sponsored by private industries for short and long duration courses.

18.8 Capacity Building and Training Facilities

The roles of firefighter cannot be performed until and unless sufficient training is imparted to the fire service personnel. The types of training and duration depend upon the type of entry to the fire service department or change of responsibility on promotion.

The State has framed Recruitment Rules (RR) for each level, and these are adhered to for filling the vacant positions. Uttar Pradesh Fire Services has the provision for direct recruitment upto CFO level (50 per cent) apart from promotional basis (50 per cent). Immediately after joining the Fire Services, it is mandatory that every fire personnel needs to undergo professional training.

Presently, Uttar Pradesh has a Fire Service Training Centre located in Unnao under the supervision of a Commandant (Principal, State Training Center). Though the overall arial expansion of the training center is sufficient to conduct training at different levels, but it needs modern firefighting training facility and equipment to meet the growing demand of specialized training. A few senior level officials have also been trained at NFSC Nagpur. However, in general, Uttar Pradesh State Fire Service lacks trained manpower in firefighting.

In order to strengthen the Uttar Pradesh Fire Service, the gap in training has been estimated for each type of training. The Fire Station survey and gap analysis reveal that there are gaps in training need for existing staff. The previous section (section 18.3.3.) details about huge gap in manpower in for operational Fire Stations and need of additional fire personnel for new urban and new rural Fire Stations. As per the guidelines of SFAC, immediately after recruitment, fire personnel should undertake professional training. Moreover, there should be refresher training courses at an interval of 3 to 5 years for every fire personnel. The following sections details about the estimation of training need at every level (fireman, leading fireman, station officer, sub-officer etc.).

18.8.1 BASIC TRAINING FOR FIREMAN

The basic training course should provide practical experience of fire fighting to meet the challenge in fire fighting operations. Fire personnel should also be trained for operation and maintenance of fire fighting vehicles and equipment.

Estimated number of fire personnel who require basic training for fireman in operational Fire Stations (after filling the gap of manpower), and additional new recruitment for new urban and new rural Fire Stations is shown in Table 18-43. Additional requirement of Refresher Training Course for Fireman after 3-5 years service as fireman is also shown the Table 18-43. Some of the the special training for specialized equipment such as Breathing Apparatus, Global-positioning system etc should also be part of the refresher course. As a whole Uttar Pradesh Fire Service would require to train 68,187 fire personnel in basic and 37,392 fire personnel in refresher training in next 10 years. Therefore, State training centre should have adequate capacity and infrastructure for meeting such training requirement.

Table 18-43: Estimated training requirements for fire personnel in Uttar Pradesh Fire Services

Basic Training for Fireman		
	Number of Fire Personnel in Operational Fire Stations	24,035
	Number of Fire Personnel in New Urban Fire Stations	5,047
	Number of Fire Personnel in New Rural Fire Stations	39,105
	Total Number of Fire Personnel for Training	68,187
Refresher Training for Fireman		
	Total Number of Fire Personnel	37,392
Leading Fireman Training Course		
	Number of Fire Personnel in Operational Fire Stations	3,487
	Number of Fire Personnel in New Urban Fire Stations	723
	Number of Fire Personnel in New Rural Fire Stations	5,725
	Total Number of Fire Personnel for Training	9,935
Other specialized Training Course		
	Total Number of Fire Personnel for Training	4,210
Junior Officer Training Course		
	Number of Fire Personnel in Operational Fire Stations	2,380
	Number of Fire Personnel in New Urban Fire Stations	570
	Number of Fire Personnel in New Rural Fire Stations	3,729
	Total Number of Fire Personnel for Training	6,679
Divisional Officer Training Course		
	Number of Fire Personnel in Operational Fire Stations	387
	Number of Fire Personnel in New Urban Fire Stations	0
	Number of Fire Personnel in New Rural Fire Stations	0
	Total Number of Fire Personnel for Training	387
Fire Prevention Course		
	Total Number of Fire Personnel for Training	407

18.8.2 TRAINING COURSE FOR LEADING FIREMAN

While promotion from fireman to leading fireman, fire personnel should undertake a training course for Leading Fireman. This training will provide both theoretical and practical training required for effective deployment of fire vehicles and fire equipment and personal. In case, State Training Centre does not have adequate infrastructure and capacity, the Leading Fireman training should be provided at NFSC Nagpur, or any other suitable State Training Centre. Presently, Uttar Pradesh State is in urgent need of modernizing the State training centre for providing quality training to newly recruited and existing firemen and leading firemen.

Estimated number of fire personnel who require training for leading fireman in operational Fire Stations (after filling the gap of manpower), and additional new recruitment for new urban and new rural Fire Stations is shown in Table 18-43.

18.8.3 OTHER SPECIALIZED TRAINING COURSES

Besides undertaken normal training course for Leading Fireman, every leading fireman should also undergo atleast one special training for multi-tasking performance in due course of time. In many cases, fire services need to face new challenges and play an important role in other emergencies. Therefore, fire personnel must be well trained to perform in all possible situations. Thus, it is important that they undergo other specialized training as well.

Following are some of the other specialized trainings courses:

- Medical First Responder,
- Breathing Apparatus
- Collapsed structure – Search & Rescue,
- Advanced Search & Rescue,
- Flood Rescue,
- Chemical Disaster,
- Flood / Cyclone Disaster Response
- Earthquake Disaster Response
- Emergency Response to Rail Accidents
- Hazardous Material Emergency Response

The syllabus of above courses are provided in SFAC guidelines. In due course of time, every leading fireman should undertake at least one special training course. Number of leading fireman needed for specialized course is also shown in Table 18-43. In total, Uttar Pradesh Fire Service would need to train atleast 4,211 leading fireman for specialized course in next 10 years. Therefore, State Training Centre should have adequate capacity and infrastructure for meeting such training requirement.

18.8.4 JUNIOR OFFICER TRAINING COURSE

While promotion from leading fireman to sub-officer/ station officer, fire personnel should undertake a Junior Officer Training Course. This course should provide an understanding of Fire Station administration, fire safety management and leadership as to be able to command a Fire Station and also command a fire crew in case of an emergency. Upon successful completion of training, Fire officers will be able to identify components of an effective fire service organization and planning requirement. He will be responsible for implementation of fire safety and prevention programs at their assigned Fire Station.

Estimated number of fire officers who require Junior Officer Training Course in operational Fire Stations (after filling the gap of manpower), and additional new recruitment for new urban and new rural Fire Stations is shown in Table 18-43. After filling gap in operational Fire Stations and new urban and rural Fire Stations, Uttar Pradesh Fire Service would require to train 6,679 junior officers in next 10 years.

18.8.5 DIVISIONAL FIRE OFFICER TRAINING COURSE

On promotion to divisional officer, every fire officer should undertake a Divisional Fire Officer (DFO) Training Course. This course should provide with theory, the principles and practice of Fire Station management, facilities, fire inspection as well as effective guidelines to command fire crew and control at an incident site. This course should prepare them for their

roles as senior fire officers. Upon successful completion of training, officer will be able to identify components of an effective fire service organization, and implementation of fire prevention and fire safety programs at their assigned Fire Station and its jurisdiction area.

Divisional Officer Training Course should be undertaken at national or international training institutes, such as NFSC, Nagpur or similar upcoming national training institutes.

Estimated number of fire officers who require Divisional Officer Training Course in operational and new Fire Stations (after filling the gap of manpower) is shown in Table 18-43. There would be 387 fire officers in Uttar Pradesh Fire Service who would require this training in next 10 years.

18.8.6 AWARENESS GENERATION PROGRAMS

Besides attending regular fire and other rescue calls, the State fire services should also work in awareness generation programs, and it should conduct regular awareness programs in schools, residential areas, NCC camps, Oil and Gas Plants, Govt. Offices etc.. Present numbers of awareness programs conducted so far by Uttar Pradesh Fire Service are not up to satisfactory levels. There is urgent need to enhance such activities. For capacity development, each district is recommended with an Education Van equipped with short video films as produced by MHA, distribution of pamphlets on “DO”s and “DON’T”s generated by MHA and Uttar Pradesh Fire Services, and live- demonstrations of how to use “Portable Extinguishers” and handle small kitchen fires. Fire service should use these in their awareness generation programs.

18.9 Limitations of the Study

1. In fire hazard and risk analysis, fire-load of specific industry has not been taken into consideration. However, weightage has been given to the size of industrial area in the fire hazard and risk analysis of the base unit (district level). An attempt has also been made even in the present assignment to go further down at lower levels. Providing special weightage of type of industry will require building level survey including estimation of fire-load for each industry, which is out of scope of present assignment.
2. Currently, Census (2011) has published only district level demographic data (the Tehsil/Block level data is still unavailable), which has been used for further estimation and analysis purpose.
3. Floating population in cities has not been considered for distribution over the land use (built-up area); this may be attempted in future detailed studies.
4. Non-availability of a uniform level of fire statistics of all the fire events in the past 5 years.
5. Designation, rank structure and administrative control are very heterogeneous from State/UT to State/UT, which in the present State creates ambiguity while bringing in at National level. For example, Director Position pay scale in one State/UT may not be equal to that of Chief Fire Officer in another State/UT. For the purpose of present assignment, we have divided the rank/designation structure into 11 levels (level 0 to level 10). For this, a system needs to be put in place through having a uniform administrative structure at national level to State level. This may require development and implementation of National Fire Act, which MHA is trying to develop in near future.
6. The fire fighting infrastructure of forest department, privately owned companies/ organizations, military cantonment and airbases, nuclear power plants, nuclear research reactors, heavy water plants, mines, ports, airports, oil exploration and oil refineries are out of scope of present study. However, RMSI has tried to get information about the fire-fighting infrastructure for these, and included whatever information available, as there are limitations due to security concerns. This is more so, as result of this study may be made available in public domain with their spatial location. Studying fire infrastructure in above areas will require special MOU's with MHA and controlling agencies, and may be attempted in future studies to have a complete coverage of the country.

18.10 Recommendations for Uttar Pradesh State Fire Services

1. At present, Uttar Pradesh Fire Act and Fire Policy is not strictly and uniformly implemented throughout the State. So there is an urgent need for strict implementation of National Building Code (NBC) for schools, colleges, hospitals, high rise buildings, cinema halls, shopping malls, industrial units, and public and private buildings.
2. The Uttar Pradesh State lacks trained manpower and there are a large number of vacancies at all levels in the State in operational Fire Stations, which need to be filled up at the earliest.
3. Fire statistics of the past fire events (last past 5 years) should be maintained systematically for all the Fire Stations. The State Fire Services should issue strict order to all the Fire Stations to prepare fire–statistics data in the prescribed performa for future fire calls, and ensure their compliance.
4. Since availability of trained manpower in Uttar Pradesh is a key issue, there is a need that State should fill up the gap of manpower in operational Fire Stations and provide at-least 6-months training in the State Training Centre or at NFSC, Nagpur.
5. Instead of having firemen, driver, and operator separately, the State should recruit fireman-cum-driver-cum-operator. This will help in optimizing the huge manpower requirements. Since, these may not be readily available, the State should train the new recruit in a systematic manner, and encourage all existing staff, specially, fireman and leading fireman to obtain heavy vehicle driving license. The State may offer some incentive towards this, as this will help in optimization of resources. The State Fire Service should adopt a system of payment of incentives for driving specialized vehicles like ALP / TTL/Hydraulic Platform.
6. Based on prioritization of Fire Stations, State Fire Services needs to add new Fire Stations at a faster pace, as there is a huge gap both in urban and rural areas.
7. To have a Computerization of Uttar Pradesh Fire Services, training of fire personnel in use of computers is most important aspect, which is very important from the modernization point of view.
8. Online Vehicle tracking through GPS and development of a fully computerized response system is another area for improvement.
9. Though fire services in the State are creating public awareness programs for schools, Govt. offices, etc. however, it is not to the desired level. For that purpose sufficient manpower at senior officer levels are recommended to have an effective fire prevention wing. The Fire Prevention Wing should have trained officials for fire inspection, awareness and training, so that fire incidences similar to that of AMRI, Kolkata should not be repeated in future. The State should have a dedicated “Education Van” in each district for the purpose. The van should be equipped with short video films as produced by MHA, distribution of pamphlets on “DO”s and “DON’T”s generated by MHA, and live demonstration of how to use “portable extinguishers” and handle small fires.
10. Periodic fire drills and fire-inspection of important buildings, such as schools, hospitals, multi-storied buildings, and major industrial centres should be taken care by the State Fire Services.
11. For congested areas, and by-lanes where movement of Water Tender and Water Bowser is difficult, QRTs and motorcycle with mist sets should be used for the fastest response, supplemented by the Water Tenders and Water Bowsers by laying the large hose pipelines. Additionally, State Fire Service should identify congested areas and request district administration to decongest such areas with the help of police.

The congestion could be in terms of illegal extension of residential buildings, shops, unauthorized parking on roads. For unauthorized parking, State traffic department can also play an important role. Here, role of fire prevention officials is important as such exercises are not one time exercise and should be carried out regularly.

12. State Fire Service does have promotional avenues for their staff. However, there is an urgent need to have merit-based promotion, so that deserving employees remain motivated and do not leave the organization at midst of their career.
13. The State should have Insurance for all the Firefighting vehicles, so that in case of an accident there is sufficient cover available for any damage to .
14. Audit by a central authority should be carried out routinely to ensure good finance mechanism for capital, and O&M expenditures.

Table 18-44: Details of operational and new proposed urban Fire Stations with their estimated ideal served population, population density under ideal jurisdiction

District	FSTRefNo	Name	Operational Type	Population 2011 (Est.) for Fire Station Ideal Jurisdiction Area	Population Density	Priority Ranking
Agra	UP1326	Idgah Fire Station	Operational Urban	436,064	21,836	
Agra	New_UR_FS_3	Sanjay Palace Fire Station	New Urban	270,544	17,858	20
Agra	New_UR_FS_72	Dayal Bagh	New Urban	241,634	12,112	22
Agra	UP1338	Foundary Nagar Temp. Fire Station	Operational Urban	188,649	7,913	
Agra	New_UR_FS_2	Taj Nagri Fire Station	New Urban	214,041	7,826	29
Agra	New_UR_FS_74	Pinahat	New Urban	34,069	5,915	37
Agra	New_UR_FS_70	South Agra	New Urban	130,420	5,815	38
Agra	New_UR_FS_71	Old Azizpur	New Urban	124,007	4,699	49
Agra	New_UR_FS_69	Sikandra	New Urban	41,475	3,770	58
Agra	New_UR_FS_68	Vikas Colony	New Urban	47,670	3,592	60
Agra	UP1334	Bah Fire Station	Operational Urban	54,952	3,491	
Agra	UP1332	Shastripuram Fire Station	Operational Urban	31,211	3,149	
Agra	UP1336	Barham (Aitmapur) Fire Station	Operational Urban	38,461	1,938	
Aligarh	UP1177	Banna Devi Fire Station	Operational Urban	446,215	14,211	
Aligarh	UP1179	Police Line Temporary Fire Station	Operational Urban	421,074	12,337	
Aligarh	UP1176	Tala Nagri Fire Station	Operational Urban	46,454	2,589	
Aligarh	UP1175	Atroli Fire Station	Operational Urban	61,464	2,257	
Aligarh	UP1183	Akrabad Temporary Fire Station	Operational Urban	17,135	1,121	
Allahabad	UP1813	Civil Line Fire Station	Operational Urban	595,731	15,224	
Allahabad	UP1811	Naini Fire Station	Operational Urban	174,235	4,957	
Allahabad	New_UR_FS_86	Saket Nagar	New Urban	228,732	4,808	48

District	FSRefNo	Name	Operational Type	Population 2011 (Est.) for Fire Station Ideal Jurisdiction Area	Population Density	Priority Ranking
Allahabad	New_UR_FS_84	New Shankar Ghat Colony	New Urban	155,900	3,321	63
Allahabad	New_UR_FS_85	Jhusi	New Urban	57,619	1,758	91
Allahabad	UP1800	Soraon Fire Station	Operational Urban	51,543	1,562	
Allahabad	UP1795	Handia Fire Station	Operational Urban	19,504	851	
Ambedkar Nagar	UP1392	Tanda Fire Station	Operational Urban	88,178	3,601	
Ambedkar Nagar	UP1398	Akbarpur Fire Station	Operational Urban	86,562	3,062	
Auraiya	UP1278	Auraiya Fire Station	Operational Urban	61,058	1,687	
Azamgarh	UP1337	Azamgarh Fire Station	Operational Urban	91,547	4,015	
Azamgarh	New_UR_FS_94	Narauli	New Urban	48,663	3,011	67
Azamgarh	New_UR_FS_17	Mubarakpur	New Urban	33,164	2,377	82
Baghpat	UP3134	Baraut Fire Station	Operational Urban	85,823	5,170	
Baghpat	UP3140	Khekra Fire Station	Operational Urban	40,680	2,484	
Baghpat	New_UR_FS_11	Mughalpura Mohalla	New Urban	38,348	2,020	86
Bahraich	UP1379	Bahraich Fire Station	Operational Urban	154,113	6,945	
Bahraich	New_UR_FS_104	Galla Mandi Bahraich	New Urban	39,091	2,412	79
Ballia	UP1325	Ballia Fire Station	Operational Urban	239,873	7,374	
Ballia	UP1290	Rarsa Fire Station	Operational Urban	81,155	3,327	
Balrampur	UP1375	Balrampur Fire Station	Operational Urban	41,471	4,185	
Banda	UP1816	Banda Fire Station	Operational Urban	138,454	6,302	
Banda	New_UR_FS_107	Mohakhar	New Urban	24,816	1,047	113
Banda	New_UR_FS_106	Police Line Banda	New Urban	23,411	832	115
Banda	New_UR_FS_108	Kataiya Dandi Banda	New Urban	16,428	710	116
Banda	New_UR_FS_105	Kahala	New Urban	12,866	356	117

District	FSRefNo	Name	Operational Type	Population 2011 (Est.) for Fire Station Ideal Jurisdiction Area	Population Density	Priority Ranking
Barabanki	UP1412	Barabanki Fire Station	Operational Urban	167,246	7,540	
Barabanki	New_UR_FS_51	Zaidpur	New Urban	31,907	4,013	55
Barabanki	New_UR_FS_13	Ramnagar	New Urban	53,279	2,220	84
Bareilly	UP1873	Bareilly Fire station	Operational Urban	698,008	16,068	
Bareilly	New_UR_FS_5	Baheri	New Urban	196,944	6,380	36
Bareilly	New_UR_FS_64	Izatnagar	New Urban	216,504	5,421	44
Bareilly	New_UR_FS_65	Mohanpur	New Urban	91,786	3,374	62
Bareilly	UP1865	Nawabganj Fire Station	Operational Urban	48,438	2,952	
Bareilly	UP1858	Aonla Fire Station (Temp)	Operational Urban	86,497	2,586	
Basti	UP1354	Basti Fire Station	Operational Urban	140,749	3,715	
Bijnor	UP1877	Bijnor Fire Station	Operational Urban	123,497	3,780	
Bijnor	New_UR_FS_39	Sherkot	New Urban	39,190	3,515	105
Bijnor	New_UR_FS_40	Seohara	New Urban	55,234	3,494	106
Bijnor	New_UR_FS_47	Noorpur	New Urban	61,999	2,995	108
Bijnor	UP1879	Najibabad Fire Station	Operational Urban	61,485	2,512	
Bijnor	New_UR_FS_37	Kiratpur	New Urban	42,394	2,383	110
Bijnor	UP1876	Nagina Fire Station	Operational Urban	71,479	2,247	
Budaun	New_UR_FS_42	Punjabi Colony Ujhani	New Urban	53,830	2,894	69
Budaun	UP1872	Budaun Fire Station	Operational Urban	116,585	2,782	
Budaun	New_UR_FS_10	Babralla	New Urban	43,211	1,604	94
Budaun	UP1870	Sahaswan Fire Station	Operational Urban	43,922	1,571	
Budaun	UP1891	Dataganj Fire station (temp)	Operational Urban	46,423	1,472	
Bulandshahr	UP1172	Motibag Fire Station	Operational Urban	239,678	6,501	

District	FSRefNo	Name	Operational Type	Population 2011 (Est.) for Fire Station Ideal Jurisdiction Area	Population Density	Priority Ranking
Bulandshahr	UP1174	Debai Fire Station	Operational Urban	68,330	2,483	
Bulandshahr	UP1173	Khurja Fire Station	Operational Urban	79,799	2,108	
Bulandshahr	New_UR_FS_27	Gulaothi	New Urban	25,357	2,067	85
Bulandshahr	UP1171	Sikandrabad Fire Station	Operational Urban	77,228	1,580	
Bulandshahr	New_UR_FS_41	Jahangirabad	New Urban	19,374	1,425	95
Chandauli	UP1905	Chandauli fire Station	Operational Urban	96,665	5,578	
Chandauli	UP1901	Mughal sarai Fire Station	Operational Urban	98,679	5,243	
Chandauli	New_UR_FS_101	Chandauli	New Urban	51,139	4,065	53
Chandauli	New_UR_FS_102	Saiyadraja	New Urban	46,477	3,896	57
Chandauli	New_UR_FS_115	Jalil Pur	New Urban	58,971	2,389	80
Chitrakoot	New_UR_FS_4	Mau	New Urban	25,854	2,679	109
Chitrakoot	New_UR_FS_82	Karwi	New Urban	78,735	1,834	112
Deoria	UP1359	Deoria Fire Station	Operational Urban	143,358	4,343	
Deoria	New_UR_FS_103	Rudrapur	New Urban	32,830	3,057	66
Etah	UP1235	Etah fire Station	Operational Urban	151,808	3,758	
Etawah	UP1293	Etawah Fire Station	Operational Urban	263,358	6,689	
Etawah	New_UR_FS_75	Jaswant Nagar	New Urban	34,737	4,488	50
Faizabad	UP1409	Faizabad Fire Station	Operational Urban	189,925	7,058	
Faizabad	New_UR_FS_59	Ayodhya	New Urban	54,182	2,377	81
Farrukhabad	New_UR_FS_14	Khatrana Farrukabad	New Urban	223,045	6,432	35
Farrukhabad	UP1347	Fateh Garh Fire Station	Operational Urban	71,464	5,406	
Farrukhabad	New_UR_FS_78	Kaimganj	New Urban	110,025	1,243	97
Fatehpur	UP1819	Fatehpur Police Fire Station	Operational Urban	186,640	5,563	

District	FSRefNo	Name	Operational Type	Population 2011 (Est.) for Fire Station Ideal Jurisdiction Area	Population Density	Priority Ranking
Firozabad	UP1317	Firozabad Fire Station	Operational Urban	610,474	13,512	
Firozabad	UP1309	Shikohabad Fire Station	Operational Urban	108,947	3,472	
Firozabad	New_UR_FS_76	Sirsaganj	New Urban	44,009	2,440	77
Firozabad	UP1322	Tundla Fire Station	Operational Urban	49,837	2,143	
Gautam Buddha Nagar	UP1125	Phase - III, Sector - 58, Noida	Operational Urban	386,413	18,124	
Gautam Buddha Nagar	UP1122	Phase - I, Sector-2 Noida Fire Station	Operational Urban	254,981	15,926	
Gautam Buddha Nagar	New_UR_FS_22	Noida_sec-49	New Urban	207,347	5,696	6
Gautam Buddha Nagar	UP1123	Phase - II Noida Fire Station	Operational Urban	112,237	3,802	
Gautam Buddha Nagar	New_UR_FS_26	Chhaproula	New Urban	76,695	3,547	12
Gautam Buddha Nagar	New_UR_FS_8	Eno 1	New Urban	87,997	2,002	16
Gautam Buddha Nagar	UP1124	Surajpur Fire Station	Operational Urban	61,095	1,600	
Gautam Buddha Nagar	New_UR_FS_23	Dadri	New Urban	62,332	1,433	18
Ghaziabad	UP1116	Hindon Fire Station	Operational Urban	507,272	20,372	
Ghaziabad	UP1115	Ghaziabad Central Fire Station	Operational Urban	481,564	16,079	
Ghaziabad	UP3132	Vaishali Fire Station	Operational Urban	266,670	9,370	
Ghaziabad	New_UR_FS_19	Govindpuram	New Urban	269,881	9,233	1
Ghaziabad	New_UR_FS_15	Loni Tiraha	New Urban	197,734	8,871	2
Ghaziabad	New_UR_FS_21	Tigri	New Urban	249,597	6,697	3
Ghaziabad	New_UR_FS_20	Sehani Khurd	New Urban	147,491	6,344	4
Ghaziabad	New_UR_FS_16	Rahul Garden	New Urban	119,619	5,855	5
Ghaziabad	New_UR_FS_25	Tronicacity	New Urban	80,358	4,071	10
Ghaziabad	UP3126	Modinagar Fire Station	Operational Urban	136,985	2,802	
Ghaziabad	UP3139	Hapur Fire Station	Operational Urban	84,455	2,786	

District	FSRefNo	Name	Operational Type	Population 2011 (Est.) for Fire Station Ideal Jurisdiction Area	Population Density	Priority Ranking
Ghaziabad	New_UR_FS_24	Pilkkhuwa	New Urban	38,238	2,735	14
Ghaziabad	UP1902	Garh Mukteswar Fire Station	Operational Urban	75,281	2,603	
Ghaziabad	New_UR_FS_18	Hisali Muradnagar	New Urban	55,882	2,159	15
Ghazipur	UP1323	Ghazipur Fire Station	Operational Urban	122,403	11,397	
Ghazipur	New_UR_FS_100	Ghazipur	New Urban	97,553	5,459	42
Gonda	UP1406	Ram Janam Bhumi Fire Station	Operational Urban	1,000	33,333	
Gonda	New_UR_FS_83	Gonda	New Urban	105,862	5,462	41
Gonda	UP1373	Gonda Fire Station	Operational Urban	42,577	3,180	
Gorakhpur	UP1327	Gorakhpur Fire Station	Operational Urban	336,334	10,888	
Gorakhpur	New_UR_FS_96	Ramjanki Nagar	New Urban	204,029	5,426	43
Gorakhpur	New_UR_FS_6	Bans Gaon	New Urban	25,889	4,351	51
Gorakhpur	New_UR_FS_99	Surajkund	New Urban	63,359	2,863	71
Gorakhpur	New_UR_FS_97	Dargahiya	New Urban	92,035	2,614	75
Gorakhpur	UP1362	Sahjanwa Fire Station	Operational Urban	44,305	2,536	
Gorakhpur	UP1331	Barhalganj Fire Station	Operational Urban	49,334	1,889	
Gorakhpur	New_UR_FS_98	Tilak nagar	New Urban	30,755	1,762	90
Gorakhpur	UP1355	Gida Fire Station	Operational Urban	13,719	1,554	
Hamirpur	UP1822	Hamirpur Fire Station	Operational Urban	13,037	1,185	
Hamirpur	UP1803	Maudha Fire Station	Operational Urban	21,850	932	
Hardoi	UP1781	Hardoi Fire Station	Operational Urban	203,340	6,656	
Hardoi	New_UR_FS_79	Shahabad	New Urban	42,875	2,800	72
Hardoi	New_UR_FS_44	Sandila	New Urban	38,913	1,671	93
Jalaun	UP1828	Kalpi Fire Staion	Operational Urban	30,880	2,800	

District	FSRefNo	Name	Operational Type	Population 2011 (Est.) for Fire Station Ideal Jurisdiction Area	Population Density	Priority Ranking
Jalaun	UP1801	Orai Fire Station	Operational Urban	124,627	2,699	
Jalaun	UP1798	Jalaun Fire Station	Operational Urban	38,447	2,284	
Jaunpur	New_UR_FS_92	Olandganj	New Urban	111,087	6,444	34
Jaunpur	UP1844	Jaunpur Fire Station	Operational Urban	82,566	3,571	
Jaunpur	New_UR_FS_93	Shahganj	New Urban	43,253	3,159	64
Jaunpur	UP1841	Satharia Fire Station	Operational Urban	69,421	1,757	
Jhansi	UP1810	Jhansi Fire Station	Operational Urban	501,135	8,301	
Jhansi	UP1807	Garautha Fire Station	Operational Urban	26,947	335	
Jyotiba Phule Nagar	UP1885	Amroha Fire Station	Operational Urban	167,028	5,857	
Jyotiba Phule Nagar	UP1882	Gajraula Fire Station	Operational Urban	96,458	3,190	
Kannauj	New_UR_FS_46	Gursahaiganj	New Urban	46,868	1,900	88
Kannauj	New_UR_FS_28	Kannauj	New Urban	45,016	1,750	92
Kannauj	UP1274	Tirwaganj Fire Station	Operational Urban	25,524	1,513	
Kannauj	UP1277	Chhibramau Temp. Fire Station	Operational Urban	29,947	1,117	
Kanpur Dehat	UP1784	Bhognipur Fire Station	Operational Urban	49,110	1,373	
Kanpur Dehat	UP1834	Akbarpur (Mati) Fire Station	Operational Urban	54,331	1,271	
Kanpur Nagar	UP1782	Kidwai Nagar Fire Station	Operational Urban	842,013	27,267	
Kanpur Nagar	UP1271	Fazalganj Fire Station	Operational Urban	710,225	21,893	
Kanpur Nagar	UP1276	Latouche Road Fire Station	Operational Urban	168,765	21,043	
Kanpur Nagar	UP1273	Cornalaganj Fire Station	Operational Urban	226,072	13,627	
Kanpur Nagar	New_UR_FS_30	Hashmi Pur	New Urban	288,412	11,324	23
Kanpur Nagar	UP1279	Meerpur Fire Station	Operational Urban	136,903	10,081	
Kanpur Nagar	New_UR_FS_33	Kalyanpur	New Urban	242,297	7,076	31

District	FSRefNo	Name	Operational Type	Population 2011 (Est.) for Fire Station Ideal Jurisdiction Area	Population Density	Priority Ranking
Kanpur Nagar	New_UR_FS_31	Yasodanagar	New Urban	219,472	5,477	40
Kanpur Nagar	New_UR_FS_32	Panki	New Urban	103,602	4,910	46
Kanpur Nagar	UP1783	Jazmau Fire Station	Operational Urban	22,251	1,373	
Kanshiram Nagar	UP1353	Kasganj Temp. Fire Station	Operational Urban	87,584	3,711	
Kaushambi	UP1814	Manjhanpur Fire Station	Operational Urban	39,400	1,355	
Kheri	UP1847	Lakhimpur Fire Station	Operational Urban	174,033	4,309	
Kheri	UP1850	Gola Fire Station	Operational Urban	35,188	2,762	
Kheri	UP1842	Palia Fire Station	Operational Urban	30,522	1,535	
Kushinagar	UP1357	Kushi Nagar Fire Station	Operational Urban	90,415	2,754	
Lalitpur	UP1809	Lalitpur Fire Station	Operational Urban	135,702	4,927	
Lucknow	UP1300	Chowk Fire Station	Operational Urban	572,193	22,670	
Lucknow	UP1285	Gomti Nagar Fire Station	Operational Urban	338,276	18,824	
Lucknow	New_UR_FS_56	Vikash Nagar	New Urban	593,023	14,855	21
Lucknow	New_UR_FS_53	Neil Lines	New Urban	314,465	9,233	26
Lucknow	UP1242	Indra Nagar Fire Station	Operational Urban	151,354	6,221	
Lucknow	New_UR_FS_58	Gomti Nagar	New Urban	153,539	5,785	39
Lucknow	UP1304	Sarojni Nagar Fire Station	Operational Urban	123,620	5,448	
Lucknow	UP1231	Hazaratganj Fire Station	Operational Urban	139,648	5,381	
Lucknow	UP1283	S.G.P.G.I. Fire Station Lucknow	Operational Urban	171,083	5,205	
Lucknow	New_UR_FS_54	Para	New Urban	165,377	4,868	47
Lucknow	UP1310	Alambagh Fire Station	Operational Urban	85,846	3,638	
Lucknow	New_UR_FS_55	Dubaggah	New Urban	99,999	2,779	74
Lucknow	New_UR_FS_57	Satyam Vihar	New Urban	25,085	1,010	98

District	FSRefNo	Name	Operational Type	Population 2011 (Est.) for Fire Station Ideal Jurisdiction Area	Population Density	Priority Ranking
Mahamaya Nagar	UP1188	Hathras Fire Station	Operational Urban	167,409	5,741	
Mahamaya Nagar	UP1186	Sikandra Rao Fire Station	Operational Urban	48,844	1,576	
Maharajganj	UP1363	Maharaganj Fire Station	Operational Urban	76,937	3,099	
Mahoba	UP1808	Mahoba Fire Station	Operational Urban	98,339	2,722	
Mainpuri	New_UR_FS_1	Bhongaon	New Urban	118,268	7,705	30
Mainpuri	UP1189	Mainpuri Police Fire Station	Operational Urban	16,493	2,300	
Mainpuri	UP1225	Bewar Fire Station	Operational Urban	53,381	2,168	
Mathura	UP1341	Janm-Bumi Temp. Fire Station	Operational Urban	23,877	795,900	
Mathura	UP1339	Mathura Fire Station	Operational Urban	315,145	9,095	
Mathura	New_UR_FS_66	Anand Van Phase 1	New Urban	171,687	6,699	32
Mathura	New_UR_FS_36	Vrindavan	New Urban	118,370	5,001	45
Mathura	New_UR_FS_116	Lohwan Mathura	New Urban	46,954	3,598	59
Mathura	New_UR_FS_67	Baad	New Urban	60,812	2,412	78
Mau	UP1319	Mau Fire Station	Operational Urban	143,586	7,169	
Mau	New_UR_FS_95	Muhammadabad Gohna	New Urban	80,590	6,531	33
Mau	New_UR_FS_50	Kopaganj	New Urban	37,653	3,401	61
Meerut	UP3127	Ghanta Ghar Fire Station, Meerut	Operational Urban	703,718	18,427	
Meerut	UP3128	Police Line Meerut Fire Station	Operational Urban	417,469	9,030	
Meerut	UP3129	Mawana Fire Station	Operational Urban	110,795	6,638	
Meerut	New_UR_FS_61	Shardha Puri Phase 2	New Urban	122,223	3,565	11
Meerut	New_UR_FS_60	Gangotri Colony	New Urban	121,525	2,888	13
Meerut	UP3131	Partapur Fire Station	Operational Urban	73,180	1,765	
Mirzapur	UP1846	Mirzapur Fire Station	Operational Urban	237,727	6,212	

District	FSRefNo	Name	Operational Type	Population 2011 (Est.) for Fire Station Ideal Jurisdiction Area	Population Density	Priority Ranking
Moradabad	UP1887	Moradabad Fire Station	Operational Urban	420,728	26,165	
Moradabad	UP1889	Katghar Fire Station	Operational Urban	251,512	15,079	
Moradabad	UP1880	Sambhal Fire Station	Operational Urban	90,737	5,570	
Moradabad	New_UR_FS_77	Kanth	New Urban	44,308	4,764	7
Moradabad	New_UR_FS_7	Bahjoi	New Urban	36,001	4,523	8
Moradabad	New_UR_FS_62	Harthala	New Urban	136,732	4,464	9
Moradabad	UP1849	Chandausi Fire Station	Operational Urban	44,135	1,881	
Moradabad	New_UR_FS_9	Sambhal	New Urban	72,209	1,635	17
Moradabad	UP1892	Thakurdwara Fire Station	Operational Urban	31,544	1,462	
Moradabad	New_UR_FS_63	Pakbara	New Urban	37,438	1,324	19
Muzaffarnagar	UP3138	Muzaffar Nagar Fire Station	Operational Urban	510,144	10,666	
Muzaffarnagar	New_UR_FS_73	Miranpur	New Urban	73,938	4,063	54
Muzaffarnagar	UP3141	Shamli Fire Station	Operational Urban	97,705	3,758	
Muzaffarnagar	New_UR_FS_48	Thana Bhawan	New Urban	67,681	2,230	83
Muzaffarnagar	New_UR_FS_35	Khatauli	New Urban	61,348	2,002	87
Pilibhit	UP1857	Pilibhit Fire Station	Operational Urban	160,905	7,429	
Pilibhit	New_UR_FS_45	Puranpur	New Urban	37,246	1,782	89
Pilibhit	UP1837	Bisalpur Fire Station	Operational Urban	28,448	1,401	
Pratapgarh	UP1840	Pratapgarh Fire Station	Operational Urban	187,007	6,478	
Pratapgarh	UP1838	Kunda Fire Station	Operational Urban	47,639	2,470	
Pratapgarh	UP1824	Patti fire Station	Operational Urban	34,907	1,972	
Rae Bareli	UP1390	Rae Bareli Fire Station	Operational Urban	206,770	4,152	
Rampur	UP1862	Fire Station Civil Line Rampur	Operational Urban	203,143	7,143	

District	FSRefNo	Name	Operational Type	Population 2011 (Est.) for Fire Station Ideal Jurisdiction Area	Population Density	Priority Ranking
Rampur	UP1864	Rampur Fire Station	Operational Urban	155,722	6,598	
Saharanpur	UP1890	Saharanpur 1 Fire Station	Operational Urban	312,542	13,666	
Saharanpur	UP1886	Saharanpur Fire Station	Operational Urban	392,196	10,526	
Saharanpur	New_UR_FS_49	Nanauta	New Urban	48,037	3,079	65
Saharanpur	New_UR_FS_38	Gangoh	New Urban	55,079	2,933	68
Saharanpur	UP1896	Sarsawa Fire Station	Operational Urban	43,447	2,046	
Saharanpur	UP1898	Deoband Fire Station	Operational Urban	35,409	1,026	
Sant Kabir Nagar	UP1348	Sant Kabir nagar Fire Station, Khalilabad	Operational Urban	49,540	2,175	
Sant Ravidas Nagar	New_UR_FS_91	Bhadohi	New Urban	177,770	5,157	100
Sant Ravidas Nagar	New_UR_FS_87	Gopiganj	New Urban	61,414	4,198	101
Sant Ravidas Nagar	UP1853	Aurai Fire Station	Operational Urban	84,614	2,090	
Shahjahanpur	UP1830	Shahjahanpur Fire Station	Operational Urban	276,891	9,466	
Shahjahanpur	New_UR_FS_81	Tilhar	New Urban	66,025	3,985	56
Shahjahanpur	New_UR_FS_80	Roza Shahjahanpur	New Urban	45,397	2,578	76
Sitapur	UP1780	Sitapur Fire Station	Operational Urban	148,281	4,373	
Sitapur	New_UR_FS_109	Khairabad	New Urban	47,829	2,782	73
Sitapur	UP1791	Sidhauri Fire Station	Operational Urban	54,307	2,056	
Sonbhadra	UP1869	Lohadi Fire Station	Operational Urban	105,624	4,863	
Sonbhadra	New_UR_FS_89	Shakti Nagar	New Urban	107,337	3,860	102
Sonbhadra	New_UR_FS_43	Obra	New Urban	145,538	3,582	103
Sonbhadra	New_UR_FS_88	Anpara	New Urban	104,943	3,571	104
Sonbhadra	New_UR_FS_90	Rihand Nagar	New Urban	55,538	3,405	107
Sonbhadra	UP1861	Chopan Fire Station	Operational Urban	46,232	2,291	

District	FSRefNo	Name	Operational Type	Population 2011 (Est.) for Fire Station Ideal Jurisdiction Area	Population Density	Priority Ranking
Sonbhadra	New_UR_FS_34	Renukoot	New Urban	74,288	2,043	111
Sonbhadra	New_UR_FS_117	Kahrol	New Urban	42,194	955	114
Sultanpur	UP1403	Sultanpur Fire Station	Operational Urban	127,265	3,455	
Sultanpur	UP1365	Amethi Fire Station	Operational Urban	20,940	1,594	
Sultanpur	UP1426	Jagdishpur Fire Station	Operational Urban	49,714	1,294	
Sultanpur	UP1423	Musafirkhana Fire Station	Operational Urban	14,726	665	
Sultanpur	New_UR_FS_12	Gauriganj	New Urban	15,390	661	99
Unnao	New_UR_FS_29	Shuklaganj	New Urban	195,264	9,553	25
Unnao	UP1369	Unnao Fire Station	Operational Urban	169,967	6,281	
Unnao	UP1356	Purwa Fire Station	Operational Urban	32,097	1,279	
Unnao	New_UR_FS_52	Nawabganj	New Urban	13,969	1,258	96
Varanasi	UP1883	Kotwali Fire Station	Operational Urban	318,355	24,191	
Varanasi	UP1881	Bhelupur Fire Station	Operational Urban	207,096	13,862	
Varanasi	New_UR_FS_113	Hyderabad Gate	New Urban	195,248	9,762	24
Varanasi	New_UR_FS_112	Churamanpur	New Urban	286,497	7,923	27
Varanasi	New_UR_FS_111	Bagatpur	New Urban	324,629	7,841	28
Varanasi	New_UR_FS_110	Ashapur Sarnath	New Urban	146,466	4,150	52
Varanasi	UP1894	Chaitgunj Fire Station	Operational Urban	39,205	2,898	
Varanasi	New_UR_FS_114	Tengramod Ramnagar	New Urban	88,571	2,888	70
Varanasi	UP1888	Gyanwapi Fire Station	Operational Urban	1,069	203	

Table 18-45: Details of operational and new proposed rural Fire Stations with estimated ideal served population and population density

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Agra	New_RU_FS_162	Barhan	New Rural	834	124
Agra	New_RU_FS_74	Kiraoli	New Rural	832	125
Agra	New_RU_FS_351	Shamsabad	New Rural	762	149
Agra	New_RU_FS_2	Khairagarh	New Rural	520	248
Agra	New_RU_FS_68	Fatehabad	New Rural	514	250
Aligarh	New_RU_FS_157	Chharra Rafatpur	New Rural	812	131
Aligarh	New_RU_FS_158	Jawan	New Rural	789	139
Aligarh	New_RU_FS_92	Gabhana	New Rural	788	140
Aligarh	UP1185	Iglas Temporary Fire Station	Operational Rural	691	
Aligarh	UP1184	Khair	Operational Rural	653	
Aligarh	New_RU_FS_117	Iglas	New Rural	625	201
Aligarh	UP1181	Gabhana Fire Station	Operational Rural	599	
Aligarh	New_RU_FS_221	Sankara	New Rural	544	240
Allahabad	New_RU_FS_30	Phulpur	New Rural	1,478	21
Allahabad	New_RU_FS_326	Janghai	New Rural	1,359	28
Allahabad	New_RU_FS_329	Mau Aima	New Rural	1,137	48
Allahabad	New_RU_FS_23	Karchhana	New Rural	1,134	49
Allahabad	New_RU_FS_327	Baraut	New Rural	1,036	72
Allahabad	New_RU_FS_284	Mairry	New Rural	988	84
Allahabad	New_RU_FS_119	Meja	New Rural	964	91
Allahabad	UP1799	Bara Fire Station	Operational Rural	760	
Allahabad	New_RU_FS_325	Pachauha	New Rural	609	212

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Allahabad	New_RU_FS_113	Kuraon	New Rural	413	257
Allahabad	UP1802	Meja fire Station	Operational Rural	356	
Ambedkar Nagar	New_RU_FS_290	Bariyawan	New Rural	1,401	22
Ambedkar Nagar	UP1396	Jalalpur Fire Station	Operational Rural	1,185	
Ambedkar Nagar	New_RU_FS_273	Senpur	New Rural	896	101
Ambedkar Nagar	New_RU_FS_286	Rampur	New Rural	841	123
Ambedkar Nagar	UP1395	Alapur Fire Station	Operational Rural	673	
Ambedkar Nagar	New_RU_FS_272	Itifatganj	New Rural	550	239
Auraiya	UP1287	Bidhuna Temp. Fire Station	Operational Rural	753	
Auraiya	New_RU_FS_199	Kansua	New Rural	739	158
Auraiya	New_RU_FS_197	Muradganj	New Rural	552	237
Azamgarh	New_RU_FS_37	Mehnagar	New Rural	1,240	40
Azamgarh	New_RU_FS_46	Sagri	New Rural	1,137	47
Azamgarh	UP1340	Lalganj Fire Station	Operational Rural	1,123	
Azamgarh	New_RU_FS_318	Latghat	New Rural	1,116	50
Azamgarh	New_RU_FS_302	Mehnajpur Khas	New Rural	1,027	75
Azamgarh	New_RU_FS_41	Phulpur	New Rural	879	107
Azamgarh	New_RU_FS_40	Nizamabad	New Rural	865	112
Azamgarh	UP1312	Budhanpur Fire Station	Operational Rural	837	
Baghpat	New_RU_FS_138	Baleni	New Rural	866	10
Baghpat	New_RU_FS_9	Ramala	New Rural	972	88
Baghpat	New_RU_FS_137	Binauli	New Rural	872	109
Bahraich	New_RU_FS_91	Nanpara	New Rural	993	81
Bahraich	New_RU_FS_255	Mihinpurwa	New Rural	857	118

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Bahraich	New_RU_FS_88	Mahsi	New Rural	811	132
Bahraich	New_RU_FS_261	Vaibhahi	New Rural	794	137
Bahraich	New_RU_FS_76	Kesarganj	New Rural	781	144
Bahraich	New_RU_FS_346	Fakharpur	New Rural	723	166
Bahraich	New_RU_FS_268	Katiliya	New Rural	534	244
Bahraich	New_RU_FS_259	Harkhapur	New Rural	399	258
Ballia	New_RU_FS_300	Nagra	New Rural	1,262	35
Ballia	New_RU_FS_301	Ratsarh	New Rural	1,200	42
Ballia	UP1289	Bansdih Fire Station	Operational Rural	1,035	
Ballia	New_RU_FS_42	Belthara	New Rural	884	104
Ballia	New_RU_FS_35	Bairia	New Rural	843	121
Ballia	New_RU_FS_39	Sikanderpur	New Rural	695	180
Balrampur	New_RU_FS_265	Rehra Bazar	New Rural	965	90
Balrampur	New_RU_FS_78	Uttrola	New Rural	708	173
Balrampur	New_RU_FS_267	Pachperwa	New Rural	625	200
Balrampur	New_RU_FS_269	Shivpura	New Rural	528	246
Balrampur	New_RU_FS_86	Tulasipur	New Rural	501	251
Banda	New_RU_FS_29	Baberu	New Rural	480	297
Banda	New_RU_FS_120	Atarra	New Rural	419	303
Banda	New_RU_FS_209	Kamsin	New Rural	374	310
Banda	New_RU_FS_249	Aliha	New Rural	356	318
Banda	New_RU_FS_250	Chitrakot	New Rural	344	321
Banda	New_RU_FS_191	Paprenda	New Rural	344	322
Banda	New_RU_FS_354	Jaspura	New Rural	323	323

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Banda	New_RU_FS_204	Mataundh	New Rural	223	337
Banda	New_RU_FS_21	Naraini	New Rural	202	342
Barabanki	UP1380	Fathepur Fire Station	Operational Rural	927	
Barabanki	UP1411	Haidergarh Fire Station	Operational Rural	852	
Barabanki	UP1371	Sirauli Gauspur Fire Station	Operational Rural	847	
Barabanki	New_RU_FS_216	Dewa	New Rural	845	120
Barabanki	UP1410	Ramsanehighat Fire Station	Operational Rural	572	
Bareilly	New_RU_FS_154	Richha	New Rural	1,014	76
Bareilly	UP1868	Parsakhera Fire Station	Operational Rural	996	
Bareilly	UP1860	Mirganj Fire Station	Operational Rural	812	
Bareilly	New_RU_FS_97	Nawabganj	New Rural	805	135
Bareilly	New_RU_FS_155	Ramnagar	New Rural	744	156
Bareilly	UP1895	Faridpure Fire Station	Operational Rural	720	
Bareilly	New_RU_FS_183	Bhamora	New Rural	713	168
Basti	New_RU_FS_287	Khrauwajat	New Rural	1,115	51
Basti	New_RU_FS_289	Bhitora Basti	New Rural	1,093	55
Basti	New_RU_FS_70	Rudauli	New Rural	1,008	79
Basti	New_RU_FS_67	Bhanpur	New Rural	990	83
Basti	New_RU_FS_288	Mahadewa	New Rural	896	100
Basti	New_RU_FS_62	Harraiya	New Rural	646	195
Bijnor	UP1878	Chandpur Fire Station	Operational Rural	1,092	
Bijnor	New_RU_FS_107	Dhampur	New Rural	961	279
Bijnor	UP1874	Dhampur Fire Station	Operational Rural	881	
Bijnor	New_RU_FS_145	Akbarabad	New Rural	875	280

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Bijnor	New_RU_FS_147	Mandawali	New Rural	632	286
Bijnor	New_RU_FS_146	Afzalgarh	New Rural	626	287
Bijnor	New_RU_FS_229	Mohd.Pur Devmal	New Rural	608	289
Bijnor	New_RU_FS_228	Badhapur	New Rural	414	304
Budaun	UP1859	Bisauli Fire Station (Temp)	Operational Rural	831	
Budaun	New_RU_FS_184	Islamnagar	New Rural	825	127
Budaun	New_RU_FS_94	Bilsi	New Rural	727	165
Budaun	New_RU_FS_10	Kakrala West	New Rural	702	175
Budaun	New_RU_FS_156	Dehgawan	New Rural	668	190
Budaun	New_RU_FS_222	Jarifpur Garhiya	New Rural	500	252
Budaun	New_RU_FS_187	Katra Sadatganj	New Rural	418	256
Bulandshahr	New_RU_FS_100	Siyana	New Rural	1,012	77
Bulandshahr	New_RU_FS_96	Anupshahr	New Rural	935	95
Bulandshahr	New_RU_FS_152	Aurangabad	New Rural	920	98
Bulandshahr	New_RU_FS_185	Ramghat	New Rural	897	99
Bulandshahr	New_RU_FS_95	Shikarpur	New Rural	803	136
Chandauli	New_RU_FS_25	Sakaldiha	New Rural	1,095	53
Chandauli	New_RU_FS_19	Chakia	New Rural	534	243
Chandauli	New_RU_FS_334	Naugarh	New Rural	107	274
Chitrakoot	New_RU_FS_323	Mau	New Rural	432	301
Chitrakoot	New_RU_FS_321	Rajapur	New Rural	411	305
Chitrakoot	New_RU_FS_208	Garhi ghat	New Rural	400	307
Chitrakoot	UP1817	Chitrakoot Karwi Fire Station	Operational Rural	260	
Chitrakoot	New_RU_FS_324	Manikpur	New Rural	118	348

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Deoria	New_RU_FS_316	Usra Bajar	New Rural	1,491	20
Deoria	New_RU_FS_48	Salempur	New Rural	1,401	23
Deoria	New_RU_FS_47	Barhaj	New Rural	1,249	38
Deoria	New_RU_FS_293	Rampur	New Rural	1,036	73
Deoria	New_RU_FS_49	Bhatpar Rani	New Rural	609	211
Etah	UP1259	Aligunj	Operational Rural	795	
Etah	New_RU_FS_165	Marehra	New Rural	733	162
Etah	New_RU_FS_186	Nidholi Kalan	New Rural	685	184
Etah	New_RU_FS_84	Jalesar	New Rural	620	204
Etah	New_RU_FS_164	Chhachhena	New Rural	597	215
Etawah	UP1292	Bharthna Temp. Fire Station	Operational Rural	776	
Etawah	UP1303	Saifai fire Station	Operational Rural	646	
Etawah	New_RU_FS_54	Chakar Nagar	New Rural	247	269
Faizabad	New_RU_FS_3	Bikapur	New Rural	986	85
Faizabad	UP1404	Sohawal Fire Sation	Operational Rural	805	
Faizabad	New_RU_FS_61	Rudauli	New Rural	731	163
Faizabad	New_RU_FS_8	Milkipur	New Rural	701	176
Faizabad	New_RU_FS_271	Kunwar	New Rural	595	217
Farrukhabad	New_RU_FS_167	Mohammadabad	New Rural	782	142
Farrukhabad	New_RU_FS_168	Khudaganj	New Rural	689	181
Farrukhabad	New_RU_FS_87	Amritpur	New Rural	604	213
Fatehpur	UP1820	Khaga Fire Station	Operational Rural	755	
Fatehpur	New_RU_FS_205	Jahanabad	New Rural	671	283
Fatehpur	UP1826	Bindki Fire Station	Operational Rural	667	

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Fatehpur	New_RU_FS_193	Naraini	New Rural	620	288
Fatehpur	New_RU_FS_251	Hussain Ganj	New Rural	531	293
Fatehpur	New_RU_FS_207	Ghazipur	New Rural	508	294
Fatehpur	New_RU_FS_320	Kot	New Rural	478	298
Fatehpur	New_RU_FS_192	Lalauli	New Rural	469	299
Fatehpur	New_RU_FS_247	Rampur Kurmi	New Rural	454	300
Firozabad	New_RU_FS_166	Ababakapur	New Rural	714	167
Firozabad	New_RU_FS_163	Fariha	New Rural	712	170
Firozabad	UP1321	Jasrana fire Station	Operational Rural	603	
Gautam Buddha Nagar	New_RU_FS_93	Jewar	New Rural	697	14
Gautam Buddha Nagar	New_RU_FS_151	Jhajhar	New Rural	640	15
Ghaziabad	New_RU_FS_142	Dhaulna	New Rural	951	6
Ghaziabad	New_RU_FS_140	Shakalpura Village	New Rural	944	7
Ghaziabad	New_RU_FS_143	Chopla	New Rural	907	9
Ghaziabad	New_RU_FS_226	Kothla	New Rural	584	220
Ghazipur	New_RU_FS_124	Mohammadabad	New Rural	1,254	36
Ghazipur	New_RU_FS_297	Bijaurra	New Rural	1,090	56
Ghazipur	New_RU_FS_298	Dhotari	New Rural	1,086	58
Ghazipur	UP1832	Saidpur Fire Station	Operational Rural	1,071	
Ghazipur	New_RU_FS_299	Bharoli Alla	New Rural	1,051	67
Ghazipur	New_RU_FS_13	Jakhanian	New Rural	1,041	71
Ghazipur	New_RU_FS_319	Chochakpur	New Rural	997	80
Ghazipur	New_RU_FS_27	Jamnia	New Rural	811	133
Ghazipur	UP1831	Zamania Fire Station	Operational Rural	807	

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Gonda	New_RU_FS_73	Colonelganj	New Rural	1,094	54
Gonda	New_RU_FS_264	Intiyathok	New Rural	870	110
Gonda	New_RU_FS_65	Tarabganj	New Rural	861	114
Gonda	UP1377	Mankapur Fire Station	Operational Rural	830	
Gonda	New_RU_FS_11	Nawabganj	New Rural	697	178
Gonda	New_RU_FS_266	Gaura Chowki	New Rural	627	199
Gonda	New_RU_FS_270	Paska	New Rural	538	241
Gorakhpur	New_RU_FS_311	Bahrain	New Rural	1,384	24
Gorakhpur	New_RU_FS_12	Chauri Chaura	New Rural	1,304	32
Gorakhpur	New_RU_FS_294	Malhanpar	New Rural	1,252	37
Gorakhpur	New_RU_FS_292	Gajpur	New Rural	1,244	39
Gorakhpur	New_RU_FS_55	Khajani	New Rural	1,157	44
Gorakhpur	New_RU_FS_314	Jagdishpur	New Rural	1,064	63
Gorakhpur	New_RU_FS_115	Gola Bazar	New Rural	1,056	64
Gorakhpur	New_RU_FS_312	Ekma	New Rural	992	82
Gorakhpur	New_RU_FS_69	Campierganj	New Rural	936	94
Gorakhpur	New_RU_FS_317	Rudauli	New Rural	933	96
Gorakhpur	New_RU_FS_291	Naryanpur,Belghat	New Rural	713	169
Hamirpur	UP1825	Rath Fire Station	Operational Rural	336	
Hamirpur	New_RU_FS_190	Bharuma Sumerpur	New Rural	274	265
Hamirpur	New_RU_FS_248	Pasun	New Rural	273	266
Hamirpur	New_RU_FS_246	Kandholi	New Rural	258	267
Hamirpur	New_RU_FS_203	Benwar	New Rural	255	268
Hamirpur	New_RU_FS_34	Rath	New Rural	237	270

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Hamirpur	New_RU_FS_202	Chandaut	New Rural	212	271
Hardoi	New_RU_FS_71	Bilgram	New Rural	1,072	60
Hardoi	UP1779	Sandila Fire Station	Operational Rural	773	
Hardoi	UP1833	Bilgram Fire Station	Operational Rural	697	
Hardoi	New_RU_FS_170	Pihani	New Rural	584	221
Hardoi	New_RU_FS_171	Srimau	New Rural	577	224
Hardoi	New_RU_FS_172	Aura patty	New Rural	566	228
Hardoi	New_RU_FS_169	Armee	New Rural	563	232
Hardoi	New_RU_FS_350	Kheriya	New Rural	550	238
Hardoi	New_RU_FS_82	Sawayajpur	New Rural	537	242
Hardoi	New_RU_FS_233	Behta gokul	New Rural	523	247
Hardoi	New_RU_FS_234	Bharigawan	New Rural	452	254
Jalaun	New_RU_FS_198	Kuthaund	New Rural	488	296
Jalaun	UP1827	Madhogarh Fire Station	Operational Rural	358	
Jalaun	New_RU_FS_347	Minaura	New Rural	315	325
Jalaun	UP1796	Konch Fire Station	Operational Rural	299	
Jalaun	New_RU_FS_201	Churkhi	New Rural	298	326
Jalaun	New_RU_FS_189	Kadaura	New Rural	290	329
Jalaun	New_RU_FS_194	Kotra	New Rural	204	341
Jaunpur	New_RU_FS_31	Satharia	New Rural	1,327	30
Jaunpur	New_RU_FS_285	Guraini	New Rural	1,284	33
Jaunpur	UP1856	Bhadohi Fire Station (Temp)	Operational Rural	1,065	
Jaunpur	New_RU_FS_123	Mariahu	New Rural	1,044	70
Jaunpur	New_RU_FS_38	Badlapur	New Rural	1,010	78

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Jaunpur	New_RU_FS_33	Kerakat	New Rural	926	97
Jaunpur	New_RU_FS_281	Bilwai	New Rural	768	146
Jhansi	New_RU_FS_242	Karari	New Rural	381	309
Jhansi	New_RU_FS_22	Mou Ranipur	New Rural	367	311
Jhansi	New_RU_FS_241	Bijauli	New Rural	365	313
Jhansi	New_RU_FS_243	Chiragaon	New Rural	356	317
Jhansi	New_RU_FS_28	Tahrauli	New Rural	291	328
Jhansi	UP1805	Moth Fire Station	Operational Rural	275	
Jhansi	New_RU_FS_240	Babina	New Rural	266	332
Jhansi	New_RU_FS_196	Mar kuwan	New Rural	257	335
Jhansi	New_RU_FS_244	Teachers' Colony	New Rural	221	338
Jyotiba Phule Nagar	New_RU_FS_149	Joya	New Rural	1,048	68
Jyotiba Phule Nagar	New_RU_FS_225	Kumukhia	New Rural	1,035	74
Jyotiba Phule Nagar	New_RU_FS_102	Dhanaura	New Rural	683	185
Jyotiba Phule Nagar	New_RU_FS_150	Daurara	New Rural	622	202
Jyotiba Phule Nagar	New_RU_FS_101	Hasanpur	New Rural	593	218
Kannauj	UP1272	Kannauj Fire Station	Operational Rural	875	
Kannauj	New_RU_FS_116	Chhibramau	New Rural	766	148
Kannauj	New_RU_FS_218	Hareipur	New Rural	675	187
Kanpur Dehat	New_RU_FS_214	Kashipur	New Rural	658	284
Kanpur Dehat	New_RU_FS_52	Derapur	New Rural	595	290
Kanpur Dehat	New_RU_FS_200	Jhinhak	New Rural	548	291
Kanpur Dehat	New_RU_FS_56	Rasulabad	New Rural	533	292
Kanpur Dehat	UP1792	Sikandra Fire Station	Operational Rural	458	

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Kanpur Dehat	New_RU_FS_219	Tisti	New Rural	423	302
Kanpur Dehat	New_RU_FS_206	Musa Nagar	New Rural	403	306
Kanpur Nagar	New_RU_FS_212	Sachendi	New Rural	659	192
Kanpur Nagar	New_RU_FS_213	Sarsaul	New Rural	648	194
Kanpur Nagar	New_RU_FS_63	Bilhaur	New Rural	617	206
Kanpur Nagar	UP1249	Bilhaur Fire Station	Operational Rural	577	
Kanpur Nagar	UP1255	Ghatam Pur Fire Station	Operational Rural	554	
Kanshiram Nagar	New_RU_FS_118	Sahawar	New Rural	743	157
Kanshiram Nagar	UP1349	Patyali Temp. Fire Station	Operational Rural	630	
Kaushambi	New_RU_FS_322	Saray Ankil	New Rural	1,032	277
Kaushambi	UP1812	Paschim Sharia Fire Station	Operational Rural	885	
Kaushambi	UP1821	Sirathu Fire Station	Operational Rural	719	
Kaushambi	New_RU_FS_32	Chail	New Rural	643	285
Kheri	New_RU_FS_5	Dhaurahara	New Rural	883	105
Kheri	New_RU_FS_260	Dhakhava	New Rural	695	179
Kheri	New_RU_FS_231	Ramia Behar	New Rural	617	208
Kheri	New_RU_FS_253	Nakaha	New Rural	568	227
Kheri	New_RU_FS_177	Saraya Ramuapur	New Rural	557	236
Kheri	UP1843	Nighasan Fire Station	Operational Rural	553	
Kheri	New_RU_FS_173	Danpur	New Rural	532	245
Kheri	UP1848	Mohamadi Fire Station	Operational Rural	433	
Kheri	New_RU_FS_178	Aurangabad	New Rural	350	260
Kheri	New_RU_FS_258	Majhgain	New Rural	328	261
Kheri	New_RU_FS_176	Bhira	New Rural	316	262

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Kheri	New_RU_FS_257	Kabirganj	New Rural	285	264
Kushinagar	New_RU_FS_313	Captainganj	New Rural	1,747	16
Kushinagar	UP1335	Khada Fire Station	Operational Rural	1,413	
Kushinagar	New_RU_FS_315	Nibua Naurangia	New Rural	1,370	26
Kushinagar	New_RU_FS_59	Hata	New Rural	1,360	27
Kushinagar	New_RU_FS_60	Kaisa	New Rural	1,071	61
Kushinagar	UP1333	Tamkuhiraj Fire Station	Operational Rural	654	
Lalitpur	New_RU_FS_18	Talbahat	New Rural	353	319
Lalitpur	New_RU_FS_237	Bansi	New Rural	285	330
Lalitpur	New_RU_FS_15	Mahrauni	New Rural	257	334
Lalitpur	New_RU_FS_238	Gugarawara	New Rural	212	340
Lalitpur	New_RU_FS_239	Bharatpura	New Rural	199	343
Lalitpur	New_RU_FS_236	Birdha	New Rural	158	345
Lalitpur	New_RU_FS_235	Madawara	New Rural	155	346
Lucknow	New_RU_FS_57	Mohanlalganj	New Rural	880	106
Lucknow	UP1286	Bakshi ka Talab Fire Station	Operational Rural	838	
Lucknow	New_RU_FS_215	Itaunja	New Rural	755	151
Lucknow	New_RU_FS_217	Amethi	New Rural	738	159
Lucknow	New_RU_FS_64	Malihabad	New Rural	565	229
Mahamaya Nagar	UP1187	Sadabad Temporry Fire Station	Operational Rural	939	
Mahamaya Nagar	UP1267	Jalesar Temp. Fire Station	Operational Rural	913	
Mahamaya Nagar	New_RU_FS_89	Sasni	New Rural	752	154
Maharajganj	New_RU_FS_309	Paniyara	New Rural	1,154	45
Maharajganj	New_RU_FS_310	Sikarpur	New Rural	1,149	46

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Maharajganj	UP1360	Siswa Bazar Fire Station	Operational Rural	1,065	
Maharajganj	New_RU_FS_7	Nautanwa	New Rural	858	117
Maharajganj	New_RU_FS_308	Bagapar	New Rural	827	126
Maharajganj	New_RU_FS_72	Pharenda	New Rural	790	138
Maharajganj	New_RU_FS_77	Nichlaul	New Rural	686	183
Mahoba	New_RU_FS_195	Bari	New Rural	360	316
Mahoba	New_RU_FS_245	Panwari	New Rural	317	324
Mahoba	New_RU_FS_122	Charkhari	New Rural	263	333
Mahoba	New_RU_FS_24	Kulpahar	New Rural	218	339
Mainpuri	New_RU_FS_1	Kurawali	New Rural	734	161
Mainpuri	UP1253	Fire Station Karhal	Operational Rural	725	
Mainpuri	New_RU_FS_348	Ghiaraur	New Rural	592	219
Mainpuri	UP1351	Kishni Fire Station, Mainpuri	Operational Rural	538	
Mathura	New_RU_FS_161	Magana	New Rural	669	189
Mathura	New_RU_FS_159	Bajna	New Rural	643	197
Mathura	UP1345	Kosi Temp.Fire Station	Operational Rural	641	
Mathura	UP1343	Math Fire Station	Operational Rural	588	
Mathura	New_RU_FS_81	Mahavan	New Rural	570	225
Mathura	New_RU_FS_90	Chhata	New Rural	564	230
Mathura	New_RU_FS_160	Govardhan	New Rural	438	255
Mau	New_RU_FS_44	Madhuban	New Rural	1,515	18
Mau	New_RU_FS_43	Ghosi	New Rural	1,376	25
Mau	New_RU_FS_295	karhan	New Rural	1,358	29
Mau	New_RU_FS_296	Haldharpur	New Rural	1,045	69

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Meerut	New_RU_FS_141	Kharkhauda	New Rural	998	3
Meerut	New_RU_FS_105	Sardhana	New Rural	990	4
Meerut	New_RU_FS_139	Parikshitgarh	New Rural	796	12
Meerut	New_RU_FS_136	Phalauda	New Rural	785	13
Meerut	New_RU_FS_144	Sujatpur Village	New Rural	366	312
Mirzapur	New_RU_FS_306	Mathana	New Rural	1,373	275
Mirzapur	New_RU_FS_305	Kachhawa	New Rural	1,193	276
Mirzapur	New_RU_FS_20	Chunar	New Rural	986	278
Mirzapur	New_RU_FS_307	Hargarh Bazar	New Rural	760	281
Mirzapur	New_RU_FS_353	Aharaura	New Rural	717	282
Mirzapur	New_RU_FS_332	Madhupur	New Rural	490	295
Mirzapur	New_RU_FS_114	Marihan	New Rural	365	315
Mirzapur	New_RU_FS_335	Tulsipur	New Rural	348	320
Mirzapur	New_RU_FS_17	Lalganj	New Rural	292	327
Mirzapur	New_RU_FS_337	Kotwan	New Rural	274	331
Mirzapur	New_RU_FS_331	Garbara Dham	New Rural	241	336
Mirzapur	New_RU_FS_330	Sirsee	New Rural	118	347
Moradabad	New_RU_FS_188	Asmauli	New Rural	1,246	1
Moradabad	New_RU_FS_148	Karanpur	New Rural	1,010	2
Moradabad	New_RU_FS_99	Bilari	New Rural	964	5
Moradabad	New_RU_FS_153	Shivraj pur	New Rural	907	8
Moradabad	New_RU_FS_224	Jagrampur	New Rural	844	11
Muzaffarnagar	New_RU_FS_106	Budhana	New Rural	1,082	59
Muzaffarnagar	New_RU_FS_134	Salha Kheri	New Rural	1,071	62

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Muzaffarnagar	New_RU_FS_109	Kairana	New Rural	1,056	65
Muzaffarnagar	New_RU_FS_352	Tawli	New Rural	959	92
Muzaffarnagar	New_RU_FS_133	Hathchhoya	New Rural	878	108
Muzaffarnagar	New_RU_FS_108	Jansath	New Rural	861	116
Muzaffarnagar	New_RU_FS_131	Charthaval	New Rural	788	141
Muzaffarnagar	New_RU_FS_132	Barla	New Rural	643	196
Muzaffarnagar	New_RU_FS_135	Bhopa	New Rural	621	203
Muzaffarnagar	New_RU_FS_227	Ramraj	New Rural	559	235
Pilibhit	New_RU_FS_342	Amaria	New Rural	730	164
Pilibhit	New_RU_FS_341	Kharagpur Khurd	New Rural	704	174
Pilibhit	New_RU_FS_343	Bilsanda	New Rural	515	249
Pilibhit	UP1854	Pooranpur Fire Station	Operational Rural	277	
Pilibhit	New_RU_FS_256	Madhotanda	New Rural	194	273
Pratapgarh	New_RU_FS_36	Raniganji	New Rural	1,090	57
Pratapgarh	New_RU_FS_328	Samogra	New Rural	1,052	66
Pratapgarh	New_RU_FS_282	Chaumari(Nizam Khan)	New Rural	979	87
Pratapgarh	New_RU_FS_283	Rajapur Bindhan	New Rural	761	150
Pratapgarh	New_RU_FS_280	Jagesharganj	New Rural	688	182
Pratapgarh	UP1815	Sangipur Fire Station	Operational Rural	577	
Pratapgarh	UP1823	Sangramgarh Fire Station	Operational Rural	555	
Pratapgarh	UP1818	Lalgunj Fire Station	Operational Rural	548	
Rae Bareli	UP1388	Lalganj Fire Station	Operational Rural	1,011	
Rae Bareli	UP1428	Tiloi Fire Station	Operational Rural	887	
Rae Bareli	UP1435	Jais Fire Staion	Operational Rural	743	

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Rae Bareli	UP1434	Salon Fire Station	Operational Rural	684	
Rae Bareli	New_RU_FS_51	Maharajganj	New Rural	674	188
Rae Bareli	New_RU_FS_210	Bhojpur	New Rural	630	198
Rae Bareli	UP1385	Bachrawan Fire Station	Operational Rural	605	
Rae Bareli	New_RU_FS_252	Dedaur	New Rural	596	216
Rae Bareli	UP1382	Unchahar Fire Station	Operational Rural	586	
Rae Bareli	New_RU_FS_345	Dalmau	New Rural	582	222
Rampur	New_RU_FS_103	Tanda	New Rural	1,262	34
Rampur	New_RU_FS_223	Sheeshgarh	New Rural	850	119
Rampur	New_RU_FS_104	Swar	New Rural	821	128
Rampur	New_RU_FS_98	Shahabad	New Rural	767	147
Rampur	UP1871	Bilaspur Fire Station (Temp)	Operational Rural	591	
Saharanpur	New_RU_FS_130	jaroda Panda	New Rural	957	93
Saharanpur	New_RU_FS_129	Sarsina	New Rural	894	102
Saharanpur	New_RU_FS_110	Rampur Maniharan	New Rural	888	103
Saharanpur	New_RU_FS_111	Nakur	New Rural	820	129
Saharanpur	New_RU_FS_125	Pathed	New Rural	810	134
Saharanpur	New_RU_FS_126	Karoundi	New Rural	778	145
Saharanpur	New_RU_FS_127	Kaulki Kalan	New Rural	711	172
Saharanpur	New_RU_FS_112	Behat	New Rural	393	259
Saharanpur	New_RU_FS_128	Talhapur	New Rural	203	272
Sant Kabir Nagar	New_RU_FS_53	Ghangata	New Rural	1,211	41
Sant Kabir Nagar	New_RU_FS_274	Budha	New Rural	966	89
Sant Kabir Nagar	New_RU_FS_66	Mehandawal	New Rural	746	155

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Sant Ravidas Nagar	UP1852	Gyanpur Fire Station	Operational Rural	1,438	
Shahjahanpur	UP1835	Powyan Fire Station	Operational Rural	841	
Shahjahanpur	UP1845	Dhauraha Fire Station	Operational Rural	679	
Shahjahanpur	New_RU_FS_179	Nigohi	New Rural	666	191
Shahjahanpur	New_RU_FS_180	Sehramou South	New Rural	619	205
Shahjahanpur	New_RU_FS_182	Amredi	New Rural	617	207
Shahjahanpur	New_RU_FS_181	Kadhैया	New Rural	570	226
Shahjahanpur	UP1829	Jalalabad Fire Station	Operational Rural	549	
Shahjahanpur	New_RU_FS_349	Paraur	New Rural	460	253
Shahjahanpur	New_RU_FS_175	Khutar	New Rural	297	263
Shrawasti	New_RU_FS_6	Payagpur	New Rural	680	186
Shrawasti	New_RU_FS_85	Ikauna	New Rural	562	233
Shrawasti	UP1386	Bhinga Fire Station	Operational Rural	422	
Siddharthnagar	UP1342	Doomriyaganj Fire Station	Operational Rural	1,267	
Siddharthnagar	New_RU_FS_79	Itwa	New Rural	861	115
Siddharthnagar	UP1346	Naugarh Fire Station Siddharthnagar	Operational Rural	854	
Siddharthnagar	New_RU_FS_75	Bansi	New Rural	842	122
Siddharthnagar	New_RU_FS_80	Shoharatganj	New Rural	754	152
Sitapur	UP1787	Biswan Fire Station	Operational Rural	1,011	
Sitapur	New_RU_FS_262	Bitna	New Rural	981	86
Sitapur	UP1790	Mahmudabad Fire Station	Operational Rural	821	
Sitapur	New_RU_FS_263	Kamalpur	New Rural	782	143
Sitapur	New_RU_FS_83	Misrikh	New Rural	754	153

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Sitapur	UP1785	Laharpur Fire Station	Operational Rural	730	
Sitapur	New_RU_FS_254	Hargaon	New Rural	711	171
Sitapur	New_RU_FS_232	Maholi	New Rural	602	214
Sitapur	New_RU_FS_174	Dahaldhaurara	New Rural	564	231
Sitapur	New_RU_FS_230	Tambaur	New Rural	562	234
Sonbhadra	New_RU_FS_16	Ghorawal	New Rural	397	308
Sonbhadra	New_RU_FS_333	Vijaygarh	New Rural	365	314
Sonbhadra	New_RU_FS_336	Chatarwar	New Rural	182	344
Sonbhadra	New_RU_FS_14	Dudhinagar	New Rural	92	349
Sonbhadra	New_RU_FS_340	Muirpur	New Rural	86	350
Sonbhadra	New_RU_FS_339	Ramgarh	New Rural	77	351
Sonbhadra	New_RU_FS_338	Anpara	New Rural	55	352
Sultanpur	New_RU_FS_344	Pratapganj Bazar	New Rural	1,187	43
Sultanpur	New_RU_FS_277	Kurwar Bazar	New Rural	1,104	52
Sultanpur	UP1401	Lambhua Fire Sation	Operational Rural	932	
Sultanpur	UP1425	Shukul Bazar Sub Fire Station	Operational Rural	911	
Sultanpur	New_RU_FS_276	Pirdhi Choraha	New Rural	869	111
Sultanpur	New_RU_FS_275	Dehli Bazar	New Rural	863	113
Sultanpur	New_RU_FS_278	Nihalpandey Jamon	New Rural	812	130
Sultanpur	New_RU_FS_45	Kadipur	New Rural	736	160
Sultanpur	New_RU_FS_279	Korari Lachchan Shah	New Rural	614	209
Unnao	UP1358	Bangarmau Fire Station	Operational Rural	868	
Unnao	New_RU_FS_211	Hilouli	New Rural	701	177
Unnao	New_RU_FS_58	Safipur	New Rural	651	193

District	FSRefNo	Name	Operational Type	Pop. Density	Priority Ranking
Unnao	New_RU_FS_220	Inayatpur	New Rural	611	210
Unnao	New_RU_FS_50	Bigapur	New Rural	579	223
Unnao	UP1368	Hasanganj Fire Station	Operational Rural	474	
Varanasi	New_RU_FS_303	Chaubeypur	New Rural	1,530	17
Varanasi	New_RU_FS_304	Kapseti	New Rural	1,505	19
Varanasi	New_RU_FS_26	Pindra	New Rural	1,326	31



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