

PATNA METRO RAIL CORPORATION

SOCIAL IMPACT ASSESSMENT OF DANAPUR- MITHAPUR- KHEMNI CHAK & PATNA STATION- ISBT CORRIDORS OF PATNA METRO



JULY 2020

FINAL REPORT



DELHI METRO RAIL CORPORATION

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ABBREVIATIONS

AIDS	: Acquired Immuno Deficiency Syndrome
BPL	: Below Poverty Line
DMRC	: Delhi Metro Rail Corporation
DPR	: Detailed Project Report
ESMD	: Environmental & Social Management Division
FGD	: Focus Group Discussion
GO	: Government Order
GRC	: Grievance Redress Committee
Ha	: Hectare
HIV	: Human Immuno Deficiency Virus
ICCP	: Information and Community Consultation Program
ISBT	Inter State Bus Terminus
JICA	: Japan International Cooperation Agency
Km	: Kilometer
LAC	: Land Acquisition Commissioner
L & B	: Land and Building Department
LAA	: Land Acquisition Act
LIG	: Low Income Group
MoHUA	: Ministry of Housing and Urban Affairs
MIG	: Middle Income Group
NTH	: Non-Title Holder
NRRP	: National Rehabilitation & Resettlement Policy
NGO	: Non-Governmental Organization
OBC	: Other Backward Castes
PIU	: Project Implementation Unit
PAF	: Project Affected Family
PAP	: Project Affected People
PMC	: Patna Municipal Corporation
PMRC	: Patna Metro Rail Corporation
PWD	: Public Works Department
RAP	: Resettlement Action Plan
RTFCTLARRA	: Right to Fair Compensation and Transparency in Land Acquisition, Resettlement and Rehabilitation Act
ROW	: Right of Way

Rs.	: Indian Rupees
RSS	: Receiving Sub Station
SC	: Scheduled Castes
ST	: Scheduled Tribes
STD	: Sexually Transmitted Disease
SMU	: Social Management Unit
SLAO	: Special Land Acquisition Officer
SBE	: Small Business Enterprise
SJSRY	: Suvama Jayanti Sahkari Rojgar Yojana
TOR	: Term of Reference
TSS	: Transmission Sub Station
TH	: Title Holder

Definitions

a) **Acquired land** means the land acquired under the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 or any other prevailing GOs for the Danapur - Mithapur- Khemni Chak and Patna Station- ISBT Corridors of Patna Metro.

b) **Agricultural Land** means lands being used for the purpose of (i) Agriculture or horticulture; (ii) Dairy farming, poultry farming, pisciculture, sericulture, seed farming breeding of livestock or nursery growing medicinal herbs; (iii) Raising of crops, trees, grass or garden produce; and (iv) Land used for the grazing of cattle;

c) **Affected Area** means such area as may be notified by the Government of Bihar under the relevant land acquisition acts for the purposes of land acquisition for the Project;

d) **Affected family** means:

i. A family whose land or other immovable property has been acquired for the Danapur-Mithapur- Khemni Chak and Patna Station- ISBT Corridors of Patna Metro

ii. A family which does not own any land but a member or members of such family may be agricultural labourers, tenants including any form of tenancy or holding of usufruct right, share-croppers or artisans or who may be running a commercial establishment in the Affected Area, whose primary source of livelihood stand affected by the acquisition of the land;

iii. The Scheduled Tribes and other traditional forest dwellers who have lost any of their forest rights recognized under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 due to acquisition of land;

iv. A family without formal title on affected land or businesses but their livelihoods are directly dependent on the affected land or businesses;

v. A member of the family who has been assigned land by the State Government or the Central Government under any of its schemes and such land is under acquisition;

vi. A family without formal title of ownership or use but who have established usage of private land by investing in immovable objects, crops woods, trees, fruit bearing trees, vineyards, the age of crops and the time needed to reproduce them;

e) **Market Value of Land as per Act 2013**

The circle rate of the proposed land to be acquired shall be set as the higher of:

- I. the minimum land value, if any, specified for the registration of sale deeds in the area, where the land is situated; or
- II. the average of the sale price for similar type of land being acquired, ascertained from the highest fifty per cent of the sale deeds registered during the preceding three years in the nearest village or nearest vicinity of the land being acquired.; or
- III. the consented amount in case the land is acquired for private companies or public-private partnership projects.

f) **Family** means a person, his or her spouse, parents, children, minor brothers and sisters dependent on him:

i. Provided that Widows/divorcees and women deserted by families shall be considered as separate families.

ii. **Below poverty line or BPL Family** means below poverty line families as defined by the Planning Commission of India, from time to time, and those included in the State BPL list in force (having BPL card).

g) **Compensation** refers to the amount paid as compensation under various provisions of the RTFCTLARRA 2013, for private property, structures and other assets acquired for the project, excluding rehabilitation and resettlement entitlements as per this policy.

h) **Cut off Date** is the date of notification for land acquisition;

i) **Displaced Family** means any family, who on account of acquisition of land has to be relocated and resettled from the affected area;

j) **Encroachers** are those persons who have extended their building, business premises or work places or agriculture activities into government lands.

l) **Land acquisition** means acquisition of land under the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 or any other prevailing Government Orders.

m) **Minimum Wages** means the minimum wage of a person for his/her services/ labour per day as per notification published by Department of Labour, Government of Bihar (Rs.151/- for unskilled workers and Rs. 234/- for Highly skilled workers).

- n) **Non-Perennial Crop:** means any plant species, either grown naturally or through cultivation that lives for a particular harvest season and perishes with harvesting of its yields.
- o) **Notification** means a notification published in the Gazette of India, or as the case may be, the Gazette of the State;
- p) **Perennial Crop:** means any plant species that live for years and yields its products after a certain age of maturity.
- q) **Project** means the Danapur- Mithapur- Khemni Chak and Patna Station- ISBT Corridors of Patna Metro covering 32.497 Km length.
- r) **Rehabilitation and Resettlement** means carrying out rehabilitation and resettlement as per Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 or as per any other law in force as may be applicable for rehabilitation and resettlement benefits to be provided to the affected families.
- s) **R & R Entitlements** means the benefits awarded as per the R & R Policy Framework given in the Policy on Rehabilitation & Resettlement and as subsequently approved by the Government.
- t) **Severance of Land** means a land holding divided into two or more pieces due to acquisition of land mainly for laying new project alignment or a re-alignment.
- u) **Squatter** means those persons who have illegally occupied government land for residential, business and or other purposes as on cut-off date.
- v) **State Government/ Government** refer to the Government of Bihar;
- w) **Tenants** are those persons having **bonafide** tenancy agreements on cut-off date with a property owner with clear property titles, to occupy a structure or land for residence, business or other purposes.
- x) **Vulnerable groups:** persons such as differently abled, widows, women headed households having no other earning members in family, persons above sixty years of age, Scheduled Caste and Scheduled Tribes, persons or families below the poverty line and other groups as may be specified by the State Government.

EXECUTIVE SUMMARY

E.1 Introduction

DMRC is executing the construction work of Metro corridor between Danapur to Khemni Chak and Patna station to New ISBT in Patna City. Two metro corridors have been proposed in Patna to cater the requirement of the city viz., corridor 1 between Danapur and Khemni Chak which is 17.933 km in length and Corridor 2 between Patna Station and New ISBT which is 14.564 km in length. On corridor 1, the corridor will be elevated between Danapur and Patliputra and Mithapur to Khemni Chak. It will be underground from Patliputra to Mithapur. On corridor 2, it will be underground from Patna Station to Rajender Nagar and elevated between Malai Pakri to New ISBT. Total length of elevated corridor is 7.393 Km in corridor 1 and 6.638 Km in corridor 2 totalling to 14.031 km of elevated corridor. The underground corridor is 10.54 Km in Corridor 1 and 7.926 Km in Corridor 2 totalling to 18.466 Km of underground section. Standard Gauge of 1435 mm has been adopted in these corridors. A total of 14 stations in corridor 1 (Danapur to Khemni Chak) and 12 stations in corridor 2 (between Patna station-New ISBT corridor) and a Depot are proposed. Since two stations, out of 26 stations are interchange stations, there would be a total of 24 stations in both the corridors.

Efforts have been made to keep land requirement to the bare minimum. Attempts have been made during the designing of the project to minimize the land acquisition, resettlement and adverse impacts on people in the project area through suitable engineering design. The Resettlement Action Plan is based on the principle that the population affected by the project will be assisted to improve their former living standards. The rationale behind preparing RAP is not only to restore and improve the standard of living of PAPs but also bring qualitative changes in their life. The study has been conducted in accordance with the guidelines of Government of India. The study is primarily based on field data generated during social survey and secondary data were collected from the census handbooks / gazetteers / other relevant texts. The methodology for conducting socio-economic study of the proposed project involves review of topographical survey drawings, field visits, data collection and discussions with Project Affected People.

E.2 Potential Resettlement Impacts

A Socio-economic survey has been carried out in May 2020 to assess the impacts of the proposed project on the socio-economic conditions of the Project Affected Families (PAFs). The information compiled are type of impact, type of ownership, social profile of the affected people, poverty status, the presence of titleholders and non-titleholders in the project area. The views/ opinion of the people about the project and options for rehabilitation and resettlement have also been obtained. The project impacts have been classified into different categories such as impacts on land, impacts on the affected families and their livelihood resources, impacts on structures and impacts on the common property resources.

Land is mainly required for Metro lines, construction of stations and allied services. Additionally, land is also required for TSS and other infrastructure facilities. There is also temporary land requirement for casting yards and Batching plants. The proposed project would require land approx. 40.001 ha out of which 36.444 ha permanently and about 3.557 ha temporarily. Of this, private land is 32.471 ha and the rest 7.530 ha land is Govt. land. Land is required for construction of the viaduct, stations, staff quarters, Depot, Casting Yards, RSS etc.

Proposed corridors will run for a length of 32.497 Km with 24 stations and this will impact people enroute. Hence, the proposed project is not so positive for a section of people / project affected families. The anticipated negative impacts on these people include Loss of Land, Loss of Jobs/ Works, Loss of Livelihood, Loss of Common Property Resources and Loss of Public Utility structures.

Only few properties are being affected due to the acquisition for the project. There are not many properties located on the ROW of the project alignment. These properties have been identified by getting the Right of Way (ROW) marked on the General Alignment Drawing of the project. Physical survey was carried out along the alignment considering the area marked on the Drawing. The total structures likely to be affected in two corridors are only 102. There are 47 residential (including 40 squatters), 50 commercials (including 5 squatters and 3 kiosks), 4 commercials + residential and one institutional structure viz., Paras Hospital. The valuation of all the properties will be done by PWD or approved valuers or chartered engineer specifically assigned for the purpose. Additionally, these shall be compensated as per the provision of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.

As per the provisions of RFCTLARRA, it is the responsibility of Development Authority/ Revenue department to rehabilitate the PAFs occupying residential dwelling units on recommendation of Land Acquisition Commissioner (LAC) and approval of Land & Building Department (L&B), Govt. of Bihar. District Revenue authorities and Project Authority will rehabilitate PAFs occupying commercial units/shops by providing assistance to shift in the vicinity. Common resources affected by the project would also be suitably compensated.

E.3 Baseline Socio Economic Study

Out of an estimated 146 families, the survey has been conducted for 111 families. The reason for not being able to collect details for the remaining 35 families is because 17 families were not available at the locations due to COVID pandemic and 18 families declined to interact. Demographic details were taken for the surveyed affected families. Most of the PAFs are Above Poverty Line (APL). Out of 111 PAFs, only 7 PAF were BPL. PAFs are mostly Hindus (89.19%), 9.90 % Muslims and 0.90 % Sikh. About 30.63% PAFs are from General category, 49.55% OBCs and 19.82% are Scheduled Castes. No tribal family was found belonging to Schedule Tribes among Project Affected Families. Joint families are 18.91% and nuclear families are 77.47%. However, 3.6 % single person families were also found among PAFs.

There are 547 PAPs out of which 64.35% are above the age of 18 years and only 35.65 % are below 18 years. Sex ratio among PAPs is 829. There are 54.61% males among PAPs. Age-wise distribution indicates that there are 58.87 PAPs in working age group of 18 to 60 years. About 5.48 % are senior citizens above 60 years and 23.4% PAPs are in student age group between 6 to 18 years. About 12.24% are children below 6 years of age.

The data revealed that about 22.08 % PAPs are illiterate, 17.71 % are literate upto primary level and 28.54% are educated upto 10th class. About 10.36% have studied for class 11-12th and 21.46% are graduates and above. In corridor 1, 24.42% PAPs are less than primary level literate, while 32.26% have studied for upto 10th class. Graduates are more than 33.18 % in corridor 1. On the other hand, in corridor 2 graduates are only 11.79% and illiterates are 34.22%. About 18.25 % have studied between 5th to 12th classes.

Regarding marital status of PAPs, 49.75 % of PAPs are married, 46.80% are unmarried and remaining 3.47% are widows. The unmarried includes persons below 18 years of age which is the minimum permissible age of marriage.

The economic status has been assessed and it is found that there are 178 workers among PAPs. There are 32.54% economically active persons among PAPs and 67.46% are non-working PAPs. On an average, there are two dependents per earner among PAPs. Additionally, there are 122 employees working on the 23 surveyed shops but all the workers were temporary in nature and reportedly their service period was less than 3 years.

The survey data show that 64.61% persons are engaged in Business activities, 28.09% are doing jobs and 7.30% are engaged in other activities such as rental income, pension etc.

The survey result clearly shows that 40.45% PAPs earn less than Rs. 10000/- per month. About 24.72% PAPs earn between Rs.10000/- to Rs.20000/- per month, about 20.22 % earn between Rs. 20,000/- to 50000/- per month, 14.61 % earn between Rs.50000/- to Rs 1,00,000/- per month and around 5.06% are earning more than Rs. one lakh per month. Income stratification is also skewed towards higher side in corridor 1 as compared to corridor 2. More than 25.67% PAPs are earning more than Rs.50000/- per month in corridor 1 whereas in corridor 2 more than 61.54 % earners are earning less than Rs.10000/- per month and another 22.12% are earning between Rs10000/- to Rs.20000/- per month only.

Data collected from the survey revealed that most of the PAFs belong to lower- and middle-income groups. Being in Patna city, most of them have access to cooking gas. Sanitation and Hygiene facilities are also satisfactory. Regarding fuel used in kitchen, 81% PAFs use LPG, and balance 19 % use wood for cooking. Source of water supply is piped supply for 89.19% PAFs out of which about 37% have supplemented by domestic tubewell. Only about 11 % PAFs are dependent on water supplies using hand pump.

Most of the PAFs possess Fans (98%), Radio (21.62%) and TV (57.66%). About 32.43% PAFs also have Washing machines and 39.64 % of PAFs own refrigerators. In terms of vehicles, 45% of PAFs own two wheelers and 19.8% PAFs own four wheelers.

Most of the respondents have shown awareness about HIV/ AIDS. The main source of information is television, news paper and advertisement boards displayed

by the government in the city. It is reported by 83% PAPs in corridor 1 and 76% PAPs in corridor 2 that they were aware of the project before the visit of this team. The source of information ranged from Newspaper, Radio/ TV and the word of mouth as several teams have visited the area to perform preparatory works for the project.

About 74% of PAFs in corridor 1 and 96% of PAFs in corridor 2 and overall 87% of PAFs categorized the project as good in general terms.

The options on resettlement and rehabilitation measures have also been collected from Project Affected Families. Different people have opted for different type of compensation. Some have asked to provide jobs to the family members in the organization. Another set of PAPs desired to be provided compensation as per new Act on market rate which is higher than the Circle rate. Many people have asked to provide them training for skill development. However, Resettlement and Rehabilitation has been worked out as per the provisions given in "The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013".

The common property resources and structures related to public utilities shall be rehabilitated in accordance to the consent of local communities. Public utilities and common property resources and structures shall be properly compensated.

E.4 Eligibility and Entitlements

PAPs entitled for compensation and rehabilitation are (i) PAPs losing land and other assets with legal title/ traditional land rights will be compensated, and PAPs will be rehabilitated (ii) tenants in case of shops; (iii) owners of buildings, or other objects attached to the land; (iv) PAPs losing business, income, and salaries; (v) assistance to the non title holders (Landless labour/ squatters, etc). The cut-off date for those who have legal title is the date of notification for land acquisition under Section 11 of RFCT-LARR act. The entitlement matrix provides category wise details regarding the entitlements in relation to the R&R principles enumerated above. The major components of the entitlement matrix include category of loss, relocation and rehabilitation policy in respect of PAPs and entitled entity. A comprehensive entitlement matrix for this project is found in chapter 4 of the report.

E.5 Institutional Framework

The implementation of Resettlement Action Plan (RAP) requires involvement of various institutions at different stages of project cycle. This section deals with roles and responsibilities of various institutions for a successful implementation of the RAP. The institutions to be involved in the process are PMRC, DMRC and Office of the District Collector Patna.

Project Authority will be responsible for coordinating with other concerned government departments for land acquisition, planning and implementation of RAP which will include the disbursement of compensation, assistance, shifting and relocation of affected people. Land and Building Department, Government of Bihar are responsible for large-scale acquisition of land for planned development. Land Acquisition Collector (LAC) shall initiate the process for acquisition of land. LAC will be responsible for conducting the valuation of affected land and assets and will decide the compensation. The disbursement of compensation for land and assets of the legal owners will be done by LAC.

Project Authority will have a division which shall be looking after the social safeguards' activities. The Social Management Unit (SMU) of Project Authority will work closely with other staff of the Project Authority and will be specifically looking after the social safeguards issues. Grievances not redressed by SMU will be brought to the Grievance Redressal Committee (GRC). The composition of the proposed GRC will have Chief Engineer (General), CPM(Construction). The GRC will address only rehabilitation assistance issues. Grievances related to ownership rights and land compensation can be dealt in court as per LAA.

The schedule of construction will be after payment of Full compensation. However the civil work may start in sections where full compensation has been paid.

E.6 Public Consultation

Public consultation is required after giving advanced notice of fifteen days at fixed locations easily accessible to PAFs and other interested stakeholders. Discussions were held with various sections of affected persons such as land owners, tenants, traders, women and other inhabitants in the areas likely to be affected by land acquisition. Advance Notice was given to the Project Affected Families and others interested to participate.

During meetings discussions were conducted to get wider public input from the primary and secondary stakeholders. The PAFs and communities, particularly the affected small business enterprises, took interests in the meetings.

During public consultations, issues related to land acquisition, compensation, income restoration, employment generation, information flow, grievance redressal, safety, role of administration etc. were discussed. The RAP addresses all issues raised during public consultation and recommends institutional strengthening measures as well.

E.7 Resettlement Assistance Plan and Cost

Land requirements have been kept to the bare minimum and worked out on area basis. Acquisition of private land has been minimized as far as possible. Private land for Metro project shall be acquired by respective Government and the compensation shall be paid as per “The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (No. 30 of 2013)”. The detail of R & R budget is given in Table below. Total cost for resettlement and rehabilitation will be Rs. 582.19 Lakhs excluding cost and compensation for land and valuation of land and structure by PWD/ approved valuers.

E.8 Monitoring and Evaluation

Project Authority will be responsible for internal monitoring through their field level offices and will prepare quarterly reports on the progress of RAP implementation. An Independent Evaluation Consultant may be hired by Project Authority for mid and end term evaluation of RAP implementation. Internal monitoring will focus on measuring progress against the schedule of actions defined in the RAP. Monitoring is a continuous process and will be carried out by Resettlement Specialist on regular basis to keep track of the R & R progress. Field offices will be responsible for monitoring the day to day resettlement activities of the project. An independent Evaluation agency (IEA) will be hired by Project Authority for mid and end term evaluation. Project Authority will be responsible for supervision and implementation of the RAP

CHAPTER 1

INTRODUCTION

1.0 Background

Patna is the capital of Bihar State. With an estimated population of 1.68 million in 2011, Patna is the 19th most populous city in India with over 2 million people, its urban agglomeration is the 18th largest in India. According to 2011 census data, Patna city had a population of 1,683,200 (before expansion of the city limits) within the corporation limits, with 894,158 men and 789,042 women. This was an increase of 22.2 percent compared to the 2001 figures. 11.32 per cent of the population was under six years of age, with 102,208 boys while 88,288 were girls. The overall literacy rate is 83.37%, with the male literacy rate being 87.35% and the female literacy rate being 79.89%. The sex ratio of Patna is 885 females per 1,000 males. Child sex ratio of girls is 877 per 1000 boys. The urban agglomeration had a population of 2,046,652 in 2011 of which 1,087,864 are males and 958,788 are females with 82.73% literacy. Patna metropolitan region constitutes the second largest metropolitan region in eastern India.

According to the 2011 census, Patna's major religion is Hinduism with 86.39% followers. Islam is second most popular religion in Patna with approx. 12.27% following it. Christianity, Jainism, Sikhism and Buddhism are also practiced in Patna. During last census report, around 0.01 % stated other religion and approximately 0.49% stated no particular religion. Roughly 0.25% of Patna's population lives in slums which makes Patna, the city with the lowest percentage of people living in slum in India. Like other fast-growing cities in the developing world, Patna suffers from major urbanisation problems including unemployment, poor public health and poor civic and educational standards for a large section of the population. In 2015, the National Sample Survey Organisation revealed that, for females, Patna had highest unemployment rate 34.6% and for males it was the second highest with a rate of 8% in 2011–12. Patna has long been a major agricultural hub and centre of trade. Its most active exports are grain, sugarcane, sesame, and medium-grained Patna rice. There are several sugar mills in and around Patna. It is an important business and luxury brand centre of eastern India.

The economy of Patna has seen sustained economic growth since 2005. The economy has been spurred by growth in the Fast-Moving Consumer

Goods industry, the service sector, along with Green revolution and businesses. In 2009, the World Bank stated Patna as the second best city in India to start up a business. As of 2015, GDP per capita of Patna was Rs.1,06,000 (\$1581) and its GDP growth rate is 7.29 per cent. Patna is the 21st fastest growing city in the world and the fifth fastest growing city in India.

1.1. Project Proposal

High population growth rate of Patna coupled with high economic growth has resulted in an ever-increasing demand for transport creating excessive pressure on the city's existing road transport system, which comprises mainly the public buses, private vehicles, autos and Taxis.

Detailed Project Report (DPR) for Metro on two different corridors viz one from Danapur to Khemni Chak and second from Patna Station - New ISBT has been prepared.

Two metro corridors have been proposed in Patna to cater the requirement of the city viz corridor 1 between Danapur and Khemni Chak via Mithapur which is 17.933 km in length and Corridor 2 between Patna Station and New ISBT which is 14.564 km in length. Corridor 1 will be elevated between Danapur and Patliputra and Mithapur to Khemni Chak. It will be underground after Patliputra up to Mithapur. On line 2 the corridor will be underground from Patna Station to Rajender Nagar. It will be elevated between Malai Pakri to New ISBT. Total length of elevated portion is 7.393 Km in Corridor 1 and 6.638 Km in Corridor 2 totalling to 14.031 km of elevated corridor. The length of underground section is 10.54 Km in Corridor 1 and 7.926 Km in Corridor 2 totalling to 18.466 Km of underground section. Standard Gauge of 1435 mm has been adopted for these corridors.

The route alignment has been worked out by DMRC considering various factors viz., projected traffic survey in the light of overall development of infrastructure facilities. The trend of dispersion of population from the overcrowded metropolitan capital city of Patna has been observed.

1.2. Analysis of Alternatives

The purpose of analysis of alternatives is to find the most effective way of meeting the need and purpose of the project, either through enhancing the environmental benefits of the proposed activity and or through reducing or avoiding potentially significant negative impacts, so that project will become environment as well as

people-friendly. The primary objectives of an analysis of alternatives are to identify alternate project options at a systemic (technology, route or alignment, *etc.*), and as well as engineering (materials, construction methods, operating practices, *etc.*) levels. An analysis of alternatives, conducted early into the project design and planning stage, helps identify more cost-effective alternatives, reduce adverse impacts and risks, improve performance and validate the appropriateness of the selected option.

In the present Patna metro project two corridors have been finalized after taking into account environmental and social concerns, considerations of traffic, integration with the existing system and importantly, the overall economic and financial viability. The underlying principles for evaluation for each corridor, without affecting the overall usefulness of the corridor, are:

- ❖ Minimum private land acquisition,
- ❖ Least disturbance to properties,
- ❖ Minimum disturbance to people and
- ❖ Minimum disturbance to ecology/biodiversity.

The 'with' and 'without' project scenarios are analyzed concerning the development of the metro routes by the backdrop of the requirement of reliable quality infrastructure for safe and faster travel. With project, it will provide better and faster connectivity and will ensure that people from areas covered by the project can move in and out of the areas more efficiently.

Without this project, it is expected that there will be an increase in air pollution and exhaust emission due to slow-moving traffic and congestion. Travel will take longer thus impacting productivity and reducing the economic growth of the area. Overloading of existing transport infrastructure will also affect safety and lead to loss of human life due to the increase in accidents.

LONG TERM SCENARIO “WITH” AND “WITHOUT” PROJECT

Qualitative analysis of the long-term scenarios likely to occur “*with*” and “*without*” project scenario is presented in **Table 1.1**. The “*with*” project scenarios will, however, occur only if the recommendations provided in mitigation measure and EMP for the construction stage will be followed and all construction activities will be carried out according to principles of Environment and social Friendly Construction.

Table 1.1: “With” and “Without” Project Scenarios.

Scenario type	Long-Term Scenario “With” Project	Long-Term Scenario “Without” Project
Physical Environment		
Atmosphere and Climate	Travel time and traffic congestion will reduce as a result of the proposed new metro corridor. Overall, an insignificant level of air pollution. Due to the small section of the route, no change in climatic condition is anticipated	Congested road will consume more travel time and will increase air pollution/ exhaust emission. No change in climatic condition
Noise and vibration	Noise will reduce due to the underground routes, but localized vibration will slightly increase	Both noise and vibration will deteriorate further
Soil and drainage	No major impact on existing soil conditions. There may be a significant change in underground drainage pattern due to the proposed route which will adversely impact the localized environmental condition.	As it is there are no changes in present problems associated with inadequate drainage.
Geology and Seismology	No significant Impact envisages on seismology however, the geology will get impacted due to tunnel construction but as compared to the project benefit it will be negligible.	No change as it is
Ecological Environment		
Flora	Due to proposed project around 911 trees will be felled. However, 3644 saplings will be planted and maintained.	No change in vegetation and the number of trees. No change in present land use

Scenario type	Long-Term Scenario <i>“With”</i> Project	Long-Term Scenario <i>“Without”</i> Project
Fauna	Due to proposed alignment, there is no impact on fauna	Continued, and possibly increased disturbance to the fauna
Social and Cultural Environment		
Social and Cultural Environment	<p>Increased comfort and safety while travelling.</p> <p>An improved business environment for those living along the project corridor. Once the project becomes operational, it will result in the reduction of GHG emission. Significant reduction in fuel consumption due to expected modal shift in vehicles</p> <p>The proposed project will cause acquisition of about 38.84 Ha private land.</p> <p>A total of 146 families are likely to be displaced and resettled/ rehabilitated due to the project.</p>	<p>Travelling may increase time, thereby transportation costs will increase.</p> <p>Reduction in comfort and safety due to congestion and deterioration in road condition.</p> <p>Business opportunities remain largely the same as before.</p> <p>No reduction in GHG emission. Higher fuel consumption due to the increased number of private vehicles.</p> <p>There will be no displacement</p>
Connectivity	Improve the connectivity between the various interlinked centers.	No change
Economic Situation		
Financial Implications	Higher capital costs for underground routes and using Environmentally and socially Friendly techniques during civil work. Costs will also be incurred for the training of PIU officials if required.	No capital costs. However, increasing road maintenance and vehicle operating costs as road deteriorates and as travel times increase.

Scenario type	Long-Term Scenario <i>“With”</i> Project	Long-Term Scenario <i>“Without”</i> Project
Institutional Requirements		
Training of PIU	<p>Training needs to be provided to relevant PIU officials to improve their environmental and social monitoring capacity during and after project construction.</p> <p>More staff will need to be recruited at the PIU office to enable smooth flow of all paperwork with regard to implementation of environmental and social policies and regulations as per the MOEFCC and JICA guidelines</p>	No institutional strengthening is required.
Overall		
	<p>Long term improved socio-economic and environmental conditions but an increase in expenses for project activities during project construction.</p> <p>However, with project scenario have lots of positive impacts like – reduced travel cost, reduced travel time, reduced exhaust emission, reduced GHG emission, also enhancing employment and economic growth of the area.</p>	Small deteriorations in environmental conditions, no increase in economic opportunities and increased expenses associated with maintenance.

In case the Metro is not constructed, the city will be deprived of the following benefits:

- ❖ Employment Opportunities,
- ❖ Enhancement of Economy,

- ❖ Mobility,
- ❖ Safety,
- ❖ Traffic Congestion Reduction, Reduction in Number of Buses,
- ❖ Reduced Fuel Consumption,
- ❖ Reduced Air Pollution,
- ❖ Carbon Dioxide and Green House Gases (GHG) emission Reduction,
- ❖ Saving in Road Infrastructure.

Since the positive impacts are more than a few negative impacts, consideration of 'no development alternative' is a non-starter and has thus not merited any further consideration. Without the project, congestion constrains the long-term attractiveness and potential impact of the regular bus service and with project scenario avoiding congestion problems appear to be an excellent alternative for public transport. The construction of the project will offer more equitable access to transport choices for passengers wishing to access employment, education or commercial facilities.

Development of new high capacity, high-frequency public metro route system from Danapur to Khemni Chak and Patna Station to New ISBT corridors have the potential to cater for existing and future passenger demand and will relieve congestion on the road corridor and the existing public transport network. Besides, this form of public transport will significantly benefit the environment. The project will, therefore, be of benefit to the population in the project area.

Further analysis of alternatives considered as per old DPR prepared by RITES in December 2018 and revised Alignment (by DMRC) along with No project alternative which have been analyzed for both the corridors.

Alternative Scenarios for Danapur to Khemni Chak Corridor

Alternative 1

No project

Alternative 2 (as per RITES DPR)

This corridor was proposed between Danapur and Mithapur having 12 stations in a length of about 16.9 Km via Saguna Mor, Rukanpura, Raja Bazar, Zoo, Patna Station and Mithapur in the DPR. One depot was planned at Aitwarpur.

On Danapur- Mithapur alignment five alternatives were considered in a length of about 2.7 Km near elevated road between Jagdev Path to Sheikhpura Mor. Main route for all the alternatives is same; however, possibility of elevated and UG alignment is explored to pass through the stretch of elevated road from Jagdev Path to Sheikhpura Mor. Alternative 1: Single viaduct in single height (ruled out); Alternative 2: Split viaducts in single height (ruled out); Alternative 3: Split viaducts in double height (ruled out); Alternative 4: Split underground tunnel in both side (ruled out); and Alternative 5: Underground tunnel in one side (recommended).

Alternative 3 (as per Revised Alignment)

The corridor is proposed from Danapur to Khemni Chak via Saguna Mor, Rukanpura, Zoo, Patna Station, Mithapur, Jaganpura and terminates at Khemni Chak. The Khemni Chak will be the interchange station for both the corridors. Separate Depot is not proposed for this corridor and the Depot proposed near New ISBT for Patna Station- New ISBT corridor will be used for this corridor also.

Comparison of Alternatives

Comparison of alternatives in corridor 1 is given in Table 1.2. It is evident from the above that all the alternatives have some advantage and disadvantage in terms of cumulative environmental and social impact. On the assessment of the advantages and disadvantages of the three alternatives and certain limitation, it is considered that **Alternative 3** is the preferred option. The comprehensive comparison of both alternatives is summarized and presented in Table below:

Table 1.2: Comprehensive comparison of alternatives of Corridor 1

Sr. No.	Issues	Alternative 1 No Project	Alternative 2 (as per RITES DPR)	Alternative 3 (as per Revised Alignment)
1.	Length and no. of stations	No Project	16.94 km and 12 stations	17.933 km and 14 stations (including 2 interchange stations)
2.	Length of elevated section and no. of elevated stations	Nil	5.48 km and 3 stations	7.393 km and 8 stations
3.	Length of	Nil	11.20 Km and	10.54 Km and

Sr. No.	Issues	Alternative 1 No Project	Alternative 2 (as per RITES DPR)	Alternative 3 (as per Revised Alignment)
	underground section and no. of underground stations		8 stations	6 stations
4.	Length of at grade section and no. of at grade stations	Nil	0.26 km and 1 station	0
5.	No. of Depots	Nil	1	0
6.	Safety	No specific safety standard on Roads	High Safety Standard	High Safety Standard
7.	Permanent Land requirement	Nil	24.39 ha	3.251 ha
8.	No. of trees to be felled	Nil	490	551
9.	No. of ASI protected archaeological structures within the 100m periphery (prohibitory zone) of the alignment	Nil	Nil	Nil
10.	Impact on the Environment and Social Issues	Employment Opportunity Stagnant Economy Road Congestions Increased Air Pollution Safety and Accident Increment Reduced social	Loss of trees C & D waste management No loss on Fauna	Loss of trees C&D waste management No loss on Fauna

Sr. No.	Issues	Alternative 1 No Project	Alternative 2 (as per RITES DPR)	Alternative 3 (as per Revised Alignment)
		interactions Road Infrastructure		
11.	No. of structures affected	Nil	88	19
12	Issues of noise and vibration	Noise increment due to traffic and honking	Issue of noise during construction and operation which can be mitigated in scientific manner.	Issue of noise during construction and operation which can be mitigated in scientific manner.
13	Conclusion	This option is inferior to Alt 2 and 3	This plan is inferior to Alt 3.	This is the most desirable plan.

Alternative Scenarios for Patna Station- New ISBT Corridor

Alternative 1:

No Project

Alternative 2 (as per RITES DPR)

Patna Railway station to PMCH elevated, University to Rajendra Nagar underground and then elevated up to ISBT

In this alternative, the corridor takes-off from Patna Railway station along Frazer road as elevated towards Dak-Banglow Chowk, Akashvani, Gandhi Maidan, PMCH as elevated track. After PMCH, a ramp is proposed along the boundary line of PMCH & university to ramp down for underground. Then alignment runs underground through Dinkar Chowk and Rajendra Nagar Railway station. After Rajendra Nagar station ramp is again proposed to come out for elevated section near Railway Coach Maintenance. Alignment then runs as elevated for remaining section upto proposed ISBT through Gandhi Setu, Zero mile and Bodhgaya road.

Alternative 3 (as per Revised Alignment)**Patna Railway station to Rajendra Nagar Underground with remaining part Elevated up to ISBT through Malahi Pakdi**

The proposed alternative was between Patna Station to ISBT via Gandhi Maidan, PMCH, Patna University and Rajendra Nagar. In this route, the underground section is from Patna station to Rajendra Nagar. After Rajendra Nagar station ramp is proposed near Doctor's colony Malahi Pakri to get elevated and then runs elevated upto proposed ISBT through Khemni Chak- Bhootnath- Zero Mile. A depot is proposed near ISBT. Comparison of alternatives in corridor 2 is given in Table 1.3.

Table 1.3: Comprehensive comparison of three alternatives of Corridor 2

Sr. No.	Issues	Alternative 1 (No Project)	Alternative 2 (as per RITES DPR)	Alternative 3 (as per Revised Alignment)
1.	Length and no. of stations	Nil Nil	14.45 km and 12 stations	14.564 km and 12 stations
2.	Length of elevated section and no. of elevated stations	Nil Nil	9.90 km and 9 stations	6.638 km and 5 stations
3.	Length of underground section and no. of underground stations	Nil Nil	4.55 km and 3 stations	7.926 km and 7 stations
4.	No. of Depots	Nil	1	1
5.	Safety	No specific safety standard on Roads	High Safety Standard	High Safety Standard
6	Permanent Land Requirement	Nil	21.10 ha	21.89 ha
7.	No. of trees to be felled	Nil	705	360

Sr. No.	Issues	Alternative 1 (No Project)	Alternative 2 (as per RITES DPR)	Alternative 3 (as per Revised Alignment)
8.	No. of archaeological structures	Nil	4 (with in prohibitory zone)	0
10.	Impact on the Environment	Employment Opportunity Stagnant Economy Road Congestions Increased Air Pollution Safety and Accident Increment Reduced social interactions Road Infrastructure	Loss of trees C&D waste management No loss on Fauna	Loss of trees C&D waste management No loss on Fauna
11.	No. of structures affected	Nil	118	83 including 45 squatters
12.	Issues of noise and vibration	Noise increment due to traffic and honking	Noise pollution in elevated corridor and vibration issue in underground corridor which will be mitigated in scientific manner	Noise pollution in elevated corridor and vibration issue in underground corridor which will be mitigated in scientific manner.
13.	Conclusion	This plan is inferior to ALT2 and ALT3.	This plan is inferior to ALT1 and Alt 3	This is the most desirable plan.

Environment and Social Considerations

Limited analysis of alternatives was done due to the limited option for the metro route. However, the alignment of the above corridors is so selected that they will serve the maximum population, will entail less private land acquisition, least demolition of private and government structures, least tree cutting and will avoid impact on archaeological and historical structures. To achieve the above goals, the alignment suggested is mainly on the central verge of the road. In the highly densely populated area, the alignment is kept under the ground so as to lessen the social impacts that may have resulted from the acquisition of property. Similarly, to avoid the archaeological/historical monuments, the proposed metro corridor near the monuments in Kumharar area has been shifted to Malahi Pakri. The entire underground section will be constructed by tunneling through State of Art Tunnel Boring Machine (TBM). The proposed depot near ISBT will be utilized for these corridors.

1.3. Location of Stations

A total of 14 stations in corridor 1 (Danapur to Khemni Chak) and 12 stations in corridor 2 (between Patna station-New ISBT corridor) and a Depot are proposed for the proposed Patna Metro. Two stations viz., Patna Station and Khemni Chak are interchange stations. The details of corridor wise stations are given in **Table 1.4** and **Table 1.5** respectively for corridor 1 and 2. Index Map is shown in **Figure 1.1**.

Table 1.4. Details of Stations of Danapur- Khemni Chak Corridor

S.No.	Station Name	Chainage Centre	Inter Station Distance(M)	Remarks
0	Dead End	0.00	-	
1	Danapur	349.57	-	Elevated
2	Saguna Mor	1288.73	939.16	Elevated
3	RPS Mor	2141.88	853.15	Elevated
4	Patliputra	2905.29	763.41	Elevated
5	Rukanpura	4784.85	1879.56	Underground
6	Raja Bazar	5703.36	918.51	Underground
7	Zoo	7933.43	2230.07	Underground
8	Vikas Bhawan	8932.15	998.72	Underground
9	Vidyut Bhawan	10400.12	1467.97	Underground
10	Patna Station	11048.77	648.6	Underground
11	Mithapur	14006.66	2957.89	Elevated

12	Ramkrishna	15234.39	1227.73	Elevated
13	Jaganpura	16217.42	983.03	Elevated
14	Khemni Chak	17330.00	1112.58	Elevated
	Dead End	17848.00		

Table1.5 Stations of Patna Station – New ISBT

S.No.	Station Name	Chainage Centre	Inter Station Distance(M)	Remarks
0	Dead End	0.00	-	
1	Patna Station	126.36	-	Underground
2	Akashwani	939.79	813.43	Underground
3	Gandhi Maidan	2169.23	1229.44	Underground
4	PMCH	3356.42	1187.19	Underground
5	Patna University	4638.96	1282.54	Underground
6	Main UI Haq	6320.38	1681.42	Underground
7	Rajendra Nagar	7214.09	893.71	Underground
8	Malahi Pakri	8494.86	1280.77	Elevated
9	Khemni Chak	9991.47	1496.61	Elevated
10	Bhootnath	11006.69	1015.22	Elevated
11	Zero Mile	12324.44	1317.75	Elevated
12	New ISBT	13746.86	1422.42	Elevated
	Dead End	14232.00		Elevated
	Depot			

Depot

Depot for Danapur – Khemni Chak and Patna Station - New ISBT Metro corridors has been proposed in land identified near New ISBT site. An area of about 19.2 ha has been identified and location of depot is just beyond the New ISBT station.

1.4. Construction Methodology

The geometrical design norms are based on international practices adopted for similar metro systems with standard gauge on the assumption that the maximum permissible speed on the section is limited to 85 kmph.

The elevated tracks will be carried on Twin-U/ I girders supported on single circular piers, generally spaced at 28-m center to center and located on the median or on the space available between main carriageway and service road to the extent possible. The horizontal alignment and vertical alignment are, therefore, dictated to a large extent by the geometry of the road and ground levels followed by the alignment.

The superstructure of a large part of the viaduct comprises of simply supported spans. It is proposed to provide box girders/U-girder/I-girder as superstructure for the viaduct. However, at major crossings over or along existing bridges, special steel or continuous unit will be provided. The pier segment will be finalized based on simply supported span of 31.0 m and the same will be kept for all standard simply supported spans. For major crossings having span of more than 31.0 m, special continuous units of normally 3m span construction or steel girders are envisaged.

Underground alignment will be constructed through tunnels using Tunnel Boring Machine/ open cut and cover method. Underground stations will be constructed by means of cut and cover method. There is no soft ground which may lead to slope failures. Since the groundwater is high, it is envisaged that top-down construction methodology will be adopted. In top-down method diaphragm wall will be constructed along the periphery of the station box. Earth retaining structures like diaphragm walls, sheet piles, secant piles etc will be used during construction.

1.5. Objectives and Scope of the Study

In order to enable Project Authority to implement appropriate social measures by making clear its procedures and criteria for decision making and for meeting the requirements of funding agency, the main objective of the social assessment is to ensure transparency, predictability and accountability in the present study. The study shall have following objectives:

- To assess the socio-economic conditions of the families/people likely to be affected due to the proposed two corridors viz Danapur to Khemni Chak and Patna Station to New ISBT,
- To examine potential positive and negative impacts on the socio-economic condition of people in the project area,
- To develop appropriate measures to minimise the negative socio-economic impacts,
- To prepare Resettlement Action Plan (RAP) based on the existing policies, laws and guidelines of the government for the loss caused to the project affected people.

The scope of socio-economic study is to include the impacts due to the proposed development of this Metro Project. Based on the site survey, it will generate socio-economic data about project affected families and prepare an inventory of property. Based on the data, the project proponent shall develop measures to safeguard the PAFs from the loss occurred due to the proposed project with an objective of sustainable development. The study shall meet the requirement of funding Institutions for funding of the proposed corridor.

1.6. Land Acquisition and Resettlement

The alignment is both elevated as well as underground. The land requirement is kept as minimal. Construction work in the area will not bring any significant changes in the land use pattern, since the proposed alignment is planned mostly in areas which are not occupied by any major existing infrastructure. Land requirement for the project is given in **Table 1.6** below:

Table 1.6: Land Requirement for Corridor 1 and Corridor 2 (in ha)

Sr. No	Item	Unit	Corridor 1	Corridor 2	Total
1	Government Land				
1.1	Permanent	ha	2.311057	1.661912	3.972969
1.2	Temporary	ha	1.067256	2.4897	3.556956
1.3	Total Government Land	ha	3.378313	4.151612	7.529925
2	Private Land				
2.1	Permanent	ha	0.940222	31.531658	32.47188

2.2	Temporary	ha	0	0	0
2.3	Total Private Land	ha	0.940222	31.531658	32.47188
3	Total Land Requirement	ha			40.001805
4	Total Permanent Land	ha			36.444849
5	Total Temporary Land	ha			3.556956

*Total land includes 11.3 ha of land for PD area at depot.

1.7. Minimizing Resettlement

Attempts have been made during the designing of the project to minimize the land acquisition, resettlement and adverse impacts on people in the project area through suitable engineering design.

1.8. Objectives of Resettlement Action Plan

The Resettlement Action Plan is based on the principle that the population affected by the project will be assisted to improve their former living standards. Further, it also takes into account ways of avoiding or minimizing the impacts wherever possible by exploring other alternative project designs. Where displacement is unavoidable, people losing assets, livelihood or other resources, assistance is proposed for improving their former living standards. The rationale behind preparing RAP is not only to restore and improve the standard of living of PAPs but also bring qualitative changes in their life. Considering that the ultimate aim of RAP is to improve quality of life of the affected persons, it is important to assess the changes brought about by the project. The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (Act No. 30 of 2013)

1.9. Approach and Methodology for Social Impact Assessment

The approach adopted to conduct socio-economic study is described below. The study has been conducted in accordance with "The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013". The study aims at collecting baseline data for socio-economic information and identifies the affected population by residence, business base and their locality. The study is primarily based on field data generated during social survey. Secondary data has been collected from the census handbooks / gazetteers / other relevant texts. The methodology for conducting socio-economic study of the proposed project involves review of topographical survey drawings, field visits, data collection and stakeholder

consultations. **Figure 1.2** presents the methodology in the form of a flow chart which indicates various steps involved in the study which have been described in brief in the following paragraphs:

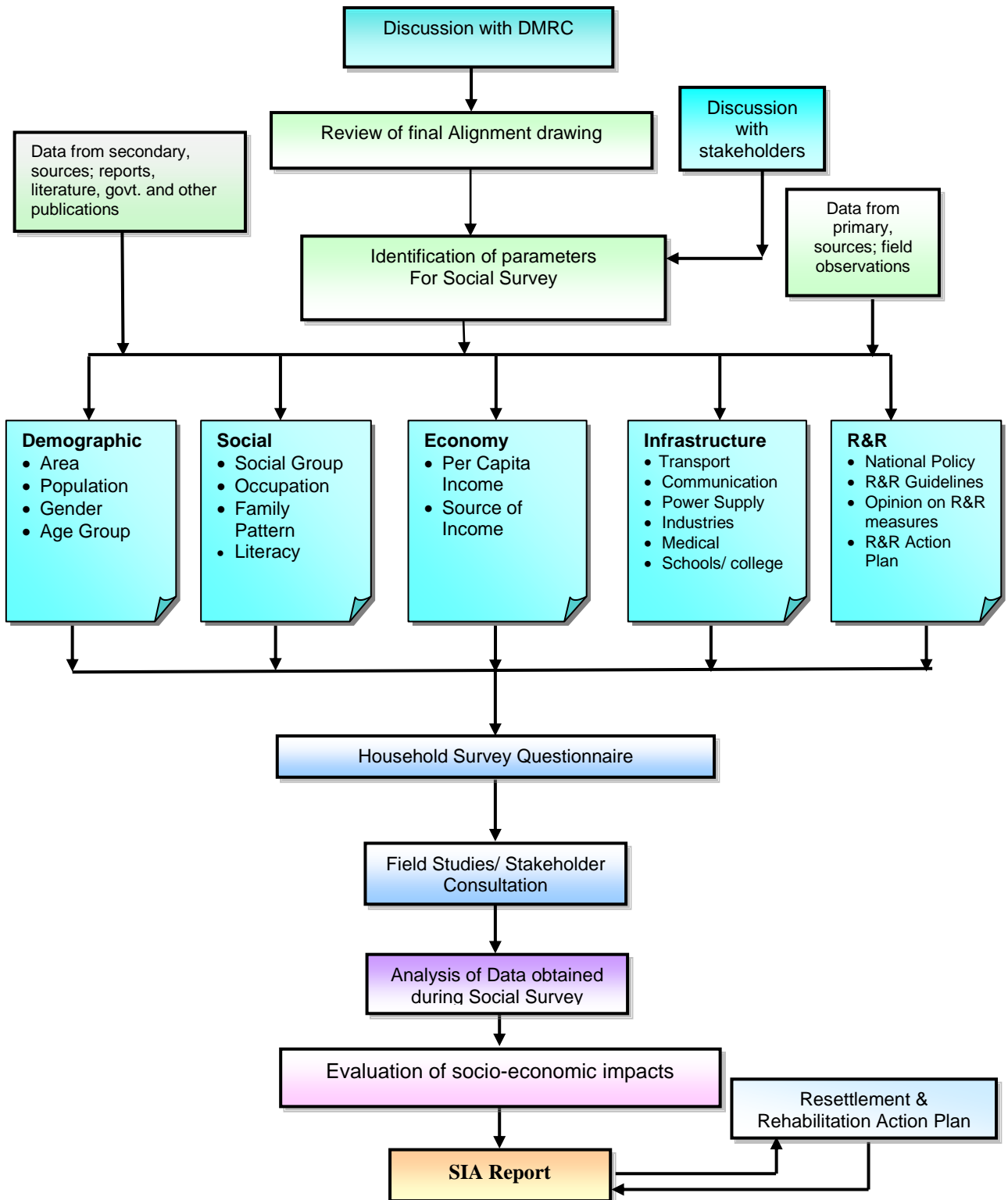
- a) Final topographical maps and Detailed Project Report (DPR) of the project were reviewed. Socio-economic survey was conducted covering affected households. Squatters and small business entrepreneurs dependent on the land to be acquired have also been interviewed.
- b) Consultations with concerned stakeholders at the project level with affected families, communities, local leaders, vulnerable groups have been held.

1.10. Structure of the report

The main elements of the study are as follows:

In **Chapter-2** a concise documentation is given on project activities and broad potential displacement impacts on structures and people. **Chapter-3** summarises brief socio-economic profile of the PAFs and PAPs, their assets, identification of vulnerable and awareness level of PAFs, Legal policy and administrative framework has been discussed in **chapter-4**. These include issues such as loss of land, rehabilitation and resettlement, eligibilities and entitlements etc. **Chapter-5** describes the Institutional framework required to be established for implementation of R&R provisions. Grievance redressal mechanism has also been described. A summary of the public and project affected people consultation has been summarised in **chapter 6**. Resettlement Assistance plan has been developed in **chapter 7** along with cost estimates. Monitoring and Evaluation including internal and external monitoring have been described in **chapter 8**.

Figure - 1.2 Approach for Social Impact Assessment



CHAPTER 2

POTENTIAL RESETTLEMENT IMPACTS

2.1. Socio- Economic Survey

A socio-economic survey has been carried out in May 2020 to assess the impacts of the proposed Danapur to Khemni Chak and Patna Station to New ISBT corridors of Patna Metro project on the socio-economic conditions of the Project Affected Families (PAFs). In order to assess the impact, questionnaires were developed for PAPs and was used to collect information of the families/ people likely to be affected. Stakeholder consultations were also organised. This was essential to understand the nature of impacts in documenting impacts on assets, incomes and livelihood to develop mitigation measures and resettlement action plan for the affected people.

The information collected include type of impact, type of ownership, social profile of the affected people, poverty status, the presence of titleholders and non titleholders in the project area. The views/ opinion of the people about the project and options for rehabilitation and resettlement have also been obtained. The data collected through socio-economic survey of the project affected area is described in Chapter 3. The major findings and magnitude of impacts of the proposed Danapur to Khemni Chak and Patna Station to New ISBT corridors are discussed in the following sections. The project impacts have been classified into different categories such as impacts on land, impacts on the affected families and their livelihood resources, impacts on structures and impacts on the common property resources.

Socio economic survey has been carried out along both the corridors. A total of 111 families out of 146 families have been surveyed. Along the Patna station to New ISBT corridor, data collection was not possible at PMCH station. At PMCH station, commercial tenants refused to share social data citing the apprehension that the survey was made for collecting data as part of NRC and no amount of explanation could convince them. There were 17 such shops of seventeen families and only one family (one PAF) agreed to provide details and remaining 16 families refused. The survey was also hindered at some location due to the ongoing lockdown scenario in the country. Additionally, residents of two houses at proposed depot area denied sharing of data. Another 17 families were not available at the location due to COVID Pandemic. The baseline socio-economic and demographic

profile of PAPs has been worked out and discussed on the basis of survey carried out. There is no agricultural land along the proposed Metro alignment except in Depot area.

2.2. Project Impacts

The proposed Metro rail project will have a number of positive and negative impacts. In general, the proposed project is expected to bring about the following positive impacts:

- Generate Employment opportunity,
- Boost Economic Growth,
- Increase Mobility in the project area,
- Provide Safety in Travelling,
- Result in Traffic Decongestion,
- Will Save Fossil Fuel,
- Will Reduce Levels of Air Pollution
- Will Save Foreign Exchange by saving fuel Consumption

The proposed project is not so positive for a section of people / project affected families. The anticipated negative impacts on these people may include:

- Loss of Land/ shops,
- Loss of Jobs/ Works,
- Loss of Livelihood,
- Loss of Common Property Resources
- Loss of Public Utility structures

2.2.1. Acquisition of land and structures

The proposed Metro project shall require land for different purposes. Land is mainly required for Viaduct of Metro, construction of stations and allied services. Land is scarce commodity in Patna city. Therefore, every effort has been made to keep land requirements to the bare minimum by realigning the alignments away from private property/ human habitation. Land acquisition details are given in Table 1.6. However, at the time of actual implementation there will be rationalized land acquisition as per land requirement for construction. The construction methodology for viaduct includes use of launcher arrangement / precast girders. It is proposed to construct the alignment on central verge of the road. There are not many properties located in the ROW of the project alignment. The properties have been identified by getting the ROW marked on the General Alignment Drawing of the project.

Physical survey was carried out along the alignment considering the area marked on the Drawing. The location-wise project affected structures is given in **Table 2.1** below:

Table 2.1: Details of Affected Structures and Survey

S.No.	Location	Structures	Total PAFs	PAFs Surveyed
	Corridor -I			
1	Rukanpura	3	4	2
2	Raja Bazar	6	18	17
3	Mithapur/ Bigrahpur	10	30	24
	Total Corridor 1	19	52	43
	Corridor-2			
1	Akashwani	5	8	3
2	Gandhi Maidan	6	9	9
3	PMCH	17	17	1
4	Rajendra Nagar	2	7	5
5	Malahi Pakri	41	41	41
6	Khemni Chak Crossing	2	2	1
7	Khemni Chak	4	4	4
8	Bhootnath to Zero Mile	2	2	2
9	Zero Mile	2	2	2
10	Depot Area	2	2	0
	Total Corridor 2	82	94	68
	Grand Total	102	146	111

The total structures likely to be affected in two corridors are 102. There are 47 residential (including 40 squatters), 50 commercials (including 5 squatters and 3 kiosk), 4 commercials + residential and one institutional structure viz., Paras Hospital. This is worth mentioning that the owner of shops at PMCH operated by

different tenant shopkeepers is reportedly 'Waqf Board' which is an Institution. The valuation of all the properties will be done by PWD/ approved valuers. Additionally, these shall be compensated as per the provision of The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013. A detail list of affected structure has been enclosed in **Annexure 1** of this report and the layout map indicating the affected structure has been given in **Annexure 4**.

The project shall require the acquisition/transfer of 40.001 ha of land. Out of the total land, 7.530 ha is government land and 32.471 ha is private land. Again, out of the total land, 36.444 ha will be acquired for permanent use and 3.557 ha for temporary use. The land identified for temporary use shall be returned to the owning agencies after the completion of the project construction. Total private land likely to be acquired will be taken permanently. It is observed that out of the total land requirement, about 18.82 per cent of total land would be acquired from government agencies and only 81.18 per cent of the land requirements shall be fulfilled by private land owners.

As per the "Policy/Guidelines on Relocation and Rehabilitation of the PAPs of all Categories due to Implementation of Metro project", Development Authority/ Revenue department in Patna will rehabilitate the PAFs occupying residential dwelling units on recommendation of Land Acquisition Commissioner (LAC) and approval of Land & Building Department (L&B), Patna, Government of Bihar and Project Authority will rehabilitate PAPs occupying commercial units/ shops. Common resources affected by the project would also be suitably compensated.

2.2.2. Impact on Structures and its Magnitude

Some private properties are being affected by the proposed acquisition for Metro project. The details of impact on affected properties is given in **Table 2.2** and the magnitude of impact on affected properties is given in **Table 2.3**.

Table 2.2 Impact on Structures

S.No.	Particular	Corridor 1	Corridor 2	Total
1.	Residential	5	42	47
2.	Commercial	11	39	50
3.	Commercial + Residential	2	2	4

4.	Institutional	1	0	1
	Total	19	83	102

A total of 50 commercial structures (including 5 squatters and 3 kiosk), 47 residential structures (including 40 squatters) and 4 commercials + residential and one institutional structures are likely to be affected due to land acquisition for the proposed Danapur- Khemni Chak and Patna Station- New ISBT corridors of Patna Metro. Additionally, there is one institutional structure. Category wise detail of affected structures is enclosed as **Annexure 2**. It is also found that 5 Temples and three public toilets are getting affected along the corridors.

Table 2.3 Magnitude of Impacts on Private structures

S.No.	Type of Structure		Partly Affected		Fully Affected		Total
			Cor 1	Cor 2	Cor 1	Cor 2	
1.	Commercial	Number	2	2	9	37	50
2.	Residential	Number	2	0	3	42	47
3	Residential cum Commercial	Number	0	2	2	0	4
4	Institutional	Number	1	0	0	0	1
	Total	Number	5	4	14	79	102

The magnitude of project impact on the structures, which is categorized as partially and fully affected structures are presented here. It was found during site visit that out of total 102 structures, about 93 structures (91.17%) will be fully affected and remaining about 9 structures (8.83%) will be partially affected. However, the exact number of fully and partially affected structures will be known after peg marking on the ground level and completion of detailed/census survey. Detailed survey/census survey as per the RTFCTLARR Act 2013 will be got done by the State Government.

A glimpse of affected structures at two corridors of Patna metro:

 <p>RK1, Rukanpura</p>	 <p>RK2, Residential Property, Rukanpura</p>
<p>RK1 – Affected structure of Rukanpura</p>	<p>RK2 - Affected structure of Rukanpura</p>
 <p>RK3, Rukanpura</p>	 <p>RB1, Commercial Property, Raja Bazar</p>
<p>RK3 – Affected structure of Rukanpura</p>	<p>RB1 – Affected structure of Raja Bazar</p>
 <p>RB2, Raja Bazar</p>	 <p>RB3, Residential Property, Raja Bazar</p>
<p>RB2 – Affected structure of Raja Bazar</p>	<p>RB3 – Affected structure of Raja Bazar</p>
 <p>RB4, SHOP, Raja Bazar</p>	 <p>RB5, Milk Parlour, Raja Bazar</p>
<p>RB4 – Affected structure of Raja Bazar</p>	<p>RB5 – Affected structure of Raja Bazar</p>



RB6 – Affected structure of Raja Bazar



MT1 – Affected structure of Mithapur station



MT2 – Affected structure of Bigrahpur



MT3 – Affected structure of Bigrahpur



MT4 – Affected structure of Bigrahpur



MT5, MT6, MT7 – Affected structure of Bigrahpur



MT8 – Affected structure of Bigrahpur



MT9 – Affected structure of Bigrahpur

 <p>MT10, R+C, Bigrahpur</p>	
<p>MT10 – Affected structure of Bigrahpur</p>	
 <p>AK 1, Milk Parlour, Akashwani</p>	 <p>AK2, Paner and snacks corner, Akashwani</p>
<p>AK1 – Affected structure of Akashwani</p>	<p>AK2 – Affected structure of Akashwani</p>
 <p>AK3, Pan Shop, Akashwani</p>	 <p>AK4, Liberty Shop, Akashwani</p>
<p>AK3 – Affected structure of Akashwani</p>	<p>AK4 – Affected structure of Akashwani</p>
 <p>AK5, Tea and Coffee Shop, Faizal Imam Mall, Akashwani</p>	 <p>GM1- Affected structure of Gandhi Maidan</p>
<p>AK5 – Affected structure of Akashwani</p>	<p>GM1- Affected structure of Gandhi Maidan</p>



GM2, Milk Booth, Near Bus Stand, Gandhi maidan

GM2– Affected structure of Gandhi Maidan



GM3-GM6 – Affected structure of Gandhi Maidan



PM1-PM17, Shops, PMCH

P1-P17 – Affected structure of PMCH



RN1, R+C Building with 3 shops, Rajendra Nagar RN2, Commercial Building with 2 shops

RN1, RN2 – Affected structure of Rajendra Nagar



ML1, Milk Parlour, Malahi Pakdi

ML1 – Affected structure of Malahi Pakdi



ML2-21 – Affected structure of Malahi Pakdi

ML22-ML41, Malahi Pakdi-Photos



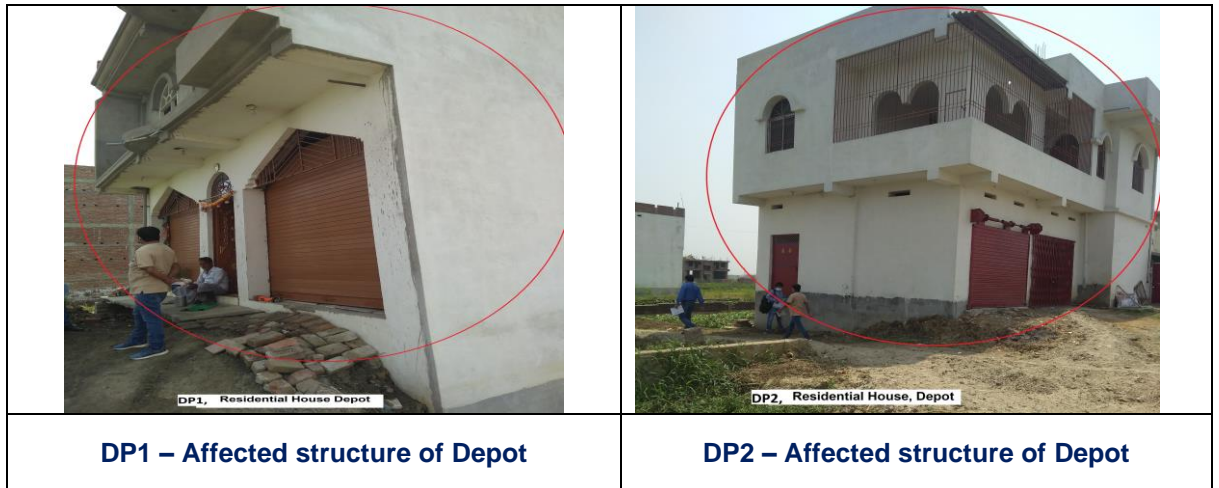
ML-22-41– Affected structure of Malahi Pakdi



KC1, Shed, in R+C Building, Khemnichaak Crossing

KC-1– Affected structure of Khemnichaak Crossing

 <p>KC2, Under construction Building, Khemni Chak</p>	 <p>KH1, Chicken Shop, Khemni Chak</p>
<p>KC-2 – Affected structure of Khemni Chak Crossing</p>	<p>KH1 – Affected structure of KhemniChak</p>
 <p>KH2, Litti Shop, Khemni Chak</p>	 <p>KH3, Meat Shop, Khemni Chak KH4, Chicken Shop, Khemni Chak</p>
<p>KH2 – Affected structure of Khemni chak</p>	<p>KH3, KH4 – Affected structure of Khemnichak</p>
 <p>BZ1, Commercial Squatter, Between Bhootnath to Zero Mile viaduct</p>	 <p>BZ2, Pan and Tea Shop, Between Bhootnath to Zero Mile Viaduct</p>
<p>BZ1 – Affected structure of Bhootnath to Zero mile</p>	<p>BZ2 – Affected structure of Bhootnath to Zero Mile</p>
 <p>ZM1 Shop at Zero Mile</p>	 <p>ZM2 Shop at Zero Mile</p>
<p>ZM1 – Affected structure of Zero Mile</p>	<p>ZM2 – Affected structure of Zero Mile</p>



2.2.3. Impact on PAFs and PAPs

About 146 Families comprising 719 Persons will be affected due to the proposed metro project. Corridor wise number of PAFs and PAPs is presented in Table 2.4 and magnitude of project Impact on PAFs is presented in Table 2.5.

Table 2.4: Impact on PAFs and PAPs

Name of Corridor	Total PAFs	Total PAPs*
Corridor 1: Danapur to Khemnichak	52	256
Corridor 2 : Patna Station to New ISBT	94	463
Total	146	719

*Survey of 111 PAFs have been carried out covering 547 PAPs. Based on average person per family, total PAPs for the corridors have been estimated as 719.

Table 2.5: Magnitude of Project Impact on PAFs

Name of Corridor	Fully affected PAFs	Partly Affected PAFs	Total
Corridor 1: Danapur to Khemnichak	35	17	52
Corridor 2 : Patna Station to New ISBT	85	9	94
Total	120	26	146

Additionally, there are 122 employees working on 23 shops. Their employment was reportedly temporary in nature as and period of employment on these shops was reported to be less than 3 years.

2.2.4. Loss of Livelihood

The livelihood of families of commercially engaged PAFs and those who have commercial activities with residence would be affected due to acquisition. It is observed that there are 50 commercial structures likely to be affected where 89 families exist. Out of these 89 PAFs, 18 are owners who have constructed 62 shops on their land. Nine commercial owners derive rental income from these shops as secondary income and their livelihood is not dependent on these shops. There are 3 kiosks which can easily be shifted to other nearby places. * Total of 9 shop owners are running shops on their self-owned structures and 53 shops are rented out and operated by tenants whose livelihood is affected. Additionally, 7 lessees are running shops on Govt land. Four shops are with their residences. Thus, on the basis of survey, it is worked out that livelihood of 69 shopkeepers will be affected which have to be compensated by the project so that any adverse impact on them could be neutralized

Table 2.6: Impact on Livelihood of Commercial PAFs

Type of affected commercial Families	Corridor 1	Corridor 2	Total
Commercial owners running shops	9	0	9
Commercial Tenants	23	30	53
Commercial Lessee	3	4	7
Total	35	34	69

2.2.5. Loss of Residence

Table 2.6 indicates that out of the total 146 PAFs, 53 PAFs shall be affected physically as their residential units are getting affected due to the proposed project. Majority of PAFs are likely to be affected residentially in Corridor 2 Patna station to New ISBT (79.25%).

Table 2.7 : Residential affected families of both Corridor

Name of Corridor	Total PAF	Residential Affected Families	Percentage
Corridor 1: Danapur to Khemnichak	52	11	20.75
Corridor 2 : Patna Station to New ISBT	94	42	79.25
Total	146	53	100

2.3. Rehabilitation/ Relocation

The proposed project shall affect the private property resources. The loss of private property and loss of community resource shall have social impacts on the local society. In view of social impacts, rehabilitation of the PAFs has been proposed. During social survey at project sites, information on choice and desire of affected people has also been collected through survey questionnaires. Mitigation measure of the adverse impacts shall be following:

- to assist the PAPs in resettling them at the suitable place,
- to provide monetary assistance in the form of shifting allowance and transitional allowance, etc.
- In case any PAF losses more than 75 % of land holding and the residual land become uneconomical, whole land will have to be acquired.

As per the “Policy/ Guidelines on Relocation and Rehabilitation of the PAPs of All Categories due to Implementation of Metro Project”, DMRC / Revenue department will rehabilitate the PAFs occupying residential dwelling units on recommendation of Land Acquisition Commissioner (LAC) and approval of Land & Building Department (L&B), Government of Bihar and Project Authority will rehabilitate PAPs occupying commercial units/shops as per metro Policy. Common resources affected by the project would also be suitably compensated.

CHAPTER 3

BASELINE SOCIOECONOMIC STUDY

3.1. Profile of Project Affected Families

The alignment drawing and information provided by Project Authority was the basis for identification of the affected families and project affected people due to the proposed project phase. The study represents assessment of the affected households, which includes titleholders and non-titleholders. The group of non-titleholders included tenants, squatters, kiosk owners, etc. The interviewers interacted with the social groups involved for the purpose to disclose the information required for the questionnaires format for data collection. The format of Questionnaire is placed as **Annexure 5**. The survey had been conducted within the proposed Right of Way of viaduct, station areas and the land to be acquired for the project. For viaduct the ROW has been considered to be 11 m. The survey has been carried out for 111 families. Demographic details of affected people have been taken from residential premises. Additionally, small shops/ Kiosks/ squatters are located in the proposed Right of Way marked on the alignment drawing. The socio-economic analysis of surveyed household has been presented here. The data collected through the social survey generated baseline for socio-economic information about the project affected families.

3.2. Demographic Profile of PAFs

The social survey has been carried out on 111 families. These families have 547 members constituting the PAPs. The demographic profile of PAPs covers their distribution according to religion, social castes, age, education and marital status. Distribution of PAFs as per Religion has been given in **Table 3.1**

Table 3.1 Religion-wise Distribution of PAFs

S.No.	Religion	Numbers / Percentage (%)	Corridor-1	Corridor-2	Total
1	Hindu	Number	36	63	99
		Percentage	83.72	92.65	89.19
2	Muslim	Number	7	4	11
		Percentage	16.28	5.88	9.91

3	Sikh	Number	0	1	1
		Percentage	0	1.47	0.90
Total		Number	43	68	111

Data reveals that majority of PAFs are Hindus (89.19%) followed by Muslims (9.90%) and Sikh (0.91%). In corridor 1, 83.72% PAFs are Hindus and rest 16.28% are Muslims. But in Corridor 2 Hindus are 92.65% and Muslims are 5.88 % with 1.47% Sikhs. The caste-wise distribution of PAFs has also been studied. The distribution of PAFs as per castes has been given in Table 3.2.

Table 3.2 Distribution of PAFs by Castes

S.No.	Caste	Numbers / Percentage (%)	Corridor-1	Corridor-2	Total
1	General	Number	20	14	34
		Percentage	46.51	20.59	30.63
2	OBC	Number	23	32	55
		Percentage	53.49	47.06	49.55
3	SC	Number	0	22	22
		Percentage	0	32.35	19.82
Total		Number	43	68	111
		Percentage	100.00	100.00	100.00

Distribution of PAFs by caste show that about 49.55% belong to Other Backward Castes and about 30.63 % belong to upper castes called as General castes, and another about 19.82 % belong to Scheduled Castes. There was no Scheduled Tribe among the PAFs. Corridor-wise distribution shows that there are 46.51% General caste and 53.49% OBCs on Corridor-1, whereas in corridor 2, PAFs belonging to general caste are 20.59%, OBCs are 47.06% and SCs are 32.35%.

Assessment of Type of Families indicates that about 18.91 % families are Joint families whereas about 77.47 % families are Nuclear families. There are 3.60%

single person families among PAFs. Similarly, about 41.44% are small families having upto 4 members, 38.74% are medium size families having 5 to 7 members and 16.22 % are large families having more than 7 members. Family pattern is similar in both the corridors. There are 34 nuclear families in Corridor 1 and 52 in corridor 2. Joint families are 9 in corridor 1 and 12 in corridor 2.

There were 547 PAPs in 111 PAFs along the corridor alignment. These comprises of 299 males and 248 females thereby having sex ratio of 829 females per thousand males. Corridor wise sex wise distribution shows that sex ratio is 777 and 870 females per thousand males in corridor 1 and corridor 2 respectively.

It is also found that about 64.35 % PAPs are more than 18 years and only 35.64 % are less than 18 years. The Age-wise distribution of PAPs has been given in **Table 3.3**.

Table 3.3 Distribution of PAPs according to Age

S.No.	Age	No./ %	Corridor-1	Corridor-2	Total
1	<6	Number	14	53	67
		Percentage	6.06	16.77	12.25
2	6 to18	Number	56	72	128
		Percentage	24.24	22.78	23.40
3	18-45	Number	110	145	255
		Percentage	47.62	45.89	46.62
4	45-60	Number	36	31	67
		Percentage	15.58	9.81	12.25
5	> 60	Number	15	15	30
		Percentage	6.49	4.75	5.48
	Total	Number	231	316	547
		Percentage	100	100.00	100.00

There are 54.66 % males and 45.34% females among PAPs. Age-wise distribution indicates that there are 58.87 % PAPs in working age group of 18 to 60 years. About 5.48 % are senior citizens above 60 years and 23.40 % PAPs are in student

age group between 6 to 18 years. About 12.25% PAPs are children below 6 years of age.

The population distribution as per education level has been assessed. It is to be mentioned that the children below 6 years have been excluded from the calculations as they are not supposed to go to school and become part of population for assessment of education level. The distribution of PAPs according to education level is given in **Table 3.4**.

Table 3.4 Distribution of PAPs according to Education Level

S.No.	Education	No./ %	Corridor 1	Corridor-2	Total
1	Illiterates	Number	16	90	106
		Percentage	7.37	34.22	22.08
2	Primary upto 5 th class	Number	37	48	85
		Percentage	17.05	18.25	17.71
3	Between 5 th to 10 th class	Number	70	67	137
		Percentage	32.26	25.48	28.54
4	11 th & 12 th	Number	22	27	49
		Percentage	10.14	10.27	10.36
	Graduate and above		72	31	96
			33.18	11.79	21.46
	Total		217	263	480
			100.00	100.00	100.0

The data revealed that about 22.08 % PAPs are illiterate, 17.71 % primary and 28.54% are educated upto 10th class. About 10.36% have studied upto class 11th - 12th and 21.46% are graduates and above. In corridor 1, 24.42 % have studied till less than primary level and 32.26% have studied for upto 10th class. Graduates are more than 33.18 % in corridor 1. On the other hand, in corridor 2 graduates are only 11.79% and illiterates are 34.22%. About 18.25 % have studied between 5th to 12th class.

The marital status of PAPs is given in **Table 3.5**.

Table 3.5 Marital Status of PAPs

S.No.	Marital Status	No. / %	Corridor-1	Corridor-2	Total
1	Married	Number	125	147	272
		Percentage	77.64	76.96	77.27
2	Widowed	Number	7	12	19
		Percentage	4.35	6.28	5.40
3	Unmarried	Number	29	32	61
		Percentage	18.01	16.75	17.33
	Total	Number	161	191	352
		Percentage	100.00	100.00	100.00
4	< 18 years		70	125	195
	Total	Number	231	316	547

49.75 % PAPs are married and 3.47 % are widowed persons whereas the rest 46.80 % are unmarried. This includes unmarried persons below 18 years of age which is the minimum age of marriage as per law.

3.3. Economic Status and Occupational Pattern

The economic status has been assessed and it is found that there are 178 workers among PAPs. Thus, 32.54% are economically active persons among PAPs and 67.46 % are non-working PAPs. On an average there are two dependents per earner among PAPs. In Corridor 1, there are 74 workers and 157 non workers, while in Corridor 2, there are 104 workers and 212 non workers. Thus, the distribution of worker and dependents is almost similar in both the corridors.

The occupation and profession of the economically active person has been considered during the social survey. The study recorded and assessed the capability, base for livelihood and skills of the family head, so that resettlement impacts can be assessed. Based on the impacts assessment, the income

generation plan and rehabilitation plans shall be prepared accordingly. The occupation pattern of PAPs is given in **Table 3.6**.

Table 3.6 Occupation-wise Distribution of PAPs

S.No.	Occupation	No. / %	Corridor-1	Corridor-2	Total
1	Job	Number	10	40	50
		Percentage	13.51	38.46	28.09
2	Business	Number	59	56	115
		Percentage	79.73	53.85	64.61
3	Others	Number	5	8	13
		Percentage	6.76	7.69	7.30
Total		Number	74	104	178
		Percentage	100.00	100.00	100.00

The survey data show that 64.61% persons are engaged in business activities, 28.09% are working in jobs and another 7.30 % are engaged in other activities. There are two doctors and three people landve only rental income.

3.3.1. Monthly Income of PAPs

Assessing family income helps to understand the living standard, expenditure pattern, capacity of savings etc. The data on monthly family income quantify either the family is under the Below Poverty line (BPL) or above poverty line (APL). Distribution of family income is given in **Table 3.7**.

Table 3.7 Distribution of Monthly Income of PAPs

S.No.	Monthly Income	No/ %	Corridor 1	Corridor- 2	Total
1	Less Than Rs.10000/-	Number	8	64	72
		<i>Percentage</i>	<i>10.81</i>	<i>61.54</i>	<i>40.45</i>
2	Rs. 10,000/- - Rs. 20000/-	Number	21	23	44
		<i>Percentage</i>	<i>28.38</i>	<i>22.12</i>	<i>24.72</i>
3	Rs.20000/- to Rs. 50000/-	Number	26	10	36
		<i>Percentage</i>	<i>35.14</i>	<i>9.62</i>	<i>20.22</i>
4	Rs.50000/- to Rs.100000/-	Number	10	7	17
		<i>Percentage</i>	<i>13.51</i>	<i>6.73</i>	<i>9.55</i>
5	More than Rs. 100000/-	Number	9	0	9
		<i>Percentage</i>	<i>12.16</i>	<i>0</i>	<i>5.06</i>
	Total		74	104	178
			100.00	100.00	100.00

The survey result clearly shows that there are 40.45 % PAPs who earn less than Rs. 10000/- per month. Another 24.72% earn between Rs.10000/- to Rs. 20000/- per month. Thus, the monthly income of about two third earning PAPs is less than Rs. 20000/per month.

About 20 % PAPs are earning between Rs. 20,000/- to 50000/- per month and 14.61 % are earning between Rs.50000/- to Rs 1,00,000/- per month and another 5.06% are earning more than Rs. one lakh per month.

Out of the total surveyed families (111), 7 families are in BPL category – one in corridor 1 and 6 in corridor 2. It means about 94% families are in APL category and 6% are in BPL category among the surveyed family.

3.3.2. Assets of Families

Data collected from the survey revealed that the PAFs belong to middle class. Being in Patna city most of them have access to cooking gas, sanitation and hygiene facilities. It is found that 53 families have separate kitchen in their house

and 61 families have toilets in their houses. So far as fuel used in kitchen, 81% PAFs use LPG, and balance 19 % use wood for cooking their food on Chulha. Source of water supply is piped supply for 89.19% PAFs, out of which about 37% PAFs have supplemented this with domestic tube well. Only about 11 % PAFs are dependent on water supply using hand pump.

Most of the PAFs have Fans (98%), Radio (21.62%) and TV (57.66%). About 32.43% PAFs also own Washing machines and 39.64 % own Refrigerators. In terms of vehicles, 45% of PAFs own two wheelers and 19.8% PAFs also own four wheelers.

3.3.3. Vulnerable Families

The vulnerability of the project affected families has been determined by the people falling in the category of scheduled caste, scheduled tribe, those falling below poverty line (BPL), women headed family and disabled. There are 28 vulnerable families among PAFs. Details of Vulnerable Families have been attached as Annexure 3.

3.4. Awareness about HIV / AIDS

Sex trade and spread of sexually transmitted diseases (STDs) also comes up as critical socio-cultural and health issue, which needs to be addressed to ensure that the construction of Metro rail project is a socially responsible development project. Most of the respondents have shown awareness about HIV/ AIDS. The main source of information is television, news paper and advertisement boards displayed by the government in the city. Taking into consideration the safety issues of risks of HIV/ AIDS during the project construction period, proper training shall be imparted to labours by the contractors team engaged for the construction work. It is presumed that labour working in the project may not be aware of the hazards of the disease.

3.5. Awareness and Opinion about the project

During the socio-economic survey, some questions were asked from the PAPs regarding the awareness, source of information and opinion about the proposed Metro project. It is reported by 83% in corridor 1 and 76% in corridor 2 and overall, 79% people that they were aware of the project before the visit of this team. The source of information ranged from Newspaper, Radio/ TV and the word of mouth as several teams have visited the area to perform preparatory works for the project.

Moreover, 74% of corridor 1 and 96% of corridor 2 and overall, 87% of them categorized the project as good in general terms.

3.6. Resettlement & Rehabilitation Options

The options on resettlement and rehabilitation measures have also been collected from Project Affected Families. Different people have opted for different type of compensation acceptable to them. Some have asked to provide jobs to the family members in the organization. Another set of PAFs asked to provide them compensation as per new Act on market rate which is higher than the Circle rates. Many people have asked to provide them training for skill development. However, Resettlement and Rehabilitation has been worked out as per the provisions given in "The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013".

3.7. Common Property Resources/Public Utilities

The common property resources are getting affected due to construction of the proposed project. The structures being used by public are also affected. Five Temples and three public toilets are getting affected. The common property resources and structures related to public utilities should be rehabilitated in accordance with the consent of local communities. As per the provisions of Project Authority for rehabilitation of the project affected structures of public utilities and common property resources, such property shall be properly compensated and suitably shifted before starting work at site.

CHAPTER 4

LEGAL POLICY AND ADMINISTRATIVE FRAMEWORK

4.1. Policy Framework

The Patna Metro project comprising of two corridors viz. Danapur to Khemni Chak and Patna Station to New ISBT, in “Category A” of JICA Guidelines for Environmental and Social Projects. Category ‘A’ includes sensitive sectors such as “Roads, Railways and Bridges” which are similar to metro lines or located in or near sensitive areas such as cultural, historical or of archeological value. Over the years R&R policies have been developed at national and organizational levels. The Acts and Policy relevant to the study are:

- The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (No. 30 of 2013).
- Bihar Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Rules, 2014
- JICA Guidelines

The following sections deal with these policies with a comparison and subsequently with the entitlements and eligibility for compensation and other resettlement entitlements.

4.2. The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (No. 30 of 2013)

The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 is an Act of Indian Parliament that regulates land acquisition and provides laid down rules for granting compensation, rehabilitation and resettlement to the affected persons in India. The Act has provisions to provide fair compensation to those whose land is taken away, brings transparency to the process of acquisition of land to set up factories or buildings, infrastructural projects and assures rehabilitation of those affected. The Act establishes regulations for land acquisition as a part of India's massive industrialization drive driven by public-private partnership. The Act replaced the Land Acquisition Act, 1894, a nearly 120-year-old law enacted during British rule.

The Act was passed on 29 August 2013 in the Lok Sabha (lower house of the Indian parliament) and on 4 September 2013 in Rajya Sabha (upper house of the Indian parliament). The bill received the assent of the President of India, on 27 September 2013. The Act came into force from 1 January 2014

The Act aims to establish the law on land acquisition, as well as the rehabilitation and resettlement of those directly affected by the land acquisition in India. The scope of the Act includes all land acquisition whether it is done by the Central Government of India, or any State Government of India.

The Act is applicable when:

- Government acquires land for its own use, hold and control, including land for Public sector undertakings.
- Government acquires land with the ultimate purpose to transfer it for the use of private companies for stated public purpose. The purpose of LARR 2013 includes public-private-partnership projects, but excludes land acquired for state or national highway projects.
- Government acquires land for immediate and declared use by private companies for public purpose.

Section 2(1) of the Act defines the following as public purpose for land acquisition within India:

- ❖ For strategic purposes relating to naval, military, air force, and armed forces of the Union, including central paramilitary forces or any work vital to national security or defense of India or State police, safety of the people; or
- ❖ For infrastructure projects, which includes the following, namely:
 - All activities or items listed in the notification of the Government of India in the Department of Economic Affairs (Infrastructure Section) number 13/6/2009-INF, dated 27 March 2012, excluding private hospitals, private educational institutions and private hotels;
 - Projects involving agro-processing, supply of inputs to agriculture, warehousing, cold storage facilities, marketing infrastructure for agriculture and allied activities such as dairy, fisheries, and meat processing, set up or owned by the appropriate Government or by a farmers' cooperative or by an institution set up under a statute;

- Project for industrial corridors or mining activities, national investment and manufacturing zones, as designated in the National Manufacturing Policy;
- Project for water harvesting and water conservation structures, sanitation;
- Project for Government administered, Government aided educational and research schemes or institutions;
- Project for sports, health care, tourism, transportation of space program;
- Any infrastructure facility as may be notified in this regard by the Central Government and after tabling of such notification in Parliament;
- Project for project affected families;
- Project for housing, or such income groups, as may be specified from time to time by the appropriate Government;
- Project for planned development or the improvement of village sites or any site in the urban areas or provision of land for residential purposes for the weaker sections in rural and urban areas;
- Project for residential purposes to the poor or landless or to persons residing in areas affected by natural calamities, or to persons displaced or affected by reason of the implementation of any scheme undertaken by the Government, any local authority or a corporation owned or controlled by the State.

When government declares public purpose and shall control the land directly, consent of the land owner shall not be required. However, when the government acquires the land for private companies, the consent of at least 80% of the project affected families shall be obtained through a prior informed process before government uses its power under the Act to acquire the remaining land for public good, and in case of a public-private project at least 70% of the affected families should consent to the acquisition process.

The Act includes an urgency clause for expedited land acquisition. The urgency clause may only be invoked for national defense, security and in the event of rehabilitation of affected people from natural disasters or emergencies.

Section 27 of the Act defines the method by which market value of the land shall be computed under the proposed law. Schedule I outlines the proposed minimum compensation based on a multiple of market value. Schedule II to IV outline the

resettlement and rehabilitation entitlements to land owners and livelihood losers, which shall be in addition to the minimum compensation per Schedule I.

Market value

The market value of the proposed land to be acquired shall be set as the higher of:

- the minimum land value, if any, specified in the Indian Stamp Act, 1899 for the registration of sale deeds in the area, where the land is situated; or
- the average of the sale price for similar type of land being acquired, ascertained from the highest fifty per cent of the sale deeds registered during the preceding three years in the nearest village or nearest vicinity of the land being acquired.; or
- the consented amount in case the land is acquired for private companies or public-private partnership projects.

The market value would be multiplied by a factor of, at least one to two times the market value for land acquired in rural areas and at least one times the market value for land acquired in urban areas. The Act stipulates that the minimum compensation to be a multiple of the total of above ascertained market value, value to assets attached to the property, plus a solatium equal to 100 percent of the market value of the property including value of assets.

In addition to above compensation, the Act proposes a wide range of rehabilitation and resettlement entitlements to land owners and livelihood losers from the land acquirer.

For land owners, the Act provides:

- an additional subsistence allowance of Rs.36,000 for the first year;
- an additional entitlement of a job to the family member, or a payment of Rs.5,00,000 up front, or a monthly annuity totaling Rs.24,000 per year for 20 years with adjustment for inflation – the option from these three choices shall be the legal right of the affected land owner family, not the land acquirer;
- an additional upfront compensation of Rs.50,000 for transportation;
- an additional upfront resettlement allowance of Rs.50,000;

- if the land owner loses a home in a rural area, then an additional entitlement of a house with no less than 50 square meters in plinth area;
- if the land is acquired for urbanization, 20% of the developed land will be reserved and offered to land owning families, in proportion to their land acquired and at a price equal to cost of acquisition plus cost of subsequent development;
- if acquired land is resold without development, 20% of the appreciated land value shall be mandatorily shared with the original owner whose land was acquired

4.3. Bihar Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Rules, 2014

Bihar Government published the rules vide notification no. 1182/R dated 27.08.2014 of the Government of Bihar, Department of Revenue and Land Reforms gazette. The Rules are in line with the National R & R Act Of 2013. The rules outline the process of SIA and provide for preparation of Rehabilitation and Resettlement scheme notifying and conducting public hearing. It also provide for assessing land rates and provision of compensation entitlement matrix for the affected families which is in line with the act. There is also provision of consent from the affected families.

4.4. JICA Guidelines

According to JICA Guidelines for confirmation of Environmental and social Considerations, the proposed metro rail project is classified as 'Category A'. The project is considered to have likely significant impacts. Metro rail is similar to the "Road, Railways and Bridge" category project which is indicated in the JICA guidelines as 'category A' project, which requires impact assessments of social settings of the project area.

JICA considers it important to have a dialogue with the partners (the host country, local governments, borrowers and project proponents) for its confirmation of social considerations. The active participations of key stakeholders (local residents, project affected families and local NGOs) in all stages of the project are also desirable. The study requires the people and its social environment shall be addressed in the social assessment report.

The JICA guidelines for environmental and social considerations are applicable to this project subject to provisions in this SIA report. The Resettlement Action Plan (RAP) has been developed in accordance with the requirements of the JICA on Involuntary Resettlement. The involuntary resettlement may cause severe long-term socioeconomic hardships, impoverishment and environmental damages unless appropriate measures are carefully planned and carried out. The JICA requires that involuntary resettlement should be avoided where feasible, or minimize exploring all viable alternative project designs. In cases, it becomes unavoidable; the affected persons should be meaningfully consulted providing them an opportunity to participate in planning and implementing the resettlement program. They should be assisted in their efforts to improve their livelihoods and standard of living or at least to restore these, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher. This approach endorses the eligibility of all the categories of persons, whether with formal legal rights or without these rights, in a project, but occupying project area prior to the cut-off date established by the borrower and acceptable to the Bank.

4.5. Eligibility and Entitlements

PAPs entitled for compensation and rehabilitation are (i) PAPs losing land and other assets with legal title/ traditional land rights will be compensated, and PAPs will be rehabilitated (ii) value of assets to non title holders (iii) tenants in case of shops and compensation for their investment; (iv) owners of buildings, or other objects attached to the land; (v) PAPs losing business, income, and salaries; (vi) assistance to the non title holders (squatters, etc).

The cut-off date for those who have legal title is the date of notification. The entitlement matrix provides category wise details regarding the entitlements in relation to the R&R principles enumerated above. The following **Table 4.1** presents the entitlement matrix for the proposed Metro project.

Table 4.1 Entitlement Matrix

Category of Loss	Relocation & Rehabilitation Policy in respect of PAPs for all categories	Entitled Entity	Applicability for the project
Market value of land	To be determined as provided u/s 26 of RFCT-LARR, 2013 and spelled out in Note A and B	Title Holder	Yes
Factor by which the market value is to be multiplied	1.00 (one) to 2.00 (Two) based on the distance of project from urban area, as may be notified by the appropriate Government.	Title Holder	Yes
Value of assets attached to land or building	To be determined as provided u/s 29 of RFCT-LARR, 2013	Title Holder/ Non title holders	Yes
Solatium	Equivalent to one hundred percent of the market value of land multiplied by the factor specified plus value of assets attached to land.	Title Holder	Yes
Final award in urban areas	Market value of land multiplied by the factor specified plus value of assets attached to land	Title Holder	Yes
Other component if any to be included	Interest on compensation payable to the affected families as notified by the concerned State Government or at the rate of 12% per annum from the date of LA notification under section 11 RFCT-LARR 2013	Title Holder	Yes
Provision of housing units in case of displacement	All affected families defined u/s 3C of RFCT-LARR 2013 required relocating due to the Project for which land is being acquired including land owners, customary dwellers and occupiers whose	NA	No

Category of Loss	Relocation & Rehabilitation Policy in respect of PAPs for all categories	Entitled Entity	Applicability for the project
	<p>livelihood is primarily dependent on the affected land.</p> <p>The benefits shall also be extended to any affected family which is without homestead land and which has been residing in the area continuously for a period of not less than three years preceding the date of notification of the affected area and which has been involuntarily displaced from such area u/s 1(2) of Second Schedule of RFCT-LARR, 2013</p>		
Land for Land	<p>In the case of irrigation project, as far as possible and in lieu of compensation to be paid for land acquired, each affected family owning agricultural land in the affected area and whose land has been acquired or lost or who has, as a consequence of the acquisition or loss of land, been reduced to the status of a marginal farmer or landless, shall be allotted, in the name of each person included in the records of rights with regard to the affected family, a minimum of one acre of land in the command area of the project for which the land is acquired:</p> <p>Provided that in every project those persons losing land and belonging to the Scheduled Castes or the Scheduled Tribes will be provided land equivalent to</p>	NA	No

Category of Loss	Relocation & Rehabilitation Policy in respect of PAPs for all categories	Entitled Entity	Applicability for the project
	land acquired or two and a one-half acres, whichever is lower		
Offer for Developed land	<p>In case the land is acquired for urbanization purposes, twenty percent of the developed land will be reserved and offered to land owning project affected families, in proportion to the area of their land acquired and at a price equal to the cost of acquisition and the cost of development:</p> <p>Provided that in case the land owning project affected family wishes to avail of this offer, an equivalent amount will be deducted from the land acquisition compensation package payable to it.</p>	NA	No
Choice of Annuity or Employment	<p>The appropriate Government shall ensure that the affected families are provided with the following options:</p> <p>Where jobs are created through the project, after providing suitable training and skill development the required field, make provision for employment at a rate not lower than the minimum wages provided for in any other law for the time being in force, to at least one member per affected family in the project or arrange for a job required; or</p> <p>One time payment of five lakhs rupees per affected family; or</p> <p>Annuity policies that shall pay not less</p>	Title Holder or Non- Title Holder	Yes

Category of Loss	Relocation & Rehabilitation Policy in respect of PAPs for all categories	Entitled Entity	Applicability for the project
	than two thousand rupees per month per family for twenty years, with appropriate indexation to the Consumer Price index for Agricultural Labourers		
Subsistence grant for displaced families for a period of one year	Each affected family (losing residential, or/and commercial structures) defined u/s 3 or RFCT-LARR, 2013, displaced by the project. In addition to this amount, the Scheduled Castes and the Scheduled Tribes displaced from Scheduled Areas shall receive an amount equivalent to fifty thousand rupees.	Title Holder or Non- Title Holder	Yes No
Transportation cost for displaced families	Each displaced family in owner and non-title holder categories defined u/s 3 of RFCT-LARR, 2013	Title Holder or Non- Title Holder	Yes
Cattle shed/small shops cost	Each affected family having cattle or having a small shop	Title Holder or Non- Title Holder	Yes
One-time grant artisan, small traders and certain others	Each affected family of an artisan, small trader or self-employed person or an affected family which owned non-agricultural land or commercial, industrial or institutional structure in the affected area, and which has been involuntarily displaced from the project affected area due to land acquisition, shall get one-time financial assistance of such amount as the appropriate Government may, by	Title Holder	Yes

Category of Loss	Relocation & Rehabilitation Policy in respect of PAPs for all categories	Entitled Entity	Applicability for the project
	notification, specify subject to a minimum of twenty-five thousand rupees.		
One-time Resettlement Allowance	Each affected family shall be given a one-time "Resettlement Allowance" of fifty thousand rupees only.	Title Holder or Non- Title Holder	Yes
Stamp duty and registration free	<p>1) The stamp duty and other fees payable for registration of the land or house allotted to the affected families shall be borne by the Requiring Body.</p> <p>2) The land for house allotted to the affected families shall be free from all encumbrances.</p> <p>3) The land or house allotted may be in the joint names of wife and husband of the affected family.</p>	Title Holder	Yes
Provision of Resettlement Sites	Groups of affected families relocated by the project in block in resettlement sites established for the purpose.	NA	No
Loss of Community Infrastructure and Common Property Resources	The structures shall be replaced.	Yes	Yes
Mitigation of Temporary Impacts on crop and Assets on land	Affected owners of land & assets	Title holders	Yes

4.6 LAND ACQUISITION PROCESS

The private land acquisition will be initiated under RFCTLARR, 2013, however, private land can be procured through the mutual negotiation.

ACQUISITION PROCESS OF GOVERNMENT LAND

Procedure for transfer of Govt. Land is as follows.

- Survey and Identification of land pocket with respect to station building, viaduct, entry-exit.
- Identification of ownership i.e Name of Department
- Placing requisition to respective departments
- A joint survey of Land with respective departments
- Organizing meetings at various levels involving all stakeholders
- Allotment of Land by the competent authority

PROCESS OF DIRECT PURCHASE OF PRIVATE LAND

Price of private land to be acquired for the Patna metro corridors will be based on provisions of the RFCTLARR Act, 2013 or through negotiation with the owner (direct purchase).

In the case of direct purchase of land, concerned CPM in-charge of the project will identify the critical land requirement, name of owners/occupants on the land, copy of ownership documents and enquire from owners whether they are willing to sell the land to PMRC directly. Subsequently, concerned CPM in-charge of the project will initiate a proposal for direct purchase of land through Land Cell of PMRC. The nominated standing committee for land acquisition will deal with the matter. To assist the Committee, an expert in the field of determining the fair market value of land, verification of ownership document, search of title, preparation of sale deed and getting it registered with Sub Registrar and mutated from Revenue Authorities, will then be appointed. The expert shall recommend the fair market value of the land and property for the consideration of the committee.

The valuation of the land/ property shall also be carried out through two independent valuers to be appointed by the MD/PMRC on the recommendation of Committee. The valuation report by independent valuers will be received in a

sealed cover. Standing Committee will submit a preliminary report to MD/PMRC based on the input given by the expert. Thereafter, MD/PMRC will order for opening the valuation report of the independent valuers. Committee will then negotiate with the owner/occupant of the land to arrive at the compensation to be paid and submit its final recommendation to the Standing, wherein one retired Senior Govt. Officer may also be associated and the recommendation will then put up to PMRC for the final decision.

CHAPTER 5

INSTITUTIONAL FRAMEWORK

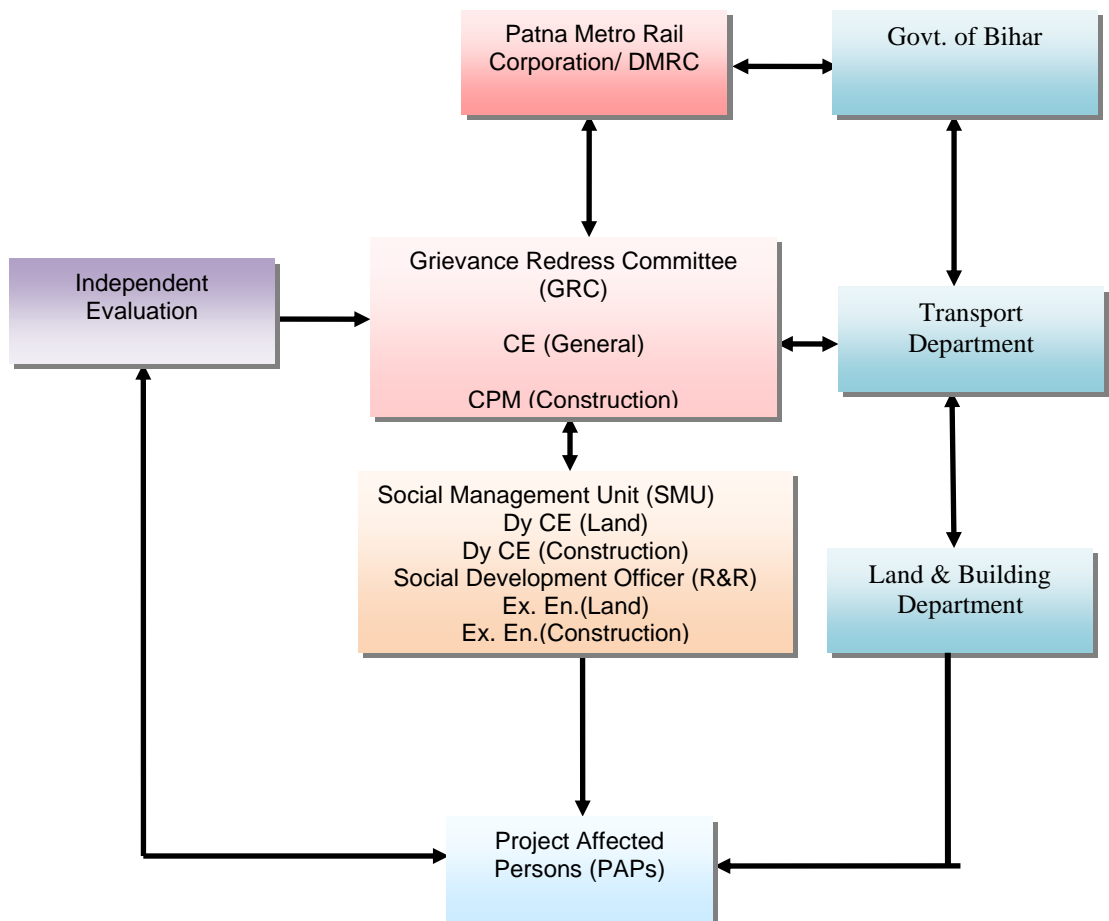
5.1 Institutional Arrangement

The implementation of Resettlement Action Plan (RAP) requires involvement of various institutions at different stages of project cycle. This section deals with roles and responsibilities of various institutions for a successful implementation of the RAP. The institutions to be involved in the process are as follows:

1. Patna Metro Rail Corporation (PMRC)
2. Delhi Metro Rail Corporation (DMRC)
3. Office of the District Collector in Patna.

The institutional framework for RAP implementation is shown in **Figure 5.1**.

Figure 5.1 Institutional Chart for RAP Implementation



5.1.1 PMRC/ DMRC

Patna Metro Rail Corporation will be the Project executing and implementing agency for the proposed metro rail project in Patna. PMRC will be overall in charge of rehabilitation and resettlement issues such as implementation, monitoring and execution of land acquisition and resettlement issues. The designated engineering department headed by Chief Project Manager in Project Authority will assess the requirement of land acquisition and resettlement based on the engineering design. Project Authority will be responsible for coordinating with other concerned government departments for land acquisition, planning and implementation of RAP which will include the disbursement of compensation, assistance, shifting and relocation of affected people. Project Authority will also arrange/ provide vocational training and other welfare assistance to the affected people.

To ensure proper coordination and execution of the land acquisition and resettlement issues and to ensure coordination with the implementing agency, an independent evaluation consultant (Resettlement & Rehabilitation) with educational background of master in social science i.e. Social Work (MSW) & Sociology or an organization with similar expertise, may be hired by Project Authority for mid and end term evaluation of implementation of resettlement and rehabilitation activities. The independent evaluation consultant could review RAP implementation in light of the objectives, targets, budget and duration that is laid down in the plan. Project Authority will report to funding agency regarding the progress made on land acquisition and implementation of resettlement plan.

5.1.2 Land and Building Department

Land and Building Department, Government of Bihar is responsible for large-scale acquisition of land for planned development. Land Acquisition Branch of the Department is responsible for overall coordination between various agencies involved in land acquisition. For acquisition of private land for the proposed project, Project Authority will place requisition of land to Transport Department, who in turn will forward the requisition to Land & Building Department. On receipt of the proposal for acquisition of land from Transport Department, the Land Acquisition Branch of Land & Building Department will forward the same to Land Acquisition Collector (LAC) to initiate the process for acquisition of land. Land will be acquired by LAC/ Land & Building Department under the new Act, viz., "The Right to Fair

Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (No. 30 OF 2013)” and Bihar Government Rules (2014).

5.1.3 Office of the District Collector

The proposed project covers Patna city of Bihar. The district has Land Acquisition Collector (LAC). The office of the LAC will be responsible for the land acquisition. Land Acquisition Collector will coordinate between the Project Authority and the affected land owners. Project Authority will provide technical details and the land acquisition plans to the LAC. The LAC will be responsible for initiating and issuing notice under “The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (No. 30 OF 2013)” and the LAC will be responsible for conducting the valuation of affected land and assets and will decide the compensation. The disbursement of compensation for land and assets of the legal owners will be done by LAC.

5.1.4 Social Management Unit (SMU)

Project Authority will have a division which shall be looking after the social safeguards activities. This is headed by Deputy Chief Engineer (Land) who coordinates with other divisions/ sections of Project Authority on social, rehabilitation and resettlement issues. Other members of this unit will include the concerned Deputy Chief Engineer of the line/ corridor referred to as Deputy Chief Engineer (construction), Executive Engineer (land) and Executive engineer of the concerned line/ corridor. Project Authority will do the overall coordination, preparation, planning, implementation, and financing of RAP. The Social Management Unit (SMU) of Project Authority will work closely with other staff of the Project Authority and will be specifically looking after the social safeguards issues. The SMU shall ensure that all land acquisition issues are handled according to the LA policy/ guidelines as it is laid down in this report. It will also monitor that all the procedural and legal issues involved in land acquisition are fulfilled. The SMU will assist the Project Authority for getting all the necessary clearances and implementation of the resettlement activities prior to start of any civil work. A Social Development Officer (R&R) with background of social science may be added in this SMU as full time to supervise and monitor overall activities of RAP and he/ she will report day to day progress to Deputy Chief Engineer (Land).

Some of the specific functions of the SMU in regards to resettlement management will include the following:

- Overall responsibility of planning, implementation and monitoring of land acquisition and resettlement and rehabilitation activities in the Project;
- Ensure availability of budget for R&R activities;
- Liaison lined agencies support for land acquisition and implementation of land acquisition and resettlement
- Coordinating with line Departments, especially with the LAC.

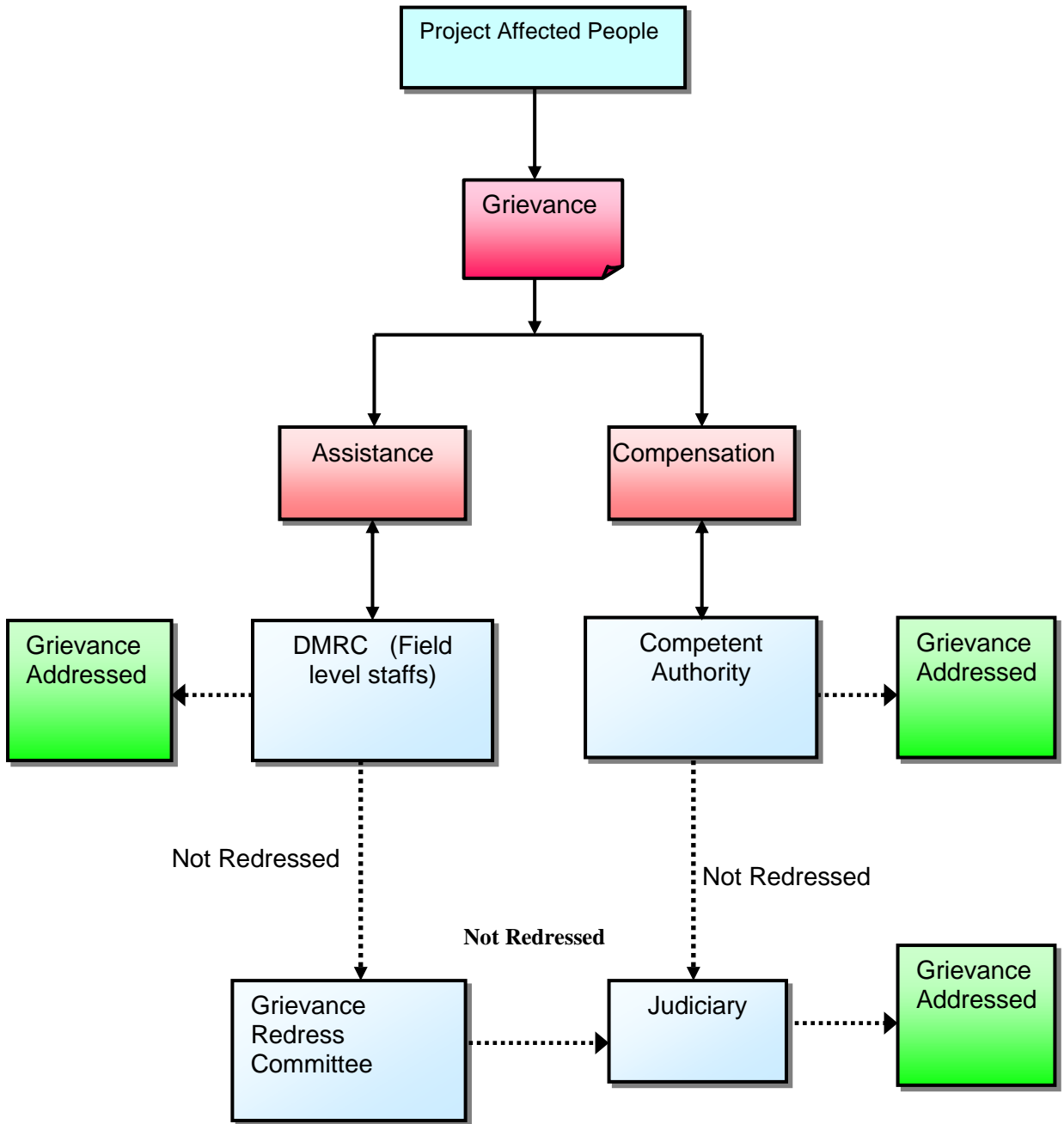
5.2 Grievance Redressal Committee

Efficient grievance redressal mechanism will be developed to assist the PAPs resolve their queries and complaints. Grievances of PAPs will be first brought to the attention of SMU, Project Authority. Grievances not redressed by SMU will be brought to the Grievance Redressal Committee (GRC). The composition of the proposed GRC will have Chief Engineer level officers nominated by top management. The GRC will address only rehabilitation assistance issues. Grievances related to ownership rights and land compensation can be dealt in court as per LAA. The main responsibilities of the GRC are to:

- i. provide support to PAPs on problems arising from land/property acquisition;
- ii. record PAPs grievances, categorize, and prioritize grievances and resolve them;
- iii. immediately inform the SMU of serious cases; and
- iv. report to PAPs on developments regarding their grievances and decisions of the GRC.

Other than disputes relating to ownership rights under the court of law and compensation, GRC will review grievances involving all resettlement benefits. When any grievance is brought to the field level staff, it should be resolved within three months from the date of complaint. The GRC will meet every month (if grievances are brought to the Committee), determine the merit of each grievance, and resolve grievances within three months of receiving the complaint failing which the grievance can be referred to appropriate court of Law for redressal by the PAP. Records will be kept of all grievances received including: contact details of complainant, date the complaint was received, nature of grievance, agreed corrective actions and the date these were effected, and final outcome. A flow chart of grievances redressal is indicated in **Figure 5.2**.

Figure-5.2 Stages of Grievance Redressal



5.3 Role of Stakeholders in RAP

Role of different stakeholders for implementation of resettlement plan is presented in **Table 5.1**.

Table-5.1 Role of Stakeholders for Implementation of RAP

POSITION	RESPONSIBILITIES
<p>Chief Engineer (Project Authority)</p>	<ul style="list-style-type: none"> • Implementation of R&R activities of LAP; • Land acquisition and R&R activities in the field; • Ensure availability of budget for R&R activities; • Liaison with district administration for support for land acquisition and implementation of R&R; and • Participate in the district level committee.
<p>Dy. Chief Engineer (Project Authority)</p>	<ul style="list-style-type: none"> • Manage the day to day implementation of R&R activities and report the same to Chief Engineer, • Monitor land acquisition and progress of R&R implementation; • Develop communication strategy for disclosure of RAP; • Liaison with district administration for government's income generation and development programs for the PAPs; • Monitor physical and financial progress on land acquisition and R&R activities; • Organize meetings with R&R officer and other support staffs to review the progress on R&R implementation;
<p>Grievance Redressal Committee</p>	<ul style="list-style-type: none"> • To provide support for the affected persons on problems arising out of LA/ property acquisition; • To record the grievances of the APs, categorize and prioritize the grievances that need to be resolved by the Committees; • To inform Chief Engineer of each corridor of serious cases within an appropriate time frame and

POSITION	RESPONSIBILITIES
	<ul style="list-style-type: none"> To report to the aggrieved parties about the development regarding their grievance and decisions of the project authorities.
<p align="center">Independent Evaluation Agency</p>	<ul style="list-style-type: none"> Evaluate the implementation of the various provisions and activities planned in the RAP; Review the plan implementation in light of the targets, budget and duration that had been laid down in the plan.
<p align="center">Judiciary</p>	<ul style="list-style-type: none"> The case not resolved at GRC shall be put to court of law.

5.4 Implementation Schedule

The implementation schedule for resettlement plan will be scheduled as per the overall project implementation. All activities related to the land acquisition and resettlement must be planned to ensure that 80% compensation is paid prior to displacement and 100% compensation before commencement of civil works. Public consultation, internal monitoring and grievance redressal will be undertaken intermittently throughout the project duration. However, the schedule is subject to modification depending on the progress of the project activities. As part of advance actions, Project Authority will establish the GRC, and initiate the resettlement implementation. The R&R activities of proposed project are divided in to three broad categories based on the stages of work and process of implementation. The details of activities involved in these three phases are project preparation phase, RP implementation phase and Monitoring and Evaluation phase.

5.4.1 Project Preparatory Stage (Pre- Implementation Stage)

Setting up relevant institutions for the resettlement activities will be the major task during the preparatory stage which is pre implementation phase. The major activities to be performed in this period include establishment of Environment and Social Management Division (ESMD) and additionally, the Grievance Redressal Committee (GRC) needs to be appointed at this stage.

5.4.2 RAP Implementation Stage

The Resettlement/ Rehabilitation Action Plan (RAP), at this stage, needs to be approved and will be disclosed to the PAPs. Upon the approval of RAP, all the arrangements for fixing the compensation and the disbursement needs to be done which includes payment of all eligible assistance; relocation of PAPs; initiation of economic rehabilitation measures; site preparation for delivering the site to contractors for construction and finally commencement of the civil work. Considering the lengthy and time taking process for land acquisition, this step has been taken by the Project Authority in advance which is being followed as per the Land Acquisition Act. However, the resettlement and rehabilitation fund will be monitored as part of the RAP implementation at this stage. Internal monitoring will be the responsibility of Project Authority which will start in early stage of the project when implementation of RAP starts and will continue till the completion of the implementation of RAP. The Project Authority will be responsible for carrying out the monitoring on half yearly basis.

5.4.3 RAP Implementation Schedule

Corridor wise RAP implementation schedule for R&R activities in the proposed project including various sub tasks and time line matching with civil work schedule is prepared and presented in **Table 5.2**. The schedule of construction will be after payment of Full compensation. However the civil work may start in sections where full compensation has been paid.

Table 5.2 RAP Implementation Schedule for Metro Project

Description \ Quarter of the year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Identification of Required Land	■															
Community/ Public Consultation	■															
Disclosure of RAP	■															
Notification of Land Acquisition		■														
Valuation of Structures for Compensation			■													
Payment for Land Acquisition			■													
Payment for Relocation of PAPs			■													
Internal Monitoring			■													
External Evaluation							■								■	

1st Quarter of year = first quarter (3 months) of start of project Activities

CHAPTER 6

PUBLIC CONSULTATION

6.1 Background

Public consultation is a continuous process throughout the project period, during project preparation, implementation, and monitoring stages. The sustainability of any infrastructure development depends on the participatory planning in which public consultation plays a major role. Experience indicates that involuntary resettlement generally causes numerous problems for the affected population. These problems may be reduced to a great extent if people are properly informed and consulted about the project and allowed to make meaningful choices or preferences. This serves to reduce the insecurity and opposition to the project which otherwise are likely to occur during project implementation. The overall objective of the consultation program is to minimize negative impact in the project corridors and to make people aware of the project.

Public consultation is required after giving advanced notice of fifteen days at fixed locations easily accessible to PAFs and other interested stakeholders. Due to spread of Corona pandemic throughout the country and Patna city, alternative method has been used for public consultation keeping in view the requirement of social distancing. Group Discussions were held with various sections of affected persons such as traders, women and other inhabitants in the areas likely to be affected by land acquisition.

Advance Notice was served to the Project Affected Families and others interested to participate on 8th May and delivered to them by hand and the time of Public consultation was fixed for 27th to 30th May 2020 for conducting individual meetings at their place keeping sanitization, wearing masks and maintaining social distancing in view of the spread of corona infections and ongoing pandemic of Covid-19.

Thus, the meeting arranged at the place of individual PAF and with small group of PAPs in the vicinity of their structure wherever feasible. During such meetings, use of mask was emphasized along with sanitization and maintaining social distancing and discussions were conducted to get wider public input from the primary and secondary stakeholders. The PAFs and communities, particularly the affected

small business enterprises, took interests in the meetings. This consultative approach led to identification of a range of issues related to road diversion and improvements before construction of the Project including the Route alignment and depot, reducing disruption of livelihoods and improved design for roadside amenities/ services for the residents. Perhaps more importantly, the affected communities strongly felt a sense of participation in the decision-making process.

Keeping in mind the significance of consultation and participation of the people likely to be affected or displaced due to the proposed project, both formal and informal discussions were conducted with PAPs during visits during **27th to 30th May 2020**. During field visits the social experts of DMRC consulted with the key Project Affected People/ stakeholders and discussed the issues regarding land acquisition, structures likely to be affected, high social risk, presence of significant CPR (Common Property Resource) and vulnerable population, mitigation measures, value of affected assets, and other assistance & allowances. In this chapter detailed methodology adopted for stakeholder consultation and key findings of consultations are discussed.

6.2 Approach and Methods of Consultation

Public consultations/ Group Discussions were held with various sections of affected persons such as traders, women and other inhabitants in the areas likely to be affected by land acquisition. During public consultations, issues related to land acquisition, compensation, income restoration, employment generation, information flow, grievance redressal, safety, role of administration etc. were discussed. The RAP addresses all issues raised during public consultation and recommends institutional strengthening measures as well. The following methods were adopted for conducting public consultation:

- Served Notice of meeting on 8th May for arranging the meetings at different locations in the vicinity of affected structures.
- Group consultation at affected places along the alignment.
- Focus Group Discussions (FGD) with different groups of affected people including the PAPs.
- Discussions and interviews with key informants
- Sharing the opinion and preferences of the PAPs

The signatures of the PAP participants were taken on attendance sheets at different locations. The brief project details and broad provisions of RFCTLARRA were explained. PAPs were asked to put forward their point of view and suggestions. The key informants included both individuals and groups namely (i) head of households; (ii) household members; (iii) local people. Public consultations were organized at Rukanpura, Raja Bazar, Zero Miile Gandhi Maidan and Bigrahpur between 27th May 2020 and 30th May 2020.

6.3 Key Findings of Consultations

The key findings of public consultation are presented in **Table 6.1**.

Table 6.1 Stakeholder Consultation

Place	No. of Attendees	Issues Discussed	Important Opinion & Views	Reply
Rukanpura on 27-05-2020	Meeting held at individual level. 5-6 people in a group.	Displacement	The tenant has been living for long time. The private land acquisition should be avoided	Due to site constraints /land constraints, private land acquisition is necessary.
		Loss of Revenue	PMRC should compensate for the loss of revenue during the construction stage	This request will be examined against the Land Acquisition Act, 2013.
Raja Bazar on 27-02-2020 and 30-5-2020	Meeting held at individual level. 5-6 people in a group. Three different meetings held.	Loss of revenue	At some location, partial land will be acquired. PMRC should compensate for the loss of revenue during the construction stage	This request will be examined against the Land Acquisition Act, 2013.
		Displacement	Many PAPs mentioned that they	At the time of payment of award money this aspect

Place	No. of Attendees	Issues Discussed	Important Opinion & Views	Reply
			were having their shops on rent.	shall be considered and both owner and tenant may be involved in agreements.
Gandhi Maidan on 29-05-2020	Meeting held at individual level. 8-9 people in a group. One stakeholder meeting held	Rehabilitation	- People working at tamtam pada express their concern that they have been living for a long time. - Issue of rehabilitation and alternate land was discussed.	- Compensation/ rehabilitation will be as per Entitlement matrix - In view of R&R policy, PMRC will look into this suggestion of nearby land availability.
Bigrahpur-Mithapur On 29.05.2020	Meeting held at individual level. 5-6 people in a group	Displacement and Compensation to owners and Tenant	The owners expressed their concern about their investments and the compensation amount.	Project Authority shall compensate the land owners/ shopkeepers and other dependents within R & R policy framework.
		The alignment is after Mithapur will affect many structures.	Stakeholder suggested to review the alignment	Alternatives have been considered and thereafter the route has been finalized.
		Loss of revenue	- PMRC should compensate for the loss of revenue during the construction stage	-This request will be examined against the Land Acquisition Act, 2013.
Zero Mile	Meeting held at	Displacement	Being Kiosks on Govt land they had	Advised that compensation will be

Place	No. of Attendees	Issues Discussed	Important Opinion & Views	Reply
	individual level. 5-6 people in a group		no major issues. However, asked for consideration for avoiding them	given as per R&R policy framework.

From the above table it is evident that different people have different type of concern due to implementation of Metro project considering that the land acquisition and project construction will affect them adversely. However, some of them opined that the project is in the larger interest of people. According to them loss of land/ loss of shop will mean a lot of problem for people. Compensation for acquisition of private land should be given to those who are likely to lose their land at the current market price. Simultaneously, the tenants are also equally important because of livelihood impacts. Many people have also requested employment by absorbing their youth in Project / Other organization on permanent basis. People wanted compensation and Job opportunity in the project. During public consultations, issues related to land acquisition, compensation, income restoration, employment generation, information flow, grievance redressal, safety, role of administration etc. were discussed. The environmental impacts of the project, both during construction and operation, were explained. Measures to mitigate hardships caused by environmental impacts were shared with the stakeholders. However, the RAP addresses all social issues raised during public consultation and recommends institutional strengthening measures as well.

Glimpses of Public Consultation Meetings



Public Consultation Meetings



Public Consultation Meetings



Public Consultation Meetings

6.4 Information Disclosure and Consultation

Advance notice was served to all the PAPs giving time of 15 days to conduct Public Consultation meeting at their venues in the light of Corona pandemic spread. The notice were send to them on 8th May 2020 fixing the date of public consultation on 27 to 30th May 2020. Accordingly, a team of consultant and Project Authority visited the locations of PAPs and conducted consultation meetings to get wider public

input from the primary and secondary stakeholders. The roadside communities, particularly the affected small business enterprises, took tremendous interests in the meetings. This consultative approach led to identification of a range of issues related to road diversion and improvements before construction of Danapur to Khemni Chak and Patna Station to New ISBT corridors including the Route alignment and depot, reducing disruption of livelihoods and improved design for roadside amenities/ services for the community. Perhaps more importantly, the affected communities strongly felt a sense of participation in the decision-making process. People mainly wanted compensation and jobs in the project.

During project implementation, Project Implementation Unit (PIU) of DMRC with the help of Dy. Chief Engineer (Project Authority) will conduct Information and Community Consultation Program (ICCP) in the project area before starting the process of land acquisition. The main objectives of the ICCP should be to: (i) inform and explain the entitlement policy and the various options to the affected people prior to payments of compensation and other assistance; and (ii) socially prepare the Small Business Enterprises (SBE), and households for relocation and assist them in the process. As a result, the affected families/ persons will be well informed about the project and their entitlements. PIU of DMRC will prepare an information brochure in local language, i.e., Hindi, explaining the RAP, the entitlements and the implementation schedule. The RAP will be distributed to all affected households/ SBEs.

6.5 Community Participation during Project Implementation

The effectiveness of the resettlement action plan (RAP) is directly related to the degree of continuing involvement of those affected by the project. Several additional rounds of consultations with PAPs will form part of the project implementation. Consultations during resettlement plan implementation will involve agreements on compensation and assistance options and entitlement package. Another round of consultation will occur when compensation and assistance are provided. The following set of activities will be undertaken for effective implementation of the plan:

- a) PIU will conduct information dissemination sessions in the project area and solicit the help of the local community/ leaders and encourage the participation of the PAP's in RAP implementation.

- b) Consultation and focus group discussions will be conducted with the vulnerable groups like women, families of BPL, Scheduled Castes to ensure that the vulnerable groups understand the process and their needs are specifically taken into consideration.
- c) Project Authority will organize public meetings, and will appraise the communities about the progress in the implementation of project works and payment and assistance paid to the community. Regular update of the program of resettlement component of the project will be placed for public display at the project offices.
- d) Taking into consideration the risks of HIV/ AIDs during the project construction period and road safety issues, specialist will be invited to undertake activities related to their core competencies.

Lastly, participation of PAPs will also be ensured through their involvement in various local committees. PIU and field offices will maintain an ongoing interaction with PAPs to identify problems and undertake remedial measures.

CHAPTER 7

RESETTLEMENT ASSISTANCE PLAN AND COST ESTIMATE

7.1. Background

This chapter presents an overview of eligibility for entitlement, valuation of compensation for losses, income restoration and cost estimates. The present cost estimates for land and structures are based on average value of land. The budget is indicative and costs will be updated and adjusted to the inflation rate as the project continues and during implementation. However, the final compensation amount for the land acquisition and structures will be determined by the competent authority appointed under Land Acquisition Act.

7.2. Eligibility for Entitlement

The entitlement framework has the following provision for providing compensation for land acquisition and resettlement and rehabilitation of project affected families/people:

Titleholder:

Residential – Yes

- Compensation at replacement cost (both land and structure) as per assessed value or mutually agreed terms or
- If a house is lost in urban areas, a constructed house shall be provided, which will be not less than 50 sq m in plinth area. Alternatively, cash compensation may be paid on assessed value on mutually agreed terms.
- Shifting allowance @ Rs.50,000/-
- Subsistence Allowance @ Rs. 3,000/- per month for 12 months= Rs. 36,000/-
- Cattle shed/ Petty shop @ Rs.25,000/-, if any.
- One-time resettlement allowance @ Rs. 50,000/-
- Stamp duty shall be paid by the Project Authority.

Commercial: Yes

The owners running shop in their structures

- Compensation at replacement cost (both land and structure) as per assessed value or mutually agreed terms
- Shifting allowance @Rs.50,000/-
- Subsistence Allowance @ Rs. 3,000/- per month for 12 months= Rs. 36,000/-

- Cattle shed/ Petty shop annexed with house @ Rs.25,000/-, if any.
- Vulnerable to get Training @ Rs. 15000/-per PAP
- One-time resettlement allowance @ Rs. 50,000/-
- Choice of Annuity or Employment @ One-time payment of five lakhs rupees per affected family; or Annuity policies that shall pay not less than two thousand rupees per month per family for twenty years, with appropriate indexation to the Consumer Price index for Agricultural Labourers.

The Owner renting out the commercial structure: Yes

- Compensation at replacement cost (both land and structure) as per assessed value or mutually agreed terms
- Subsistence Allowance @ Rs. 3,000/- per month for 12 months= Rs. 36,000/-
- One-time resettlement allowance @ Rs. 50,000/-
- Vulnerable to get Training @ Rs. 15000/-per PAP

Non-Titleholders:

The Tenant running shops on the above commercial structure (more than 3 years): Yes

- Shifting allowance @Rs.50,000/-
- Subsistence Allowance @ Rs. 3,000/- per month for 12 months= Rs. 36,000/-
- One time resettlement allowance @ Rs. 50,000/-
- Compensation for investment in shop infrastructure based on valuation
- Choice of Annuity or Employment @ One-time payment of five lakhs rupees per affected family; or Annuity policies that shall pay not less than two thousand rupees per month per family for twenty years, with appropriate indexation to the Consumer Price index for Agricultural Labourers
- Vulnerable to get Training @ Rs. 15000/-per PAP

Tenant in case of residential unit (more than 3 years): Yes

- Shifting allowance @Rs.50,000/-
- Subsistence Allowance @ Rs. 3,000/- per month for 12 months= Rs. 36,000/-
- One time resettlement allowance @ Rs. 50,000/-

Assistance for Squatters and encroachers: Yes

- Squatters will be eligible for compensation for loss of structure as per valuation of structure.

- Shifting allowance @Rs. 50,000/
- One time resettlement allowance @ Rs. 50,000/-
- Subsistence Allowance @ Rs. 3,000/- per month for 12 months= Rs. 36,000/-
- Training @ Rs.15,000/- , if required.

Assistance for Kiosk : Yes

- All Kiosk to get Rs. 25000/- as compensation

7.3. Valuation and Compensation for Losses

Land requirements have been kept to the bare minimum and worked out on area basis. Acquisition of private land has been minimised as far as possible. Private land for Metro project shall be acquired by Government and the compensation shall be paid as per “The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (No. 30 Of 2013)”.

7.3.1 Loss of Land and Replacement Value

DPR has made the provision of cost of land including solatium on private land and payable interest on it in the project cost. The compensation will be paid to all the owners of land.

7.3.2 Loss of Structure and Replacement Value

For loss of structures, the title holders will be compensated at replacement cost as per the Relocation & Rehabilitation Policy in respect of PAPs for all categories due to implementation of Metro Project. Rehabilitation of PAFs occupying residential/dwelling units will be done by Project Authority on recommendation of LAC and approval of Land & Building Department. Those who are partially affected, and the residential structure is economically viable, shall get only the cost of land and structures. The compensation will be paid to all the owners of structures.

7.3.3 Shifting, Resettlement and Subsistence allowance

Each displaced project affected families shall be provided shifting allowance of Rs.50,000/- as transportation cost for shifting of household materials and belonging etc. Shifting allowance is one-time grant. The shifting, Resettlement and subsistence allowance will be given to only 134 PAFs out of 146. The owners of shops who have rented out their shops i.e., 9 and 3 Kiosks have been excluded from paying the shifting, Resettlement and subsistence allowance.

7.3.4 Other Structures

The common property resources are getting affected due to construction of the proposed project. The structures being used by public may also be affected. The common property resources and structures related to public utilities shall be rehabilitated in accordance to the consent of local communities. As per the provisions of Project Authority for rehabilitation of the project affected structures of public utilities and common property resources, such property shall be properly compensated or replaced on project cost.

7.4 Income Restoration

This development project will have an adverse impact on the income of PAFs. Accordingly it is the responsibility of Project Authority as the owner of the project to provide adequate provisions for restoration of livelihood of the affected families. The focus of restoration of livelihood will be to ensure that the Project Affected Persons (PAPs) are able to at least “regain their previous living standards”. The entitlement matrix proposed for this project has adequate provisions for restoration of livelihood of the affected communities. The focus of restoration of livelihoods is to ensure that the PAPs are able to at least regain their pre project living standards. To restore and enhance the economic conditions of the PAPs, various assistances are incorporated in the RAP. Project Authority will play a proactive role to mobilize PAPs to get some vocational skill training for the vulnerable groups and the vendors losing their business and income. Project Authority, under the Government social welfare scheme may provide vocational training/ skill such as trainings for painters, carpentry, plumbing, electrician work and so on for the interested PAPs.

Those who are unskilled and working as labourers in various establishments could be employed in construction sites. The special training programmes should be conducted with the help of concerned departments of Govt. of Bihar which are actively working for Poverty Alleviation Programmes in Slums and other localities. Department of Urban Community Development also conducts various training programmes leading to income generation. Especially, the Women and Child Welfare Department provides an opportunity to all concerned persons to undergo various training programmes. It conducts several vocational and technical training courses. All these courses could be available to the affected people. For this purpose, help of local NGOs could be solicited. Based on the demands of the stakeholders, the NGOs may be asked to impart training. After completion of

training, monitoring and follow up could be undertaken by Project Authority with the help of NGOs. Alternatively, one-time Annuity of Rs. 5.00 Lakh can be paid to the PAF for compensating the loss of employment.

7.5 Cost Estimate

The detail of R&R budget is given in **Table 7.1**. The total cost for resettlement and rehabilitation will be **Rs.582.19 Lakhs** excluding the cost and compensation for land and valuation of the structures by PWD/ approved valuers.

Table 7.1 Details of Cost of Resettlement and Rehabilitation (Rs.582.19 Lakh)

S. No.	Description	Entitlement	Unit	QTY	Rate Rs. Lakh	Amount Rs. Lakh
1	Cost of Land Acquisition including Solatium and interest thereon @ 12%	Replacement Cost	Ha.			*
2	Acquisition of structures					
2.1	Residential Houses ***	Compensation for residential structure	Per Unit	7		***
2.2	Commercial structure ***	Compensation for Commercial structure	Per unit	42		***
2.3	Residential + Commercial ***	Compensation for structure	Per Unit	4		***
2.4	Institutional Structure	Compensation for structure	Per Unit	1		***
2.5	Squatters	Compensation for structure	Per unit	45		***
3	Kiosk	One-time artisan grant	No.	3	0.25	0.75
4.	Subsistence Allowance #	For a period of one year @Rs.3000/ month	No.	134	0.36	48.24
5.	Shifting Allowance #	A lump sum shifting allowance of Rs.50,000/-	No.	134	0.50	67.00
6.	Resettlement Allowance #	A lump sum Resettlement allowance of Rs.50,000/-	No	134	0.50	67.00

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7.	Choice of Annuity or Employment	A lump sum compensation @ Rs. 5.0 Lakh	No.	69	5.0	345.00
8.	Vulnerable Families	Training etc	No.	28	0.15	4.20
9	Community structures (temples, public toilets etc)	Compensation for structure	Lump sum	-	-	30.00
10	Independent Evaluation		Lump sum			10.00
11	Miscellaneous		Lump sum			10.00
	Total **					582.19

Note * refers that cost of land including solatium and payable interest has been taken as cost of land in DPR.

** refers that the compensation is payable only on actual displacement of family.

*** Additional Valuation of land and/ or structure to be done by Govt. Approved Valuer/ PWD

Excludes 9 Owners having rental income as secondary income and 3 Kiosks. A detail list of project affected families eligible for Subsistence, Transportation and Re-settlement allowance has been given in **Annexure 7**.

CHAPTER 8

MONITORING AND EVALUATION

8.1. Background

Monitoring & Evaluation are critical activities in involuntary resettlement. Monitoring involves periodic checking to ascertain whether activities are progressing as per schedule while evaluation is essentially to assess the performance of PAPs at the end of the project. For this purpose, a monitoring and evaluation (M&E) program is required to be developed to provide feedback to project management which will help keep the programs on schedule and make them successful. Monitoring provides both a working system for effective implementation of the RAP by the project managers, and an information channel for the PAPs to assess how their needs are being met.

RAP implementation will be monitored both internally and externally. Project Authority will be responsible for internal monitoring through their field level offices and will prepare quarterly reports on the progress of RAP implementation. An Independent Evaluation Consultant may be hired by Project Authority for mid and end term evaluation of RAP implementation.

8.2. Internal Monitoring

The internal monitoring for RAP implementation will be carried out by Project Authority. The main objectives of internal monitoring are to:

- measure and report progress against the RAP schedule;
- verify that agreed entitlements are delivered in full to affected people;
- identify any problems, issues or cases of hardship resulting from the resettlement process, and to develop appropriate corrective actions, or where problems are systematic refer them to the management team;
- monitor the effectiveness of the grievance system
- periodically measure the satisfaction of project affected people.

Internal monitoring will focus on measuring progress against the schedule of actions defined in the RAP. Activities to be undertaken by the Project Authority will include:

- Liaison with the Land Acquisition team, construction contractor and project affected communities to review and report progress against the RAP;
- Verification of land acquisition and compensation entitlements are being delivered in accordance with the RAP;
- Verification of agreed measures to restore or enhance living standards are being implemented;
- Verification of agreed measures to restore or enhance livelihood are being implemented;
- Identification of any problems, issues, or cases of hardship resulting from resettlement process;
- Through household interviews, assess project affected peoples' satisfaction with resettlement outcomes;
- Collection of records of grievances, follow up that appropriate corrective actions have been undertaken and that outcomes are satisfactory;

Monitoring is a continuous process and will be carried out by Resettlement Specialist on regular basis to keep track of the R&R progress. For this purpose, the indicators suggested have been given in **Table 8.1**.

Table 8.1 Indicators for Monitoring of RAP Progress

Indicators	Parameters Indicators
Physical	Extent of land acquired
	Number of structures dismantled
	Number of land users and private structure owners paid compensation
	Number of families affected
	Number of PAPs receiving assistance/compensation
	Number of PAPs provided transport facilities/shifting allowance
	Extent of government land identified for house sites
Financial	Amount of compensation paid for land/structure
	Cash grant for shifting oustees

Indicators	Parameters Indicators
	Amount paid for training and capacity building of staffs
	Amount for restoration of CPR (Common Property Resource)
Social	Area and type of house and facility at resettlement site
	Number of time GRC met
	Number of appeals placed before grievance redressed cell
	Number of grievances referred and addressed by GRC
	Number of cases referred and addressed by arbitration
	Number of PAPs approached court
	Women concern
Economic	Entitlement of PAPs-land/cash
	Number of business re-established
	Utilization of compensation
	House sites/business sites purchased
	Successful implementation of Income
	Restoration Schemes
Grievance	Consultation for grievance redressed
	PAPs knowledge about their entitlements
	Cases referred to court, pending and settled
	Number of grievance cell meetings
	Number of cases disposed by SMU to the satisfaction of PAPs.

Field Offices will be responsible for monitoring the day-to-day resettlement activities of the project. Baseline socio-economic census and the land acquisition data provide the necessary benchmark for field level monitoring. A format for monitoring of RAP implementation is presented in **Annexure 6**.

8.3. Independent Evaluation

As mentioned earlier, an Independent Evaluation Agency (IEA) will be hired by Project Authority for mid and end term evaluation. A detailed Terms of Reference for IEA is found as **Annexure 8**.

The following should be considered as the basis for indicators in monitoring and evaluation of the project. The list of impact performance indicators suggested to monitor project objectives is delineated in **Table 8.2**.

Table 8.2 Indicators for Project Outcome Evaluation

Objectives	Risk Factor	Outcomes and Impacts
<ul style="list-style-type: none"> ❖ The negative impact on persons affected by the project will be minimized. ❖ Persons losing assets to the project shall be compensated at replacement cost. ❖ The project-affected persons will be assisted in improving or regaining their standard of living. ❖ Vulnerable groups will be identified and assisted in improving their standard of living. 	<ul style="list-style-type: none"> ❖ Resettlement plan implementation may take longer time than anticipated ❖ Institutional arrangement may not function as efficiently as expected ❖ NGO may not perform the task as efficiently as expected ❖ Unexpected number of grievances ❖ Finding a suitable rehabilitation site for displaced population ❖ PAPs falling below their existing standard of living 	<ul style="list-style-type: none"> ❖ Satisfaction of land owners with the compensation and assistance paid ❖ Type of use of compensation and assistance by land owners ❖ Satisfaction of structure owner with compensation and assistance ❖ Type of use of compensation and assistance by structure owner ❖ % of PAPs adopted the skill acquired through training as only economic activity ❖ % of PAPs adopted the skill acquired through training as secondary economic activity ❖ % of PAPs reported increase in income due to training ❖ % PAPs got trained in the skill of their choice

Objectives	Risk Factor	Outcomes and Impacts
		<ul style="list-style-type: none"> ❖ Role of NGO in helping PAPs in selecting trade for skill improvement ❖ Use of productive asset provided to PAPs under on time economic rehabilitation grant ❖ Type of use of additional assistance money by vulnerable group ❖ Types of grievances received ❖ No. of grievances forwarded to GRC and time taken to solve the grievances ❖ % of PAPs aware about the GRC mechanism ❖ % of PAPs aware about the entitlement frame work mechanism ❖ PAPs opinion about NGO approach and accessibility

8.4. Reporting Requirements

Project Authority will be responsible for supervision and implementation of the RAP. Project authority will prepare quarterly progress reports on resettlement activities. The Independent Evaluation Consultant will submit mid and end term evaluation report to Project Authority and determine whether resettlement goals have been achieved, more importantly whether livelihoods and living standards have been restored/ enhanced and suggest suitable recommendations for improvement.

List of Affected Structure of Corridor 1 & 2**List of Affected Structure of corridor 1**

Sr. No	Affected Structure	Property Category	Type of structure	No. of PAFs	Tenancy	Magnitude of Impact	Remarks
Location: - Rukan Pura							
1	House (Sheds) (RK1)	Residential	Kaccha	1	Owner	Partial	
2	House (RK2)	Residential	Pucca	2	1 tenant 1 owner	Full	
3	Tanishq show room Shed (RK3)	Commercial	Semi-Pucca	1	Owner	Full	
Location: Raja Bazar							
1	Maruti Suzuki Service Centre (RB1)	Commercial	Pucca	12	6 owners 6 tenants	Partly	
2	PNB Campus (RB2)	Residential	Semi-Pucca	2	1 owner 1 tenant	Partial	
3	House (RB3)	Residential	Pucca	2	1 owner 1 tenant	Full	
4	Flex Printing Shop (RB4)	Commercial	Semi - Pucca	1	1 tenant	Full	
5	Sudha Milk Parlour (RB5)	Commercial	Semi-Pucca	1	1 lessee	Full	
6	A shed in Paras Hospital (RB6)	Institutional	Semi-Pucca	NA		Partly	
Location: Mithapur/ Bigrapur							
1	Milk Parlour (MT1)	Commercial	Semi-Pucca	1	1 lessee	Full	1 shop
2	Fan Shop (MT2)	Commercial	Kaccha	2	1 owner 1 tenant	Full	1 shop
3	House (MT3)	Commercial	Pucca	2	1 owner 1 tenant shop	Partial	1 shop
4	Maa Kamla Utsav Community Hall (MT4)	Commercial	Pucca	2	1 owner 1 lessee	Full	
5	House (MT5)	Residential	Pucca	5	5 owners	Full	
6	G+3 Building (MT6)	Commercial	Pucca	4	1 Owner, 3 tenants	Full	4 shop
7	G+4 Building (MT7)	R+C	Pucca	3	1 owner, 2 tenants	Full	2 shop
8	Workshop (MT8)	Commercial	Semi-Pucca	1	1 tenant	Full	1 shop
9	Lemon Mandi (MT9)	Commercial	Semi-Pucca	9	1 owner 8 tenant shops	Full	8 shops

10	House with shop (MT10)	R+C	Pucca	1	1 owner	Full	1 shop
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List of Affected Structure of corridor 2

Sr. No	Affected Structure	Property Category	Type of structure	No. of PAFs	Tenancy	Magnitude of Impact	Remarks
Location: - Akashwani							
1	Milk Parlour (AK1)	Commercial	Semi-Pucca	1	Lessee	Full	
2	Paneer shop (AK2)	Commercial	Semi-Pucca	2	1 owner, 1Tenant	Full	
3	Pan Shop (AK3)	Commercial	Semi-Pucca	1	Tenant	Full	
4	Shoe shop (AK4)	Commercial	Semi-Pucca	2	1 owner 1Tenant	Full	
5	Tea Shop (AK5)	Commercial	Kuccha	2	Tenant	Full	
Location: Gandhi Maidan							
1	Milk Parlour (GM1)	Commercial	Semi-Pucca	1	Lessee	Full	
2	Milk Parlour (GM2)	Commercial	Semi-Pucca	1	Lessee	Full	
3	Tea Shop (GM3)	Commercial	Kuccha	1	Encroacher	Full	Squatter
4	Stable (GM4)	Commercial	Kuccha	2	Encroacher	Full	Squatter
5	Stable (GM5)	Commercial	Kuccha	2	Encroacher	Full	Squatter
6	Stable (GM6)	Commercial	Kuccha	2	Encroacher	Full	Squatter
Location: PMCH							
1	Shop (PM1)	Commercial	Pucca	1	Tenant	Full	
2	Shop (PM2)	Commercial	Pucca	1	Tenant	Full	
3	Shop (PM3)	Commercial	Pucca	1	Tenant	Full	
4	Shop (PM4)	Commercial	Pucca	1	Tenant	Full	
5	Shop (PM5)	Commercial	Pucca	1	Tenant	Full	
6	Shop (PM6)	Commercial	Pucca	1	Tenant	Full	
7	Shop (PM7)	Commercial	Pucca	1	Tenant	Full	
8	Shop (PM8)	Commercial	Pucca	1	Tenant	Full	
9	Shop (PM9)	Commercial	Pucca	1	Tenant	Full	
10	Shop (PM10)	Commercial	Pucca	1	Tenant	Full	
11	Shop (PM11)	Commercial	Pucca	1	Tenant	Full	
12	Shop (PM12)	Commercial	Pucca	1	Tenant	Full	
13	Shop (PM13)	Commercial	Pucca	1	Tenant	Full	
14	Shop (PM14)	Commercial	Pucca	1	Tenant	Full	
15	Shop (PM15)	Commercial	Pucca	1	Tenant	Full	
16	Shop (PM16)	Commercial	Pucca	1	Tenant	Full	
17	Shop (PM17)	Commercial	Pucca	1	Tenant	Full	
Location: Rajendra Nagar							
1	House with Shop (RN1)	R+C	Pucca	4	1 owner 3 tenant shops	Partial	

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2	Building with Shop (RN2)	Commercial	Pucca	3	1 owner 2 tenant	Partial	
Location: Malahi Pakdi							
1	Milk Parlour (ML1)	Commercial	Pucca	1	Lessee	Full	
2	(ML2)	Residential	Kuccha	1	Encroacher	Full	Squatter
3	(ML3)	Residential	Kuccha	1	Encroacher	Full	Squatter
4	(ML4)	Residential	Kuccha	1	Encroacher	Full	Squatter
5	(ML5)	Residential	Kuccha	1	Encroacher	Full	Squatter
6	(ML6)	Residential	Kuccha	1	Encroacher	Full	Squatter
7	(ML7)	Residential	Kuccha	1	Encroacher	Full	Squatter
8	(ML8)	Residential	Kuccha	1	Encroacher	Full	Squatter
9	(ML9)	Residential	Kuccha	1	Encroacher	Full	Squatter
10	(ML10)	Residential	Kuccha	1	Encroacher	Full	Squatter
11	(ML11)	Residential	Kuccha	1	Encroacher	Full	Squatter
12	(ML12)	Residential	Kuccha	1	Encroacher	Full	Squatter
13	(ML13)	Residential	Kuccha	1	Encroacher	Full	Squatter
14	(ML14)	Residential	Kuccha	1	Encroacher	Full	Squatter
15	(ML15)	Residential	Kuccha	1	Encroacher	Full	Squatter
16	(ML16)	Residential	Kuccha	1	Encroacher	Full	Squatter
17	(ML17)	Residential	Kuccha	1	Encroacher	Full	Squatter
18	(ML18)	Residential	Kuccha	1	Encroacher	Full	Squatter
19	(ML19)	Residential	Kuccha	1	Encroacher	Full	Squatter
20	(ML20)	Residential	Kuccha	1	Encroacher	Full	Squatter
21	(ML21)	Residential	Kuccha	1	Encroacher	Full	Squatter
22	(ML22)	Residential	Kuccha	1	Encroacher	Full	Squatter
23	(ML23)	Residential	Kuccha	1	Encroacher	Full	Squatter
24	(ML24)	Residential	Kuccha	1	Encroacher	Full	Squatter
25	(ML25)	Residential	Kuccha	1	Encroacher	Full	Squatter
26	(ML26)	Residential	Kuccha	1	Encroacher	Full	Squatter
27	(ML27)	Residential	Kuccha	1	Encroacher	Full	Squatter
28	(ML28)	Residential	Kuccha	1	Encroacher	Full	Squatter
29	(ML29)	Residential	Kuccha	1	Encroacher	Full	Squatter
30	(ML30)	Residential	Kuccha	1	Encroacher	Full	Squatter
31	(ML31)	Residential	Kuccha	1	Encroacher	Full	Squatter
32	(ML32)	Residential	Kuccha	1	Encroacher	Full	Squatter
33	(ML33)	Residential	Kuccha	1	Encroacher	Full	Squatter
34	(ML34)	Residential	Kuccha	1	Encroacher	Full	Squatter
35	(ML35)	Residential	Kuccha	1	Encroacher	Full	Squatter
36	(ML36)	Residential	Kuccha	1	Encroacher	Full	Squatter
37	(ML37)	Residential	Kuccha	1	Encroacher	Full	Squatter
38	(ML38)	Residential	Kuccha	1	Encroacher	Full	Squatter
39	(ML39)	Residential	Kuccha	1	Encroacher	Full	Squatter
40	(ML40)	Residential	Kuccha	1	Encroacher	Full	Squatter

Social Impact Assessment of Patna Metro

41	(ML41)	Residential	Kuccha	1	Encroacher	Full	Squatter
Location: Khemni Chak Crossing Viaduct							
1	Workshop (KC1)	R+C	Pucca	1	Owner	Partial	
2	Under Construction building G+2 (KC2)	Commercial	Pucca	1	Owner	Partial	
Location: Khemnichak							
1	Litti Shop (KH2)	Commercial	Kuccha	1	Tenant	Full	
2	Meat Shop (KH1)	Commercial	Kuccha	1	Tenant	Full	
3	Meat Shop (KH3)	Commercial	Kuccha	1	Tenant	Full	
4	Meat Shop (KH4)	Commercial	Kuccha	1	Tenant	Full	
Location: Bhootnath to Zero Mile							
1	Samosa Shop (BZ1)	Commercial	Kuccha	1	Encroacher	Full	Squatter
2	Kiosk Shop (BZ2)	Commercial	Kuccha	1	Encroacher	Full	
Location: Zero Mile							
1	Kiosk Shop (ZM1)	Commercial	Kuccha	1	Encroacher	Full	
2	Kiosk Shop (ZM2)	Commercial	Kuccha	1	Encroacher	Full	
Location: Depot							
1	House (DP1)	Residential	Pucca	1	Owner	Full	
2	House (DP2)	Residential	Pucca	1	Owner	Full	

Note: The photographs of affected structure with nomenclature have been given in Chapter 2 (Page No.-33-38).

ANNEXURE 2

Category wise details of affected structure

Sr. No	Location	Structure Name	No. of structures
Corridor 1			
1	Rukan Pura	House (Sheds) (<u>RK1</u>)	1
		House (<u>RK2</u>)	1
2	Raja Bazar	House (<u>RB2</u>)	1
		House (<u>RB3</u>)	1
3	Mithapur (Bigrahpur)	House (<u>MT5</u>)	1
Total			5
Corridor 2			
4	Malahi Pakadi	40 Nos. Squatters (<u>ML2-ML41</u>)	40
5	Depot	House (<u>DP1</u>)	1
		House (<u>DP2</u>)	1
Total			42

List of Affected Commercial Structure

List of affected commercial structure of corridor 1

Sr. No	Location	Structure Name	No. of structures
1	Rukan Pura (1 commercial structure)	A shed of Tanishq (<u>RK3</u>)	1
2	Raja Bazar (3 commercial structures)	Maruti Suzuki Service centre and 6 Shops (<u>RB1</u>)	1
		Flex Printing Shop (<u>RB4</u>)	1
		Sudha Milk Parlour (<u>RB5</u>)	1
3	Mithapur/Bigrahpur (7 commercial structures)	Milk Parlour at Mithapur Station (1 shop) (<u>MT1</u>)	1
		Fan Shop (1 shop) (<u>MT2</u>)	1
		Building with shop (<u>MT3</u>)	1
		Maa Kamla Utsav Community Hall (<u>MT4</u>)	1
		G+3 Building (4 shop) (<u>MT6</u>)	1
		Workshop (1 shop) (<u>MT8</u>)	1
		Lemon Mandi (8 shops) (<u>MT9</u>)	1
Total			11

List of affected commercial structure of corridor 2

Sr. No	Location	Structure Name	No. of Structures
1	Akashwani station (5 commercial structure)	Milk Parlour (<u>AK1</u>)	1
		Paneer snack shop (<u>AK2</u>)	1
		Pan shop (<u>AK3</u>)	1
		Liberty Fashion Shoe (<u>AK4</u>)	1
		Tea shop (<u>AK5</u>)	1
2	Gandhi Maidan (6 commercial structure)	Milk Parlour near Mona Cinema Hall (<u>GM1</u>)	1
		Milk Parlour near Bus Depot (<u>GM2</u>)	1
		Tea Shop (Squatter) (<u>GM3</u>)	1
		Stable (Squatter) (<u>GM4-GM6</u>)	3
3	PMCH (17 commercial Structure)	17 Nos. Shops (<u>PM1-PM17</u>)	17
4	Rajendra Nagar	Building (G+1) with 2 Nos. Shop (<u>RN2</u>)	1
5	Malahi Pakdi	Milk Parlour (<u>ML1</u>)	1
6	Khemni Chak Crossing	Under construction Building (<u>KC2</u>)	1
7	Khemni Chak Station	Litti Shop (<u>KH2</u>)	1
		3 Nos. Meat Shop (<u>KH1, KH3, KH4</u>)	3
8	Bhoot Nath to zero Mile	Samosa Shop (Squatter) (<u>BZ1</u>)	1
		Pan Shop (Kiosk) (<u>BZ2</u>)	1
9	Zero Mile	2 Nos. of Kiosk Shop (<u>ZM1 & ZM2</u>)	2
Total			39

List of Affected Residential + Commercial Structure

Sr. No	Location	Structure Name	No. of Structures
Corridor 1			
1	Mithapur (Bighrapur)	G+4 Building (<u>MT7</u>)	1
2		House with Shop (<u>MT10</u>)	1
Total			2
Corridor 2			
1	Rajendra Nagar	House with Shop (<u>RN1</u>)	1
2	Khemni Chak Crossing	House with Workshop (<u>KC1</u>)	1
Total			2
Grand Total (Corridor1 + Corridor 2)			4

List of Partly Affected Structure

CORRIDOR 1				
SI No.	Location	Structure	Category of structure	Number of Structure
1	Rukan Pura	Residential House (Sheds) (RK1)	R	1
2	Raza Bazaar	Maruti Suzuki Service Centre(RB1)	C	1
		Residential house in Open Land (PNB campus)(RB2)	R	1
		Shed Inside Paras Hospital(RB6)	I	1
3	Mithapur	G+1 Building Beside Fan shop (MT3)	C	1
	Total Corridor 1			5
CORRIDOR 2				
SI No.	Location	Type of Structure	Category of structure	Number of Structure
1	Rajendra Nagar	G+1House with 3 Shop (R+C) (RN1)	R+C	1
		G+1 Building with 2 Shop (RN2)	C	1
2	Khemni Chak Crossing	House + Work Shop (R+C) (KC1)	R+C	1
		Under Construction Building (KC2)	C	1
	Total Corridor 2			4
Grand Total				9

List of Fully Affected Structure

CORRIDOR 1				
SI No.	Location	Structure	Type of Structure	Number of Structure
1	Rukan Pura	Residential House (Parshuram Singh) (RK2)	R	1
		Tanishq Tin Shed (RK3)	C	1
2	Raza Bazaar	Residential House (Mr. Sunny Sarraf) (RB3)	R	1
		Flex printing Shop (RB4)	C	1
		Sudha Milk Parlour (RB5)	C	1
3	Mithapur	Sudha Milk Parlour (MT1)	C	1
		Fan Shop (MT2)	C	1
		Maa kamla Utsav hall (MT4)	C	1
		Land with Under construction building(MT5)	R	1
		G+3 Building -4 shops(MT6)	C	1
		G+4 Building- 2shops(MT7)	R+C	1
		VL service Centre(MT8)	C	1
		Lemon Mandi(MT9)	C	1
		House With Shop (R+C)(MT10)	R+C	1
Total corridor 1				14

CORRIDOR 2				
Sl no.	Location	Structure	Type of Structure	Number of Structure
1	Akashwaani	Sudha Milk parlour (<u>A1</u>)	C	1
		Paneer Snacks(<u>A2</u>)	C	1
		Pan shop(<u>A3</u>)	C	1
		Liberty fashion Shops(<u>A4</u>)	C	1
		Tea shop inside Faizal Imam Complex(<u>A5</u>)	C	1
2	Gandhi Maidan	2 Sudha Milk Parlour (<u>G1-G2</u>)	C	2
		1 Tea shop (<u>G3</u>)	C	1
		3 Horse Stable(<u>G4-G6</u>)	C	3
3	PMCH	17 Shops inside Waqf market(<u>P1-P17</u>)	C	17
4	Malahi Pakdi	1 Sudha Milk Parlour (<u>M1</u>)	C	1
		40 residential Squatters(<u>M2-M41</u>)	R	40
5	Khemni Chak	4 Shops (1 Litti shop, 2 Meat Shop)(<u>K1-K4</u>)	C	4
6	Bhootnath to Zero mile Viaduct	Samosa Shop(<u>BZ1</u>)	C	1
		Pan Shop (Kiosk)(<u>BZ2</u>)	C	1
7	Zero mile	Pan Shops (Kiosk) (<u>Z1,Z2</u>)	C	2
8	Depot Area	2 Residential Houses(<u>D1,D2</u>)	R	2
Total Corridor 2				79
Grand Total				93

List of Squatters and Kiosk

List of squatters

Sr. No	Location	Structure Name	No. of Structures
Corridor 2			
1	Gandhi Maidan	Commercial Squatters (<u>GM3-GM6</u>)	4
2	Malahi Pakdi	Residential Squatters (<u>ML2-ML41</u>)	40
3	Bhootnath to Zero mile	Commercial Squatter (<u>BZ1</u>)	1
Total			45

List of Kiosk

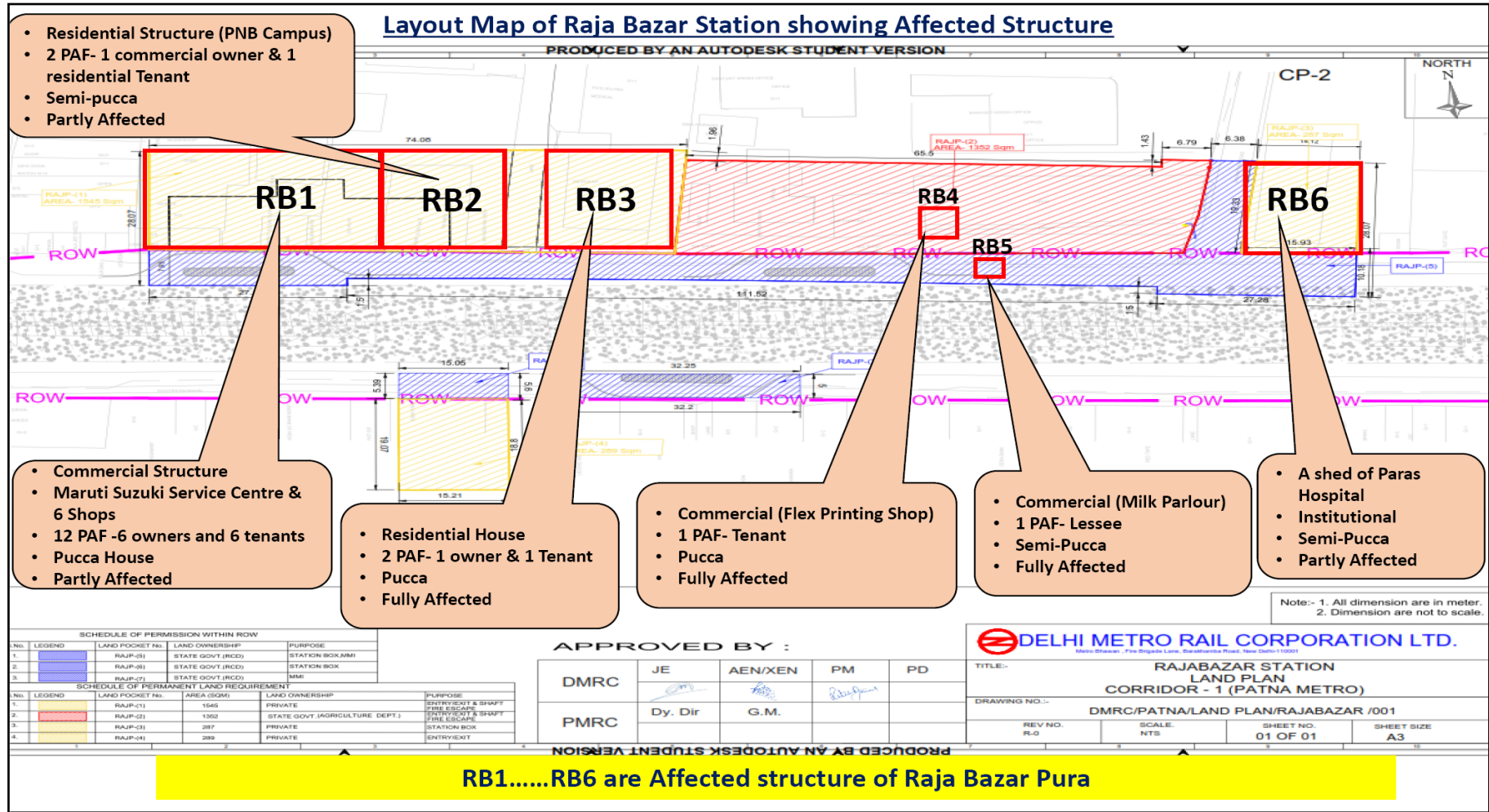
Sr. No	Location	Structure Name	No. of Structures
Corridor 2			
1	Bhootnath to Zero Mile	Commercial Kiosk (Pan Shop) (<u>BZ2</u>)	1
2	Zero Mile	Commercial Kiosk (Pan Shop) (<u>ZM1,ZM2</u>)	2
Total			3

ANNEXURE 3

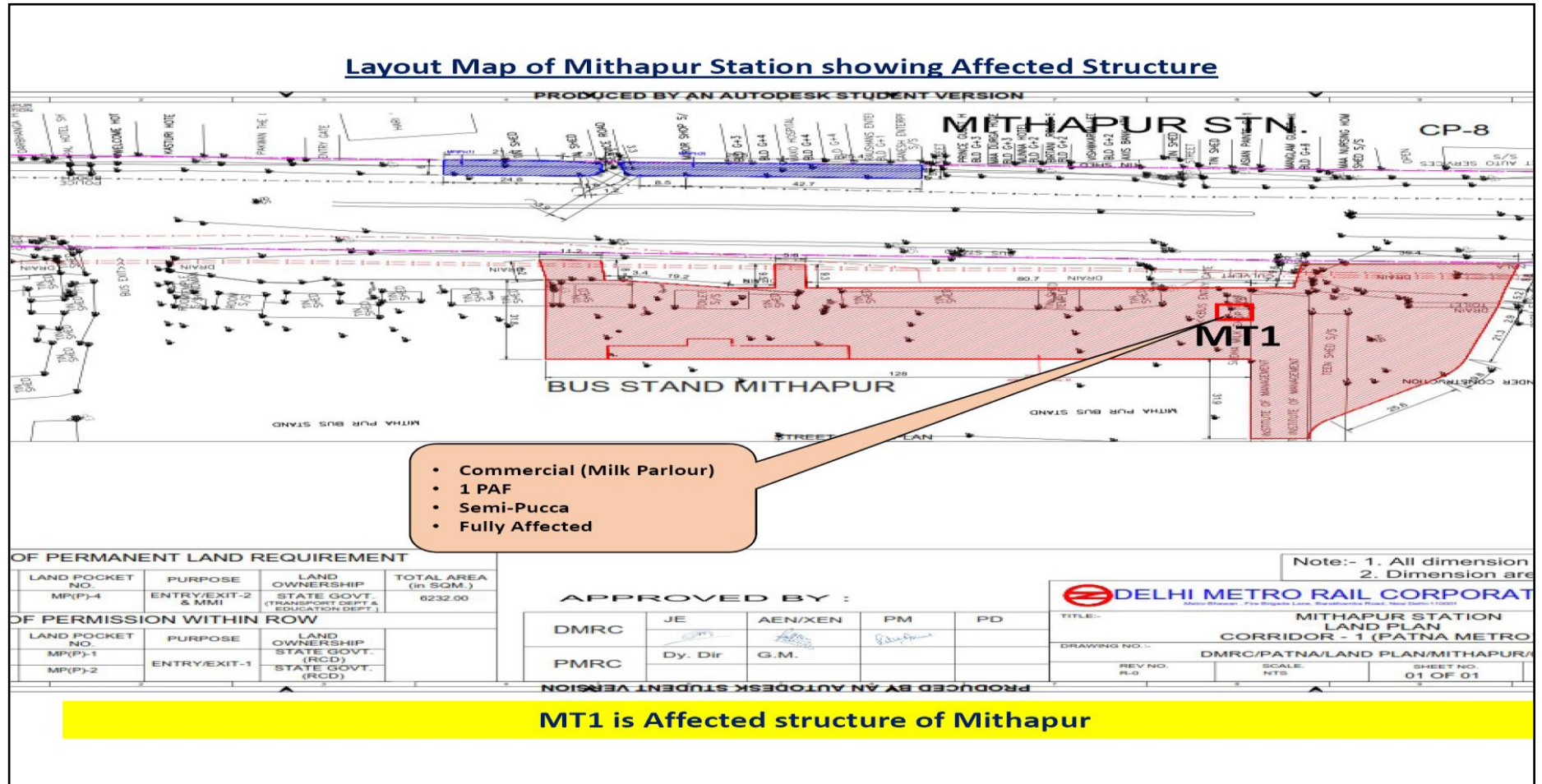
List of Vulnerable Families

Sr No.	Type of Vulnerable Family	Location	Number
1	Disability – Blind	Malahi Pakdi	1
2	Scheduled Castes with BPL	Malahi Pakdi	4
3	Scheduled Castes with Women Headed Family	Malahi Pakdi	3
4	Scheduled Castes	1 Khemni Chak and 14 Malahi Pakdi	15
5	BPL Families	1 Bhootnath to zero mile and 1 zero mile	2
6	Women Headed Families	1 Raza Bazar and 2 Malahi Pakdi	3
	Total		28

Layout Map indicating affected structures of Raza Bazar Station

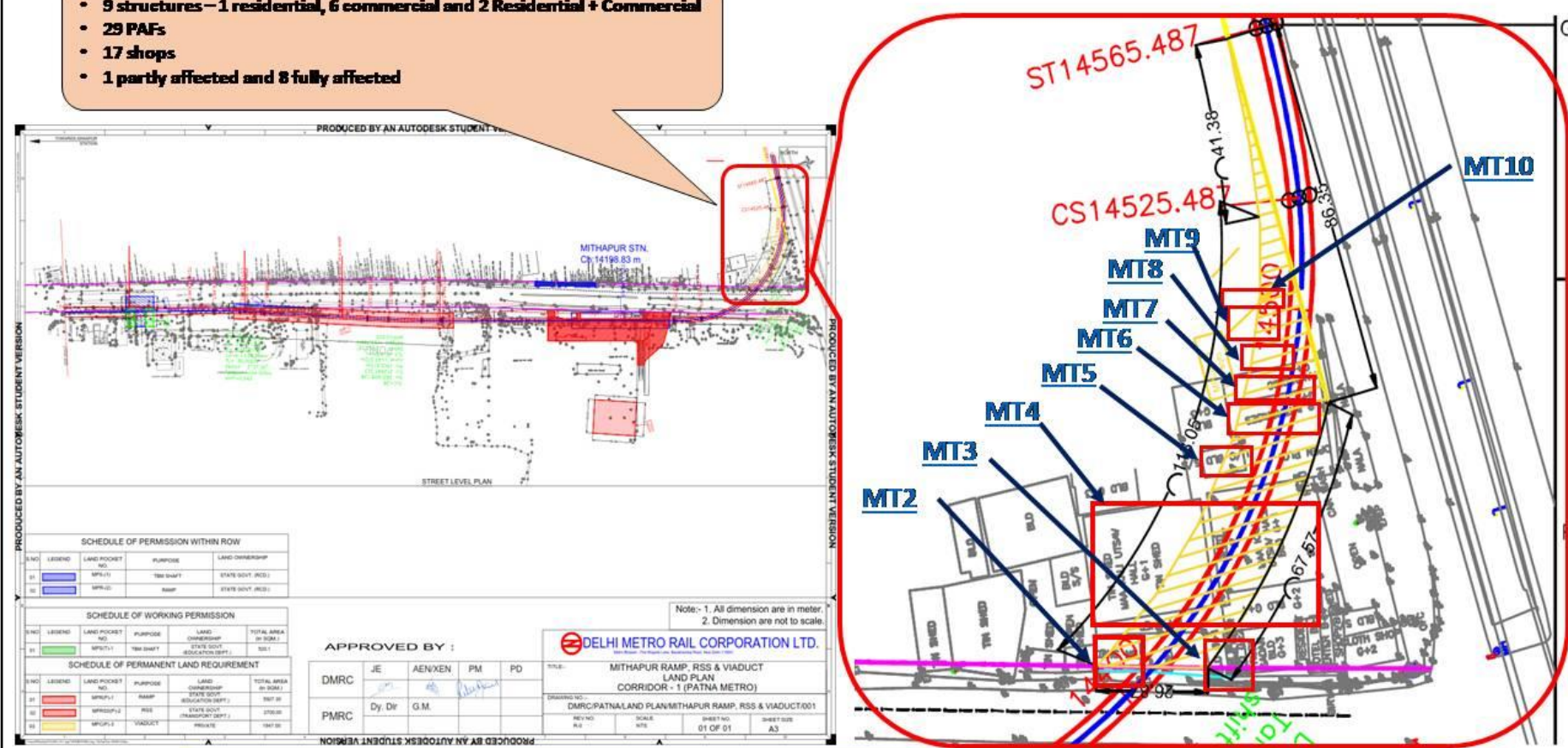


Layout Map indicating affected structures of Mithapur Station



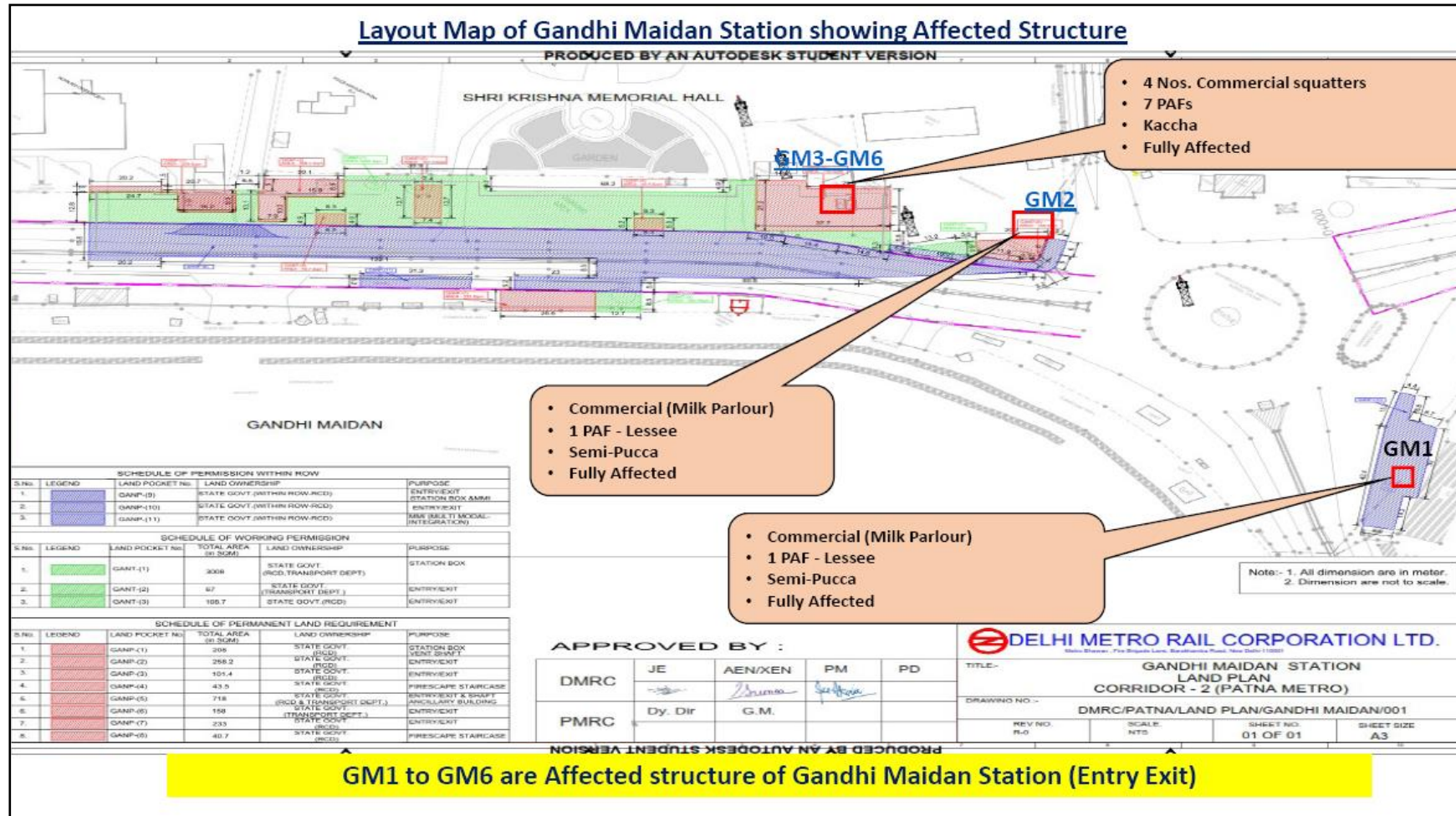
Layout Map of Mithapur (Bigrahpur) showing Affected Structure

- 9 structures – 1 residential, 6 commercial and 2 Residential + Commercial
- 29 PAFs
- 17 shops
- 1 partly affected and 8 fully affected

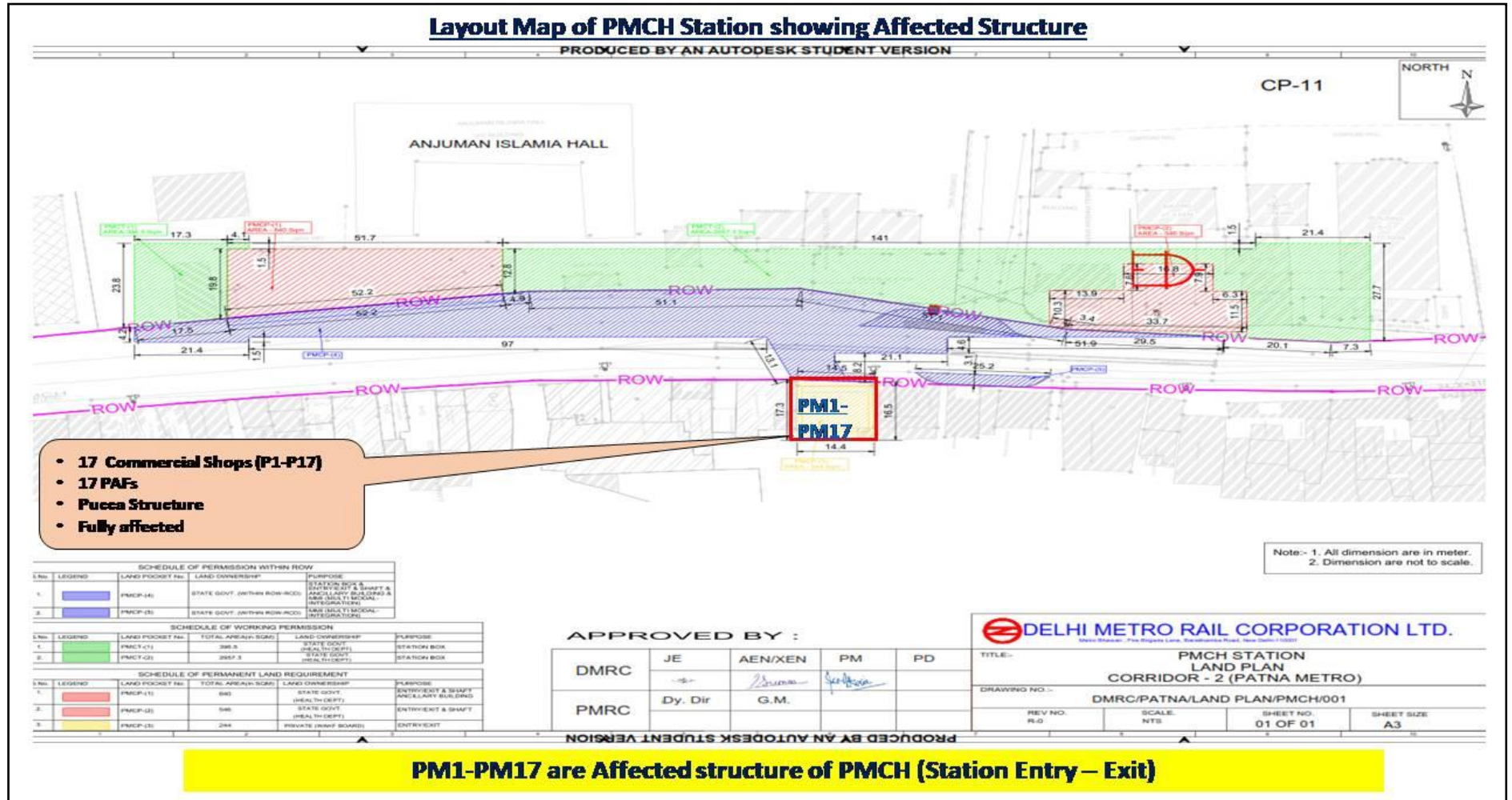


MT2MT10 are Affected structure of Mithapur(Bigrahpur)

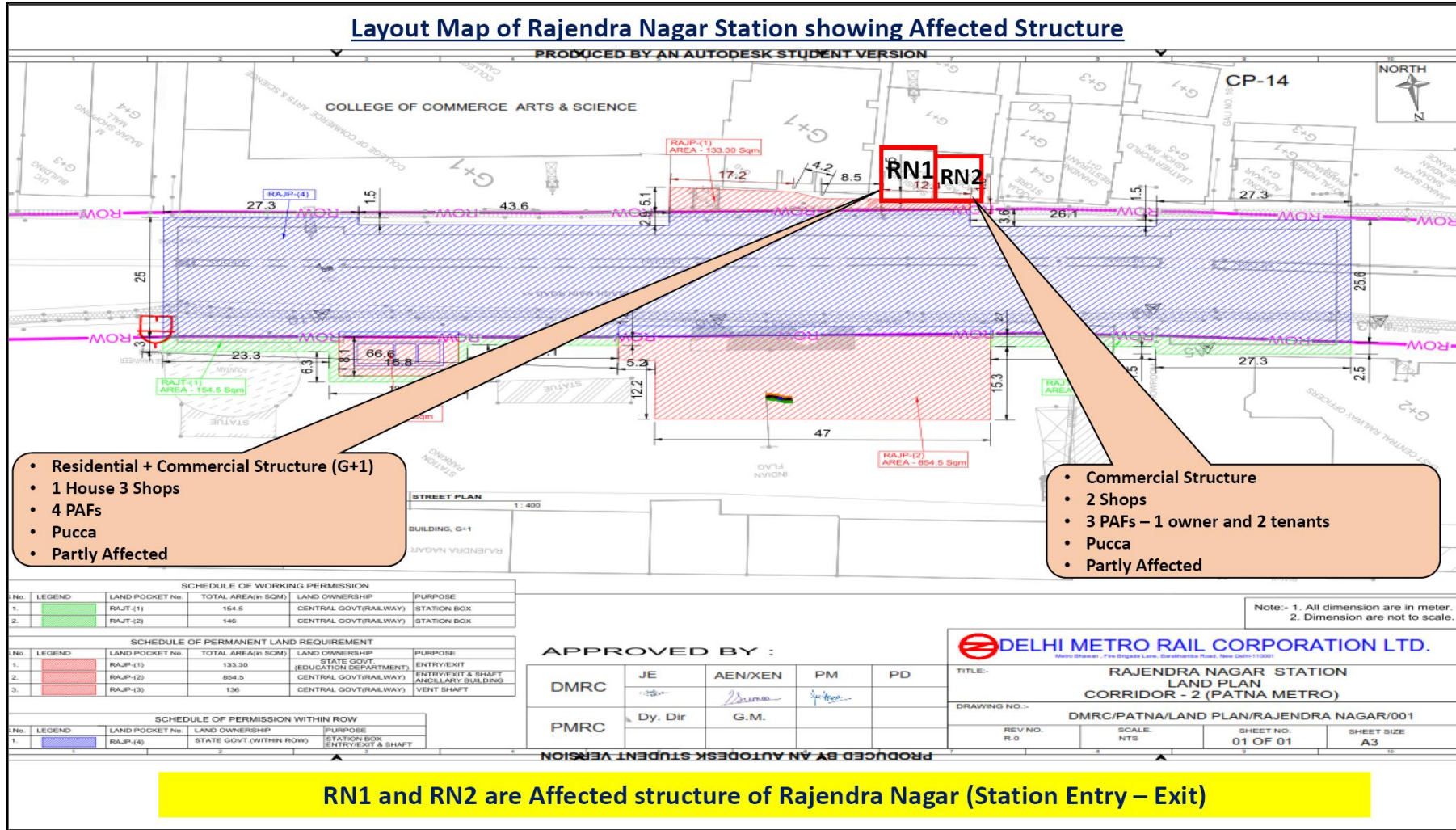
Layout Map indicating affected structures of Gandhi Maidan Station



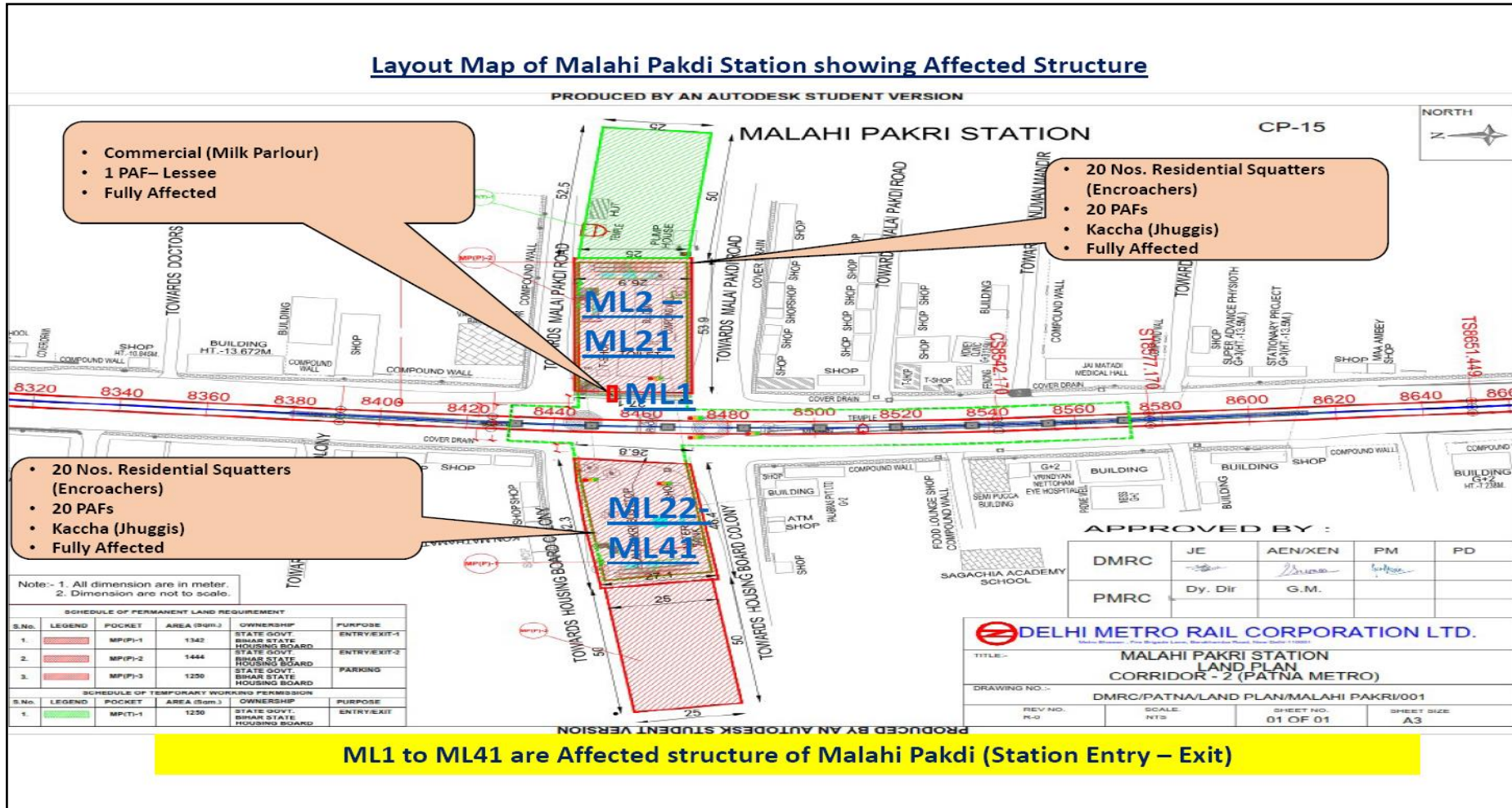
Layout Map indicating affected structures of PMCH Station



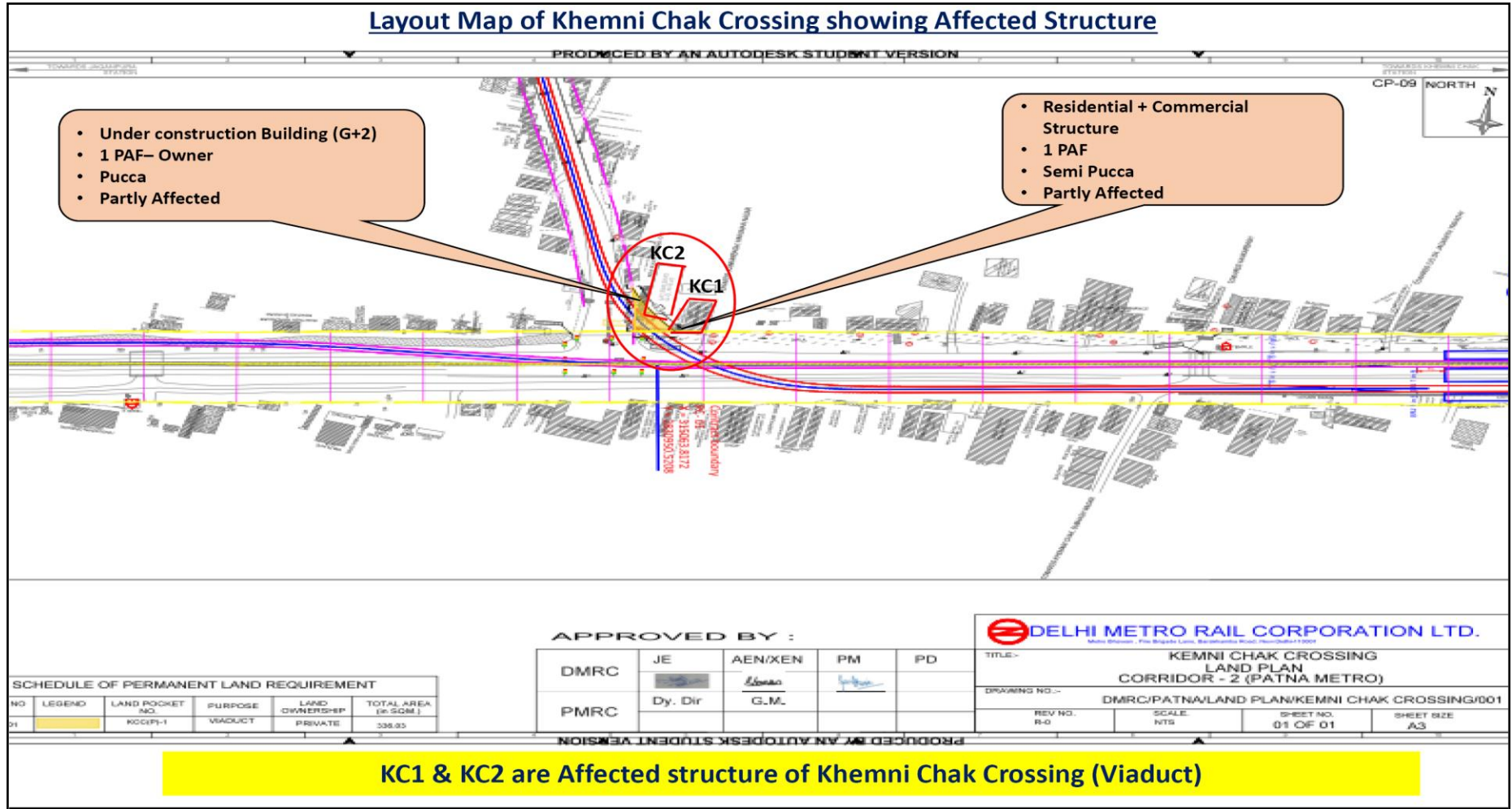
Layout Map indicating affected structures of Rajendra Nagar Station



Layout Map indicating affected structures of Malahipakdi Station

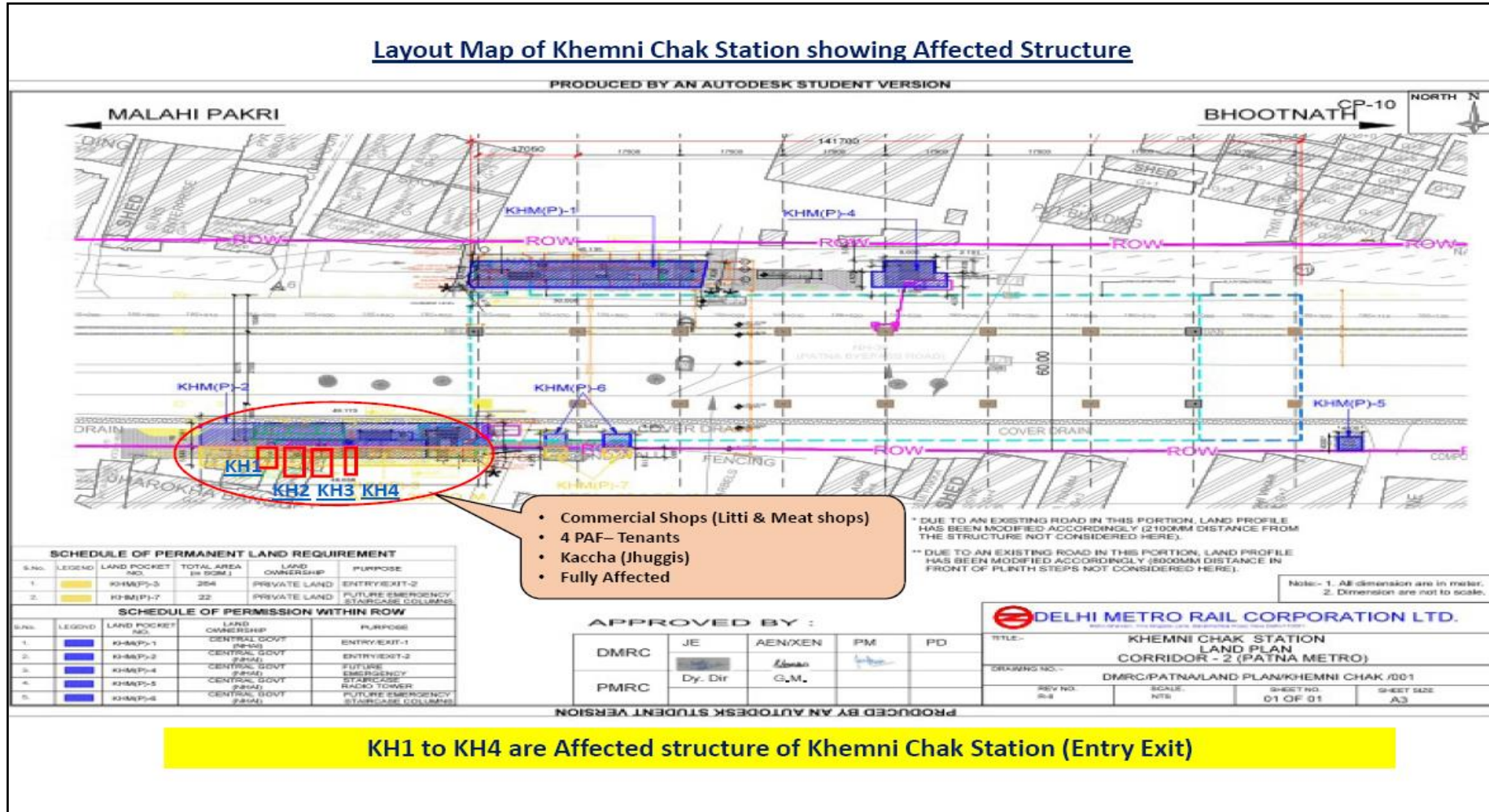


Layout Map indicating affected structures Khemni Chak Crossing



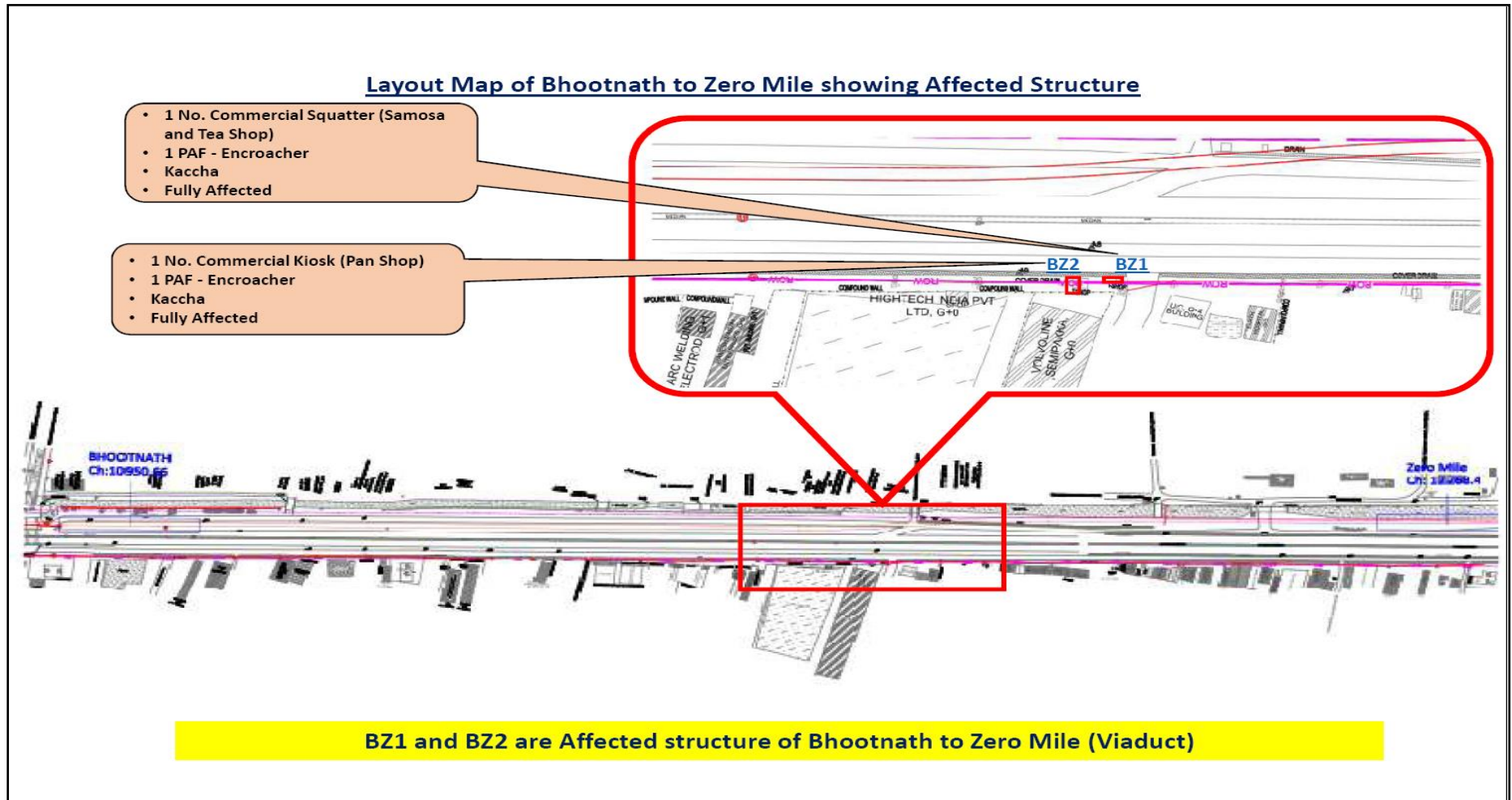
Layout Map indicating affected structures Khemni Chak Station

Layout Map of Khemni Chak Station showing Affected Structure

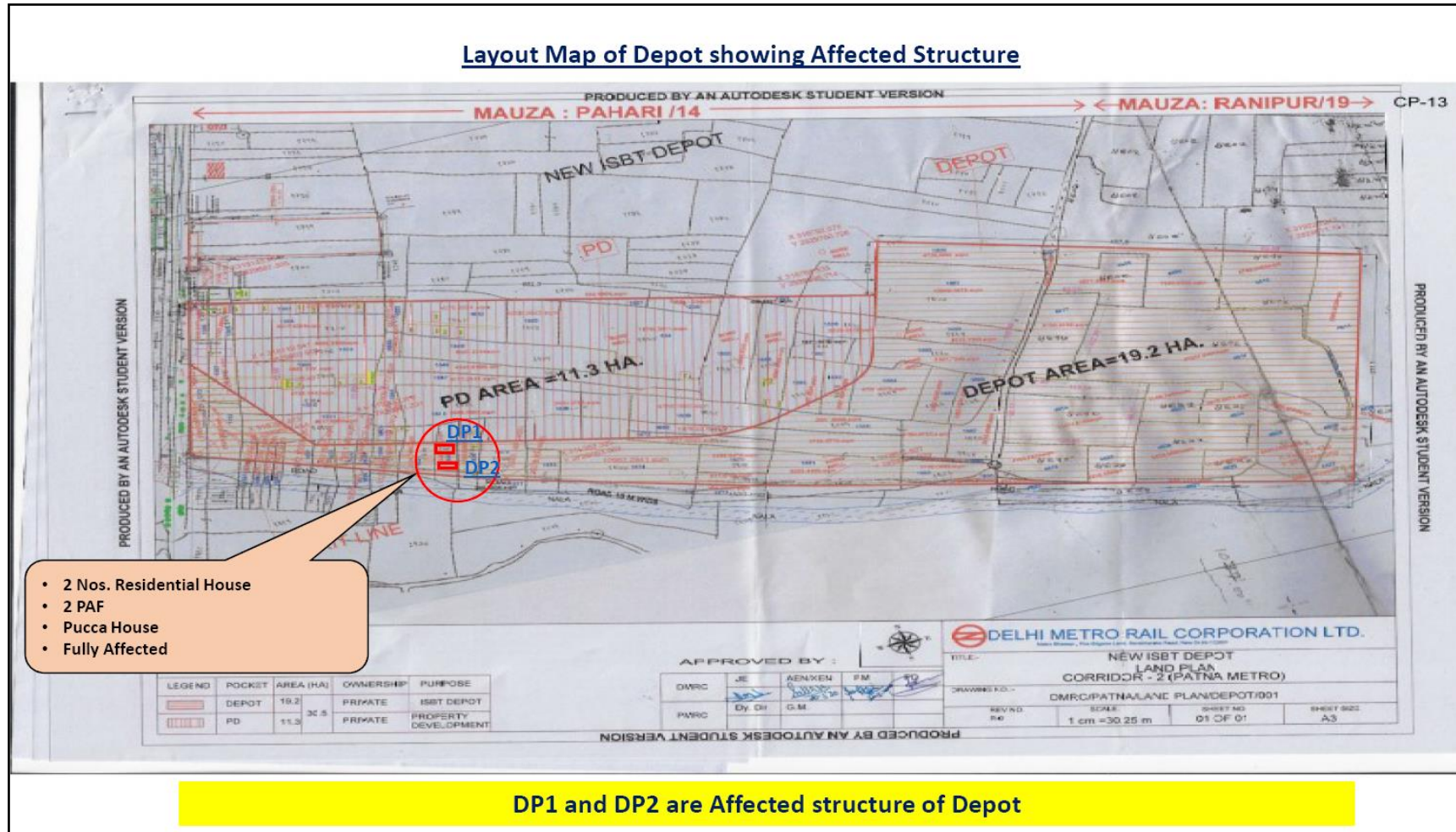


KH1 to KH4 are Affected structure of Khemni Chak Station (Entry Exit)

Layout Map indicating affected structures Bhootnath to Zeromile viaduct



Layout Map indicating affected structures of Zero Mile Station



ANNEXURE 5

Checklist for Survey

Social Impact Assessment of Patna metro Project

1. IDENTIFICATION : Type of Respondent : Structure Owner / Land Owner

1.1 City/Town/ Village : _____ District: _____

1.2 Address/Location : _____ Chainage.: _____

1.3 Category of PAF:

Titleholder -1 Encroacher -2 Tenant-3 Squatter -4 Kiosk -5 Others (specify) -6

2. GENERAL INFORMATION

2.1 Name of head of the household:Mobile No.

2.2 Name of the Respondent:Mobile No.

2.3 Category: BPL-1 APL -2 Antodaya -3 Others - 4

2.4 Religious Group: Hindu - 1 Muslim - 2 Christian - 3
Sikh - 4 Jain - 5 Others (specify) -6

2.5 Social Group: SC - 1 ST - 2 OBC - 3 General - 4

2.6 Family Pattern : Joint - 1 Nuclear - 2 Individual - 3

2.7 Size of Family : Small (2-4) - 1 Medium (5-7) - 2 Large(Above 7) - 3

3. FAMILY PARTICULARS (Start from head of the household)

S. No	Name of the member	Relation-ship to HH Head	Sex	Age (years)	Marital Status	Education *	Any Disability	Any skilled family member

- Refers Education = Illiterate- 1, 1-5th - 2, 6-8th - 3, 9-12 - 4, Graduates & above - 5, Professional – 6

3.1 Household's Main Occupation----- Monthly Income(Rs)-----

3.2 Subsidiary Source ----- Monthly Income (Rs.)-----

3.3 No. of Adult earning members-----

3.4 No. of dependents-----

3.5 Family annual expenditure: Rs. _____

3.6 Household Assets _____

Fans -1 Radio- 2 TV- 3 Fridge – 4 Washing machine- 5 Cycle – 6 Two Wheeler- 7
Four Wheeler - 8

3.7 Fuel Used in Kitchen: Vehicle:

3.8 Source of Drinking Water: Well- 1 Hand Pump -2 T.W. – 3 Piped Supply- 4 Pond- 5
Tank- 6

3.9 Availability of : Separate Toilet : Yes-1 No-2 Separate Kitchen: Yes-1 No- 2

4. COMMERCIAL/SELF EMPLOYMENT ACTIVITIES

4.1 Occupation: Farmer- 1 Ag. Labour- 2 Domestic Industry -3 Service - 4 Shop/ SBE -5
Other -6

4.2 Type of Shop/Business Enterprises (SBEs)

Grocery	- 1	Tailoring	- 8
Pan shop	- 2	Clinic	- 9
Vegetables/fruits	- 3	Electrical work	- 10
Hotel	- 4	Manufacturing	- 11
Fancy item	- 5	(Specify product)	
		Others (specifv	- 12
Bicycle/scooter repairing-	6		
Cloth/Dresses	- 7		

4.3 Employment Generated: Employed 1 to 5 persons -1 Employed 5 & above -2

5. VULNERABILITY

- HH below poverty line (BPL)
- HH becoming BPL as a result of loss of livelihood/assets
- Female headed household
- Scheduled Caste
- Schedules Tribe

6. INFORMATION ON AFFECTED PROPERTY

6.1 Total Owned Area:

Affected Area:

6.2 Details of the structure

Type of Use	Cons type	No. of Rooms/ storey	Tenure status	Utility connection	Total area(Sq.m)	Impacted area(Sq.m)	Impacted area (Sq.m)	
							P	F

Type of Use: 1. Residential, 2. Commercial, 3. Residential commercial, 4. Other (Specify)

Cons. Type: 1. Kutcha, 2. Pucca, 3. Semi-pucca

Tenure status: 1. Own, 2. Rented, 3. Leasehold, 4. Encroachment

Utility Connection: 1. Electricity; 2. Water; 3. Phone; 4. Sewer; 5. Gas; 6. Other specify

P-Partially F-Fully

7. PROJECT RELATED INFORMATION

- 7.1 Are you aware of the proposed Metro Project? Yes -1 No -2
- 7.2 If Yes, Source of information: Newspaper-1 Radio/ TV – 2 Peoples - 3
- 7.3 What is your opinion about the project? Good-1 Bad-2 can't say-3
- 7.4 If good, what positive impacts do you perceive?
- 7.5 If bad, what negative impacts do you perceive?

8. RESETTLEMENT AND REHABILITATION

- 8.1 In case you are displaced (residentially where and how far you prefer to be located? Within the area - 1 Outside the area -2

Place name: Distance (in km.)

- 8.2 What do you expect from government for relocation?

1. Plot	<input type="checkbox"/>	2.
Constructed building	<input type="checkbox"/>	3. Building
construction assistance	<input type="checkbox"/>	4. Shifting
expenses	<input type="checkbox"/>	5.
Compensation at replacement cost	<input type="checkbox"/>	
6. Training for skill up gradation	<input type="checkbox"/>	
7. Others (Specify)	<input type="checkbox"/>	

ANNEXURE 6

Monitoring of RAP Implementation for Patna Metro Project

Report for the month of

Part-I: Quantitative monitoring format

Activity	Indicator	Target		Achievement	
		This Month	Cumulative	This Month	Cumulative
Staffing	Number of Metro staff on the project by job function				
	Number of other line agency officials available for tasks				
Verification of impact	No. of project affected households				
	No. of project affected people				
	No. of people loss residence				
	No. of people loss livelihood				
	No. of people displace				
Resettlement	No. of people provided with ID Card				
	No. of resettlement sites developed				
	No. of people received compensation before starting construction activities				
	Area of private land acquired				
	Area of Govt. land acquired				
	No. of people resettled				

Activity	Indicator	Target		Achievement	
		This Month	Cumulative	This Month	Cumulative
	No. of religious properties relocated				
	No. of community properties relocated				
	No. of Govt. properties relocated				
Rehabilitation	No. of training agencies identified				
	No. of people undergone skill development training				
	No. of people restarted their income restoration activities				
	No. of new enterprises started				
Grievance Redressal	No. of grievance redress committee formed				
	No. of grievance redress committee meetings conducted				
	No. of grievances received				
	No. of grievances addressed				
Public consultation/ Disclosure of information	No. of public consultations				
	Frequency of consultation				
	No. of participants in the consultation meetings				
	Whether the entitlement matrix has been translated in				

Activity	Indicator	Target		Achievement	
		This Month	Cumulative	This Month	Cumulative
	local language.				
	No. of translated copies distributed to relevant stakeholders including Aps				
	No. of locations where the list of entitled persons displayed				
Review and Monitoring	No. of staff meetings conducted at PIU level				
	Date of appointment of Independent Evaluation Agency (IEA)				
	Frequency of submitting progress reports				
Awareness programs	No. of HIV/AIDS awareness programs conducted				
	No. of hotspots identified				
	No. of road safety awareness programs conducted.				
Fund utilization	Funds utilized				

Part-II- Qualitative Monitoring format

1. Composition/type of participants and specific issues raised by the participants especially the vulnerable groups.
2. Actions/follow-up taken to address the issues raised in the public consultation meetings.
3. Process adopted for the relocation of AFs, religious and community structures. The process adopted for relocation of squatters and other vulnerable groups may be specified.

4. Process of distribution and allotment of compensation and other R&R assistances.
5. When the compensation/assistance has been paid, and the utility of compensation amount and other R&R assistances.
6. Type of grievances, its reasons and measures taken to address this.
7. Brief description of income generation activities undertaken by the AFs.
8. Major issues faced during RAP implementation and actions taken to resolve it.
9. Major lessons learned and documented.

Signature

Name and Designation of the Reporting officer

Place:

Date:

ANNEXURE 7

Eligible PAFs for Subsistence, Transportation and Re-settlement allowance

Sr. No.	Type of PAFs	Corridor 1	Corridor 2	Total
1	Residential Owners	8	2	10
2	Residential Tenants	3	0	3
3	Commercial Owners running their own shop	9	0	9
4	Commercial Tenants	23	30	53
5	Commercial Lessee	4	3	7
6	Residential + Commercial	2	2	4
7	Squatters	0	48	48
	Total	49	85	134

ANNEXURE 8

Terms of Reference for Independent Evaluation Agency

1. Project Description

DMRC is in process to implement the Patna Metro project having 2 corridors viz., Danapur to Khemni Chak and Patna Station to New ISBT. The project involves construction of 32.497 Km long Metro corridor. This project is being implemented by Executing Agency (EA) with financial support of International funding agencies. The project gives utmost importance to the Rehabilitation and Resettlement of project affected families. Accordingly, a Resettlement Action Plan has been developed for implementation.

The project includes a provision for monitoring and evaluation of the implementation of the Resettlement Action Plan (RAP) by an external monitor. Therefore, the EA, which is the Executing Agency (EA) for this project, requires services of a reputed Social Sector specialist individual /firm for monitoring and evaluation of RAP implementation referred to as the "Independent Evaluation Agency" (IEA).

2. Scope of Work of IEA- Generic

- To review and verify the progress in resettlement implementation as outlined in the RAP
- To monitor the effectiveness and efficiency of Social Management Unit (SMU) and the concerned agency in RAP implementation.
- To assess whether resettlement objectives, particularly livelihoods and living standards of the affected persons have been restored or enhanced
- To assess the efforts of SMU and concerned agency in implementation of the 'Community Participation strategy' with particular attention on participation of vulnerable groups namely (i) those who are below poverty line (BPL), (ii) those who belong to Scheduled Castes (SC) and Scheduled Tribes (ST), (iii) Women headed families, (iv) elderly and (v) disabled persons.
- To assess resettlement efficiency, effectiveness, impact and sustainability, drawing both on policies and practices and to suggest any corrective measures, if necessary.

3. Scope of work- Specific

The independent evaluation agency (IEA) will be involved in ongoing monitoring of the resettlement efforts by the EA. The major tasks expected from the external monitor are:

- Review pre-displaced baseline data on income and expenditure, occupational and livelihood patterns, arrangements for use of common property, social organization, community organizations and cultural parameters.
- To review and verify the progress in land acquisition/resettlement implementation of subproject on a sample basis and prepare reports for the EA.
- To evaluate and assess the livelihood opportunities and income as well as quality of life of affected persons of project induced changes.
- To evaluate and assess the adequacy and effectiveness of consultative process with affected persons, particularly those vulnerable, including the adequacy and effectiveness of grievance procedures and legal redress available to the affected parties and dissemination of information about these.
- Identify an appropriate set of indicators for gathering and analyzing information on resettlement impacts; the indicators shall include but not limited to issues like restoration of income and living standards and level of satisfaction by the APs in post-resettlement period.
- Review results of internal monitoring and verify claims through random checking at the field level to assess whether resettlement objectives have been generally met. Involve the PAPs, host population, and community groups in assessing the impact of resettlement for monitoring and evaluation purposes.
- Conduct both individual and community level impact analysis through the use of formal and informal surveys, key informant interviews, focus group discussions, community public meetings, and in-depth case studies of PAPs and host population from various social classes to assess the impact of resettlement.
- Identify the strengths and weaknesses of basic resettlement objectives and approaches, implementation strategies, including institutional issues, and provides suggestions for improvements in future resettlement policy making and planning

4. Time frame and Reporting

The independent monitoring agency will be responsible for independent evaluation of the RAP implementation. The work is scheduled to start in and continue till the end of the

project. The duration of RAP implementation is as per the given RAP time schedule. The monitoring and evaluation report should be submitted to EA.

5. Qualifications

The monitoring and evaluation agency will have significant experience in resettlement policy analysis and RAP implementation. Further, work experience and familiarity with all aspects of resettlement operations would be desirable.

Interested agencies should submit proposal for the work with a brief statement of the approach, methodology, staff strength, and relevant information concerning previous experience on monitoring and evaluation of resettlement and rehabilitation implementation and preparation of reports.

6. Budget and Logistics

Copies of the proposal- both Technical and Financial- should be submitted and the budget should include all cost and any other logistics details necessary for resettlement monitoring. Additional expense claims whatsoever outside the budget will not be entertained.