Raksirang Rural Municiplity

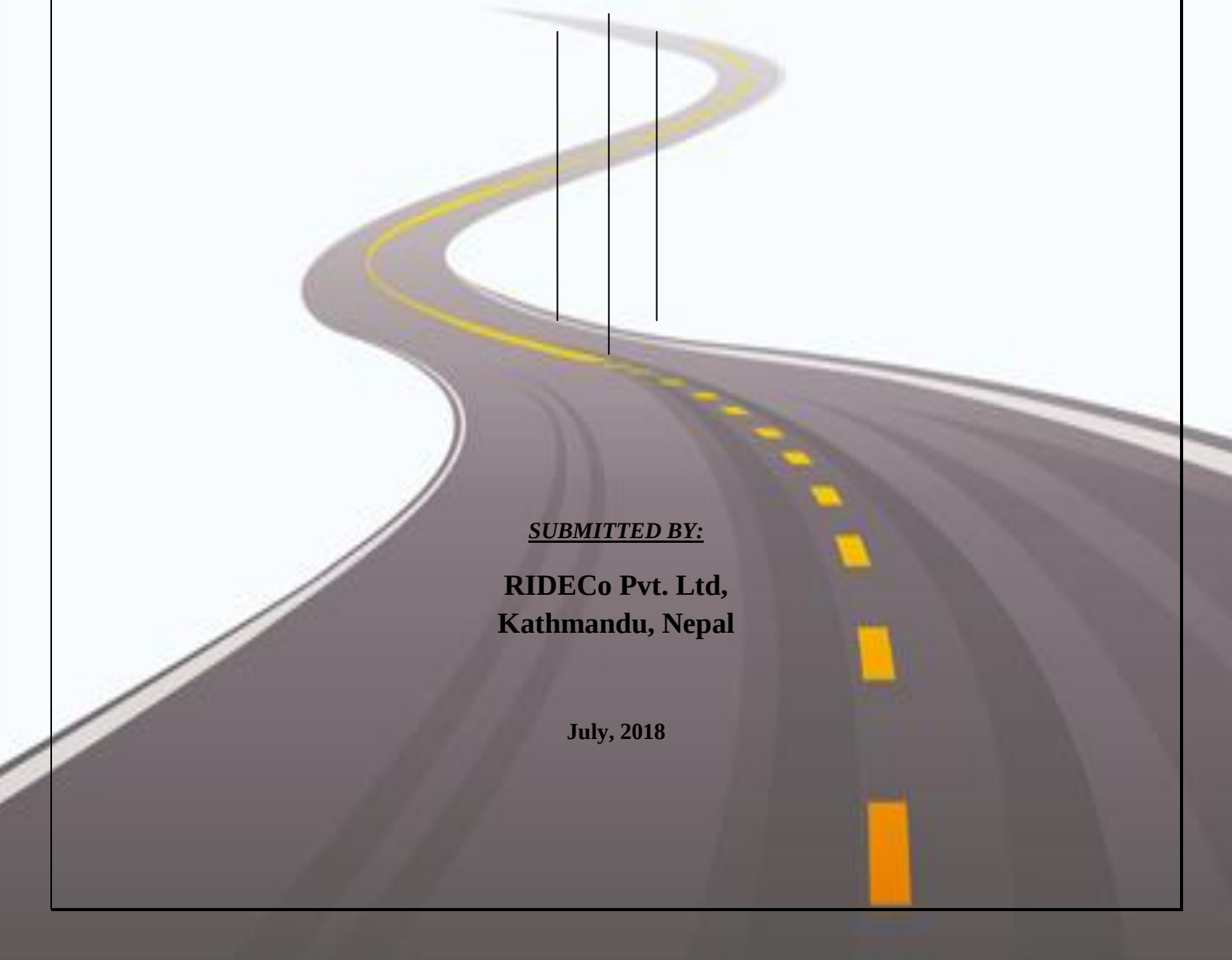
Office of the Rural Municipal Executive

Chainpur, Makawanpur

Province No.:3, Nepal

Rural Municipality Transport Master Plan (RMTMP)

(Volume-I)



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We would like to thank all the citizens for their patience and friendly environment who were directly and indirectly involved in the data collection process. We are greatly thankful to everyone who helped in facilitating us for data collection.

The study team

Acronyms/Abbreviations

DDC	District Development Committee
DTMP	District Transport Master Plan
GIS	Geographic Information System
GPS	Global Positioning System
IDPM	Indicative Development Potential Map
RMIM	Rural Municipality Road Inventory Map
RMRCC	Rural Municipality Road Coordination Committee
NMT	Non- Motorized Transport
RMTMP	Rural Municipality Transport Master Plan
RMTPP	Rural Municipality Transport Perspective Plan
VDC	Village Development Committee
PCU	Passenger Car Unit
DOLIDAR	Department of Local Infrastructure Development and Agricultural Roads
OD	Origin and Destination
ToR	Terms of Reference
HH	Household
VDCs	Village Development Committees
PT	Public Transport
Min.	Minute
Km.	Kilometre
Sq. km	Square Kilometre
Ha	Hectare

Table of Contents

List of Figures

List of Tables

Executive Summary

Transport facilities help in developing access with the rural-urban linkages. Road accessibility can reduce isolation, stimulate crop production and marketing activities, encourage public services and help to transfer technology. Road building has been seen to bring about notable enthusiasm and visible changes in rural life. Road infrastructure is considered as "the infrastructure for infrastructure". However, in the absence of notable criteria and rational guidelines, road construction is carried out in adverse manner resulting in haphazard use and wastage of limited resources. Rural Municipal Transport Master Plan is prepared for assessing and planning the present road and transport infrastructures and facilities within the Rural Municipality and its surrounding.

The Raksirang Rural Municipality was established by merging the existing Raksirang, Kangkada, Sarikhet, and Khairanga village development committees (VDCs) having a total area of 226.7 square km. The center of the Rural Municipality is established in the former Raksirang VDC. After merging the six VDCs population it had a total population of 26,192 according to 2011 Nepal census. The population density of Raksirang is 111.53 person/sq. km. Raksirang Rural Municipality has altogether 9 wards. RMTMP started with the setup of Rural Municipal Road Coordination Committee (RMRCC) and the collection of demand and inventory of road within the rural municipality. For the collection of existing road infrastructure data, GPS survey was used and total length of road surveyed was 186.5 Km, out of which 0.1 Km is rigid pavement, 0.43 Km is gravelled, and remaining 185.97 Km of road is earthen. Visionary city development and Indicative Development Potential Plan is prepared showing the existing and potential market center/service centers (key growth centers) and the areas having various development potentials such as agro-based industries, high value cash crops and tourism. This city may be developed as the agricultural-cultural-historical centre and with promoting this, the tourism can be improved. By improving the agriculture and tourism sector we have to develop the health, education and environment of the people of this rural municipality.

This study formulated the road hierarchy for the various roads namely Class A, B, C and D . Class C and D basically deals with access while Class A and B basically deal with mobility and accessibility to higher services. The minimum right of way, setback, pavement width and footpath width provisions for the different classes of roads are recommended as follows:-

S. No.:	Class of Road	Minimum RoW(m)	Setback(m)	Pavement(m)	Footpath(m)
1	A	20	2.5	14	1.5m/1.5m(Both side)
2	B	14	2.5	11	1.5m/1.5m(Both side)
3	C	10	2	7	1.5m (One side)
4	D	6	1.5	5	None

The total lengths of Class A, B, and C roads are summarized as shown in the table below.

Road Class	Road Surface (Km)				
	Concrete	Earthen	Gravel	New Track	Sub-Total
A		67.74		46.92	114.66
B		50.41		50.95	101.36
C		34.04		47.57	81.61
D	0.10	37.74	0.43	90.16	128.43
Total	0.10	189.93	0.43	235.61	426.06

According to the District Transport Master Plan (DTMP) of Makawanpur District, two roads of total length 13.80 Km of this municipality are listed as district road core networks (DRCN).

These District Roads were under the responsibility of the District Development Committee and now they are under the responsibility of Rural Municipality itself.

Urban Development Strategy 2015 aims to pave 50% of the municipal roads by the end of 2031AD for New Municipalities and this MTMP planned to pave all roads within the perspective period of 20 years i.e. by the year of 2038AD in its full width.

For the financial requirement, the rate of different interventions as given by the ToR is used. For the financial planning the following assumptions are made:

- 30% of length of road requires retaining wall on hill and valley side and the cross section of retaining is taken as 1.5 square meter
- 30% of the length of road requires gabion wall and the cross section of gabion is taken as 1.5 square meter
- full length of road requires longitudinal drainage structures
- Length of bridge in average taken as 50m
- Financial capacity of rural municipality increases by 15% each year

Based on this rate of item and total required interventions, a total of 2428.62 crore of Nepalese rupees is projected to be required to develop road infrastructure and maintain road infrastructures. For this the assumption made is that the financial capacity of rural municipality increases by 15% each year. These costs will change slightly as the roads are improved and the standard costs change. This should be updated on annual basis. But, the municipality cannot invest such huge amount of money in twenty years period by itself. During RMRCC meeting, it has been decided that Municipality can invest only

Nrs 10.00 Crore in developing road infrastructures in first year and this amount increases by 15% in annual basis. Thus, this RMTMP is prepared on the basis of the investment capacity of the Rural Municipality. Based on this financial criteria, this RMRTMP aims to gravel 123.55 Km of road and open 155.39 Km of new track.

Table 1: Summary of Five year plan

Class	Gravelling	New Track	Sub Total
A	60.84	40.68	101.52
B	33.24	50.95	84.20
C	15.00	43.49	58.49
D	14.47	20.27	34.73
Total	123.55	155.39	278.94

Chapter 1: Introduction

1.1.Background

Life in organized human settlements, which are mostly referred to as communities, is only possible if people have mobility in daily basis. Residential area is spatially separated from workplaces, major shopping is concentrated in identifiable centers, and larger entertainment and relaxation facilities are found at specific locations. They have to have accessibility.

Transport facilities help in developing access with the rural-urban linkages. Road accessibility can reduce isolation, stimulate crop production and marketing activities, encourage public services and help to transfer technology. Road building has been seen to bring about notable enthusiasm and visible changes in rural life. Road infrastructure is considered as "the infrastructure for infrastructure". However, in the absence of notable criteria and rational guidelines, road construction is carried out in adverse manner resulting in haphazard use and wastage of limited resources.

Haphazard development of settlement in the urban area is a great problem which we learned from the past earthquake. From disaster risk management and reducing the problem of congestion we should go for planned development. Construction of roads after the settlement is made or extension of road only after the congestion problem creates different types of problem in the society which we are closely observing from different metropolitan cities. In this regard, formulation of Rural Municipal Transport Master Plan was initiated for assessing the present road and transport infrastructures and facilities within the Rural Municipality and the surrounding Municipalities. So as to be presented as proper rural municipality or a city, it must have a very good mobility and accessibility by public or private means of transportation.

1.2.Objective of RMTMP

The prime objective of this study is to prepare the Rural Municipality Transport Master Plan (RMTMP) for Raksirang Rural municipality. The planning approach is participatory and bottom-up from the settlement level. It will include a constructive plan to incorporate all the transportation needs and facilities for now and tomorrow. The specific objectives of the RMTMP are mentioned below:

1. Prepare the Rural municipality Inventory Map (RMIM) of all road networks.
2. Identify the major road networks linking the Rural Municipality with the surrounding areas.
3. Prepare Indicative Development Potential Map (IDPM).
4. Finalize visionary city development plan if Comprehensive Town Development Plan is not prepared.
5. Collection of demands for new/rehabilitation transport linkages from Municipalities/settlements based on city development plan.
6. Analyze the present mobility and accessibility situation.
7. Identify and prioritize the interventions based on mobility and accessibility situation.
8. Develop scoring criteria and its approval from Rural Municipality.
9. Prepare the Perspective Plan of transport services and facilities (Rural Municipal Transport Perspective Plan)
10. Prepare physical and financial implementation plan of prioritized roads for the RMTMP period.
11. Prepare a five years Rural Municipality Transport Master Plan (RMTMP).

1.3.Scope and Limitation of RMTMP

The scope of this work and service the consultant will provide for the project is given below:

a. Accessibility data Collection and Analysis.

The accessibility situation shall be evaluated from the settlement level and data shall be collected using a GPS. Various surveys may be carried out to gain such data including their travel patterns, questionnaire surveys and origin-destination survey.

b. Analyze Mobility status of the rural municipality

The consultant will also conduct mobility study, incorporated in the O-D survey. This is important especially because the road network in capital has provided access to majority of the population. The question then arises on how -efficiently, economically and safely the goods and passengers are transported, which is indicated by mobility.

c. Access the condition of public transportation

The consultant will collect data on different public transportation routes and their operation characteristics, which operate within the municipal area and to other adjoining area.

d. Access safety status and issues

The consultant shall also access the road safety status and issues. For this, roadside condition survey during road inventory survey and other accident data will be reviewed. Possible interventions to make the roads safer will be proposed and recommended.

e. Prepare the Indicative Rural municipality Development Potential Map (IDPM)

The consultant shall prepare IDPM using topographical base maps and digitized GIS maps. In the IDPM, the consultant shall identify potential areas for development and prioritize through ranking. The consultant shall validate the IDPM from the MRCC and Rural municipality.

f. Prepare Rural Municipality Inventory Map (RMIM) of existing roads within Raksirang Rural municipality.

The consultant will prepare the Rural Municipality Inventory Map linking to strategic road networks such as national highways, district core road network, main trails and bridges. This shall be done by walkover surveys using enumerators. The inventory map shall include the road names, total length and breadth of the roads, surface type, existing condition, Right of way, vehicular traffic and pedestrian traffic flow etc.

g. Collection of demands for New/Upgrading/Rehabilitation transport Linkages from Wards/Settlements

The consultant shall collect data regarding the construction, maintenance or rehabilitation of roads according to the existing condition and demand. The consultant will also seek to collect these data through ward meeting or community level discussion. The demand data shall be collected in priority order for each ward. The roadside condition of all the linkages will be noted during the road inventory survey.

h. Scoring criteria

The consultant shall develop scoring criteria to screen and prioritize all interventions potential interventions for proper allocation of limited budget. Scoring and prioritization criteria shall be checked with all linkages and interventions and approved by the rural municipality.

i. Road classification and Nomenclature

The consultant shall use metric system of nomenclature and apply the same classification throughout the data collection.

j. Preparation of perspective plan of interventions of services and facilities.

The data collected through accessibility survey, demand survey and inventory maps shall be used to prepare a perspective plan of interventions of services and facilities. All the identified interventions shall be screened and rated on the basis of approved criteria and forwarded to Rural municipality council meetings. The final perspective plan shall be shown in GIS maps.

k. Prepare a realistic physical and Financial Implementation Plan of Prioritised Roads for the RMTMP period

The consultant shall collect information on the resources that can be spent on the construction or rehabilitation of transportation infrastructures by the rural municipality. The consultant may also carry out studies to project the resources to fund the transport infrastructures for the next five years. From the total projected resources, the consultant shall discuss with the rural municipality to find out the appropriate proportion to be spent on ongoing roads and new interventions proposed. The projected resources should be able to cope with the total number of roads and new interventions proposed.

l. Prepare Rural Municipal Transport Master Plan (RMTMP) of Raksirang Rural municipality

The consultant shall prepare Rural Municipal Transport Master Plan (RMTMP) for Raksirang Rural municipality with due consideration to the existing situation of: vehicular parking, travel routes, modes of transport, etc and propose for future urban

growth. The consultant shall prepare a base scenario of the existing road and transport network and management based on the O-D survey and O-D matrix and prepare road inventory map and transport infrastructure network and management plan based on the travel demand forecast, population growth forecast, and growth rate of vehicular and transport infrastructure.

m. Prepare framework for medium term and long-term planning

The consultant shall also forecast the demand for medium term (10 years) and long term (20 years) and recommend a framework to guide future interventions and planning processes. The long-term plan shall consider the proposed East-West Railway and other major transport sector interventions in the long term.

1.4.Approach and Methodology

Rural roads are supposed to provide both access and mobility to all possible and potential areas. RMTMP will help to assist the planning of such roads to fulfil the stated objectives. Better planning is incomplete without relevant quality data and quality data can only be acquired by use of properly selected survey methods. The chapter deals with the methodological framework adopted for data collection covering all used survey method, sampling techniques, quality and quantity of data along with data processing, analysis and presentation methodology.

1.4.1. Approach:

Rural Municipal Transport Master Plan has been prepared using participatory bottom-up approach and differs from conventional practices of trickle down approach. Techno-Political interface has been incorporated in the planning process, where active participation from representatives of political parties, line agencies, rural municipality officials is crucial. The Rural Municipal Road Coordination Committee (RMRCC) has been constituted as authorized legislative body of rural municipality. This body, comprising all political parties' representatives and concerned technical officials, helps in necessary policy decisions during the RMTMP preparation and implementation process.

1.4.2. Methodological Framework:

The study started with preliminary planning or desk study where basic background of rural municipality is studied with help of secondary data including census data, GIS data. The

study got acceleration with formation of RMRCC and inspection report. Various field surveys were carried out with objective of collecting primary data on transportation network, trip characteristics and service facilities. Along with the primary data, demands for various transportation projects (construction/upgrading/maintenance) were obtained from each ward. Also, potential areas/locations for various facilities were also identified based on interaction with local people and MRCC. The scoring criteria for prioritizing road network was identified based on ToR and will be approved by rural municipality. Then, the hierarchy of roads will be purposed and perspective plan of various interventions will be purposed and analysed based on available fund and finally physical and financial implementation plan of prioritized roads for RMTMP period. After analysis, the study will come up with potential roads, that need immediate intervention and roads that need to be given consideration for effective future planning.

All the above-mentioned strategy adopted for data collection, processing and analysis is summarized in the following figure in next page.

Secondary Data Collection

Any sorts of data that were collected from secondary sources are called secondary data. These data were collected from annual report published by district level offices and consultation with various concerned stakeholders. Rural Municipal Road Coordination Committee (RMRCC), which compromises people from various fields and political parties, is the next source for various secondary data. Field study was also carried out for general socio-economic assessment of the Rural municipality that includes collection of data regarding high development potential areas such as extensive agriculture, horticulture, livestock farming, high value cash crops, cottage and agro-based industries, centre for business/commerce/markets places, tourism area, service centres (hospital, health post, agriculture service sub-centre etc.). The information about demographic data of rural municipality, various maps showing service centres, transport infrastructure inventory, past plans and sector study reports, sector standards and policy targets were collected from the secondary sources, which includes Bureau of Statistics, Survey Department, Local NGOs, line agencies, DDC, Rural Municipality etc. Digitized topographic maps, administrative map of rural municipality, strategic road network map prepared by DoR, etc. were some other secondary data that were used during the study.

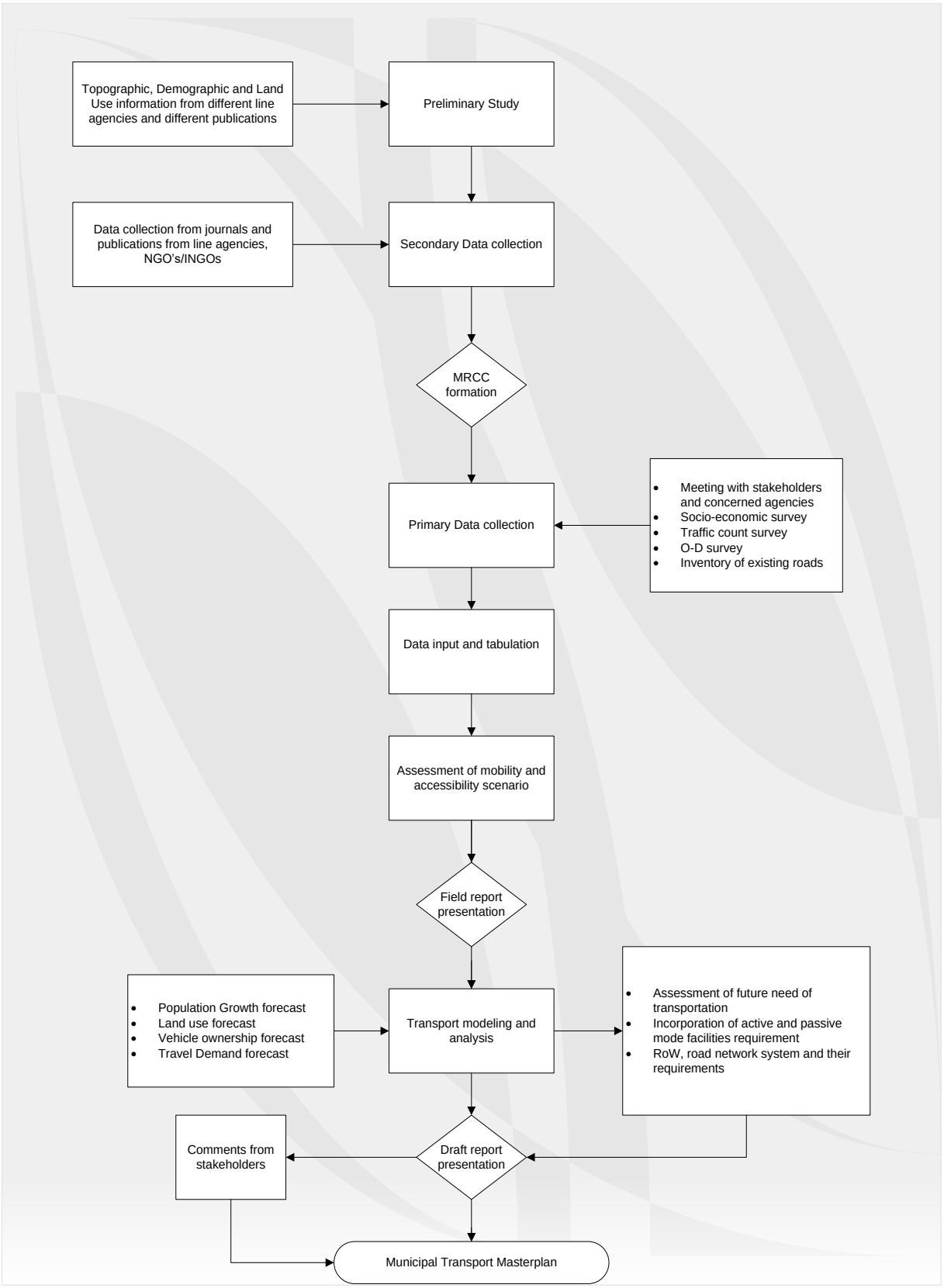


Figure 1: Methodological framework

Primary Data Collection:

Primary information on present household and trip characteristics, traffic characteristics, existing accessibility and mobility level of settlements, prioritized road network required for each ward are obtained via various reliable methods. Tracking of the existing road network along with detail information of its width, surface type and possible intervention required for the effectiveness of services is also carried out.

The primary data collection methods carried out in the field was:

- Origin and Destination (OD) Survey
- Road Inventory Survey
- Demand Survey
- Public Transport and Services Study

Household questionnaire method is used to conduct the OD surveys which give various information on questionnaire reflecting personal, household and trip making characteristics. This survey will also help to visualize the accessibility and mobility scenario of road network and to public transportation from the settlement/wards. As all the household can't be covered a realistic and statistically significant sample size was calculated based on probabilistic method.

Road inventory survey was conducted to collect data on its condition of road, road linkage, road safety status and issues that need to be highlight. It helps in field validation of base maps and also assists in preparation of road inventory map, nomenclature and coding of the road linkages and to propose various interventions.

Road Demand survey comprised of interaction session with the members of ward committee followed by asking them to fill up demand survey form, which includes demand of new facility or interventions to improve existing roads based on priority.

Classified vehicle counts have been conducted so as to reflect the usage of various vehicles in the certain route, especially where maximum volume occurs. Twelve-hour count has been done at five locations and the vehicles have been classified to different types and finally traffic volume have been converted to passenger car unit (PCU) to visualize the exact condition.

Public Transport and Services Study highlights the services provided by public transportation and location of various services and facilities. It was carried out by directly interviewing the route operators.

Data Processing, Analysis and Presentation of Reports

Data collected at field were first entered at MS office tools (MS excel and Word) and GIS database. All the complete and reliable sets of data were transformed into useable information and the present scenario of rural municipality are shown through graphs, figures and tables. Similarly, those which were entered into GIS database provide various types of maps. Population and traffic were forecasted for the RMTMP and RMTPP time period. Various transportation models were used for interpretation and forecasting. And, finally various intervention was purposed and their economic analysis were also performed.

Preparation of Visionary city development plan

A creative description of Raksirang future, the vision guides our decisions, helps us set direction and encourages us to align our priorities as we work to make Raksirang Gaupalika, the city we want it to become in the year 2093/94 is the visionary city development plan. This will be finalised by the rural municipality. Based on this vision, the urban transportation planning is to be done.

Preparation of Indicative Development Potential Map (IDPM)

IDPM is basically the indication of the existing and potential market/service centres (key growth centres) and the areas having various development potentials such as high value cash crops, agro-based industries and tourism. Thus, IDPM shows the areas of high value cash crops, tourism potential, extensive agriculture, extensive horticulture, livestock farming, fisheries, hydropower location and the other social service centres areas such as hospital, post office, telecommunication, school, campus, VDC centres, security offices and large settlements, important historic and religious places. Finally, it indicates the grading of various markets of the district thus providing the basis of network planning.

Digital Name Coding

Digital Name is a code given to each road which is unique and generated by an order of alphabetical and numerical digits. Each code is different to the other and forms the basis of differentiating from other road.

The first step taken in naming the streets is to identify the start and end point of a street. This was done with the help of municipal officials and local participation. A start point may be defined as a point located in the western end of a street, if the street is aligned in the West-East alignment and vice-versa. Similarly, in case of a street aligned in the North-South alignment, the start point shall be located in the Northern end of the street.

If the alignment of a street is not exactly North-South or West-East then the start point is defined by the angle by which a street is deviated from the North-South or the West-East line. If a street's deviation is within 45 degrees from North-South line then its start point shall be on the Northern end, else on the Western end of the West-East line. Although the above convention was followed, the situation of streets in some places can imply the method to be impractical. Hence, major service centres and markets or thoroughfares are also considered as the reference point for start point of a street.

After the designation of the start and end points, streets are assigned a unique code in the format A010101. The first letter in the Code represents a major road network (SRN, DRCN or Feeder Roads) in the rural municipality, which shall be taken as the reference for the Digital Name Coding of the Rural Municipal roads. The 2nd and 3rd number represent the number of primary branches from this major road network. Similarly, 4th and 5th number represent the number of secondary branches from the primary branches linking the major road and so on which maintains a hierarchy in coding. Each code may contain 1 letter only to a combination of 15 numbers and letters or more.

While coding, the streets branching from the main streets to the left are given only odd numbers (A01 or A13) and those branching from the right are given even numbers (A02 or A10). The major issue in Digital Name Coding process arises in the coding of new roads in the future. This issue is important as the codes are allocated progressively to each street and any new street shall be given a subsequent code after the last assigned code depending upon the left or right side of the street. The new Digital codes will break the continuity of the Digital naming of the streets but whatsoever these codes will be used for computer database

as the local people only use street names for the recognition of the roads in the rural municipality.

Scoring Criteria for Prioritization

A network consists of several links. It is not possible to construct all roads at a time due to resource and time constraint. Therefore, each link in a network needs to be prioritized. After developing a municipal level network, the cost estimate of the road is prepared. Existing population within the zone of influence, present road demand, future potential route, accessibility situation, land use pattern, environmental and social safeguard, proximity to the market/service centres, religious and tourism places were taken as the indicators for prioritization. The scoring criteria will be finalized after rigorous study and approval from Rural Municipality and RMRCC.

Table 2: Scoring criteria for prioritization

S.N	Scoring Criteria	Scoring Unit	Score
1	Link providing service to large settlement areas/population	Population served/km	30
2	Link providing service to existing · market center agriculture · tourist attraction areas · animal husbandry/Industries	No of areas	20
3	Link providing service to the existing service centres such as health centres, education centres (schools/campuses), offices (rural municipality office/Government office, etc.), linkages with other wards and municipalities.	Number of different service sector	20
4	Priority of ward	Ranking of priority from 1 to 5	20
5	Link providing service to the areas recognised by the rural municipality as areas for special consideration, such as areas inhabited by backward and poor ethnic groups/communities, isolated remote areas, historic sites, religious sites etc	Connection to the settlement of such criteria	10
		Sub Total	100

Chapter 2: Review of existing infrastructure situation

The chapter deals with the present condition and scenario of the rural municipality based on various primary and secondary data sources. Socio-economic, trip, land use and transportation characteristics are basically dealt in this chapter along with analysing accessibility and mobility scenario within the rural municipality. The basic data source of the analysis is the collected primary data.

3.1 Transportation

a. Road inventory

For the collection of existing road infrastructure data, GPS survey was used and total length of road surveyed was 186.5 Km, out of which 0.1 Km is rigid pavement, 0.43 Km is gravelled, and remaining 185.97 Km of road is earthen.

Table 3: Existing Road condition based on Surface Type (in Km)

Ward No.:	Road Surface (Km)			Sub Total
	Concrete	Earthen	Gravel	
1		24.65		24.65
2		11.56		11.56
3	0.10	41.55		41.64
4		23.96		23.96
5		21.86	0.43	22.29
6		19.87		19.87
7		9.13		9.13
8		18.29		18.29
9		15.10		15.10
Total	**0.10**	**185.97**	**0.43**	**186.50**

Based on the data collected, it can be seen that the road density per 1000 population is 7.12 km per 1000 population and 0.82 km per square kilometre of area. This value is high as compared to national statistics such as 1.91 km per 1000 population and 0.344 km per square kilometre.

Table 4: Road Density ward wise

Ward No.:	Population	Area (Sq. Km)	Road (In Km)	Road Per Sq. Km	Road per 1000 Population
1	2669	22.63	24.65	1.09	9.24
2	2139	15.35	11.56	0.75	5.40
3	3583	20.51	41.64	2.03	11.62
4	3301	30.72	23.96	0.78	7.26
5	3271	18.14	22.29	1.23	6.82
6	2574	10.33	19.87	1.92	7.72
7	2766	29.55	9.13	0.31	3.30
8	2500	37.32	18.29	0.49	7.32
9	3389	42.15	15.10	0.36	4.46
Total	26192	226.7	186.50	0.82	7.12

In this road inventory survey, it was found that the roads of this rural municipality are narrow and their width is insufficient to cross two vehicles from opposite direction at a time. Also, the actual width of feeder road and district roads is very small in comparison to their right of way. This rural municipality is supported by one National Highway, East-West Mahendra Highway, which passes through Manahari, the nearest city of this Rural Municipality

According to the District Transport Master Plan (DTMP) of Makawanpur District, two roads of total length 13.80 Km of this municipality are listed as district road core networks (DRCN).

These District Roads were under the responsibility of the District Development Committee and now they are under the responsibility of Rural Municipality itself.

b. Road Priority

From the ward level workshop, the most demanding five roads for each ward are collected and these roads will be used for the road priority and while developing road hierarchy.

Table 5: Priority road length based on order of priority (in Km)

Ward No	Priority Roads (in Km)					Sub Total
	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	
1	2.40	11.62	1.16	3.09	4.66	22.94
2	1.51	7.93	5.32	3.36	5.17	23.29

Ward No	Priority Roads (in Km)					Sub Total
	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	
3	7.09	12.14	8.15	1.13	0.65	29.14
4	19.26	15.81	3.62	4.13	0.67	43.49
5	10.58	3.54	5.39	3.30	2.10	24.92
6	7.31	4.52	6.57	4.31	4.61	27.33
7	7.09	6.34	5.92	2.40	6.28	28.03
8	8.56	3.69	3.42	4.75	3.81	24.22
9	21.45	14.29	-	4.23	3.18	43.17
Total	85.26	79.88	39.54	30.71	31.13	266.52

Table 6: Priority Road length based on intervention required

Ward No	Upgrading (Km)	New Construction (Km)	Sub-Total
1	11.76	11.17	22.94
2	12.49	10.80	23.29
3	25.09	4.05	29.14
4	17.39	26.10	43.49
5	13.70	11.21	24.92
6	15.83	11.50	27.33
7	7.09	20.93	28.03
8	8.68	15.54	24.22
9	13.18	29.99	43.17
Total	**125.23**	**141.29**	**266.52**

Table 7: Priority Road list

Ward No.:	Priority	Name	Surface	Length	Proposed Class
1	1	Kolgaire-Dungu Road	Earthen	2.40	B
	2	Churlingkhola - Ward Office	Earthen	0.80	B
	2	Ward Office-Galcharang-Kubhintar	Earthen	4.31	B
	2	Kunhintar- Burja Dada	New Track	6.51	B
	3	Gaudhan-Biralitar	New Track	1.16	B
	4	Ramkuwa-Dungu	Earthen	3.09	C
	5	Jyamire Swara- Krasana Dada	Earthen	1.16	C
	5	Krashana Dada- Indrung	New Track	3.50	C
2	1	Sunari Saura-Kudule	Earthen	1.51	B
	2	Sahitar-Chanauta	Earthen	1.03	B
	2	Ward Office (no 2)- Falase	New Track	3.06	B
	2	Chanaute-Ningrang-Trishulithan	New Track	3.84	B
	3	Kudule-Aapbari	Earthen	1.42	C

Ward No.:	Priority	Name	Surface	Length	Proposed Class
	3	Aapbari-Remkim-Jubal-Baretar	New Track	3.89	C
	4	Newarpani-Paurek	Earthen	3.36	B
	5	Sanobhawor-Bhati-Thumki	Earthen	5.17	B
3	1	Simpani-Sarikhet	Earthen	7.09	A
	2	Sarikhet-Palase-Gringti-Palase	Earthen	4.24	B
	2	Adhikari Chowk-Lawti-Manahari Khola	Earthen	5.43	B
	2	Kolanti-Chihandada	Earthen	0.88	B
	2	Dothe Sarikhet	New Track	0.52	B
	2	Gotheri- Bahtebesi	New Track	1.07	C
	3	Deukot-Kerabari	Earthen	6.34	C
	3	Kerabari-Golmate	New Track	1.82	C
	4	Maintar-Gothari	Earthen	1.13	C
	5	Ghattekhola-Plandang Dada	New Track	0.65	D
4	1	Chaukitar-Ghorkote	Earthen	8.42	A
	1	Panjani-Raksirang	New Track	4.90	A
	1	Ranibang-Panjani	New Track	3.19	A
	1	Gingu-Raksirang	New Track	2.75	A
	2	Ratuwa-Jaisintal	Earthen	8.97	C
	2	Jaisintal-Kindrang	New Track	4.78	C
	2	Kindrang-Vimaltar	New Track	2.06	C
	3	Raksirang-Kindrang	New Track	3.62	D
	4	Lapur-Raksirang	New Track	4.13	C
	5	Syachura-Jomsirang	New Track	0.67	D
5	1	Manahari-Panche-Daringbas-Kudhsingh	Earthen	3.95	A
	1	Kutasing-Bukhum-Manedada-Chainpur	Earthen	2.72	A
	1	Bangdirang-Botbari	Earthen	2.47	A
	1	Chainpur- Malekhu	New Track	1.44	A
	2	Kudhsingh-Lapur-Todke	New Track	3.54	B
	3	Bangdirang-Sachak-Tangrang-Ranibang	New Track	5.39	C
	4	Churedada-Kutasing	Earthen	3.30	B
	5	Chainpur-Thadichuri	Earthen	1.25	D
	5	Thadechuri-Thade	New Track	0.85	D
6	1	Lothar Khola-Kamle	Earthen	7.31	A
	2	Simargaun-Bujhrabg-Ghaidada	Earthen	4.52	B
	3	Pangthali- Bangrang- Siladhani	New Track	6.57	B
	4	Khandahare-Aaiparang	Earthen	3.13	C
	4	Aaiparang- Bujhrang	New Track	1.18	C
	5	Shilinge-Kadase	Earthen	0.87	C
	5	Kadase-Dungthali	New Track	3.74	C
7	1	Kamle -Siladhuni	Earthen	7.09	A
	2	Aaibeni- Damreng School	New Track	3.28	B

Ward No.:	Priority	Name	Surface	Length	Proposed Class
	2	Damrang-Garling	New Track	3.06	B
	3	Serdhum-Garling	New Track	5.92	C
	4	Kamle- Bujhrang-Sidam	New Track	2.40	C
	5	Bhuibisauni- Chhakum-Garling	New Track	6.28	D
8	1	Gotdada-Pampung-Manidada	New Track	5.02	A
	1	Karta-Dhusabagar-Gotdada	New Track	3.54	A
	2	Manidada-Todke-Charimara	Earthen	3.69	C
	3	Manidada-Mahakal-Charimara	Earthen	3.42	B
	4	Kalikathan-Lapur	New Track	4.75	D
	5	Thulotodke-Sanotodke	Earthen	1.57	D
	5	Dhusabagar-Gadhidada	New Track	2.24	D
9	1	Ghorkote-WardOffice	Earthen	3.61	A
	1	Talti-Terling	Earthen	3.47	A
	1	WardOffice-Quite	New Track	1.62	A
	1	Khairang-Kokhare-KailashGaunpalika	New Track	6.94	A
	1	Haprang-KandrangGadhi	New Track	5.82	A
	2	QuitiKokhari-BageshworiSchool	Earthen	4.66	A
	2	Charimara-Gaijarang-Saleni	New Track	8.51	A
	2	Decithan-Quite	New Track	1.12	A
	4	WardOffice-Tenta	Earthen	1.44	C
	4	Tenta-Kangsirang	New Track	2.80	C
	5	Kansirang-Poketar-Loja	New Track	3.18	C

c. Traffic condition

This rural municipality posses very low traffic. As the rural municipality lacks major toad of its own, vehicles are driven along the river and streams when discharge of water is low and such mobility completely gets interrupted when the water level increases in river. Buses and Pickup Vans anre used transportation of peoples. For the goods transportation purpose, large and small trucks are being used along with public bus and Jeep, and for the transportation of construction materials such as sand, stone and gravel, tractors and trippers are being used.

3.2 Visionary city development plan

The vision of this Raksirang Rural Municipality is to develop an environment friendly and clean rural settlement by fostering its potential for tourism, agriculture, and animal husbandry.

For this the main visionary city development plan of the rural municipality is to develop/preserve the following:

1. Tourism
2. Animal Husbandry
3. Agriculture

1. Tourism

   This Rural Municipality is full of diverse culture and religion. The social harmony of the Rural Municipality is magnificent. There are lot of historical places, gumbas, and ancient sculptures Also, this Rural municipality possess breathtaking landscape which can attract external and internal tourists. Thus, this rural municipality bears a huge potential to develop its economy and uplift the living standards of local peoples through tourism, but this needs proper planning and management of touristic areas and routes to those places.

2. Animal Husbandry

   The climate of this Rural Municipality varies largely in very short distance. This gives favourable environment for animal husbandry in this Rural Municipality. Sheep and Goats are common livestock in high altitudes. The use of advanced technology and availability of market place can greatly increase the profit margin in animal husbandry.

3. Agriculture

   This rural municipality has landscape and climate favourable for high value cash crops. To cash in such potential of agriculture the method of agriculture must be transformed into modern agriculture system. The availability of proper irrigation facility and market is the key to success in agriculture, which is possible in this rural municipality with proper planning approach.

Chapter 3: Indicative Development Potential Map

3.3 Location

Raksirang Rural Municipality (Gaunpalika) lies in Makawanpur district of Province number 3. In 12 March 2017, the government of Nepal implemented a new local administrative structure consisting of 744 local units. With this implementation of the new local administrative structure, VDCs have been replaced with the municipal and rural municipal councils.

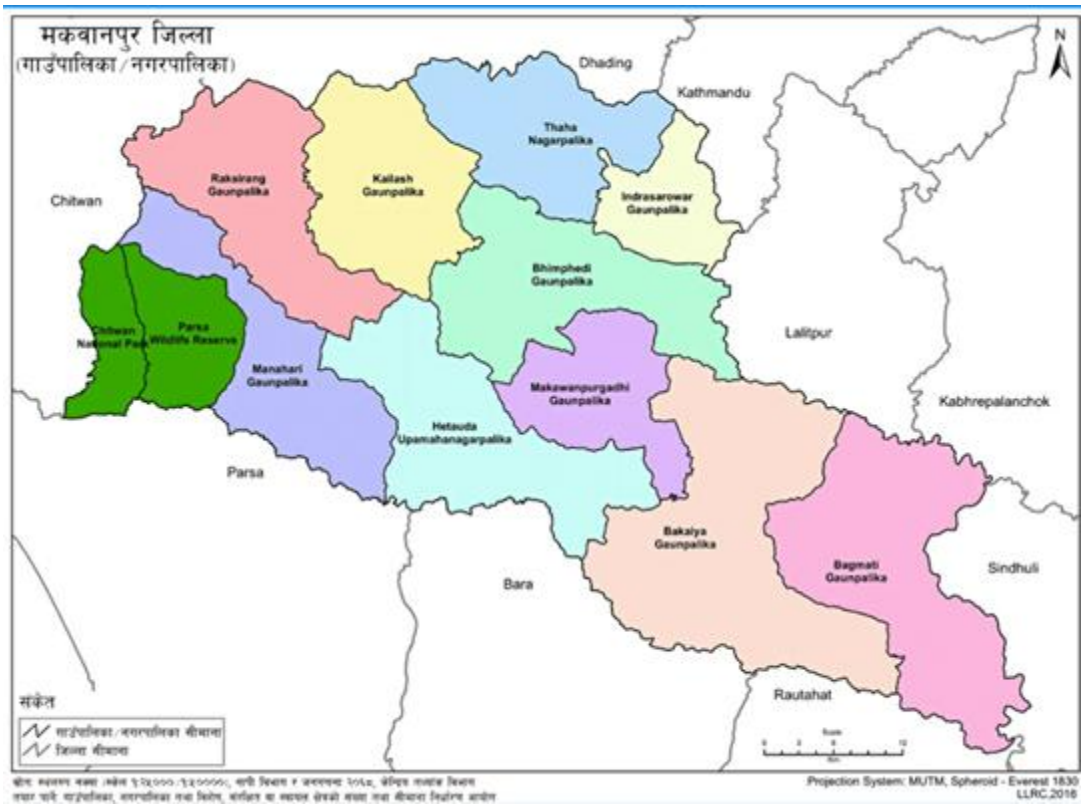


Figure 2: Local Levels of Makawanpur District

The Raksirang Rural Municipality was established by merging the existing Raksirang, Kangkada, Sarikhet, and Khairanga village development committees (VDCs) having a total area of 226.7 square km. The center of the Rural Municipality is established in the former Raksirang VDC. After merging the six VDCs population it had a total population of 26,192 according to 2011 Nepal census. The population density of Raksirang is 111.53 person/sq. km. Raksirang Rural Municipality has altogether 9 wards.

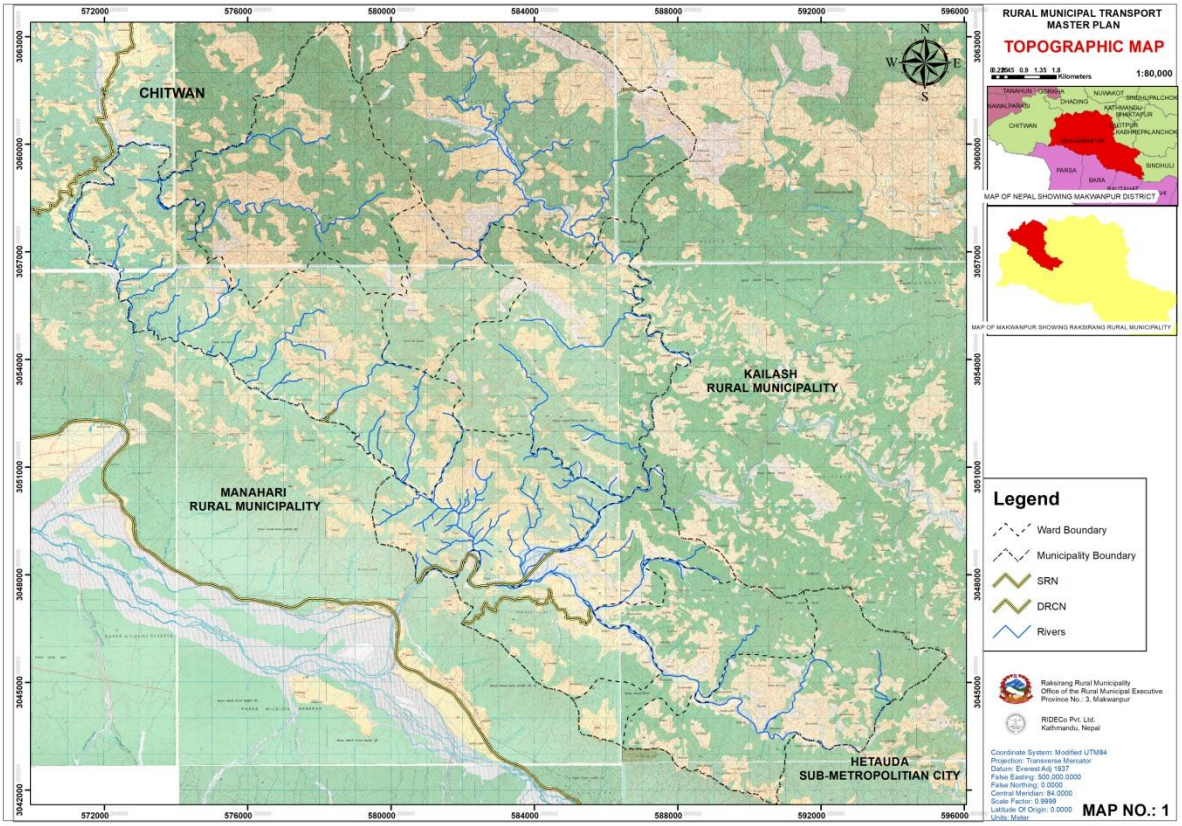


Figure 3: Topographic Map of Raksirang Rural Municipality

Table 8: Formation of wards of Raksirang Rural Municipality

S. No.	New Ward	Previous V.D.C.	Population	Area (Sq. Km)
1	1	Sarikhet (8,9)	2669	22.63
2	2	Sarikhet (6 & 7)	2139	15.35
3	3	Sarikhet (1-5)	3583	20.51
4	4	Rakshing (1-7)	3301	30.72
5	5	Rakshing (8-9)	3271	18.14
6	6	Kakada (1,5)	2574	10.33
7	7	Kakada (6-9)	2766	29.55
8	8	Kakada (2-4)	2500	37.32
9	9	Khairang (1-9)	3389	42.15
Total			26192	226.7

3.4 Socio-demographic

Population of this municipality in the year of 2068 was 40764 out of which 19463 are male and 21301 are female. The population of this municipality ward wise is as follows:

Table 9: Population of Raksirang Rural municipality

Ward No.:	HH	Population	Male	Female	Area (Sq. Km)
1	445	2669	1297	1372	22.63
2	388	2139	1078	1061	15.35
3	685	3583	1785	1798	20.51
4	580	3301	1632	1669	30.72
5	572	3271	1615	1656	18.14
6	430	2574	1267	1307	10.33
7	460	2766	1421	1345	29.55
8	414	2500	1271	1229	37.32
9	583	3389	1744	1645	42.15
Total	**8055**	**26192**	**13110**	**13082**	**226.7**

(Source: National Population Census 2068, CBS Nepal)

The population density of this municipality is 115.536 persons per square kilometre . The rate of increment of population yearly is increasing as people of this Rural Municipality tend to migrate from other places in search of opportunities and better infrastructure facilities .

3.5 Landuse condition

Being a rural area of Mahabharat range almost 47% of the land is covered with forest area and nearly 27% of the land is used for agriculture. The detail land use pattern of Raksirang Rural Municipalityis shown in table below.

Table 10: Land use condition in the study area

Category	Percentage Area
Barren Land	0.02
Building	0.10
Bush	3.30
Cliff	0.66
Cultivation	33.20
Forest	55.09
Grass	0.36
River	3.32
Road	0.40
Sand	3.22
Waterbody	0.33
Total	100.00

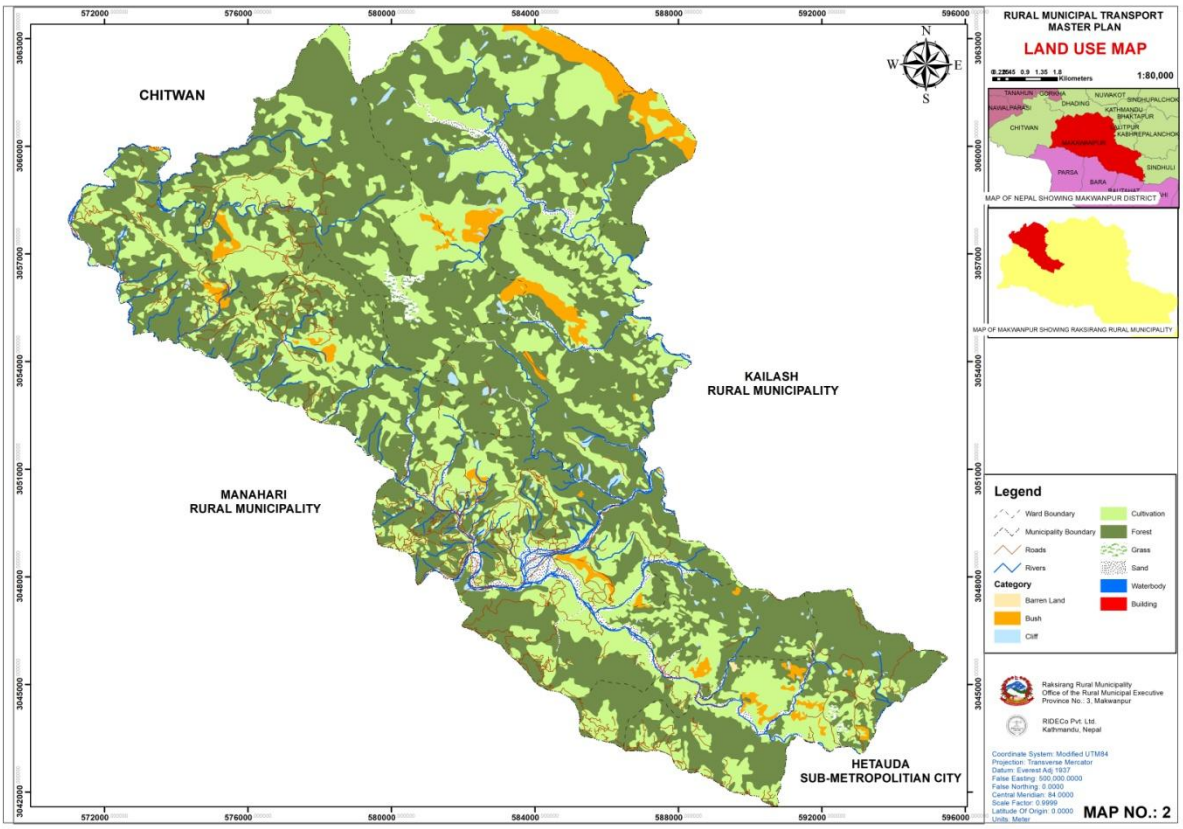


Figure 4: Land Use Map

3.6 Indicative development potential

IDP is basically the indication of the existing and potential market center/service centers (key growth centers) and the areas having various development potentials such as agro-based industries, high value cash crops and tourism. Thus, IDP shows high value cash crops, tourism area, and area of service centers such as hospital, post office, telecommunication, school, campus, security offices and large settlements, important historic and religious places. Finally, it prepares the ranking of the markets of the rural municipality as the basis of network planning.

Existing/potential areas are defined as:

- Existing/potential areas for development of small and large industries.
- Area with service centers such as hospital, post office, telecommunication, school, campus, security offices, Bus Park, sport and recreational centers etc.
- Potential areas for tourism development.
- Area with large settlements.

- Area with important historic and religious places.
- Areas with extensive high value cash crops
- Areas with extensive horticulture.
- Areas with extensive livestock farming.

Chapter 4: Rural municipality Inventory Map of Road Network

The Rural Municipal Transport Master Plan (RMTMP) that covers the next five years is prepared based on the projected financial requirement to fulfil the perspective plan. Year-wise targets are prepared for the different roads and intervention types.

4.1 Road Classification

Roadways serve a variety of functions, including but not limited to the provision of direct access to properties, pedestrian and bicycle paths, bus routes and catering for through traffic that is not related to immediate land uses. Many roads serve more than one function and to varying degrees, but it is clear that the mixing of incompatible functions can lead to problems. Thus it is important to distinguish road in different class or type based on various criteria. A road hierarchy is a means of defining each roadway in terms of its function such that appropriate objectives for that roadway can be set and appropriate design criteria can be implemented. It is an important tool of road network and land use planning to asset management.

Road hierarchy restricts or reduces direct connections between certain types of links, for example residential streets and arterial roads, and allows connections between similar order streets (e.g. arterial to arterial) or between street types that are separated by one level in the hierarchy (e.g. arterial to highway and collector to arterial.) These hierarchical distinctions of road types become clearer when considering the recommended design specifications for the number of through lanes, design speed, intersection spacing and driveway access.

A well-formed road hierarchy will reduce overall impact of traffic by concentrating longer distance flow onto routes in less sensitive locations, ensuring land uses and activities that are incompatible with traffic flow are restricted from routes where traffic movement should predominate and preserving areas where through traffic is discouraged.

The road hierarchy principles will assist planning agencies via orderly planning and provision of public transport routes, pedestrian and bicycle routes. It also identifies the effects of development decisions in and on surrounding areas and roadways within the hierarchy and also facilitates urban design principles such as accessibility, connectivity, efficiency, amenity and safety. Further, it also identifies treatments such as barriers, buffers and landscaping to preserve amenity for adjacent land uses.

This study also formulates the road hierarchy for the various roads. After going through large number of literature, the study has proposed four level hierarchy roads namely Class A, B and C. Class C basically deals with access while Class A and B basically deals with mobility

Based on various literature, the recommended right of way of ToR doesn't seems to be justifiable one as there is necessity of arterial road within the municipality. Also, the road space needs to be distributed to all road users equally with provision of green belt, cycle track thus there need to be a provision for green belt cycle track and footpath. After proper study the RoW of 14, 10, 8 and 6m is recommended for class A, B, C and D road respectively.

Type of City	Criteria	ROW based on Road Hierarchy (m)				
		Expressway	Arterial	Sub arterial	Collector	Local
Sub city	10,000-40,000	-	-	30	20	10
City	40,000- 100,000	-	50	30	20	10
Sub Metro City	**100,000-300,000**	50	30	20	10	10

Ref: Planning Norms and Standard 2015, GoN, DUDBC

ROW based on Road Hierarchy (m)				
Expressway	Arterial	Sub arterial	Collector	Local
-	50-60	30-40	20-30	10-20

Ref: Nepal Urban Road Standard 2068 (draft)

Standard	Cycle Track	Footpath (Minimum)	Median Strip
NURS 2068 draft	2 m on both side	2 m on both side	5 m
NRS 2070	2 m on both side	1.5 m on both side	5 m

and accessibility to higher services.

Table 11: Comparison of Criterion of Road hierarchy

Criteria	**Class A**	**Class B**	**Class C**	**Class D**
Purpose	Mobility	Mobility and control access	Access and mobility	Access
Function	Through and long distance movement	Connection between Class A and C roads; and also Provide alternative connection routes between Class A	Connects higher order roads and mobility to local trips	Connect local trips to higher level roads
	High network coverage	Support through movement of traffic	Access to property	direct access to property
	Segregated NMT facilities and Bus lay-bys	Segregated NMT facilities and Bus lay-bys	Segregated NMT facilities	Local NMT movement
	Complete access to public transport	High access to Public transport	Limited access to public transport	
Maintenance Responsibility	Municipality	Municipality	Municipality & Community	Community
Design Speed (Kmph)	40	30	25	25
Minimum Right of Way(m)	20	15	10	6*
Extra width at curve (m)	3	2.5	1.5	1
Setback distance (m)	2.5	2.5	2	1.5
Access Control	Applicable	Applicable	Not Applicable	Not Applicable

Criteria	**Class A**	**Class B**	**Class C**	**Class D**
Public transport services	Local Public transport	Local Public transport	No public transportation	No public transportation

Class A Roads

All major roads which connect one or more major Growth Centres (market, tourism Centre, industry, etc.) or several Wards with high network coverage, connected directly or through the National Strategic Road Network or district road falls on the road class A. The proposed right of way for this class of road is 20 m which includes footpath, greenery, and the carriageway as shown below in the cross section.

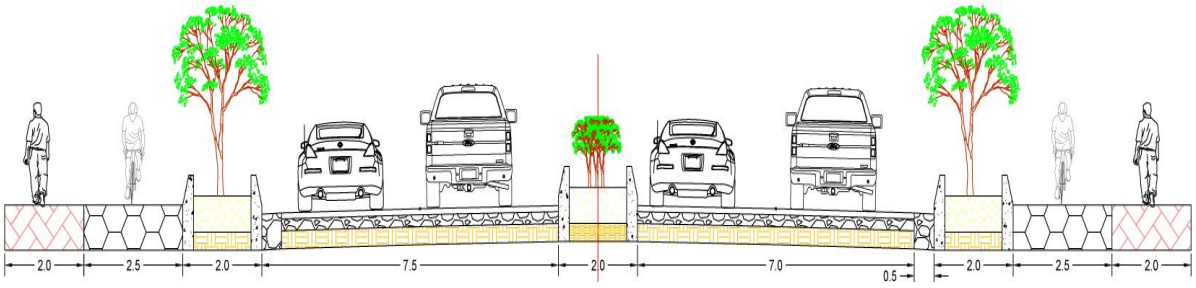


Figure 5: Typical section for Class A road in Plain

Class B road

All roads which connect to a major road network and other roads of similar hierarchy with a road connecting major Growth Centre of the same or neighbouring wards which provide access between Class A and class C road falls on the category of **class B.** The right of way of this class road is 14m.

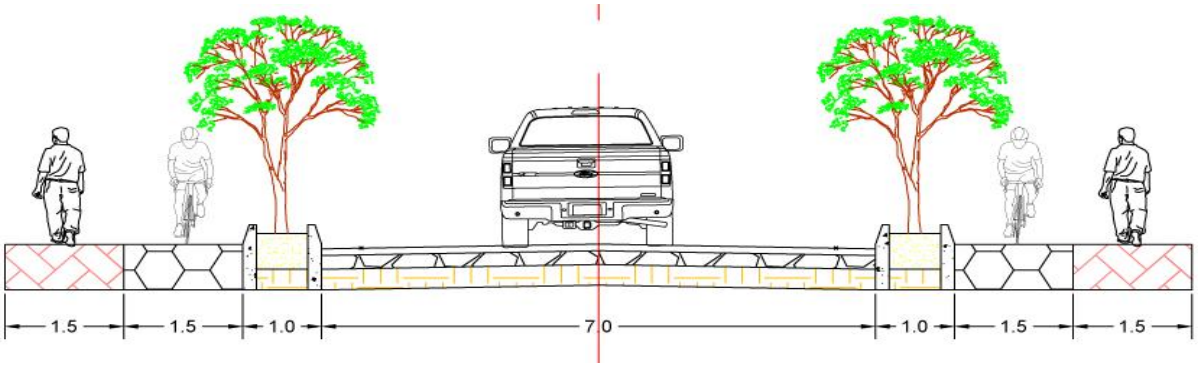


Figure 6: Typical section for Class B road in Plain

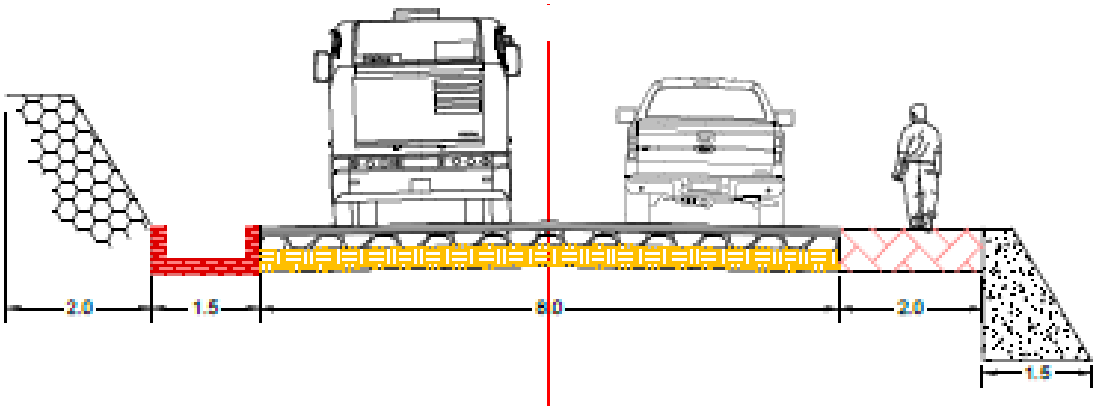


Figure 7: Typical section for Class B road with footpath in hill

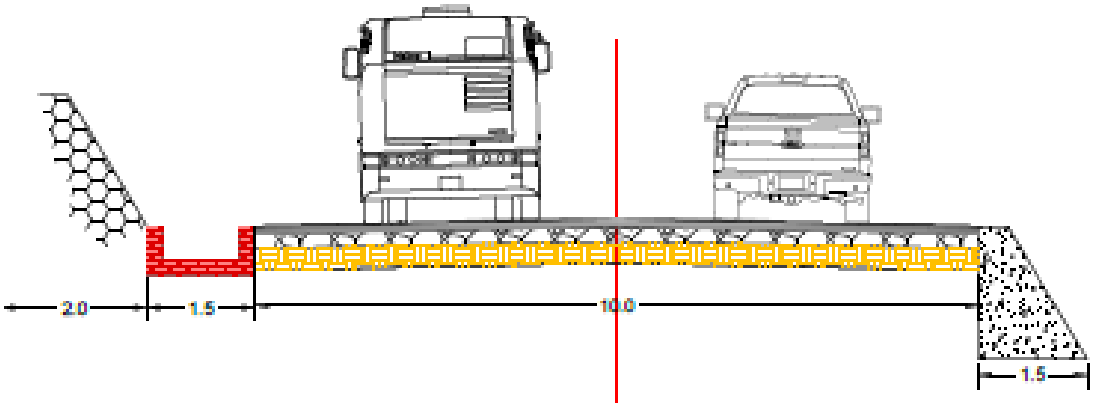


Figure 8: Typical section for Class B road without footpath in hill

Class C Roads

All roads which provide connection to higher order roads with all agricultural roads which connect a farm with a mini-market Centre or agro-based production Centre and means for mobility of local trips are understood as road **class C.** For this the proposed right of way for class C roads is 10m.

Class D Roads

All other small roads present inside the rural municipality lie under class D roads. Such roads provide service to very small population and are for mobility inside a small area. The proposed right of way for class D roads is 6 m

4.2 List Of Rural municipality Roads Class A

There are 5 municipal roads of class A of total length 114.66 Km out of which 67.74 km is earthen and 46.92 km is proposed new track. Detail of inventory of Class A roads is illustrated in table below:

Table 12: List of Municipal roads A

Road Code	Road Name	Length (Km)		
		New Track	Earthen	Total
A01	Simpani-Sarikhet- Kailash Rural Municipality	2.61	11.28	13.89
A02	Manahari-Chainpur-Ranibang-manchhap-Khairang-Malekhu	20.33	24.12	44.44
A03	Bangdirang- Chainpur	-	0.84	0.84
A04	Chainpur-Devitar-Gotdada- Manidada	7.35	8.98	16.33
A05	Thakaltar-Siladhani- Todke-Charimara-Gaijarang-Saleni-Khairang-Kailash RM	16.63	22.52	39.15
Total		46.92	67.74	114.66

4.3 List of Rural municipality Roads Class B

There are 15 municipal roads of class B of total length 101.36 km out of which 50.41 km is earthen, and 50.95 km is proposed new track. The detail of road inventory of Class B roads is illustrated in table below:

Table 13: List of Rural municipality roads of Class B

Road Code	Road Name	Length (Km)		
		New Track	Earthen	Total
B01	Kerabari- Thumki- Sanobhawor- Thulobhawor-Murikot	-	12.55	12.55
B02	Newarpani- Kolgaire-Dungu- Galcharang-Kubhintar- Burja Dada	7.33	6.98	14.31
B03	Gaudhan-Biralitar- Sunari Chaura-Poure-Gothari-Manitar	1.16	8.21	9.37
B04	Sunari Saura-Kudule- Palase-Sarikhet- Botbari-Chainpur	3.05	3.93	6.99
B05	Sahitar- Chanaute-Ningrang-Trishulithan	3.84	1.03	4.87
B06	Adhikari Chowk-Lawti-Manahari Khola	-	2.98	2.98
B07	Churedada-Kutasing	-	3.30	3.30
B08	Bangdirang-Botbari	-	2.27	2.27
B09	Dungu-Panjani-Raksirang	4.90	0.79	5.70
B10	Ratuwa-Gingu- Raksirang	2.75	1.80	4.54
B11	Manidada-Mahakal-Charimara	-	3.42	3.42
B12	Karta-Pangthali-Sidam	9.14	-	9.14
B13	Aaibeni- Chautara- Garling- Charimara	11.03	-	11.03
B14	Pangthali- Bangrang- Siladhani	6.57	-	6.57
B15	Khandahare-Aaiparang-Bujhrang	1.18	3.13	4.31
Total		50.95	50.41	101.36

4.4 List Of Rural Municipal Roads of Class C

The following is the list of roads of class C. Total length of Class C road is 81.81 Km out of which 34.24 Km is earthen and 47.57 Km is proposed new track.

Table 14: List of ward roads Class C

Road Code	Road Name	Length (Km)		
		New Track	Earthen	Total
C01	Ramkuwa-Dungu	-	3.09	3.09
C02	Sanobhawar-Dhungyan	-	2.08	2.08
C03	Deukot-Kerabari- Gothari	2.16	7.16	9.32
C04	Kudule- Machhedi- Jamire Swara- Karshana Dada- Indrung	4.98	0.96	5.94
C05	Kudule-Aapbari-Remkim-Jubal-Baretar	3.89	1.42	5.32
C06	Gringti-Koldada- Sano Dothe	0.49	2.04	2.53
C07	Kolanti-Chihandada- Sarikhet	0.54	0.88	1.42
C08	Kudhsingh-Lapur-Raksirang	7.67	0.61	8.28
C09	Ratuwa-Raksirang-Jaisintal- Tarsikot- Vimaltar	7.12	8.10	15.21
C10	Karta-Dhusabagar-Gotdada	3.54	-	3.54
C11	Dantar-Tenta-Kangsirang-Poketar-Loja	5.98	1.44	7.42
C12	Simargaun-Bujhrabg-Ghaidada- Dhusabagar	2.24	4.52	6.76
C13	Shilinge-Kadase- Dungthali	3.74	0.87	4.61
C14	Ghaiyabari-Serdhum- Garling	5.21	1.08	6.29
Total		47.57	34.24	81.81

4.5 List Of Rural Municipal Roads of Class D

The following is the list of roads of class D. Total length of Class D road is 128.13 Km out of which 37.54 Km is earthen, 0.1 Km is concrete pavement, 0.43 km is gravelled, and 90.16 Km is proposed new track.

Table 15: List of Rural Municipal Roads of Class D

Road Code	Road Name	Length (Km)				
		New Track	Concrete	Gravelled	Earthen	Total
D01	Thakure Dada- Dhungyan	-	-	-	1.54	1.54
D02	Churlingkhola - Ward Office	-	-	-	0.53	0.53
D03	Dungu- Farngtar Ward Office	-	-	-	0.63	0.63
D04	Beltar-Aaptar- Bhumethum	2.19	-	-	1.17	3.35
D05	Aadamar-Dungu	-	-	-	0.41	0.41
D06	Kubhintar-Ghyangsing Tar	2.73	-	-	-	2.73
D07	Aran- Khodro Dada	0.81	-	-	-	0.81
D08	Gaduwan Road	-	-	-	0.71	0.71
D09	Bhati-Bhatibesi	3.88	-	-	-	3.88
D10	Bhatebesi- Khola	-	-	-	0.46	0.46

Road Code	Road Name	Length (Km)				
		New Track	Concrete	Gravelled	Earthen	Total
D11	Magar Tole- School	-	-	-	0.50	0.50
D12	Maintar-Gothari- Bhatebesi	1.07	-	-	1.13	2.19
D13	School- Khola	-	-	-	0.40	0.40
D14	Kudule-Aamdada-Baretar	4.61	-	-	-	4.61
D15	baretar-Trishulithan-Samrong Bahate	2.95	-	-	-	2.95
D16	Khorhanjang-Sanodeukot	0.32	-	-	-	0.32
D17	Sano Deukot-Alkho	-	-	-	0.56	0.56
D18	Kerabari-Golmate	1.82	-	-	-	1.82
D19	Golmate-Chameragufa-Phoksingtar	2.14	-	-	-	2.14
D20	Yomjan Chowk-Golmate	-	-	-	0.65	0.65
D21	Galmati-Piple	-	-	-	0.38	0.38
D22	Mailchaur-Sathimuri Ghar	0.60	-	-	-	0.60
D23	Bikramchowk-Churling Khola	-	-	-	0.63	0.63
D24	Piple-Kewaldhap	-	-	-	0.41	0.41
D25	Yomjon Chowk- Kewaldhap	-	-	-	1.05	1.05
D26	Jhilkeni-Bagmara	-	-	-	0.85	0.85
D27	Pakhrin Tole-Kewaldhap	0.27	-	-	-	0.27
D28	Shanti Chowk-Pakhrin Tole	0.26	-	-	-	0.26
D29	Shanti Chowk-Pillardada	-	-	-	0.33	0.33
D30	Manahari Khola-Ghattekhola-Plandang Dada	0.65	-	-	0.42	1.06
D31	Ghatteykhola-Baghmara	1.67	-	-	-	1.67
D32	Loja-Jinai	4.40	-	-	-	4.40
D33	Chalish Ghar- Adhikari Chowk	-	-	-	0.26	0.26
D34	Palase Bajar Road	-	0.10	-	0.41	0.41
D35	Palase Bajar- Suryadaye School	-	-	-	0.13	0.13
D36	Bharang- Adhikari Chowk	-	-	-	1.06	1.06
D37	Subedi Chowk- Kharkhare	0.22	-	-	-	0.22
D38	Chautara- Lamadada	-	-	-	0.17	0.17
D39	Chautara- Gumba	-	-	-	0.43	0.43
D40	Khahare-Sano Gringti-Gringti	0.94	-	-	-	0.94
D41	Khahare-Kalidhap	-	-	-	0.33	0.33
D42	Khahare- Samrang	-	-	-	0.27	0.27
D43	LojaDovan-Sukel	-	-	-	0.83	0.83
D44	Koldada-Kolanti-Jamdar Kholsa	0.56	-	-	0.60	1.16
D45	Bardada-Bageshwori	0.39	-	-	-	0.39
D46	Aule-bageshwori-Baldhami Tole	0.88	-	-	-	0.88
D47	Lwati-Kailash Gaunpalika	-	-	-	0.15	0.15
D48	Nageshwori - bangkhora	-	-	-	0.30	0.30
D49	Thadechuri-Thade-Meghrang-Aalerang-Chainpur	1.92	-	-	-	1.92

Road Code	Road Name	Length (Km)				
		New Track	Concrete	Gravelled	Earthen	Total
D50	Alerang Rural Road	-	-	-	0.28	0.28
D51	Chainpur-Thadichuri- Kudhsingh	1.02	-	-	1.25	2.27
D52	Chainpur Rural Road	-	-	0.43	-	0.43
D53	Chainpur-Gaunpalika	-	-	-	0.11	0.11
D54	Manebhanjang-bankim	-	-	-	0.49	0.49
D55	Churedada Rural Road	-	-	-	3.08	3.08
D56	Churedada-Incharan	-	-	-	3.59	3.59
D57	Devitar-Sikhardada	2.56	-	-	-	2.56
D58	Thoplase-Kodakhola	1.20	-	-	-	1.20
D59	Sachak-Bamkim-Lapur	3.18	-	-	-	3.18
D60	Pangthali-Jyamiredada	3.89	-	-	-	3.89
D61	Pangthali-Rajarang-Nagdaha	2.43	-	-	-	2.43
D62	Devitar-Maisirang	1.89	-	-	0.63	2.52
D63	Lobhuda-Chamanti	1.88	-	-	-	1.88
D64	Syachura-Jomsirang	0.67	-	-	-	0.67
D65	Jomsirang-Dumtar	-	-	-	0.31	0.31
D66	Tar-DevithanSchool	-	-	-	0.68	0.68
D67	Gingu-YaduKhola	-	-	-	1.87	1.87
D68	YaduKhola-Kindrang	2.67	-	-	-	2.67
D69	Raksirang-Kindrang	3.62	-	-	-	3.62
D70	Kindrang- Limestone Mine	0.91	-	-	-	0.91
D71	Gonekhola-Kulobadh	-	-	-	0.88	0.88
D72	Kulobadh-Vimaltar	1.13	-	-	-	1.13
D73	kalikathan-Lapur	4.75	-	-	-	4.75
D74	Thulotodke-Sanotodke-Jaisintal	1.77	-	-	1.57	3.34
D75	Sanotodke-Dungkhola	1.73	-	-	-	1.73
D76	Madaldamar- Sidam	0.89	-	-	-	0.89
D77	Dusarang- Madaldamar	-	-	-	2.99	2.99
D78	Bhuibisauni- Chhakum-Garling	6.28	-	-	-	6.28
D79	Silinge-Kuitan- Yomkachhar	2.37	-	-	0.43	2.80
D80	Khandakare- Jhyapsitar-Dungthali	3.29	-	-	0.62	3.91
D81	Dungthali-Gaibang	-	-	-	1.09	1.09
D82	Chautara- Duguwang- Dhirang	5.47	-	-	-	5.47
D83	Mahakal-Musirang	1.30	-	-	-	1.30
Total		90.16	0.10	0.43	37.54	128.13

4.6 Rural municipality Inventory Map Of Road Network

Road inventory survey was conducted throught the rural municipality as far as possible except the new construction considered. In the inventory survey, the surface condition, width of road, and intervention required were collected. These data are presented in rural

municipality inventory map of road by surface condition, by width and invention needed. Similarly the map of road infrastructure is also prepared. Refer annex of this report for map in detail.

Table 16: Length of Roads based on surface condition

Road Class	Road Surface (Km)				
	Concrete	Earthen	Gravel	New Track	Sub-Total
A		67.74		46.92	114.66
B		50.41		50.95	101.36
C		34.04		47.57	81.61
D	0.10	37.74	0.43	90.16	128.43
Total	0.10	189.93	0.43	235.61	426.06

Chapter 5: Perspective Plan of Rural municipality Transport Network

5.1 Process and procedure for collection of demand

For the collection of ward road demand, ward level workshop on each ward was conducted. With discussion with the concerned stakeholders of each ward, five roads from each ward with their significance were selected as the ward road for the MTMP period.

5.2 Scoring system for screening, grading and prioritization

As the financial resources of rural municipality is less as compared to the demand of people there is always conflict among the leaders from different parts for the development of road infrastructure. For this we have to prioritize roads, based on the certain conditions. For this MTMP, we have adopted the criteria given by the ministry with discussion and minor modification with the concerned stakeholders. Based on this criteria, municipal and ward roads have been prioritized class wise. The details of prioritization criteria are included in chapter 1 of Volume II of this report and prioritized roads are shown in Annex with detail of score on each criteria and ranking.

5.3 Possible inter-rural municipality/district linkages

This rural municipality is supported 13.80 Km long district roads which are now under the rural municipality itself. This highway and district roads mainly serve for the inter municipality and inter district mobility. The municipal roads planned on this RMTMP also serves for inter-municipality/district mobility. Some of them are as follows:

Road Code	Road Name	Inter-Municipality/District Connection
A01	Simpani-Sarikhet- Kailash Rural Municipality	Manahari Rural Municipality/Kailash Rural Municipality
A02	Manahari-Chainpur-Khairang-Malekhu	Manahari Rural Municipality/ Dhading District
A05	Thakaltar-Siladhani- Todke-Charimara-Gaijarang- Saleni-Khairang-Kailash RM	Chitwan District/ kailash Rural Municipality
B01	Kerabari- Thumki- Sanobhawor-Thulobhawor- Murikot	Manahari Rural Municipality
C03	Deukot-Kerabari- Gothari	Manahari Rural Municipality

5.4 Interventions for MTPP

a. Maintenance

Maintenance refers to the actions required to repair a road and keep it in good and passable condition. For RMTMP planning purposes standard costs per kilometre for each maintenance type are applied to the entire road network, whereby for certain maintenance type's distinction is made according to the surface type of the road. Maintenance activities include:

Emergency maintenance - Basic repairs aimed at removing landslides and repairing damage to the road that inhibit the proper use of the road and make it impassable. This mainly takes place during and after the rainy season. A provisional lump sum is reserved for the entire road network based on the network length. Allocation to specific road sections is based on the actual need for clearing landslides or repairing washouts and cuts in the road.

Routine maintenance - General maintenance of the road aimed at preventing damage by ensuring the proper working of the different road elements (retaining walls, drainage system, carriageway, etc.) and cutting vegetation. This is carried out each year on a more or less continuous basis. Routine maintenance is required for the entire road network. The specific requirements for routine maintenance are determined on an annual basis through the road condition survey.

Recurrent maintenance - Repairs of minor damage to the road surface and road structures to bring them back to good condition. This is generally carried out once or twice a year. Recurrent maintenance is required for the entire municipal road network, whereby distinction is made according to the surface type. The specific requirements for recurrent maintenance are determined on an annual basis through the road condition survey.

Periodic maintenance - Larger repairs to the road largely aimed at renewing the road surface through re-gravelling, resealing or overlays. It is generally carried out with several years interval. Although periodic maintenance is only required for specific sections of the road network, a lump sum allocation is made for the entire road network based on average annual requirements, distinguishing between different surface types. The specific periodic maintenance requirements are determined on an annual basis through the annual road condition survey.

The length of roads in km to be included under each Maintenance type for the first year is indicated below.

Table 17: Length of road for maintenance work

Road Code	Length of road in km for maintenance (Km)				
	Emergency	Routine	Recurrent(earthen)	Recurrent (Gravelled)	Periodic (Gravelled)
A01	11.28	11.28	11.28	-	-
A02	24.12	24.12	24.12	-	-
A03	0.84	0.84	0.84	-	-
A04	8.98	8.98	8.98	-	-
A05	22.52	22.52	22.52	-	-
B01	12.55	12.55	12.55	-	-
B02	6.98	6.98	6.98	-	-
B03	8.21	8.21	8.21	-	-
B04	3.93	3.93	3.93	-	-
B05	1.03	1.03	1.03	-	-

Road Code	Length of road in km for maintenance (Km)				
	Emergency	**Routine**	**Recurrent(earthen)**	**Recurrent (Gravelled)**	**Periodic (Gravelled)**
B06	2.98	2.98	2.98	-	-
B07	3.30	3.30	3.30	-	-
B08	2.27	2.27	2.27	-	-
B09	0.79	0.79	0.79	-	-
B10	1.80	1.80	1.80	-	-
B11	3.42	3.42	3.42	-	-
B12	-	-	-	-	-
B13	-	-	-	-	-
B14	-	-	-	-	-
B15	3.13	3.13	3.13	-	-
C01	3.09	3.09	3.09	-	-
C02	2.08	2.08	2.08	-	-
C03	7.16	7.16	7.16	-	-
C04	0.96	0.96	0.96	-	-
C05	1.42	1.42	1.42	-	-
C06	2.04	2.04	2.04	-	-
C07	0.88	0.88	0.88	-	-
C08	0.61	0.61	0.61	-	-
C09	8.10	8.10	8.10	-	-
C10	-	-	-	-	-
C11	1.44	1.44	1.44	-	-
C12	4.52	4.52	4.52	-	-
C13	0.87	0.87	0.87	-	-
C14	1.08	1.08	1.08	-	-
D01	1.54	1.54	1.54	-	-
D02	0.53	0.53	0.53	-	-
D03	0.63	0.63	0.63	-	-
D04	1.17	1.17	1.17	-	-
D05	0.41	0.41	0.41	-	-
D06	-	-	-	-	-
D07	-	-	-	-	-
D08	0.71	0.71	0.71	-	-
D09	-	-	-	-	-
D10	0.46	0.46	0.46	-	-
D11	0.50	0.50	0.50	-	-
D12	1.13	1.13	1.13	-	-
D13	0.40	0.40	0.40	-	-
D14	-	-	-	-	-
D15	-	-	-	-	-
D16	-	-	-	-	-
D17	0.56	0.56	0.56	-	-

Road Code	Length of road in km for maintenance (Km)				
	Emergency	**Routine**	**Recurrent(earthen)**	**Recurrent (Gravelled)**	**Periodic (Gravelled)**
D18	-	-	-	-	-
D19	-	-	-	-	-
D20	0.65	0.65	0.65	-	-
D21	0.38	0.38	0.38	-	-
D22	-	-	-	-	-
D23	0.63	0.63	0.63	-	-
D24	0.41	0.41	0.41	-	-
D25	1.05	1.05	1.05	-	-
D26	0.85	0.85	0.85	-	-
D27	-	-	-	-	-
D28	-	-	-	-	-
D29	0.33	0.33	0.33	-	-
D30	0.42	0.42	0.42	-	-
D31	-	-	-	-	-
D32	-	-	-	-	-
D33	0.26	0.26	0.26	-	-
D34	0.41	0.41	0.41	-	-
D35	0.13	0.13	0.13	-	-
D36	1.06	1.06	1.06	-	-
D37	-	-	-	-	-
D38	0.17	0.17	0.17	-	-
D39	0.43	0.43	0.43	-	-
D40	-	-	-	-	-
D41	0.33	0.33	0.33	-	-
D42	0.27	0.27	0.27	-	-
D43	0.83	0.83	0.83	-	-
D44	0.60	0.60	0.60	-	-
D45	-	-	-	-	-
D46	-	-	-	-	-
D47	0.15	0.15	0.15	-	-
D48	0.30	0.30	0.30	-	-
D49	-	-	-	-	-
D50	0.28	0.28	0.28	-	-
D51	1.25	1.25	1.25	-	-
D52	0.43	0.43	-	0.43	0.43
D53	0.11	0.11	0.11	-	-
D54	0.49	0.49	0.49	-	-
D55	3.08	3.08	3.08	-	-
D56	3.59	3.59	3.59	-	-
D57	-	-	-	-	-
D58	-	-	-	-	-

Road Code	Length of road in km for maintenance (Km)				
	Emergency	Routine	Recurrent(earthen)	Recurrent (Gravelled)	Periodic (Gravelled)
D59	-	-	-	-	-
D60	-	-	-	-	-
D61	-	-	-	-	-
D62	0.63	0.63	0.63	-	-
D63	-	-	-	-	-
D64	-	-	-	-	-
D65	0.31	0.31	0.31	-	-
D66	0.68	0.68	0.68	-	-
D67	1.87	1.87	1.87	-	-
D68	-	-	-	-	-
D69	-	-	-	-	-
D70	-	-	-	-	-
D71	0.88	0.88	0.88	-	-
D72	-	-	-	-	-
D73	-	-	-	-	-
D74	1.57	1.57	1.57	-	-
D75	-	-	-	-	-
D76	-	-	-	-	-
D77	2.99	2.99	2.99	-	-
D78	-	-	-	-	-
D79	0.43	0.43	0.43	-	-
D80	0.62	0.62	0.62	-	-
D81	1.09	1.09	1.09	-	-
D82	-	-	-	-	-
D83	-	-	-	-	-

Table 18: Cost of maintenance for first year of MTMP in thousands

Road Code	Maintainance Cost in Thousands				
	Emergency	Routine	Recurrent(earthen)	Recurrent (Gravelled)	Periodic (Gravelled)
A01	507	338	4,229		-
A02	1,085	724	9,044	-	-
A03	38	25	316	-	-
A04	404	269	3,367	-	-
A05	1,013	676	8,446	-	-
B01	565	377	4,708	-	-
B02	314	210	2,619	-	-
B03	369	246	3,078	-	-
B04	177	118	1,475	-	-
B05	46	31	386	-	-
B06	134	89	1,118	-	-

Road Code	Maintainance Cost in Thousands				
	Emergency	**Routine**	**Recurrent(earthen)**	**Recurrent (Gravelled)**	**Periodic (Gravelled)**
B07	149	99	1,239	-	-
B08	102	68	853	-	-
B09	36	24	297	-	-
B10	81	54	674	-	-
B11	154	103	1,283	-	-
B12	-	-	-	-	-
B13	-	-	-	-	-
B14	-	-	-	-	-
B15	141	94	1,173	-	-
C01	139	93	1,160	-	-
C02	93	62	779	-	-
C03	322	215	2,684	-	-
C04	43	29	361	-	-
C05	64	43	534	-	-
C06	92	61	764	-	-
C07	40	26	331	-	-
C08	27	18	227	-	-
C09	364	243	3,036	-	-
C10	-	-	-	-	-
C11	65	43	538	-	-
C12	204	136	1,697	-	-
C13	39	26	325	-	-
C14	49	32	405	-	-
D01	69	46	577	-	-
D02	24	16	197	-	-
D03	28	19	234	-	-
D04	52	35	437	-	-
D05	18	12	154	-	-
D06	-	-	-	-	-
D07	-	-	-	-	-
D08	32	21	268	-	-
D09	-	-	-	-	-
D10	21	14	171	-	-
D11	22	15	187	-	-
D12	51	34	422	-	-
D13	18	12	150	-	-
D14	-	-	-	-	-
D15	-	-	-	-	-
D16	-	-	-	-	-
D17	25	17	209	-	-
D18	-	-	-	-	-
D19	-	-	-	-	-

Road Code	Maintainance Cost in Thousands				
	Emergency	**Routine**	**Recurrent(earthen)**	**Recurrent (Gravelled)**	**Periodic (Gravelled)**
D20	29	20	244	-	-
D21	17	11	143	-	-
D22	-	-	-	-	-
D23	28	19	236	-	-
D24	19	12	154	-	-
D25	47	32	394	-	-
D26	38	26	319	-	-
D27	-	-	-	-	-
D28	-	-	-	-	-
D29	15	10	123	-	-
D30	19	13	157	-	-
D31	-	-	-	-	-
D32	-	-	-	-	-
D33	12	8	97	-	-
D34	18	12	152	-	-
D35	6	4	48	-	-
D36	47	32	396	-	-
D37	-	-	-	-	-
D38	8	5	64	-	-
D39	19	13	161	-	-
D40	-	-	-	-	-
D41	15	10	122	-	-
D42	12	8	103	-	-
D43	37	25	311	-	-
D44	27	18	225	-	-
D45	-	-	-	-	-
D46	-	-	-	-	-
D47	7	5	58	-	-
D48	14	9	114	-	-
D49	-	-	-	-	-
D50	13	9	106	-	-
D51	56	38	470	-	-
D52	19	13	-	258	161
D53	5	3	43	-	-
D54	22	15	185	-	-
D55	138	92	1,154	-	-
D56	161	108	1,346	-	-
D57	-	-	-	-	-
D58	-	-	-	-	-
D59	-	-	-	-	-
D60	-	-	-	-	-
D61	-	-	-	-	-

Road Code	Maintainance Cost in Thousands				
	Emergency	Routine	Recurrent(earthen)	Recurrent (Gravelled)	Periodic (Gravelled)
D62	28	19	236	-	-
D63	-	-	-	-	-
D64	-	-	-	-	-
D65	14	9	116	-	-
D66	31	20	256	-	-
D67	84	56	700	-	-
D68	-	-	-	-	-
D69	-	-	-	-	-
D70	-	-	-	-	-
D71	40	26	330	-	-
D72	-	-	-	-	-
D73	-	-	-	-	-
D74	71	47	589	-	-
D75	-	-	-	-	-
D76	-	-	-	-	-
D77	134	90	1,120	-	-
D78	-	-	-	-	-
D79	19	13	160	-	-
D80	28	19	234	-	-
D81	49	33	410	-	-
D82	-	-	-	-	-
D83	-	-	-	-	-

b. Improvement

Improvement refers to actions required to improve a road to bring it to a maintainable all-weather standard. It includes the following actions:

1. Rehabilitation - Significant repairs required to bring a very poor road back to a maintainable standard. This does not include any changes to the original surface type.

2. Gravelling - Placement of gravel layer to make it all-weather and ensure that the road remains passable during the rainy season.

3. Cross drainage - Placement of suitable cross-drainage structures with the aim of making the road all-weather and ensuring that the road remains passable even during the rainy season.

4. Protective structures - Placement of retaining walls and lined side drains to avoid excessive damage to the road during the rainy season and bring it to a maintainable standard.

5. Blacktopping - Placement of a blacktop layer in roads with traffic volumes exceeding 50 passenger car units (PCU) to reduce damage to the road surface.

6. Widening - Increase of the road width in roads with traffic volumes exceeding 500 passenger car units (PCU) to ensure the proper flow of traffic.

Table 19: Length for gravelling and blacktop and cost

Road Code	Length (Km)					Gravelling Cost	Blacktopping Cost
	New Track	Concrete	Gravelled	Earthen	Total		
A01	2.61	-	-	11.28	13.89	130,978	316,729
A02	20.33	-	-	24.12	44.44	419,036	1,013,306
A03	-	-	-	0.84	0.84	7,938	19,196
A04	7.35	-	-	8.98	16.33	153,981	372,354
A05	16.63	-	-	22.52	39.15	369,154	892,681
B01	-	-	-	12.55	12.55	118,374	286,249
B02	7.33	-	-	6.98	14.31	107,933	256,340
B03	1.16	-	-	8.21	9.37	70,682	167,870
B04	3.05	-	-	3.93	6.99	52,712	125,191
B05	3.84	-	-	1.03	4.87	36,744	87,266
B06	-	-	-	2.98	2.98	22,490	53,413
B07	-	-	-	3.30	3.30	24,925	59,196
B08	-	-	-	2.27	2.27	17,152	40,736
B09	4.90	-	-	0.79	5.70	42,979	102,076
B10	2.75	-	-	1.80	4.54	34,277	81,408
B11	-	-	-	3.42	3.42	25,804	61,284
B12	9.14	-	-	-	9.14	68,906	163,651
B13	11.03	-	-	-	11.03	83,209	197,621
B14	6.57	-	-	-	6.57	49,527	117,627
B15	1.18	-	-	3.13	4.31	21,685	49,161
C01	-	-	-	3.09	3.09	15,549	35,250
C02	-	-	-	2.08	2.08	10,446	23,683
C03	2.16	-	-	7.16	9.32	46,875	106,268
C04	4.98	-	-	0.96	5.94	29,885	67,751
C05	3.89	-	-	1.42	5.32	26,729	60,596
C06	0.49	-	-	2.04	2.53	12,707	28,807
C07	0.54	-	-	0.88	1.42	7,165	16,243
C08	7.67	-	-	0.61	8.28	41,628	94,372
C09	7.12	-	-	8.10	15.21	76,501	173,431
C10	3.54	-	-	-	3.54	17,802	40,358
C11	5.98	-	-	1.44	7.42	37,308	84,579
C12	2.24	-	-	4.52	6.76	33,990	77,056
C13	3.74	-	-	0.87	4.61	23,190	52,573
C14	5.21	-	-	1.08	6.29	31,637	71,723

Road Code	Length (Km)					Gravelling Cost	Blacktopping Cost
	New Track	Concrete	Gravelled	Earthen	Total		
D01	-	-	-	1.54	1.54	7,732	17,528
D02	-	-	-	0.53	0.53	2,643	5,991
D03	-	-	-	0.63	0.63	2,357	5,090
D04	2.19	-	-	1.17	3.35	12,643	27,297
D05	-	-	-	0.41	0.41	1,547	3,341
D06	2.73	-	-	-	2.73	10,312	22,264
D07	0.81	-	-	-	0.81	3,043	6,570
D08	-	-	-	0.71	0.71	2,693	5,814
D09	3.88	-	-	-	3.88	14,623	31,573
D10	-	-	-	0.46	0.46	1,719	3,712
D11	-	-	-	0.50	0.50	1,878	4,054
D12	1.07	-	-	1.13	2.19	8,272	17,861
D13	-	-	-	0.40	0.40	1,510	3,260
D14	4.61	-	-	-	4.61	17,377	37,518
D15	2.95	-	-	-	2.95	11,143	24,058
D16	0.32	-	-	-	0.32	1,194	2,578
D17	-	-	-	0.56	0.56	2,102	4,539
D18	1.82	-	-	-	1.82	6,848	14,785
D19	2.14	-	-	-	2.14	8,065	17,414
D20	-	-	-	0.65	0.65	2,454	5,298
D21	-	-	-	0.38	0.38	1,440	3,110
D22	0.60	-	-	-	0.60	2,248	4,854
D23	-	-	-	0.63	0.63	2,369	5,115
D24	-	-	-	0.41	0.41	1,553	3,353
D25	-	-	-	1.05	1.05	3,963	8,557
D26	-	-	-	0.85	0.85	3,207	6,923
D27	0.27	-	-	-	0.27	1,025	2,212
D28	0.26	-	-	-	0.26	997	2,153
D29	-	-	-	0.33	0.33	1,232	2,660
D30	0.65	-	-	0.42	1.06	4,013	8,664
D31	1.67	-	-	-	1.67	6,295	13,591
D32	4.40	-	-	-	4.40	16,596	35,833
D33	-	-	-	0.26	0.26	972	2,099
D34	-	0.10	-	0.41	0.41	1,532	3,309
D35	-	-	-	0.13	0.13	480	1,036
D36	-	-	-	1.06	1.06	3,979	8,591
D37	0.22	-	-	-	0.22	821	1,773
D38	-	-	-	0.17	0.17	643	1,389
D39	-	-	-	0.43	0.43	1,617	3,490
D40	0.94	-	-	-	0.94	3,554	7,674
D41	-	-	-	0.33	0.33	1,226	2,648
D42	-	-	-	0.27	0.27	1,033	2,231

Road Code	Length (Km)					Gravelling Cost	Blacktopping Cost
	New Track	Concrete	Gravelled	Earthen	Total		
D43	-	-	-	0.83	0.83	3,129	6,755
D44	0.56	-	-	0.60	1.16	4,364	9,423
D45	0.39	-	-	-	0.39	1,475	3,185
D46	0.88	-	-	-	0.88	3,316	7,159
D47	-	-	-	0.15	0.15	582	1,256
D48	-	-	-	0.30	0.30	1,145	2,473
D49	1.92	-	-	-	1.92	7,228	15,605
D50	-	-	-	0.28	0.28	1,070	2,311
D51	1.02	-	-	1.25	2.27	8,572	18,508
D52	-	-	0.43	-	0.43	-	3,497
D53	-	-	-	0.11	0.11	431	931
D54	-	-	-	0.49	0.49	1,863	4,022
D55	-	-	-	3.08	3.08	11,604	25,054
D56	-	-	-	3.59	3.59	13,532	29,218
D57	2.56	-	-	-	2.56	9,645	20,824
D58	1.20	-	-	-	1.20	4,537	9,796
D59	3.18	-	-	-	3.18	11,999	25,907
D60	3.89	-	-	-	3.89	14,661	31,655
D61	2.43	-	-	-	2.43	9,158	19,772
D62	1.89	-	-	0.63	2.52	9,485	20,480
D63	1.88	-	-	-	1.88	7,107	15,344
D64	0.67	-	-	-	0.67	2,512	5,425
D65	-	-	-	0.31	0.31	1,164	2,512
D66	-	-	-	0.68	0.68	2,573	5,555
D67	-	-	-	1.87	1.87	7,041	15,202
D68	2.67	-	-	-	2.67	10,065	21,731
D69	3.62	-	-	-	3.62	13,656	29,485
D70	0.91	-	-	-	0.91	3,436	7,418
D71	-	-	-	0.88	0.88	3,317	7,161
D72	1.13	-	-	-	1.13	4,270	9,219
D73	4.75	-	-	-	4.75	17,900	38,648
D74	1.77	-	-	1.57	3.34	12,615	27,236
D75	1.73	-	-	-	1.73	6,514	14,064
D76	0.89	-	-	-	0.89	3,339	7,209
D77	-	-	-	2.99	2.99	11,266	24,324
D78	6.28	-	-	-	6.28	23,678	51,123
D79	2.37	-	-	0.43	2.80	10,553	22,785
D80	3.29	-	-	0.62	3.91	14,765	31,878
D81	-	-	-	1.09	1.09	4,120	8,896
D82	5.47	-	-	-	5.47	20,642	44,568
D83	1.30	-	-	-	1.30	4,920	10,624

Table 20: Roads requiring cross drainage structures

Road Code	Road Name	Types of Cross Structures		
		Bridge	**Culvert**	**Causeway**
A01	Simpani-Sarikhet- Kailash Rural Municipality	1	1	7
A02	Manahari-Chainpur-Ranibang-manchhap-Khairang-Malekhu	10	8	22
A03	Bangdirang- Chainpur	1	-	-
A04	Chainpur-Devitar-Gotdada- Manidada	4	3	4
A05	Thakaltar-Siladhani- Todke-Charimara-Gaijarang-Saleni-Khairang-Kailash RM	-	3	12
B01	Kerabari- Thumki- Sanobhawor- Thulobhawor- Murikot	-	-	-
B02	Newarpani- Kolgaire-Dungu- Galcharang- Kubhintar-Burja Dada	1	-	2
B03	Gaudhan-Biralitar- Sunari Chaura-Poure- Gothari-Manitar	-	4	9
B04	Sunari Saura-Kudule- Palase-Sarikhet- Botbari-Chainpur	3	2	1
B05	Sahitar- Chanaute-Ningrang-Trishulithan	-	-	2
B06	Adhikari Chowk-Lawti-Manahari Khola	1	1	-
B07	Churedada-Kutasing	-	-	-
B08	Bangdirang-Botbari	1	1	1
B09	Dungu-Panjani-Raksirang	-	-	-
B10	Ratuwa-Gingu- Raksirang	-	-	1
B11	Manidada-Mahakal-Charimara	-	-	2
B12	Karta-Pangthali-Sidam	2	6	-
B13	Aaibeni- Chautara- Garling- Charimara	-	-	3
B14	Pangthali- Bangrang- Siladhani	-	-	1
B15	Khandahare-Aaiparang-Bujhrang	-	-	-
C01	Ramkuwa-Dungu	-	-	-
C02	Sanobhawar-Dhungyan	-	-	1
C03	Deukot-Kerabari- Gothari	-	-	2
C04	Kudule- Machhedi- Jamire Swara- Karshana Dada-Indrung	-	-	-
C05	Kudule-Aapbari-Remkim-Jubal-Baretar	-	-	1
C06	Gringti-Koldada- Sano Dothe	-	-	-
C07	Kolanti-Chihandada- Sarikhet	-	-	-
C08	Kudhsingh-Lapur-Raksirang	-	1	1
C09	Ratuwa-Raksirang-Jaisintal- Tarsikot- Vimaltar	-	-	-
C10	Karta-Dhusabagar-Gotdada	-	-	-
C11	Dantar-Tenta-Kangsirang-Poketar-Loja	-	-	1
C12	Simargaun-Bujhrabg-Ghaidada- Dhusabagar	1	1	-
C13	Shilinge-Kadase- Dungthali	-	-	-
C14	Ghaiyabari-Serdhum- Garling	1	-	-
Total		26	31	73

5.5 Perspective plan of rural municipality transport network with score and ranking

In total there are roads of length 426.06Km within the rural municipality excluding feeder roads and National Highway, either in planned or existing condition. All the standards set by the rural municipality council are assumed not to decrease its RoW whenever these roads fall on the lower class in this MTMP.

Table 21: Arrangement of Road width

S. No.:	Class of Road	Minimum RoW(m)	Setback(m)	Pavement(m)	Footpath(m)
1	A	20	2.5	14	1.5m/1.5m(Both side)
2	B	14	2.5	11	1.5m/1.5m(Both side)
3	C	10	2	7	1.5m (One side)
4	D	6	1.5	5	None

Note: ***The ROW of the class 'A' district roads is 20m and class 'B' roads is 15m. this previously fixed RoW of DRCN should not be reduced although they lie in different municipal road hierarchy.***

Urban Development Strategy 2015 aims to pave 50% of the municipal roads by the end of 2031AD for New Municipalities and this MTMP planned to pave all roads within the perspective period of 20 years i.e. by the year of 2038AD in its full width.

For the financial requirement, the rate of different interventions as given by the ToR is used. For the financial planning the following assumptions are made:

- 30% of length of road requires retaining wall on hill and valley side and the cross section of retaining is taken as 1.5 square meter
- 30% of the length of road requires gabion wall and the cross section of gabion is taken as 1.5 square meter
- full length of road requires longitudinal drainage structures
- Length of bridge in average taken as 50m
- Financial capacity of rural municipality increases by 15% each year

Based on this rate of item and total required interventions, a total of 2428.62 crore of Nepalese rupees is projected to be required to develop road infrastructure and maintain road infrastructures. For this the assumption made is that the financial capacity of rural municipality increases by 15% each year. These costs will change slightly as the roads are improved and the standard costs change. This should be updated on annual basis. But, the municipality cannot invest such huge amount of money in twenty years period by itself. During RMRCC meeting, it has been decided that Municipality can invest only Nrs 10.00 Crore in developing road infrastructures in first year and this amount increases by 15% in annual basis. Thus, this RMTMP is prepared on the basis of the investment capacity of the Rural Municipality.

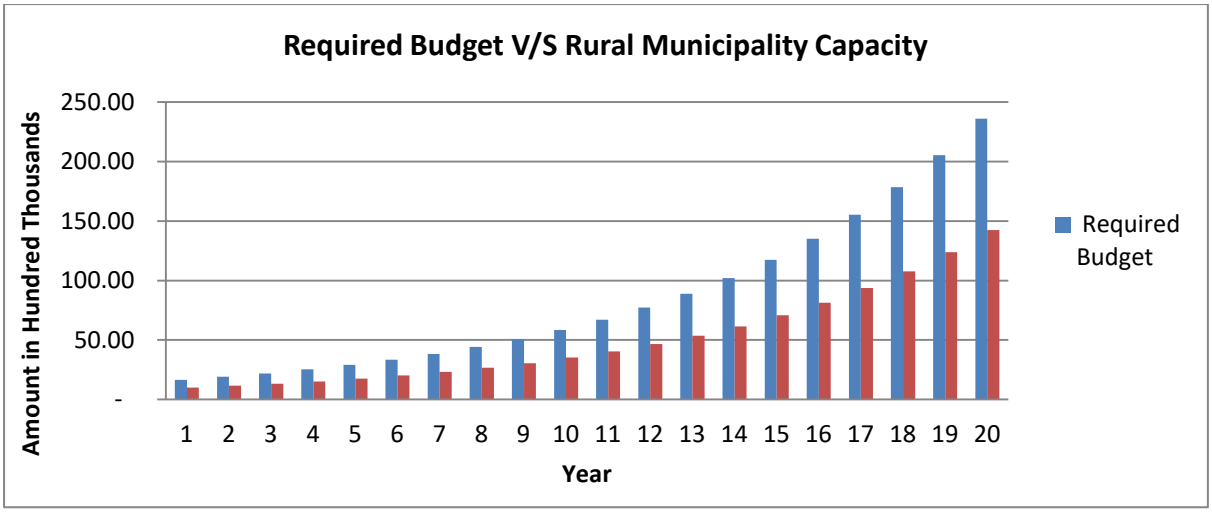


Figure 9: Lag between Required Budget and Capacity of Rural Municipality

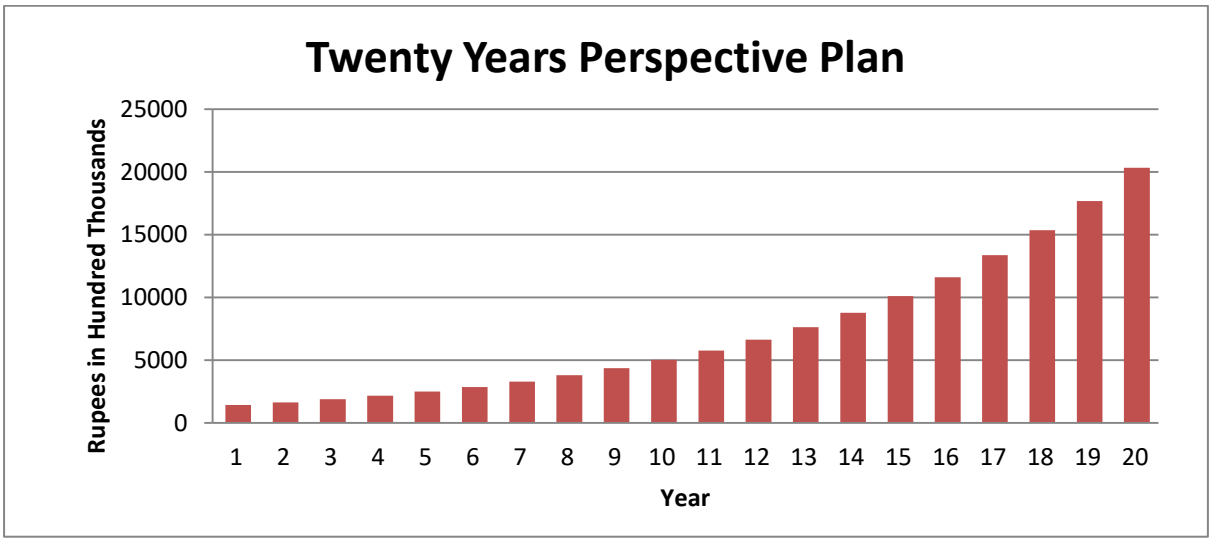


Figure 10: Perspective financial plan for 20 years based on Rural Municipality Capacity

For the perspective implementation plans, the municipal and ward roads have been prioritized and ranked. Based on these ranking, the implementation should be done.

Chapter 6: First Five Year Rural municipality Transport Master Plan

The Rural Municipal Transport Master Plan (RMTMP) that covers the next five years is prepared based on the projected financial requirement to fulfil the perspective plan. Year-wise targets are prepared for the different roads and intervention types.

6.1.Five Year Projected Financial Plan

To fulfil the required interventions implementation plan, financial requirements should be collected from the possible funding sources. For this the present financial capacity of the rural municipality is considered to increase by 15% each year. The rural municipality aims to invest approximately 10 Crore of budget in road infrastructure in the following fiscal year and this budget will increase on the years following.

6.2.Sharing Of Funds

The distribution of the available road sector budget for the MTMP period is given by ToR is as given below figure. Out of 100% budget, 70% is allocated for the construction of roads and 30% is allocated for maintenance work. As this amount of budget for maintenance work is huge, this amount can also be used for the construction of drain and retaining structures while in the initial MTMP period. After large network of road is developed, this amount will be used in maintenance work.

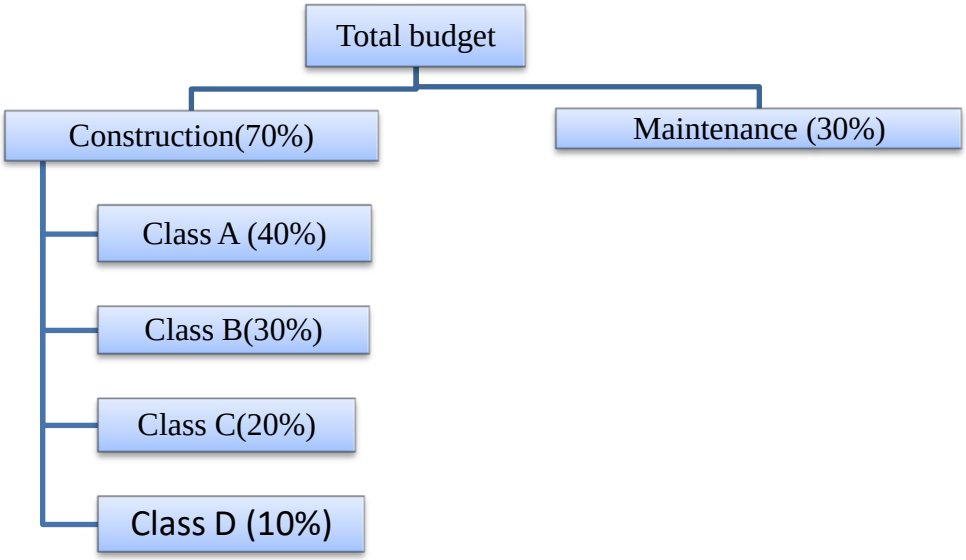
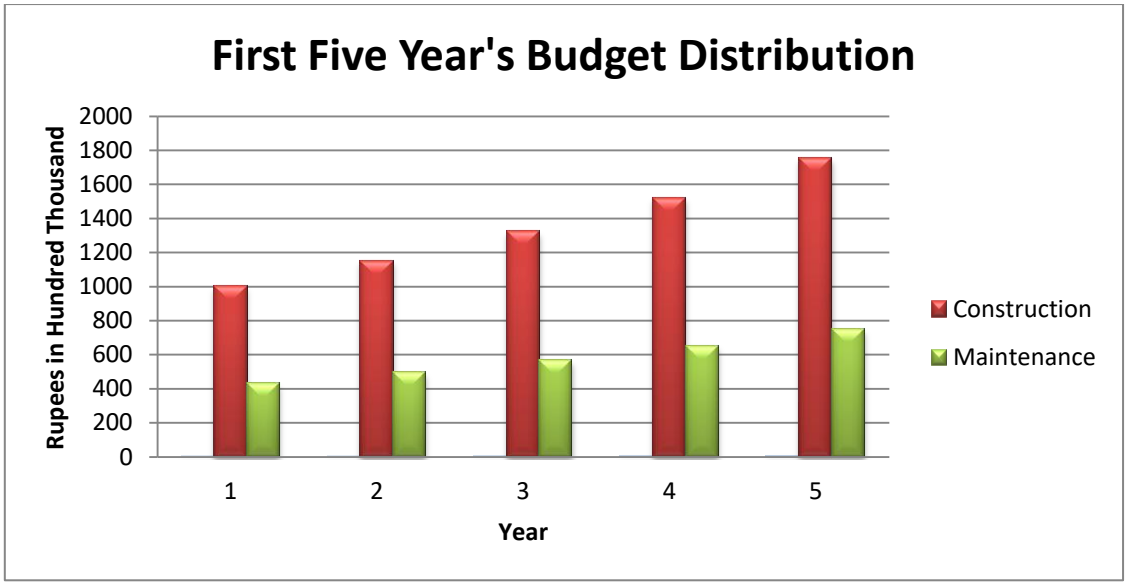


Figure 11: Distribution of Budget in MTMP period

Based on the above distribution scheme of the budget, the required annual budget will be as follows:



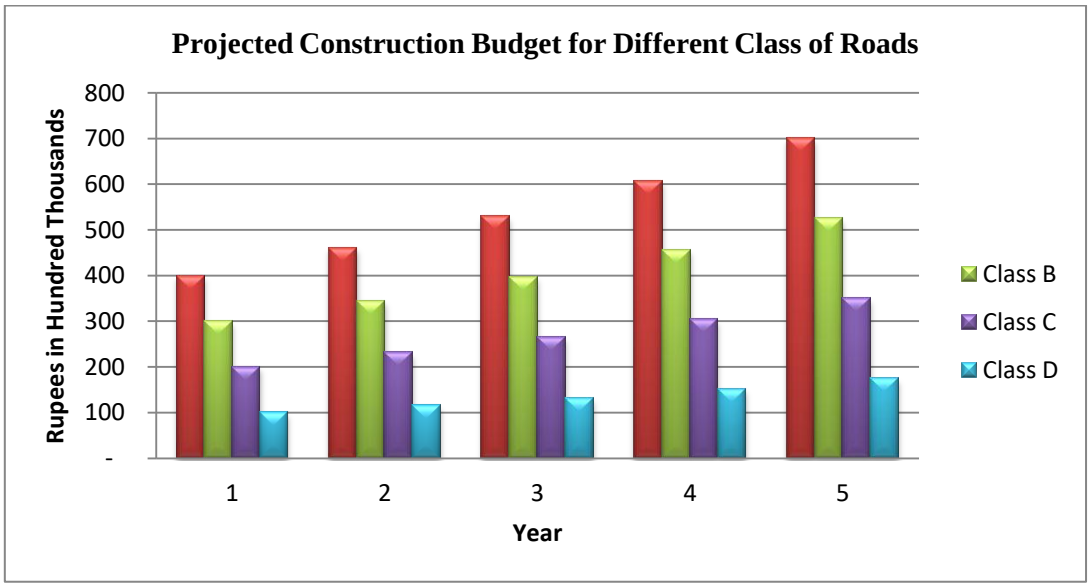


Figure 12: Investment Plan for MTMP period

6.3.First Five Year Rural municipality Transport Implementation Plan

For the implementation plan of MTMP period, the following assumptions have been made:

- Class 'A' and Class 'B' roads are planned for intermediate lane.
- Class 'C' and 'D' roads are planned for single lane.
- All class of roads are planned for upto all weather condition only
- Emphasis given to accessibility.
- Maintenance budget is considered to use in the construction/management of drain and retaining structures.

The projected budget for first five year plan is as follows:

Table 22: Projected budget distribution for first five years

Year	Projected Budget (in Hundred Thousand)		
	Construction	Maintenance	Total
1	1,000	429	1,429
2	1,150	493	1,643
3	1,323	567	1,890
4	1,520	651	2,171
5	1,750	750	2,500
Total	6,743	2,890	9,633

Table 23: Projected coonstruction budget for different class of roads

Year	Projected Budget (in Hundred Thousand)			
	Class A	Class B	Class C	Class D
1	400	300	200	100
2	460	345	230	115
3	529	397	265	132
4	608	456	304	152
5	700	525	350	175
Total	2,697	2,023	1,349	674

Table 24: RMTMP first three year plan for Class A roads

Road Code	Score	Rank	Proposed Improvement			I year				II year				III year			
			New Track	Gravelling	Blacktopping	Length completed (Km)	Cost	Remaining length (Km)	Intervention	length completed (Km)	Cost	Remaining Length (Km)	Intervention	Length completed (Km)	Cost	Remaining Length (Km)	Intervention
A02	76.37	1.00	20.33	44.44	44.44	5.00	10,000,000	15.33	New Track	5.00	10,000,000	10.33	New Track	3.00	6,000,000	7.33	New Track
						2.00	6,285,714	42.44	Gravelling	4.00	12,571,429	38.44	Gravelling	6.00	18,857,143	32.44	Gravelling
A05	75.05	2.00	16.63	39.15	39.15	5.00	10,000,000	11.63	New Track	3.00	6,000,000	8.63	New Track	3.00	6,000,000	5.63	New Track
						2.00	6,285,714	37.15	Gravelling	4.00	12,571,429	33.15	Gravelling	6.00	18,857,143	27.15	Gravelling
A03	75.00	3.00	-	0.84	0.84	-	-	0.84	Gravelling	0.84	2,646,075	-	Gravelling		-	-	Gravelling
A01	73.18	4.00	2.61	13.89	13.89	-	-	13.89	New Track		-	13.89	Gravelling		-	13.89	Gravelling
A04	65.11	5.00	7.35	16.33	16.33	4.00	8,000,000	3.35	New Track	1.2	2,400,000	2.15	New Track	2.15	4,304,800	-	New Track

Table 25: RMTMP fourth and fifth year plan for Class A roads

Road Code	Score	Rank	Proposed Improvement			IV year				V year			
			New Track	Gravelling	Blacktopping	Length completed (Km)	Cost	Remaining Length (Km)	Intervention	Length completed (Km)	Cost	Remaining Length (Km)	Intervention
A02	76.37	1.00	20.33	44.44	44.44	2.00	4,000,000	5.33	New Track	5.33	10,650,100	-	New Track
						7.00	22,000,000	25.44	Gravelling	10.00	31,428,571	15.44	Gravelling
A05	75.05	2.00	16.63	39.15	39.15	2.00	4,000,000	3.63	New Track	-	-	3.63	New Track
						8.00	25,142,857	19.15	Gravelling	6.00	18,857,143	13.15	Gravelling
A03	75.00	3.00	-	0.84	0.84		-	-	Gravelling		-	-	Gravelling
A01	73.18	4.00	2.61	13.89	13.89		-	13.89	Gravelling		-	13.89	Gravelling
A04	65.11	5.00	7.35	16.33	16.33	2	6,285,714	14.33	Gravelling	3	9,428,571	11.33	Gravelling

Table 26: RMTMP first three year plan for Class B roads

Road Code	Score	Rank	Proposed Improvement			I year				II year				III year			
			New Track	Gravelling	Blacktopping	Length completed (Km)	Cost	Remaining length (Km)	Intervention	length completed (Km)	Cost	Remaining Length (Km)	Intervention	Length completed (Km)	Cost	Remaining Length (Km)	Intervention
B04	76.51	1.00	3.05	6.99	6.99	3.05	6,108,920	-	New Track	-	-	-	New Track	2.00	6,285,714	4.99	Gravelling
B08	63.14	2.00	-	2.27	2.27	-	-	-	New Track	-	-	-	New Track	2.27	7,146,731	-	Gravelling
B02	59.71	3.00	7.33	14.31	14.31	2.10	4,200,000	5.23	New Track	3.00	6,000,000	2.23	New Track	2.23	4,450,402	-	New Track
B13	59.26	4.00	11.03	11.03	11.03	2.00	4,000,000	9.03	New Track	4.00	8,000,000	5.03	New Track	3.00	6,000,000	2.03	New Track
B14	54.67	5.00	6.57	6.57	6.57	2.00	4,000,000	4.57	New Track	2.00	4,000,000	2.57	New Track	2.57	5,132,180	-	New Track
B06	51.59	6.00	-	2.98	2.98	-	-	-	New Track	-	-	-	New Track		-	-	New Track
B09	46.82	7.00	4.90	5.70	5.70	2.00	4,000,000	2.90	New Track	2.90	5,809,620	-	New Track		-	-	New Track
B05	46.47	8.00	3.84	4.87	4.87	1.50	3,000,000	2.34	New Track	2.34	4,684,940	-	New Track		-	-	New Track
B03	46.03	9.00	1.16	9.37	9.37	1.16	2,325,740	-	New Track	-	-	9.37	Gravelling		-	9.37	Gravelling

Road Code	Score	Rank	Proposed Improvement			I year				II year				III year			
			New Track	Gravelling	Blacktopping	Length completed (Km)	Cost	Remaining length (Km)	Intervention	length completed (Km)	Cost	Remaining Length (Km)	Intervention	Length completed (Km)	Cost	Remaining Length (Km)	Intervention
B01	42.40	10.00	-	12.55	12.55	-	-	-	New Track	-	-	12.55	Gravelling		-	12.55	Gravelling
B15	40.67	11.00	1.18	4.31	4.31	1.18	2,369,820	-	New Track		-	4.31	Gravelling		-	4.31	Gravelling
B07	39.64	12.00	-	3.30	3.30		-	-	New Track	-	-	3.30	Gravelling		-	3.30	Gravelling
B12	38.45	13.00	9.14	9.14	9.14		-	9.14	New Track	3.00	6,000,000	6.14	New Track	3.00	6,000,000	3.14	New Track
B10	38.34	14.00	2.75	4.54	4.54		-	2.75	New Track	-	-	2.75	New Track	2.75	5,494,280	-	New Track
B11	32.84	15.00	-	3.42	3.42		-	-	New Track		-	3.42	Gravelling		-	3.42	Gravelling

Table 27: RMTMP fourth and fifth year plan for Class B roads

Road Code	Score	Rank	Proposed Improvement			IV year				V year			
			New Track	Gravelling	Blacktopping	Length completed (Km)	Cost	Remaining Length (Km)	Intervention	Length completed (Km)	Cost	Remaining Length (Km)	Intervention
B04	76.51	1.00	3.05	6.99	6.99	3.00	9,428,571	1.99	Gravelling	1.99	6,248,974	-	Gravelling
B08	63.14	2.00	-	2.27	2.27	-	-	-	Gravelling	-	-	-	Gravelling
B02	59.71	3.00	7.33	14.31	14.31	3.00	9,428,571	11.31	Gravelling	3.00	9,428,571	8.31	Gravelling
B13	59.26	4.00	11.03	11.03	11.03	2.03	4,062,916	-	New Track	-	-	-	Gravelling
B14	54.67	5.00	6.57	6.57	6.57	1.50	4,714,286	5.07	Gravelling	3.00	9,428,571	2.07	Gravelling
B06	51.59	6.00	-	2.98	2.98	1.50	4,714,286	1.48	Gravelling	1.48	4,656,489	-	Gravelling
B09	46.82	7.00	4.90	5.70	5.70	1.50	4,714,286	4.20	Gravelling	2.00	6,285,714	2.20	Gravelling
B05	46.47	8.00	3.84	4.87	4.87	1.00	3,142,857	3.87	Gravelling	1.50	4,714,286	2.37	Gravelling
B03	46.03	9.00	1.16	9.37	9.37	-	-	9.37	Gravelling	1.50	4,714,286	7.87	Gravelling
B01	42.40	10.00	-	12.55	12.55	-	-	12.55	Gravelling	1.50	4,714,286	11.05	Gravelling
B15	40.67	11.00	1.18	4.31	4.31	-	-	4.31	Gravelling	1.50	4,714,286	2.81	Gravelling
B07	39.64	12.00	-	3.30	3.30	-	-	3.30	Gravelling	-	-	3.30	Gravelling
B12	38.45	13.00	9.14	9.14	9.14	3.14	6,270,454	-	New Track	-	-	-	Gravelling
B10	38.34	14.00	2.75	4.54	4.54	-	-	4.54	Gravelling	-	-	4.54	Gravelling
B11	32.84	15.00	-	3.42	3.42	-	-	3.42	Gravelling	-	-	3.42	Gravelling

Table 28: RMTMP first three year plan for Class C roads

Road Code	Score	Rank	Proposed Improvement			I year				II year				III year			
			New Track	Gravelling	Blacktopping	Length completed (Km)	Cost	Remaining length (Km)	Intervention	length completed (Km)	Cost	Remaining Length (Km)	Intervention	Length completed (Km)	Cost	Remaining Length (Km)	Intervention
C08	69.426	1	7.67	8.28	8.28	2.00	4,000,000	5.67	New Track	2.00	4,000,000	3.67	New Track	3.67	7,343,200	-	New Track
C11	59.696	2	5.98	7.42	7.42	2.00	4,000,000	3.98	New Track	2.00	4,000,000	1.98	New Track	1.98	3,966,800	-	New Track
C09	55.068	3	7.12	15.21	15.21	1.50	3,000,000	5.62	New Track	1.50	3,000,000	4.12	New Track	2.00	4,000,000	2.12	New Track
C04	53	4	4.98	5.94	5.94	1.50	3,000,000	3.48	New Track	1.50	3,000,000	1.98	New Track	1.98	3,962,940	-	New Track
C12	46.456	5	2.24	6.76	6.76	1.50	3,000,000	0.74	New Track	0.74	1,470,320	-	New Track	-	-	-	New Track
C14	44.691	6	5.21	6.29	6.29	1.50	3,000,000	3.71	New Track	1.50	3,000,000	2.21	New Track	2.21	4,422,640	-	New Track
C05	43.84	7	3.89	5.32	5.32	-	-	3.89	New Track	1.50	3,000,000	2.39	New Track	1.00	2,000,000	1.39	New Track
C03	42.484	8	2.16	9.32	9.32	-	-	2.16	New Track	1.00	2,000,000	1.16	New Track	-	-	1.16	New Track
C01	40.614	9	-	3.09	3.09	-	-	-	New Track		-	-	New Track		-	-	New Track
C13	36.041	10	3.74	4.61	4.61	-	-	3.74	New Track		-	3.74	New Track		-	3.74	New Track
C06	33.996	11	0.49	2.53	2.53	-	-	0.49	New Track		-	0.49	New Track	-	-	0.49	New Track
C07	27.863	12	0.54	1.42	1.42						-	-	New Track	-	-	-	New Track
C10	27.135	13	3.54	3.54	3.54						-	-	New Track	-	-	-	New Track
C02	22.158	14	-	2.08	2.08						-	-	New Track	-	-	-	New Track

Table 29: RMTMP fourth and fifth year plan for Class C roads

Road Code	Score	Rank	Proposed Improvement			IV year				V year			
			New Track	Gravelling	Blacktopping	Length completed (Km)	Cost	Remaining Length (Km)	Intervention	Length completed (Km)	Cost	Remaining Length (Km)	Intervention
C08	69.426	1	7.67	8.28	8.28	2.00	6,285,714	6.28	Gravelling	2.00	6,285,714	4.28	Gravelling
C11	59.696	2	5.98	7.42	7.42	2.00	6,285,714	5.42	Gravelling	2.00	6,285,714	3.42	Gravelling
C09	55.068	3	7.12	15.21	15.21	2.12	4,234,220	-	New Track	2.00	6,285,714	13.21	Gravelling
C04	53	4	4.98	5.94	5.94	-	-	-	New Track	1.50	4,714,286	4.44	Gravelling
C12	46.456	5	2.24	6.76	6.76	-	-	-	New Track	1.50	4,714,286	5.26	Gravelling
C14	44.691	6	5.21	6.29	6.29	-	-	-	New Track	1.00	3,142,857	5.29	Gravelling
C05	43.84	7	3.89	5.32	5.32	1.39	2,782,860	-	New Track	1.00	3,142,857	4.32	Gravelling
C03	42.484	8	2.16	9.32	9.32	1.16	2,329,020	-	New Track	-	-	9.32	Gravelling
C01	40.614	9	-	3.09	3.09	-	-	-	New Track	-	-	3.09	Gravelling
C13	36.041	10	3.74	4.61	4.61	3.74	7,489,420	-	New Track	-	-	4.61	Gravelling
C06	33.996	11	0.49	2.53	2.53	0.49	976,646	-	New Track		-	2.53	Gravelling
C07	27.863	12	0.54	1.42	1.42	-	-	-	New Track		-	1.42	Gravelling
C10	27.135	13	3.54	3.54	3.54	-	-	-	New Track		-	3.54	Gravelling
C02	22.158	14	-	2.08	2.08	-	-	-	New Track		-	2.08	Gravelling

Table 30: RMTMP first three year plan for Class D roads

Road Code	Score	Rank	Proposed Improvement			I year				II year				III year			
			New Track	Gravelling	Blacktopping	Length completed (Km)	Cost	Remaining length (Km)	Intervention	length completed (Km)	Cost	Remaining Length (Km)	Intervention	Length completed (Km)	Cost	Remaining Length (Km)	Intervention
D78	31.00	1	6.28	6.28	6.28	2.00	3,428,571	4.28	New Track	2.00	3,428,571	2.28	New Track	2.28	3,905,589	-	New Track
D73	28.34	2	4.75	4.75	4.75	2.00	3,428,571	2.75	New Track	2.00	3,428,571	0.75	New Track	0.75	1,279,286	-	New Track
D69	26.65	3	3.62	3.62	3.62	1.50	2,571,429	2.12	New Track	1.50	2,571,429	0.62	New Track	0.62	1,064,537	-	New Track
D74	23.99	4	1.77	3.34	3.34			1.77	New Track	1.00	1,714,286	0.77	New Track	0.77	1,326,223	-	New Track
D51	21.43	5	1.02	2.27	2.27			1.02	New Track	-	-	1.02	New Track	1.02	1,747,869	-	New Track
D34	21.20	6	-	0.41	0.41					-		-		-	-	-	New Track
D70	21.18	7	0.91	0.91	0.91									0.91	1,561,781	-	New Track
D49	20.58	8	1.92	1.92	1.92									1.92	3,285,346		New Track

Table 31: RMTMP fourth and fifth year plan for Class D roads

Road Code	Score	Rank	Proposed Improvement			IV year				V year			
			New Track	Gravelling	Blacktopping	Length completed (Km)	Cost	Remaining Length (Km)	Intervention	Length completed (Km)	Cost	Remaining Length (Km)	Intervention
D78	31.00	1	6.28	6.28	6.28	2.00	4,400,000	4.28	Gravelling	2.00	4,400,000	2.28	Gravelling
D73	28.34	2	4.75	4.75	4.75	1.50	3,300,000	3.25	Gravelling	2.00	4,400,000	1.25	Gravelling
D69	26.65	3	3.62	3.62	3.62	1.50	3,300,000	2.12	Gravelling	2.12	4,666,156	-	Gravelling
D74	23.99	4	1.77	3.34	3.34	1.50	3,300,000	1.84	Gravelling	1.84	4,058,604	-	Gravelling
D51	21.43	5	1.02	2.27	2.27	-	-	2.27	Gravelling		-	2.27	Gravelling
D34	21.20	6	-	0.41	0.41	-	-	0.41	Gravelling		-	0.41	Gravelling

Chapter 7: Conclusion and Recommendation

The draft report of RMTMP of Raksirang Rural Municipality is prepared after the analysis of field data and requirement of the rural municipality itself. The short term and long term plan is prepared for five year and twenty years period.. This planning is based on the assumption that the spending capacity of Rural Municipality increases by 15% per year. The total budget for 20 years of implementation of this RMTMP is projected to be 2428.62 Crore, but the capacity of the municipality is projected to be 1463.5 Crore, 70% of which is allocated for construction and 30% is allocated for maintenance of existing structures. This RMTMP aims to gravel 123.55 Km of road and open 155.39 Km of new track.

The concept of RMTMP is to develop sustainable and economic road network, therefore the Rural Municipality should focus on strengthening existing road network to operate them in all weather conditions rather than opening new tracks. Moreover, strategically important tracks should be opened after proper planning and design. Due to unavailability of intra municipal transport system, the number of private vehicles is increasing in the Rural Municipality which may cause severe problem of traffic congestion in future. So, Rural Municipality should take immediate action to operate local transport system inside the Rural municipality by Rural municipality itself or with collaboration with private entities. Similarly, the rural municipality should allocate different land use zones based on their present and future use, which will be applicable in future planning of infrastructure facilities inside Rural Municipality.

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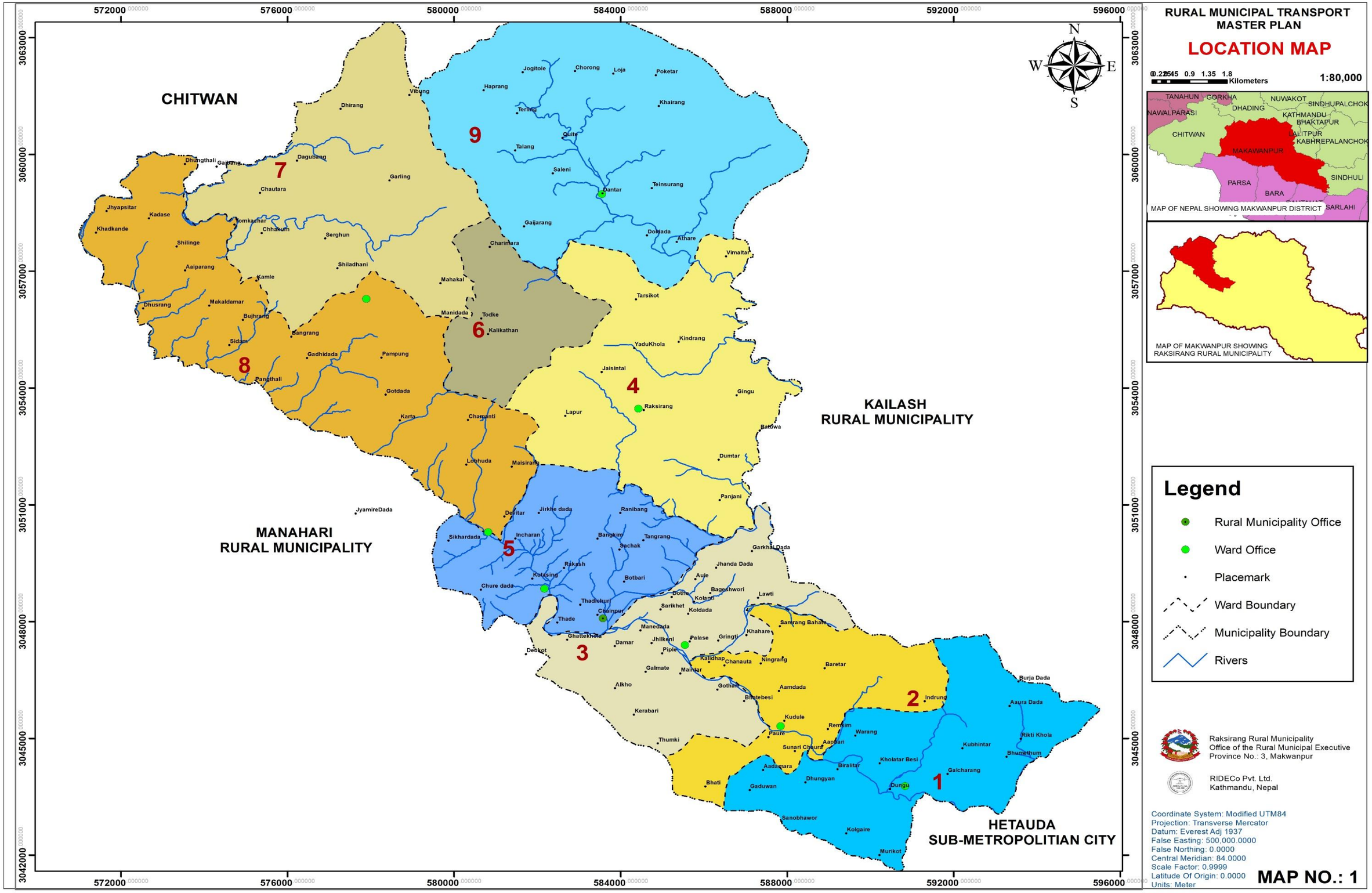
ANNEX-I

Maps:

1. Location Map
2. Land Use Map
3. Strategic Road Network and District Road Core Network
4. Existing Road Network
   Roads: Hierarchy by Priority
   Roads: Hierarchy by Width
   Roads: Hierarchy by Surface
5. Indicative Development Potential Map
6. Consolidated Rural Municipal Prospective Plan
7. Cross Drainage Structures Map
8. Municipal Coding of Rural Municipal Roads


RURAL MUNICIPAL TRANSPORT MASTER PLAN
LOCATION MAP
0 0.225 0.45 0.9 1.35 1.8
Kilometers
1:80,000
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
CHITWAN
MANAHARI RURAL MUNICIPALITY
KAILASH RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
Legend
Rural Municipality Office
Ward Office
Placemark
Ward Boundary
Municipality Boundary
Rivers
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
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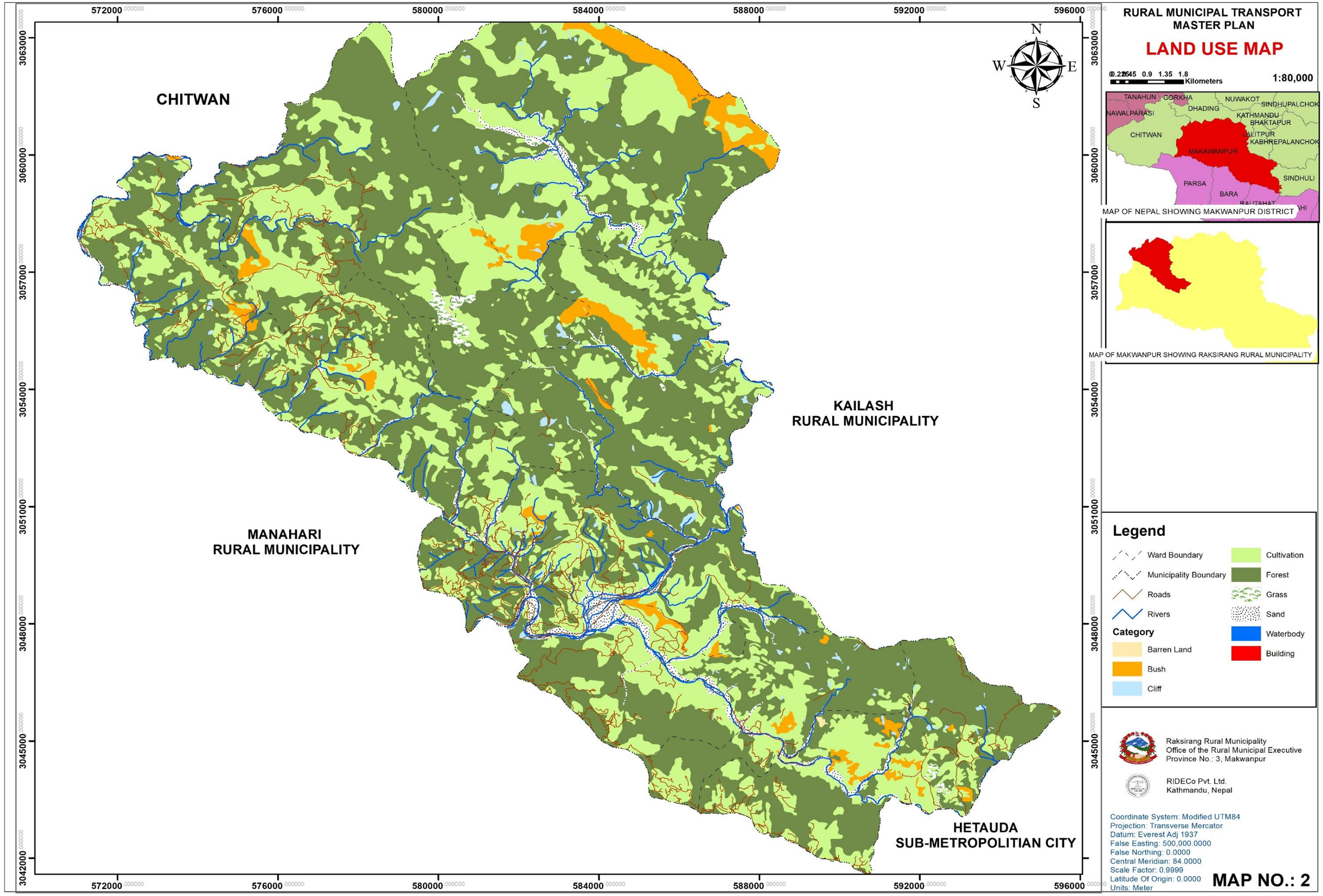
RURAL MUNICIPAL TRANSPORT MASTER PLAN
LAND USE MAP
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Kilometers
1:80,000
CHITWAN
KAILASH RURAL MUNICIPALITY
MANAHARI RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
N
S
E
W
572000
576000
580000
584000
588000
592000
596000
3063000
3060000
3057000
3054000
3051000
3048000
3045000
3042000
TANAHUN
GORKHA
NUWAKOT
SINDHUPALCHOK
DHADING
NAWALPARASI
KATHMANDU
BHAKTAPUR
CHITWAN
LALITPUR
KABHREPALANCHOK
MAKAWANPUR
SINDHULI
PARSA
BARA
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
Legend
Ward Boundary
Municipality Boundary
Roads
Rivers
Category
Barren Land
Bush
Cliff
Cultivation
Forest
Grass
Sand
Waterbody
Building
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
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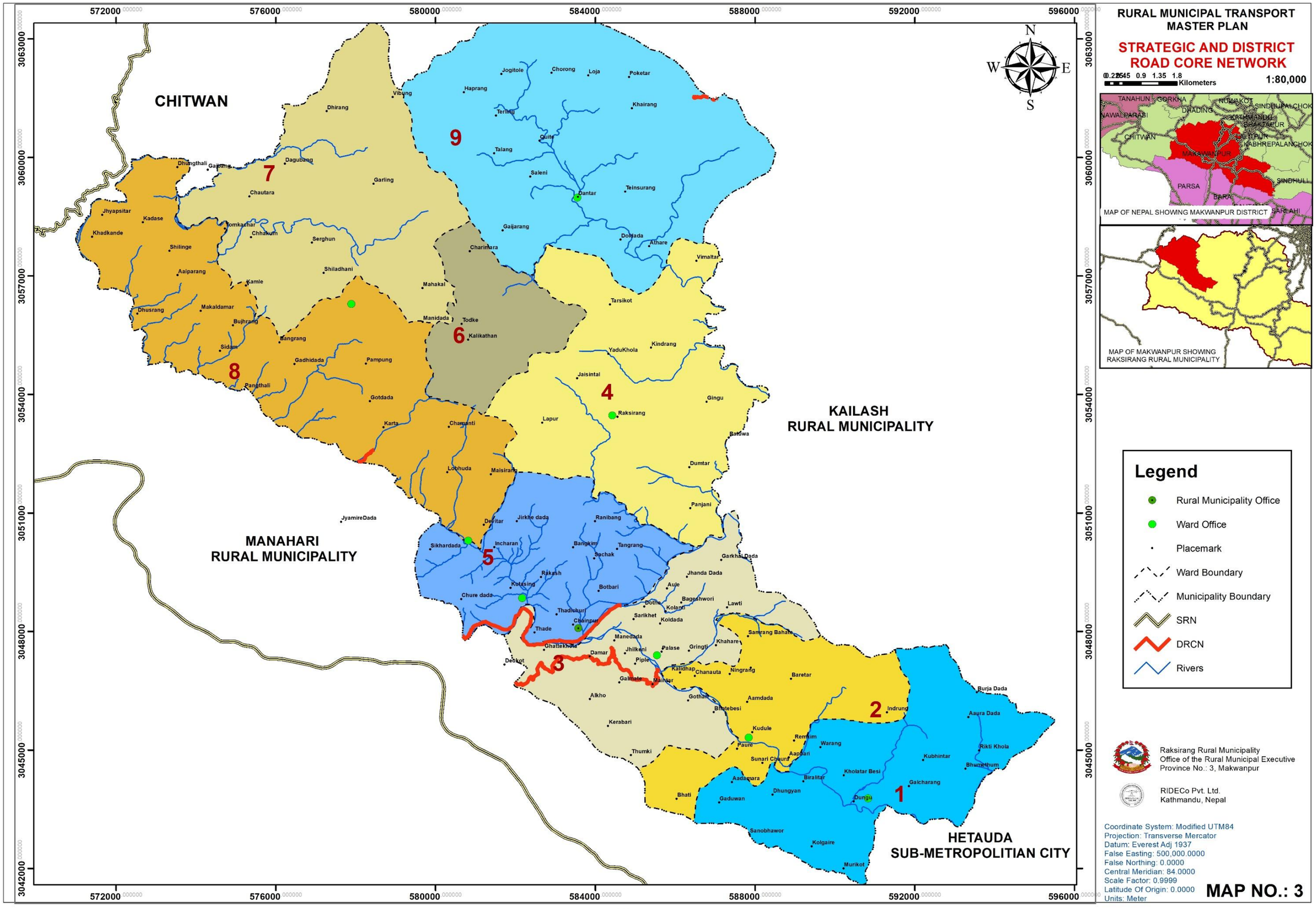
RURAL MUNICIPAL TRANSPORT MASTER PLAN
STRATEGIC AND DISTRICT ROAD CORE NETWORK
0 0.225 0.45 0.9 1.35 1.8 Kilometers
1:80,000
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
CHITWAN
MANAHARI RURAL MUNICIPALITY
KAILASH RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
Legend
Rural Municipality Office
Ward Office
Placemark
Ward Boundary
Municipality Boundary
SRN
DRCN
Rivers
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
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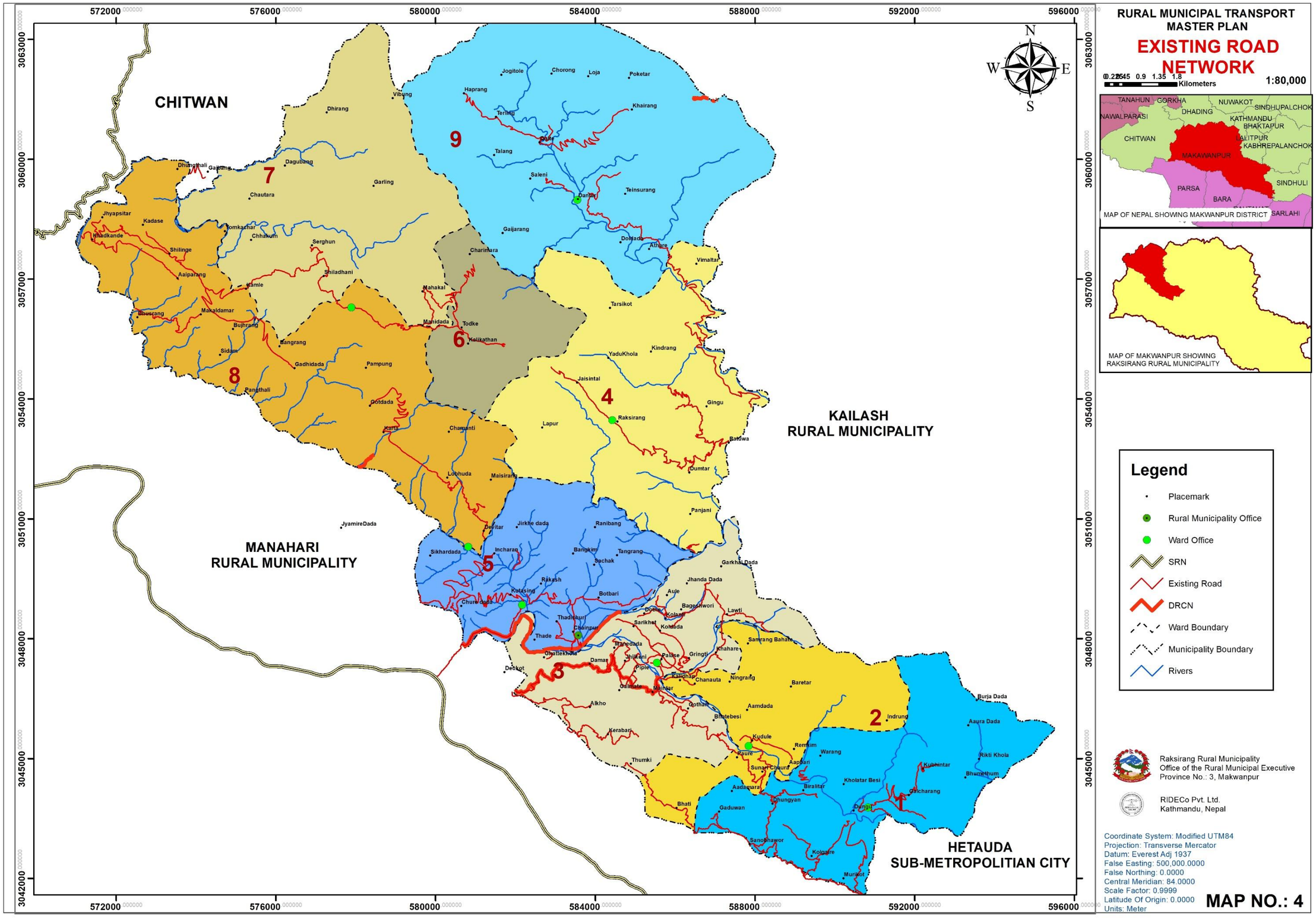
RURAL MUNICIPAL TRANSPORT MASTER PLAN
EXISTING ROAD NETWORK
0 0.225 0.45 0.9 1.35 1.8
Kilometers
1:80,000
CHITWAN
KAILASH RURAL MUNICIPALITY
MANAHARI RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
9
7
8
6
4
5
3
2
1
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
Legend
Placemark
Rural Municipality Office
Ward Office
SRN
Existing Road
DRCN
Ward Boundary
Municipality Boundary
Rivers
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
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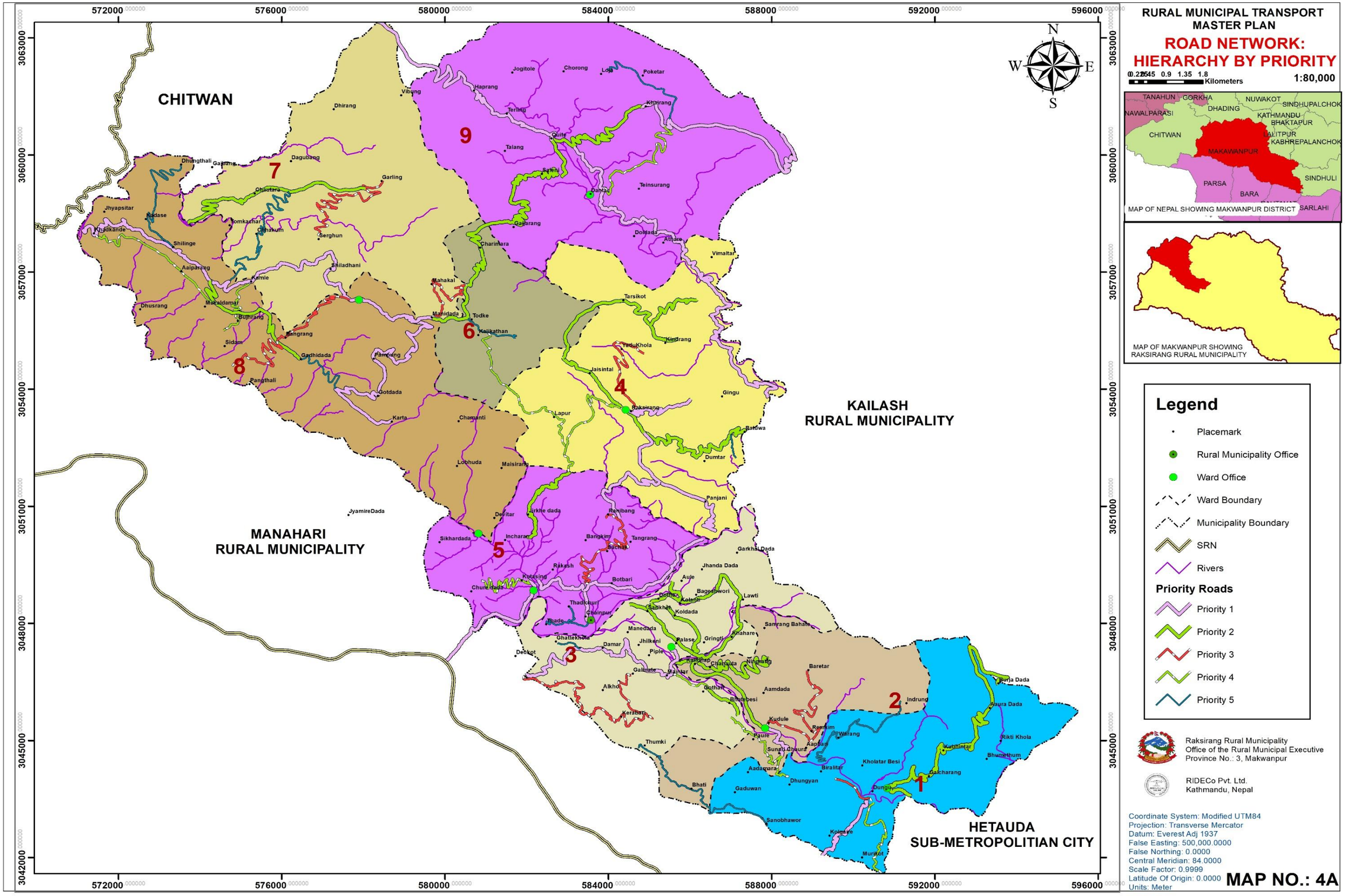
RURAL MUNICIPAL TRANSPORT MASTER PLAN
ROAD NETWORK: HIERARCHY BY PRIORITY
0.225 0.45 0.9 1.35 1.8 Kilometers
1:80,000
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
CHITWAN
KAILASH RURAL MUNICIPALITY
MANAHARI RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
Legend
Placemark
Rural Municipality Office
Ward Office
Ward Boundary
Municipality Boundary
SRN
Rivers
Priority Roads
Priority 1
Priority 2
Priority 3
Priority 4
Priority 5
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RIDECo Pvt. Ltd.
Kathmandu, Nepal
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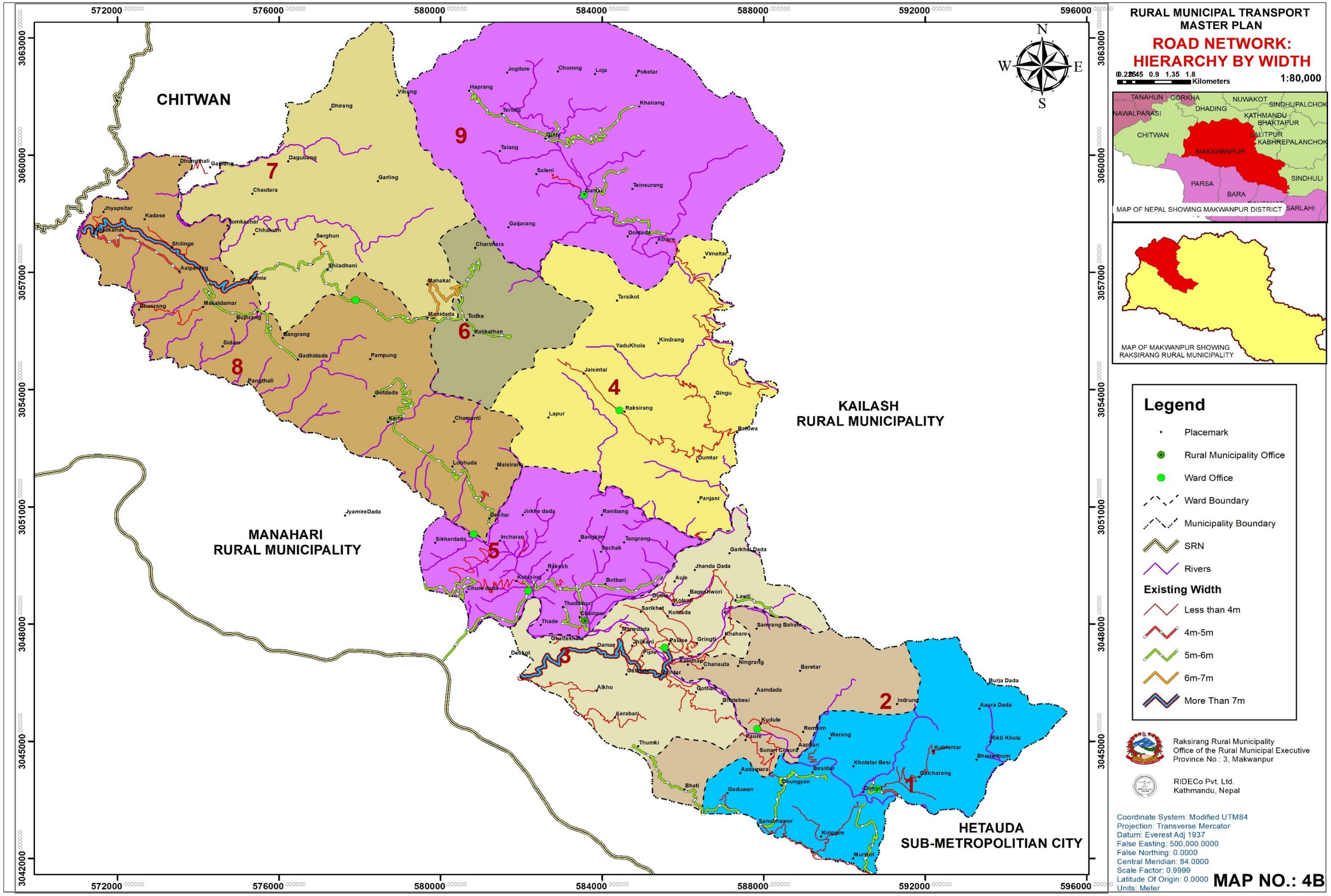
RURAL MUNICIPAL TRANSPORT MASTER PLAN
ROAD NETWORK: HIERARCHY BY WIDTH
0 0.225 0.45 0.9 1.35 1.8
Kilometers
1:80,000
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
Legend
Placemark
Rural Municipality Office
Ward Office
Ward Boundary
Municipality Boundary
SRN
Rivers
Existing Width
Less than 4m
4m-5m
5m-6m
6m-7m
More Than 7m
CHITWAN
KAILASH RURAL MUNICIPALITY
MANAHARI RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
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Projection: Transverse Mercator
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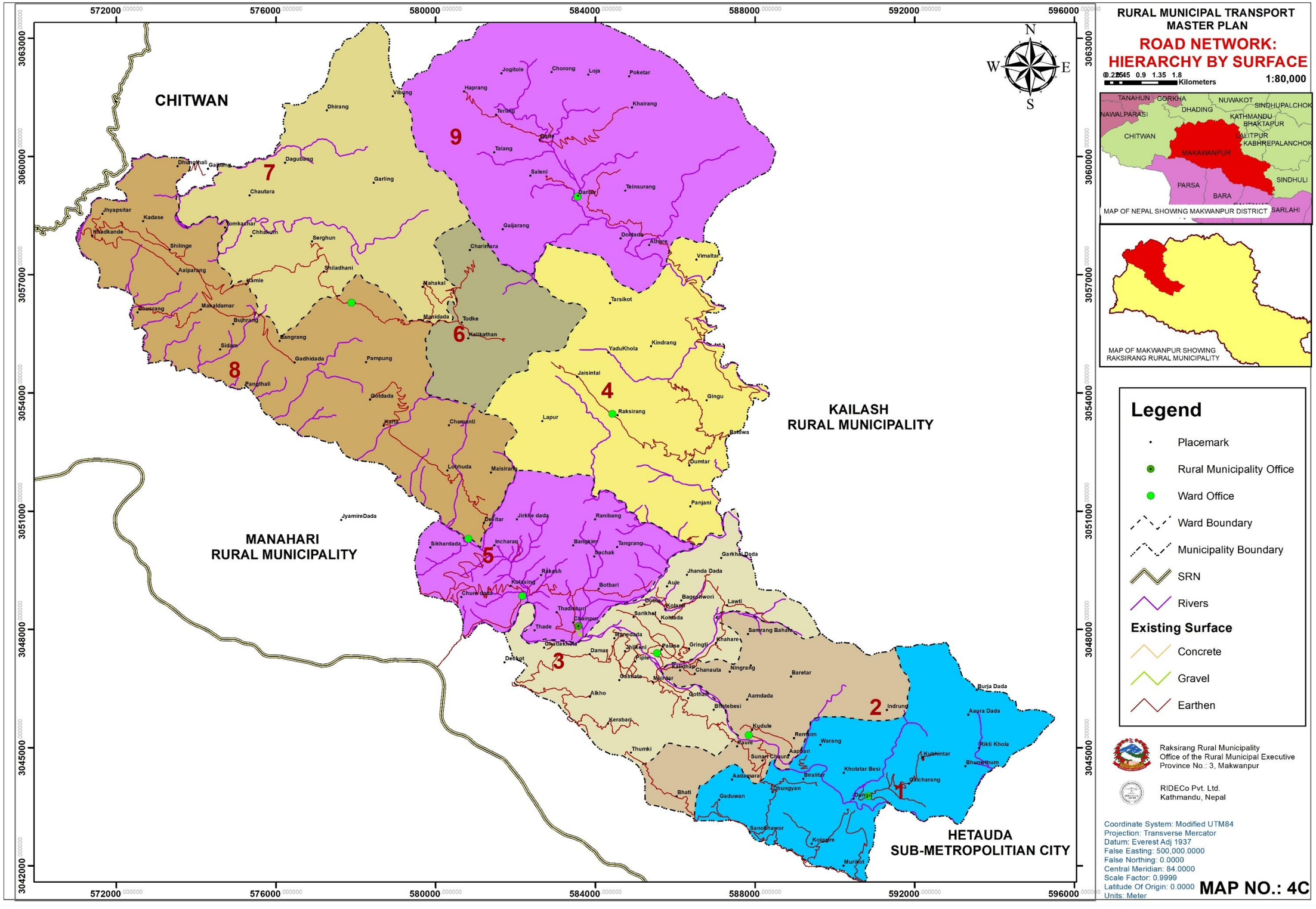
Units: Meter
MAP NO.: 4B


RURAL MUNICIPAL TRANSPORT MASTER PLAN
ROAD NETWORK: HIERARCHY BY SURFACE
0 0.225 0.45 0.9 1.35 1.8 Kilometers
1:80,000
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
CHITWAN
KAILASH RURAL MUNICIPALITY
MANAHARI RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
Legend
Placemark
Rural Municipality Office
Ward Office
Ward Boundary
Municipality Boundary
SRN
Rivers
Existing Surface
Concrete
Gravel
Earthen
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
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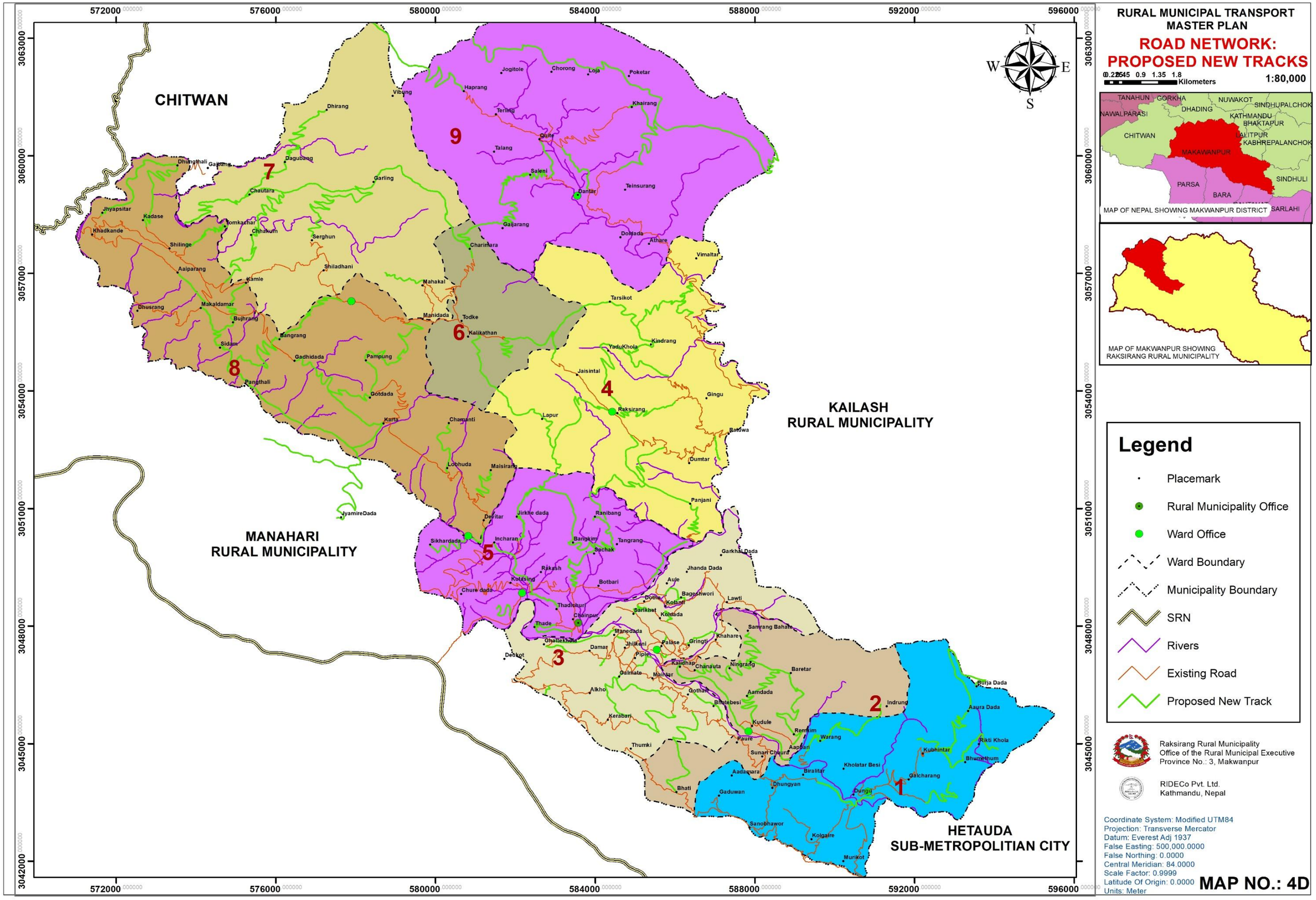
Units: Meter
MAP NO.: 4C


RURAL MUNICIPAL TRANSPORT MASTER PLAN
ROAD NETWORK: PROPOSED NEW TRACKS
0 0.225 0.45 0.9 1.35 1.8 Kilometers
1:80,000
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
CHITWAN
KAILASH RURAL MUNICIPALITY
MANAHARI RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
1
2
3
4
5
6
7
8
9
Legend
Placemark
Rural Municipality Office
Ward Office
Ward Boundary
Municipality Boundary
SRN
Rivers
Existing Road
Proposed New Track
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
False Easting: 500,000.0000
False Northing: 0.0000
Central Meridian: 84.0000
Scale Factor: 0.9999
Latitude Of Origin: 0.0000
Units: Meter
MAP NO.: 4D

RURAL MUNICIPAL TRANSPORT MASTER PLAN

EXISTING INFRASTRUCTURES

0 0.225 0.45 0.9 1.35 1.8 Kilometers

1:80,000

CHITWAN

MANAHARI RURAL MUNICIPALITY

KAILASH RURAL MUNICIPALITY

HETAUDA SUB-METROPOLITIAN CITY

1 2 3 4 5 6 7 8 9

572000 576000 580000 584000 588000 592000 596000

3063000 3060000 3057000 3054000 3051000 3048000 3045000 3042000

MAP OF NEPAL SHOWING MAKWANPUR DISTRICT

MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY

Legend

- Placemark
- Rural Municipality Office
- Ward Office
- School
- Health Post
- Police Station
- Religious Site
- Mine
- Suspension Bridge
- Ward Boundary
- Municipality Boundary
- SRN
- Rivers
- Existing Road
- Proposed New Track

Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur

RIDECo Pvt. Ltd.
Kathmandu, Nepal

Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
False Easting: 500,000.0000
False Northing: 0.0000
Central Meridian: 84.0000
Scale Factor: 0.9999
Latitude Of Origin: 0.0000
Units: Meter

MAP NO.: 5


RURAL MUNICIPAL TRANSPORT MASTER PLAN
CONSOLIDATED RURAL MUNICIPAL TRANSPORT PERSPECTIVE PLAN
0 0.225 0.45 0.9 1.35 1.8 Kilometers
1:80,000
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
CHITWAN
KAILASH RURAL MUNICIPALITY
MANAHARI RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
Legend
Placemark
Rural Municipality Office
Ward Office
SRN
Ward Boundary
Municipality Boundary
Rivers
Road Class
Class A
Class B
Class C
Class D
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
False Easting: 500,000.0000
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Scale Factor: 0.9999
Latitude Of Origin: 0.0000
Units: Meter
MAP NO.: 6


RURAL MUNICIPAL TRANSPORT MASTER PLAN
RURAL MUNICIPAL TRANSPORT PERSPECTIVE PLAN OF CLASS A ROADS
0 0.225 0.45 0.9 1.35 1.8 Kilometers
1:80,000
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
CHITWAN
KAILASH RURAL MUNICIPALITY
MANAHARI RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
Legend
Placemark
Rural Municipality Office
Ward Office
SRN
Ward Boundary
Municipality Boundary
Rivers
Class, Intervention
A, Upgrading
A, New Construction
Class B
Class C
Class D
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
False Easting: 500,000.0000
False Northing: 0.0000
Central Meridian: 84.0000
Scale Factor: 0.9999
Latitude Of Origin: 0.0000
Units: Meter
MAP NO.: 6A


RURAL MUNICIPAL TRANSPORT MASTER PLAN
RURAL MUNICIPAL TRANSPORT PERSPECTIVE PLAN OF CLASS B ROADS
0 0.225 0.45 0.9 1.35 1.8 Kilometers
1:80,000
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
CHITWAN
KAILASH RURAL MUNICIPALITY
MANAHARI RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
Legend
Placemark
Rural Municipality Office
Ward Office
SRN
Ward Boundary
Municipality Boundary
Rivers
Class, Intervention
B, Upgrading
B, New Construction
Class A
Class B
Class C
Class D
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
False Easting: 500,000.0000
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Central Meridian: 84.0000
Scale Factor: 0.9999
Latitude Of Origin: 0.0000
Units: Meter
MAP NO.: 6B


RURAL MUNICIPAL TRANSPORT MASTER PLAN
RURAL MUNICIPAL TRANSPORT PERSPECTIVE PLAN OF CLASS C ROADS
0 0.225 0.45 0.9 1.35 1.8 Kilometers
1:80,000
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
CHITWAN
KAILASH RURAL MUNICIPALITY
MANAHARI RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
Legend
Placemark
Rural Municipality Office
Ward Office
SRN
Ward Boundary
Municipality Boundary
Rivers
Class, Intervention
C, Upgrading
C, New Construction
Class A
Class B
Class D
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
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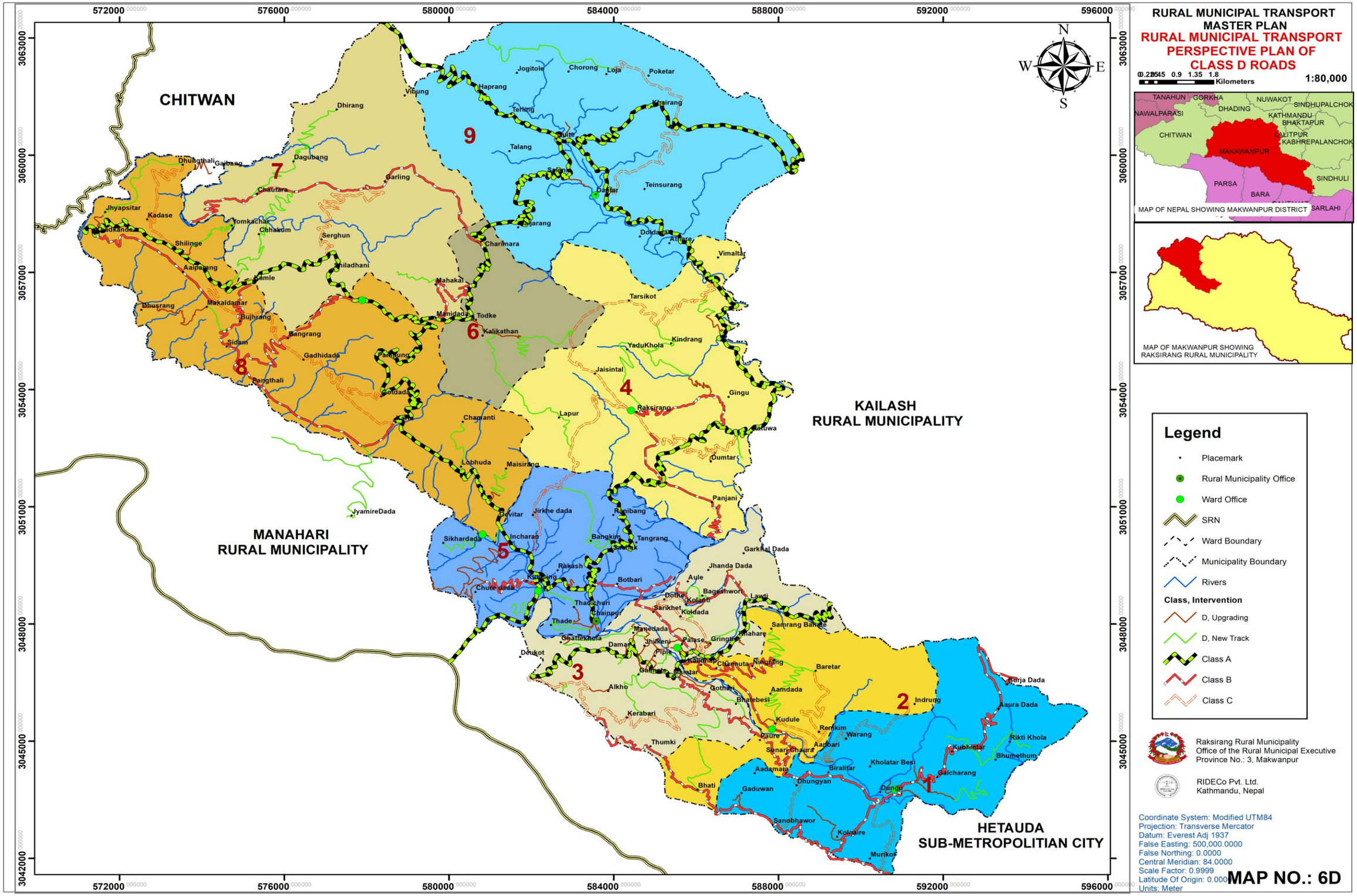
MAP NO.: 6C


RURAL MUNICIPAL TRANSPORT MASTER PLAN
RURAL MUNICIPAL TRANSPORT PERSPECTIVE PLAN OF CLASS D ROADS
0 0.225 0.45 0.9 1.35 1.8 Kilometers
1:80,000
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
Legend
Placemark
Rural Municipality Office
Ward Office
SRN
Ward Boundary
Municipality Boundary
Rivers
Class, Intervention
D, Upgrading
D, New Track
Class A
Class B
Class C
CHITWAN
KAILASH RURAL MUNICIPALITY
MANAHARI RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
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Latitude Of Origin: 0.0000
Units: Meter
MAP NO.: 6D


RURAL MUNICIPAL TRANSPORT MASTER PLAN
CROSS DRAINAGE STRUCTURE MAP
0 0.225 0.45 0.9 1.35 1.8 Kilometers
1:80,000
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
CHITWAN
KAILASH RURAL MUNICIPALITY
MANAHARI RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
Legend
Rural Municipality Office
Ward Office
Placemark
Ward Boundary
Municipality Boundary
SRN
DRCN
Rivers
Rural Municipal Road
Bridge Required
Culvert Required
Causeway Required
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
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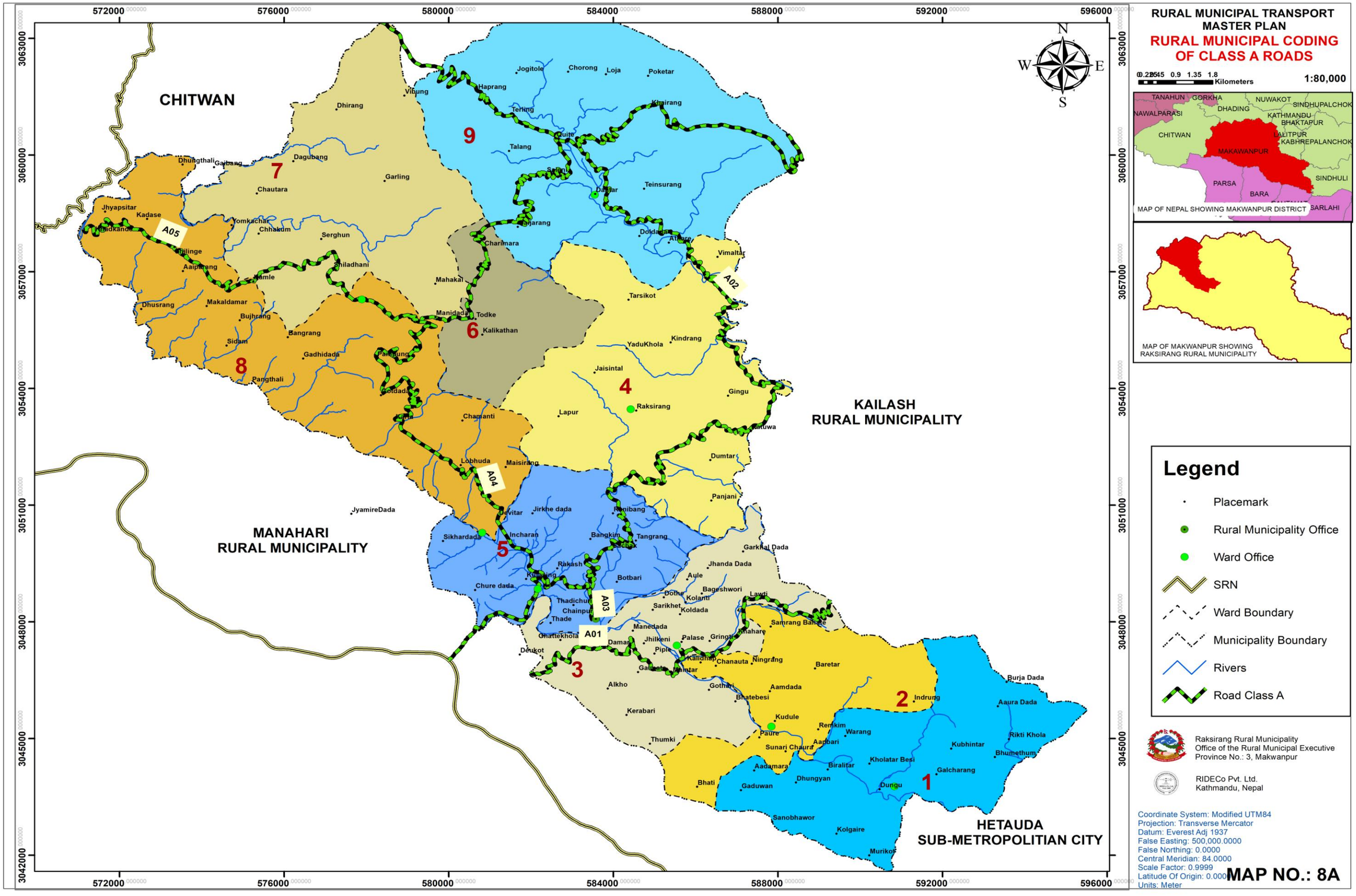
MAP NO.: 7


RURAL MUNICIPAL TRANSPORT MASTER PLAN
RURAL MUNICIPAL CODING OF CLASS A ROADS
0 0.225 0.45 0.9 1.35 1.8 Kilometers
1:80,000
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
CHITWAN
MANAHARI RURAL MUNICIPALITY
KAILASH RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
Legend
Placemark
Rural Municipality Office
Ward Office
SRN
Ward Boundary
Municipality Boundary
Rivers
Road Class A
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
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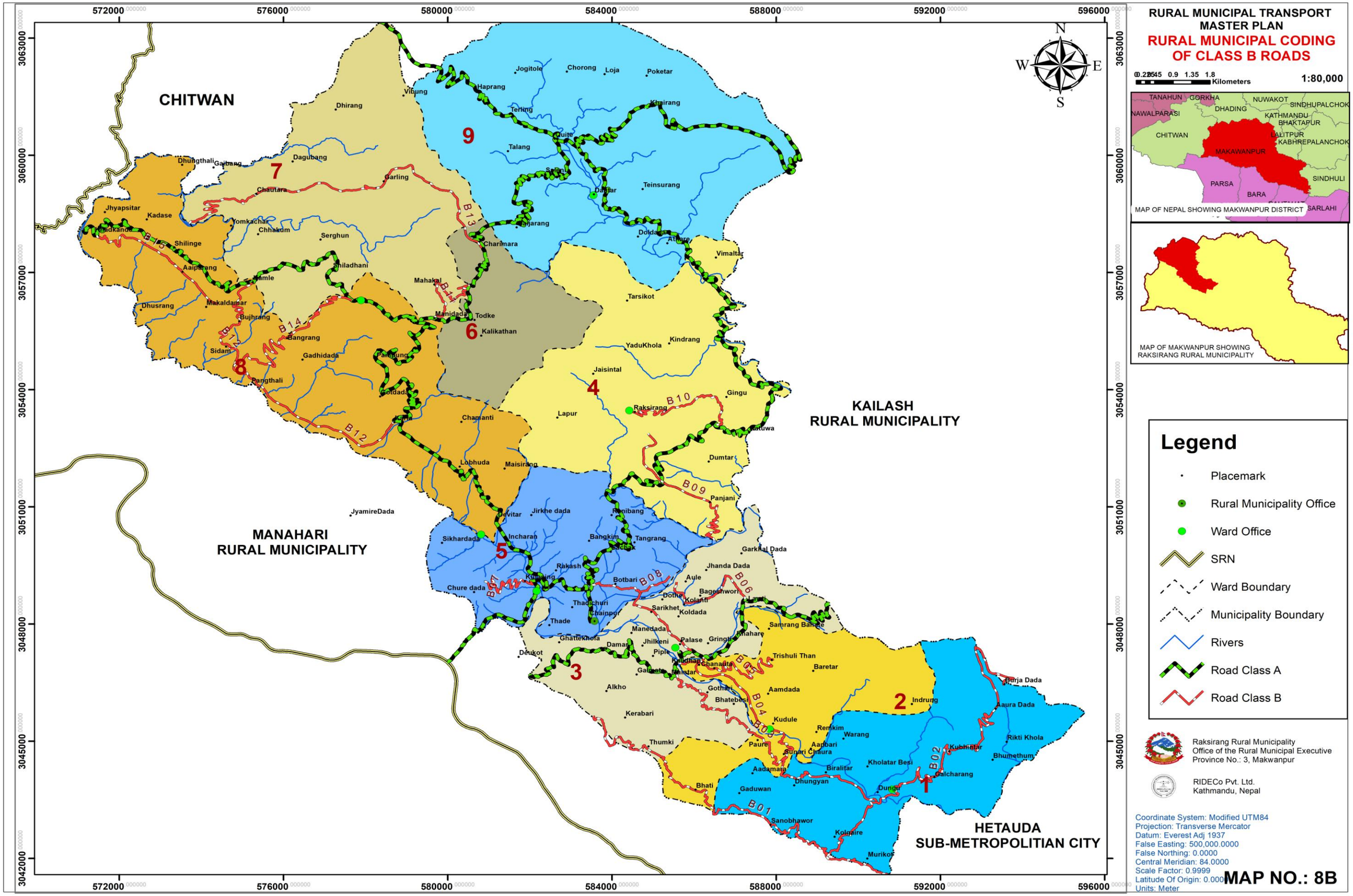
Units: Meter
MAP NO.: 8A


RURAL MUNICIPAL TRANSPORT MASTER PLAN
RURAL MUNICIPAL CODING OF CLASS B ROADS
1:80,000
Kilometers
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
Legend
Placemark
Rural Municipality Office
Ward Office
SRN
Ward Boundary
Municipality Boundary
Rivers
Road Class A
Road Class B
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
False Easting: 500,000.0000
False Northing: 0.0000
Central Meridian: 84.0000
Scale Factor: 0.9999
Latitude Of Origin: 0.0000
Units: Meter
MAP NO.: 8B
CHITWAN
MANAHARI RURAL MUNICIPALITY
KAILASH RURAL MUNICIPALITY
HETAUDA SUB-METROPOLITIAN CITY
1 Gaicharang
2 Indrung
3 Deukot
4 Jaisintal
5 Sikhardada
6 Kalikathan
7 Dagubang
8 Pangthali
9 Jogitole

RURAL MUNICIPAL TRANSPORT MASTER PLAN

CROSS DRAINAGE STRUCTURE MAP

0 0.225 0.45 0.9 1.35 1.8 Kilometers

1:80,000

CHITWAN

MANAHARI RURAL MUNICIPALITY

KAILASH RURAL MUNICIPALITY

HETAUDA SUB-METROPOLITIAN CITY

MAP OF NEPAL SHOWING MAKWANPUR DISTRICT

MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY

Legend

- Rural Municipality Office
- Ward Office
- Placemark
- Ward Boundary
- Municipality Boundary
- SRN
- DRCN
- Rivers
- Rural Municipal Road
- Bridge Required
- Culvert Required
- Causeway Required

Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur

RIDECo Pvt. Ltd.
Kathmandu, Nepal

Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
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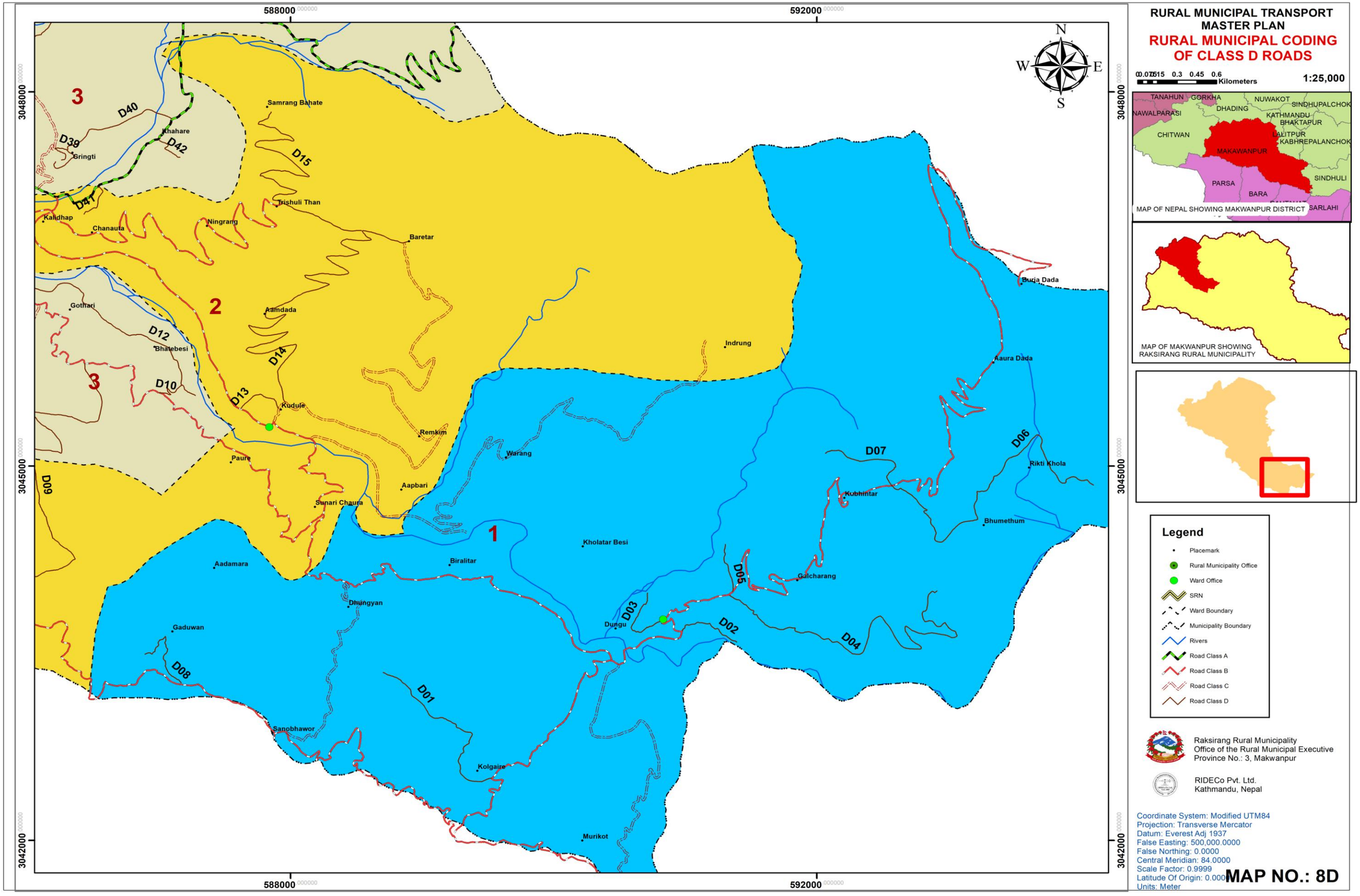
Units: Meter

MAP NO.: 7


588000
592000
3048000
3045000
3042000
N
W
E
S
3
2
1
D40
D39
D42
D41
D15
D12
D14
D10
D13
D09
D07
D06
D05
D03
D02
D04
D08
D01
Samrang Bahate
Khahare
Gringti
Kalidhap
Chanauta
Trishuli Than
Ningrang
Baretar
Gothari
Aamdada
Bhatebesi
Kudule
Remkim
Paure
Aapbari
Sunari Chaura
Warang
Indrung
Buja Dada
Aaura Dada
Rikti Khola
Kubhintar
Bhumethum
Kholatar Besi
Biralitar
Galcharang
Aadamara
Dhungyan
Gaduwan
Dungu
Sanobhawor
Kolgaire
Murikot
RURAL MUNICIPAL TRANSPORT MASTER PLAN
RURAL MUNICIPAL CODING OF CLASS D ROADS
0 0.075 0.15 0.3 0.45 0.6
Kilometers
1:25,000
TANAHUN
GORKHA
NUWAKOT
SINDHUPALCHOK
DHADING
NAWALPARASI
KATHMANDU
BHAKTAPUR
CHITWAN
LALITPUR
KABHREPALANCHOK
MAKAWANPUR
SINDHULI
PARSA
BARA
SARLAHI
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
Legend
Placemark
Rural Municipality Office
Ward Office
SRN
Ward Boundary
Municipality Boundary
Rivers
Road Class A
Road Class B
Road Class C
Road Class D
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
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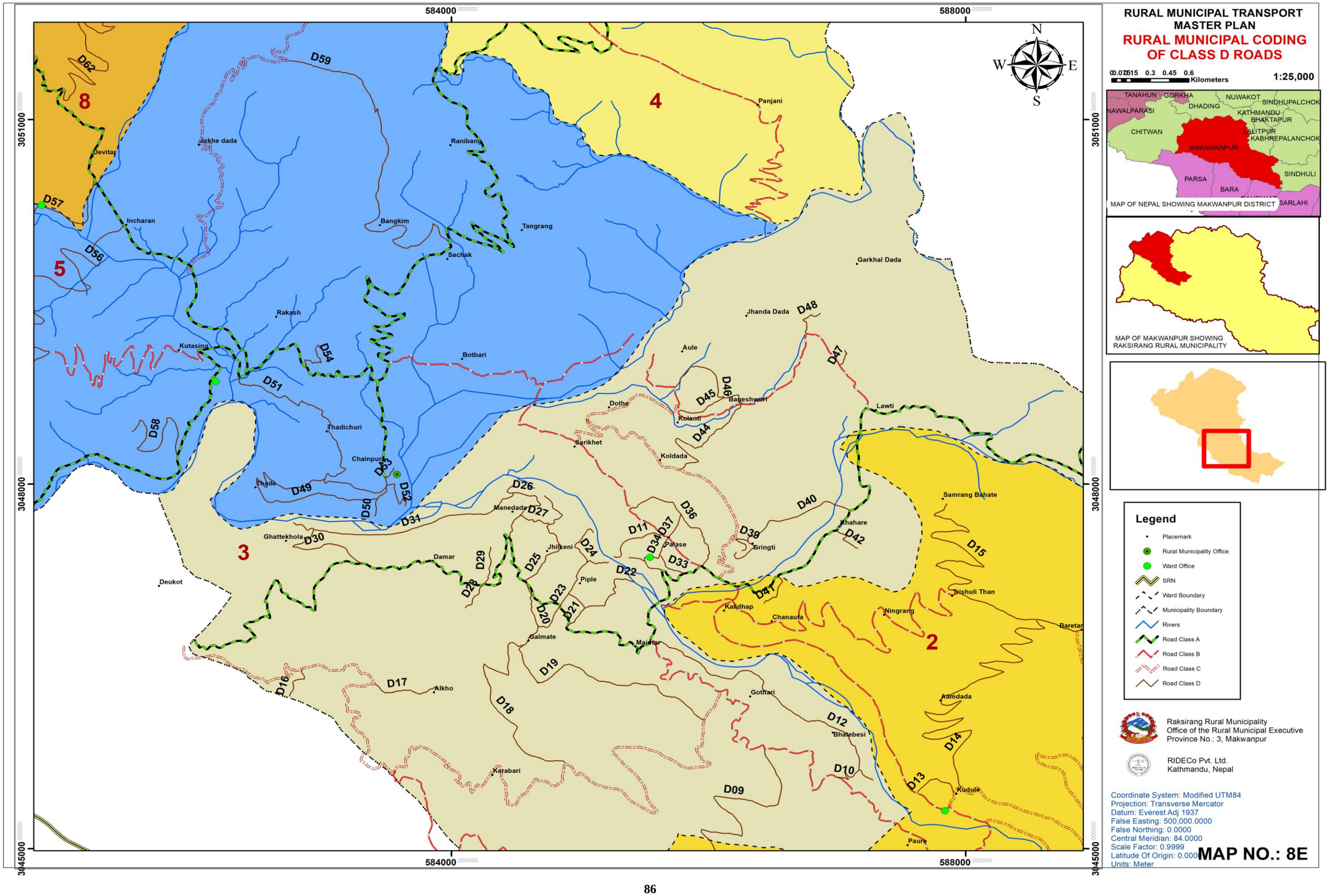
Units: Meter
MAP NO.: 8D


RURAL MUNICIPAL TRANSPORT MASTER PLAN
RURAL MUNICIPAL CODING OF CLASS D ROADS
0 0.075 0.15 0.3 0.45 0.6
Kilometers
1:25,000
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
Legend
Placemark
Rural Municipality Office
Ward Office
SRN
Ward Boundary
Municipality Boundary
Rivers
Road Class A
Road Class B
Road Class C
Road Class D
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
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False Northing: 0.0000
Central Meridian: 84.0000
Scale Factor: 0.9999
Latitude Of Origin: 0.0000
Units: Meter
MAP NO.: 8E
584000
588000
3051000
3048000
3045000
1
2
3
4
5
8
Panjani
Jirkhe dada
Ranibang
Devitar
Incharan
Bangkim
Tangrang
Sachak
Garkhal Dada
Rakash
Jhanda Dada
Kutasing
Botbari
Aule
Dothe
Baheshwori
Kolanti
Lawti
Thadichuri
Sarikhet
Koldada
Chainpur
Thade
Samrang Bahate
Manedada
Khahare
Ghattekhola
Jhilkeni
Palase
Gringti
Damar
Trishuli Than
Deukot
Piple
Kaldhap
Chanauta
Ningrang
Baretar
Galmate
Maintar
Alkho
Gothari
Aamdada
Bhatebesi
Kerabari
Kudule
Paure
D09
D10
D11
D12
D13
D14
D15
D16
D17
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D19
D20
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D45
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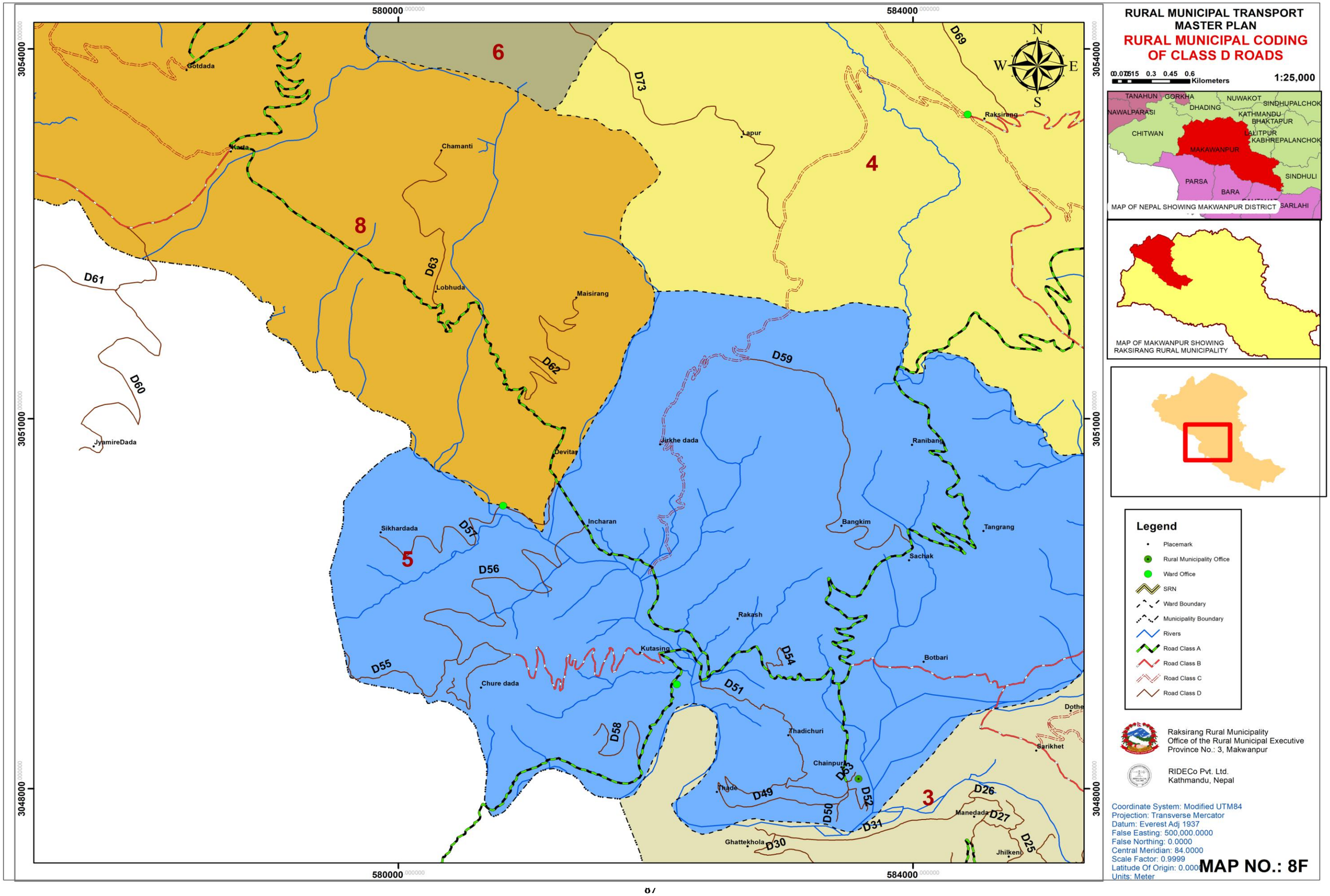
D49
D50
D51
D52
D53
D54
D56
D57
D58
D59
D62
TANAHUN
GORKHA
NUWAKOT
SINDHUPALCHOK
DHADING
NAWALPARASI
KATHMANDU
BHAKTAPUR
CHITWAN
LALITPUR
KABHREPALANCHOK
MAKAWANPUR
PARSA
SINDHULI
BARA
SARLAHI


RURAL MUNICIPAL TRANSPORT MASTER PLAN
RURAL MUNICIPAL CODING OF CLASS D ROADS
0 0.075 0.15 0.3 0.45 0.6 Kilometers
1:25,000
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
Legend
Placemark
Rural Municipality Office
Ward Office
SRN
Ward Boundary
Municipality Boundary
Rivers
Road Class A
Road Class B
Road Class C
Road Class D
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
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False Northing: 0.0000
Central Meridian: 84.0000
Scale Factor: 0.9999
Latitude Of Origin: 0.0000
Units: Meter
MAP NO.: 8F
580000
584000
3054000
3051000
3048000
N
S
E
W
Gotdada
Kada
Chamanti
Lobhuda
Maisirang
Lapur
Raksirang
JyamireDada
Devitar
Jirkhe dada
Ranibang
Sikhardada
Incharan
Bangkim
Tangrang
Sachak
Rakash
Kutasing
Botbari
Chure dada
Thadichuri
Chainpur
Sarikhet
Thade
Manedada
Ghattekhola
Jhilkeni
Dothe
D60
D61
D63
D62
D73
D69
D59
D57
D56
D55
D58
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D50
D49
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D30
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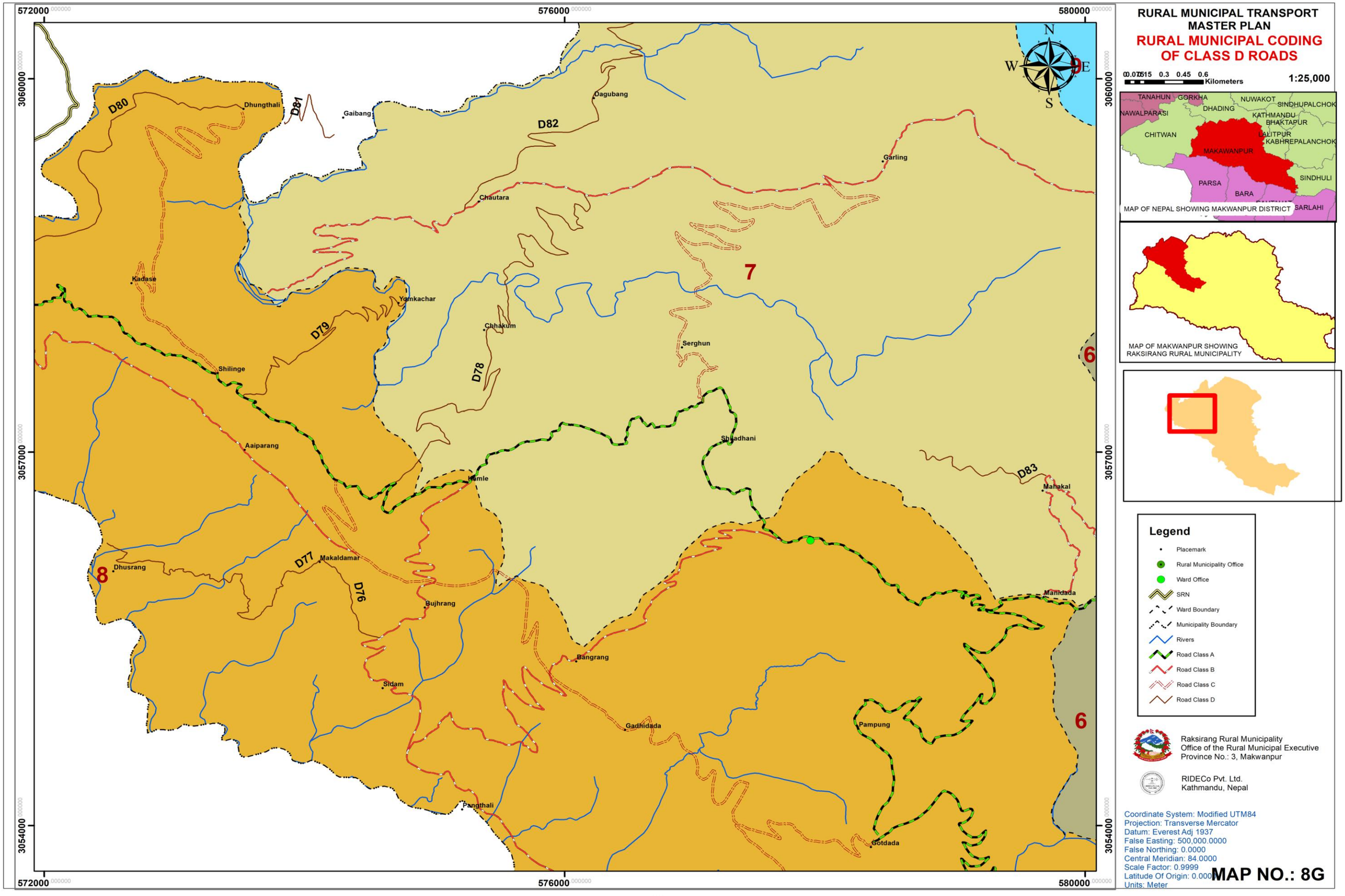
D27
D25
6
8
4
5
3


572000
576000
580000
3060000
3057000
3054000
N
S
E
W
D80
D81
D82
D83
D79
D78
D77
D76
Dhungthali
Gaibang
Dagubang
Garling
Chautara
Kadase
Yamkachar
Chhakum
Serghun
Shiladhani
Shilinge
Aaiparang
Humle
Mahakal
Dhusrang
Makaldamar
Bujhrang
Manidada
Bangrang
Sidam
Gadhidada
Pampung
Pangthali
Gotdada
7
8
6
RURAL MUNICIPAL TRANSPORT MASTER PLAN
RURAL MUNICIPAL CODING OF CLASS D ROADS
0 0.075 0.15 0.3 0.45 0.6
Kilometers
1:25,000
TANAHUN
GORKHA
NUWAKOT
SINDHUPALCHOK
DHADING
NAWALPARASI
KATHMANDU
BHAKTAPUR
CHITWAN
LALITPUR
KABHREPALANCHOK
MAKAWANPUR
PARSA
SINDHULI
BARA
SARLAHI
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
Legend
Placemark
Rural Municipality Office
Ward Office
SRN
Ward Boundary
Municipality Boundary
Rivers
Road Class A
Road Class B
Road Class C
Road Class D
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
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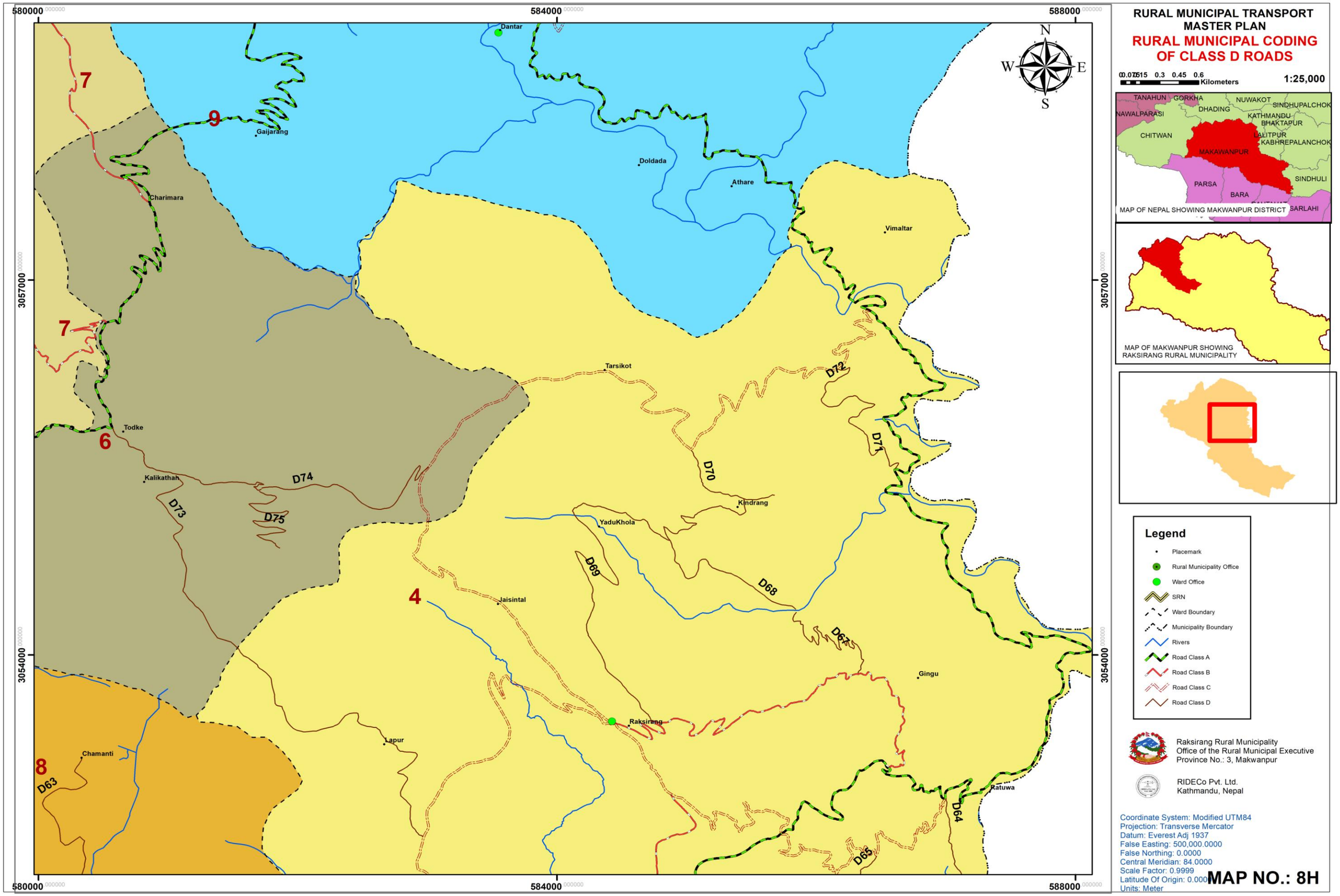
Units: Meter
MAP NO.: 8G



RURAL MUNICIPAL TRANSPORT MASTER PLAN

RURAL MUNICIPAL CODING OF CLASS D ROADS

0 0.075 0.15 0.3 0.45 0.6 Kilometers

1:25,000

MAP OF NEPAL SHOWING MAKWANPUR DISTRICT

MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY

Legend

- Placemark
- Rural Municipality Office
- Ward Office
- SRN
- Ward Boundary
- Municipality Boundary
- Rivers
- Road Class A
- Road Class B
- Road Class C
- Road Class D

Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur

RIDECo Pvt. Ltd.
Kathmandu, Nepal

Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
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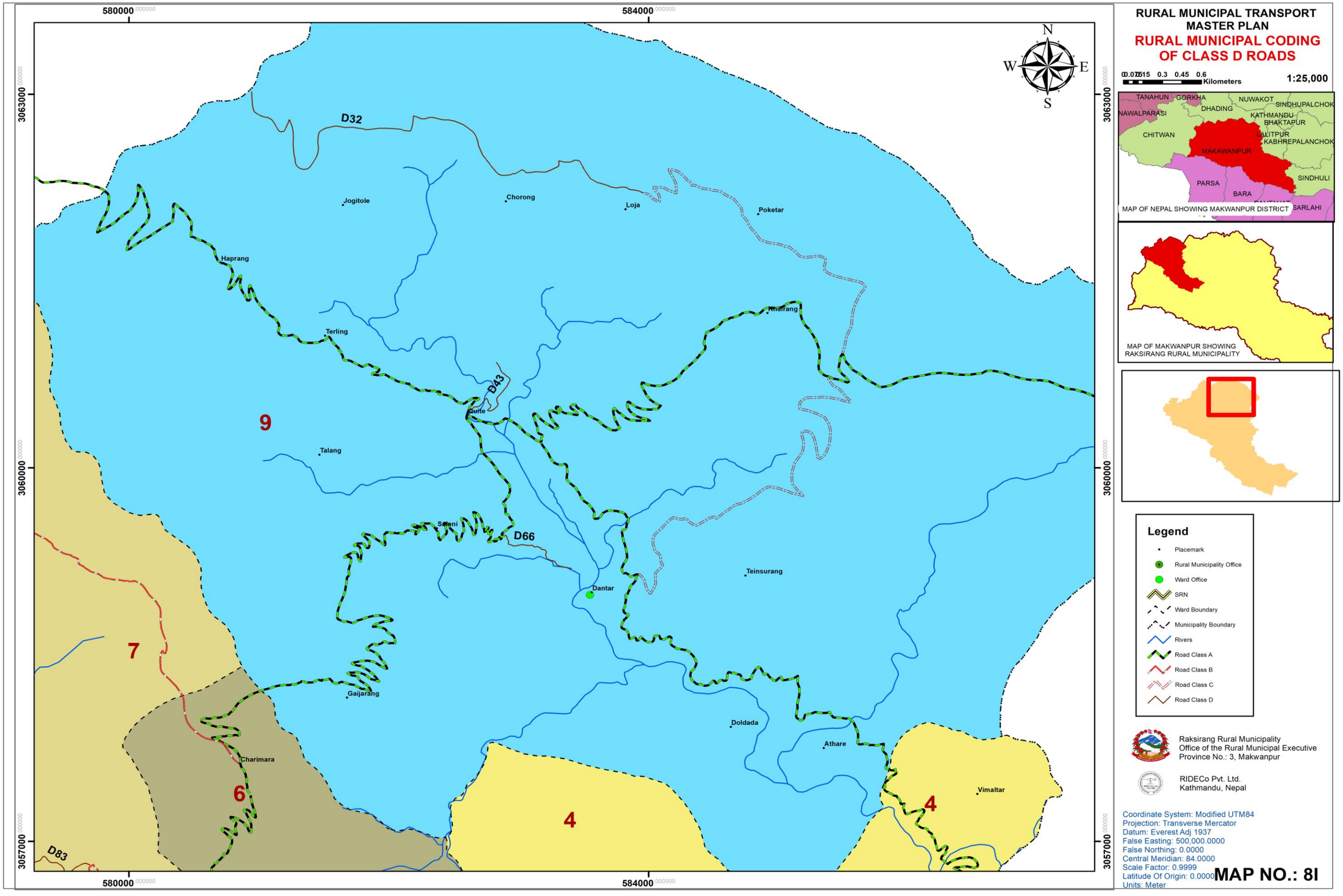
Units: Meter

MAP NO.: 8H


RURAL MUNICIPAL TRANSPORT MASTER PLAN
RURAL MUNICIPAL CODING OF CLASS D ROADS
0 0.075 0.15 0.3 0.45 0.6 Kilometers
1:25,000
580000
584000
3063000
3060000
3057000
N
S
E
W
D32
D43
D66
D83
Jogitole
Chorong
Loja
Poketar
Haprang
Terling
Khafrang
Gurte
Talang
Saleni
Dantar
Teinsurang
Gaijarang
Doldada
Athare
Vimaltar
Charimara
9
7
6
4
4
TANAHUN
GORKHA
NUWAKOT
SINDHUPALCHOK
NAWALPARASI
DHADING
KATHMANDU
BHAKTAPUR
CHITWAN
LALITPUR
KABHREPALANCHOK
MAKAWANPUR
SINDHULI
PARSA
BARA
SARLAHI
MAP OF NEPAL SHOWING MAKWANPUR DISTRICT
MAP OF MAKWANPUR SHOWING RAKSIRANG RURAL MUNICIPALITY
Legend
Placemark
Rural Municipality Office
Ward Office
SRN
Ward Boundary
Municipality Boundary
Rivers
Road Class A
Road Class B
Road Class C
Road Class D
Raksirang Rural Municipality
Office of the Rural Municipal Executive
Province No.: 3, Makwanpur
RIDECo Pvt. Ltd.
Kathmandu, Nepal
Coordinate System: Modified UTM84
Projection: Transverse Mercator
Datum: Everest Adj 1937
False Easting: 500,000.0000
False Northing: 0.0000
Central Meridian: 84.0000
Scale Factor: 0.9999
Latitude Of Origin: 0.0000
Units: Meter
MAP NO.: 8I

Raksirang Rural Municiplity

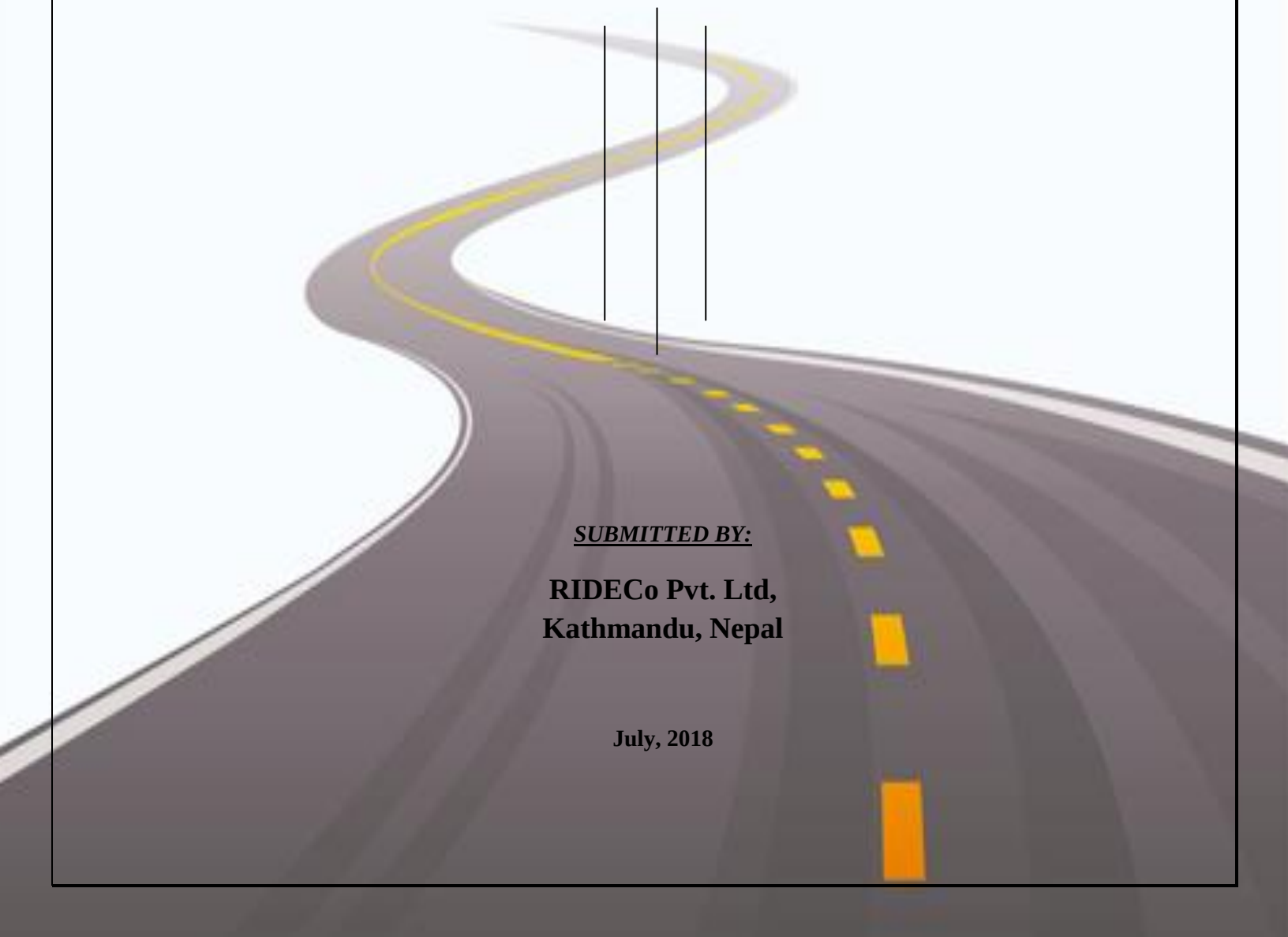
Office of the Rural Municipal Executive

Chainpur, Makawanpur

Province No.:3, Nepal

Rural Municipality Transport Master Plan (RMTMP)

(Volume-II)



SUBMITTED BY:

RIDECo Pvt. Ltd,
Kathmandu, Nepal

July, 2018

Acknowledgement

The Consultant team would like to express our deep sense of gratitude to President Mr. Rajkumar Malla, Vice President Mrs. Nirmala Himdung, and Chief Administrative Officer Mr. Sukadev Lamsal of Raksirang Rural MunicipalityOffice for providing us the opportunity for the **"Preparation of Rural Municipality Transport Master Plan for Raksirang Rural Municiplity"**. We would like to thank all the Section Chiefs and other municipal staffs of Raksirang Rural Municipalityfor their help and co-operation to the Consultant for the study.

We would like to thank all the citizens for their patience and friendly environment who were directly and indirectly involved in the data collection process. We are greatly thankful to everyone who helped in facilitating us for data collection.

The study team

Declaration Letter

We hereby declare that we have conducted the study for Rural Municipality Transport Plan (RMTMP) of **Raksirang Rural Municipality** professionally using MoFALD guidelines and other acceptable standard methodologies. To the best of our knowledge, study findings are correct. Rural Municipality Transport Master Plan has been prepared as per standard Engineering tools, norms and practices. Inventory of all the roads has been prepared. The visionary city development plan has been addressed in developing the road hierarchy network and has been approved by the RMRCC and municipality along with the prioritization criteria. We would like to assure you that the RMTMP is reliable, practicable and adequate to the overall development of municipality transport system. We shall be accountable for any misleading information in any part of this report in respective area of study.

Experts:

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Acronyms

DDC	District Development Committee
DTMP	District Transport Master Plan
GIS	Geographic Information System
GPS	Global Positioning System
IDPM	Indicative Development Potential Map
RMIM	Rural Municipality Road Inventory Map
RMRCC	Rural Municipality Road Coordination Committee
NMT	Non- Motorized Transport
RMTMP	Rural Municipal Transport Master Plan
RMTPP	Rural Municipality Transport Perspective Plan
VDC	Village Development Committee
PCU	Passenger Car Unit
DOLIDAR	Department of Local Infrastructure Development and Agricultural Roads
OD	Origin and Destination
ToR	Terms of Reference
HH	Household
VDCs	Village Development Committees
PT	Public Transport
Min.	Minute
Km.	Kilometre
Sq. km	Square Kilometre
Ha	Hectare

Table of Contents

1. Scoring Criteria for Prioritization

A network consists of several links. It is not possible to construct all roads at a time due to resource and time constraint. Therefore, each link in a network needs to be prioritized. After developing a municipal level network, the cost estimate of the road is prepared. Existing population within the zone of influence, present road demand, future potential route, accessibility situation, land use pattern, environmental and social safeguard, proximity to the market/service centres, religious and tourism places were taken as the indicators for prioritization. The scoring criteria will be finalized after rigorous study and approval from Rural Municipality and RMRCC.

Table 1: Scoring criteria for prioritization

S.N	Scoring Criteria	Scoring Unit	Score
1	Link providing service to large settlement areas/population	Population served/km	30
2	Link providing service to existing · market center agriculture · tourist attraction areas · animal husbandry	No of areas	20
3	Link providing service to the existing service centres such as health centres, education centres (schools/campuses), offices (rural municipality office/Government office, etc.), linkages with other wards and municipalities.	Number of different service sector	20
4	Priority of ward	Ranking of priority from 1 to 5	20

5	Link providing service to the areas recognised by the rural municipality as areas for special consideration, such as areas inhabited by backward and poor ethnic groups/communities, isolated remote areas, historic sites, religious sites etc	Connection to the settlement of such criteria	10
		Sub Total	100

Table 2: Scoring of Rural Municipal Roads (Class A, B, and C)

Code	Length	Criteria-I	Criteria-II	Criteria-III	Criteria-IV	Criteria-V	Total Score	Classwise Rank	Overall Rank
		Score	Score	Score	Priority Of ward	Special Areas			
A01	13.89	18.18	15	20	20	0	73.18	4	5
A02	44.44	11.37	15	20	20	0	76.37	1	2
A03	0.84	30.00	10	15	20	0	75.00	3	4
A04	16.33	20.11	10	15	20	0	65.11	5	7
A05	39.15	15.05	20	20	20	0	75.05	2	3
B01	12.55	11.40	5	10	16	0	42.40	10	23
B02	14.31	14.71	10	15	20	0	59.71	3	9
B03	9.37	13.03	5	10	18	0	46.03	9	19
B04	6.99	26.51	10	20	20	0	76.51	1	1
B05	4.87	22.47	5	0	19	0	46.47	8	17
B06	2.98	22.59	5	5	19	0	51.59	6	15
B07	3.30	7.64	5	10	17	0	39.64	12	26
B08	2.27	28.14	10	5	20	0	63.14	2	8
B09	5.70	11.82	5	10	20	0	46.82	7	16
B10	4.54	8.34	5	5	20	0	38.34	14	28
B11	3.42	9.84	5	0	18	0	32.84	15	31
B12	9.14	6.45	5	10	17	0	38.45	13	27
B13	11.03	15.26	10	15	19	0	59.26	4	11
B14	6.57	16.67	5	5	18	0	54.67	5	13
B15	4.31	13.67	5	5	17	0	40.67	11	24
C01	3.09	13.61	5	5	17	0	40.61	9	25
C02	2.08	12.16	5	5	0	0	22.16	14	40
C03	9.32	9.48	5	10	18	0	42.48	8	22
C04	5.94	17.00	10	10	16	0	53.00	4	14
C05	5.32	15.84	5	5	18	0	43.84	7	21

Code	Length	Criteria-I	Criteria-II	Criteria-III	Criteria-IV	Criteria-V	Total Score	Classwise Rank	Overall Rank
		Score	Score	Score	Priority Of ward	Special Areas			
C06	2.53	10.00	5	0	19	0	34.00	11	30
C07	1.42	8.86	0	0	19	0	27.86	12	34
C08	8.28	25.43	10	15	19	0	69.43	1	6
C09	15.21	11.07	10	15	19	0	55.07	3	12
C10	3.54	7.13	0	0	20	0	27.13	13	35
C11	7.42	22.70	5	15	17	0	59.70	2	10
C12	6.76	12.46	5	10	19	0	46.46	5	18
C13	4.61	10.04	5	5	16	0	36.04	10	29
C14	6.29	6.69	5	15	18	0	44.69	6	20
D01	1.54	3.67	0	0	0	0	3.67	26	71
D02	0.53	1.26	0	0	19	0	20.26	19	45
D03	0.63	1.49	0	0	0	0	1.49	32	90
D04	3.35	8.01	0	0	0	0	8.01	22	55
D05	0.41	0.98	0	0	0	0	0.98	38	99
D06	2.73	6.53	0	0	0	0	6.53	24	61
D07	0.81	1.93	0	0	0	0	1.93	28	85
D08	0.71	1.71	0	0	0	0	1.71	29	86
D09	3.88	9.26	0	0	0	0	9.26	21	53
D10	0.46	1.09	0	0	0	0	1.09	36	95
D11	0.50	1.19	0	0	0	0	1.19	35	93
D12	2.19	5.24	0	0	19	0	24.24	16	37
D13	0.40	0.96	0	0	0	0	0.96	39	100
D14	4.61	11.01	0	0	0	0	11.01	20	49
D15	2.95	7.06	0	0	0	0	7.06	23	59
D16	0.32	0.76	0	0	0	0	0.76	41	105
D17	0.56	1.33	0	0	0	0	1.33	34	92
D18	1.82	4.34	0	0	18	0	22.34	17	39

Code	Length	Criteria-I	Criteria-II	Criteria-III	Criteria-IV	Criteria-V	Total Score	Classwise Rank	Overall Rank
		Score	Score	Score	Priority Of ward	Special Areas			
D19	2.14	5.11	0	0	0	0	5.11	25	66
D20	0.65	1.55	0	0	0	0	1.55	30	88
D21	0.38	0.91	0	0	0	0	0.91	40	102
D22	0.60	1.42	0	0	0	0	1.42	33	91
D23	0.63	1.50	0	0	0	0	1.50	31	89
D24	0.41	0.98	0	0	0	0	0.98	37	98
D25	1.05	2.51	0	0	0	0	2.51	27	78
D26	0.85	2.03	0	0	0	0	2.03	38	83
D27	0.27	0.65	0	0	0	0	0.65	51	110
D28	0.26	0.63	0	0	0	0	0.63	52	111
D29	0.33	0.78	0	0	0	0	0.78	45	103
D30	1.06	2.54	0	0	16	0	18.54	9	46
D31	1.67	3.99	0	0	0	0	3.99	27	70
D32	4.40	10.51	0	0	0	0	10.51	12	50
D33	0.26	0.62	0	0	0	0	0.62	53	112
D34	0.50	1.20	0	0	20	0	21.20	6	42
D35	0.13	0.30	0	0	0	0	0.30	57	116
D36	1.06	2.52	0	0	0	0	2.52	33	77
D37	0.22	0.52	0	0	0	0	0.52	54	113
D38	0.17	0.41	0	0	0	0	0.41	55	114
D39	0.43	1.02	0	0	0	0	1.02	43	97
D40	0.94	2.25	0	0	0	0	2.25	34	79
D41	0.33	0.78	0	0	0	0	0.78	46	104
D42	0.27	0.65	0	0	0	0	0.65	50	109
D43	0.83	1.98	0	0	0	0	1.98	39	84
D44	1.16	2.76	0	0	0	0	2.76	30	74
D45	0.39	0.93	0	0	0	0	0.93	44	101

Code	Length	Criteria-I	Criteria-II	Criteria-III	Criteria-IV	Criteria-V	Total Score	Classwise Rank	Overall Rank
		Score	Score	Score	Priority Of ward	Special Areas			
D46	0.88	2.10	0	0	0	0	2.10	37	82
D47	0.15	0.37	0	0	0	0	0.37	56	115
D48	0.30	0.73	0	0	0	0	0.73	48	107
D49	1.92	4.58	0	0	16	0	20.58	8	44
D50	0.28	0.68	0	0	0	0	0.68	49	108
D51	2.27	5.43	0	0	16	0	21.43	5	41
D52	0.43	1.03	0	0	0	0	1.03	42	96
D53	0.11	0.27	0	0	0	0	0.27	58	117
D54	0.49	1.18	0	0	0	0	1.18	41	94
D55	3.08	7.35	0	0	0	0	7.35	17	57
D56	3.59	8.57	0	0	0	0	8.57	15	54
D57	2.56	6.11	0	0	0	0	6.11	21	63
D58	1.20	2.87	0	0	0	0	2.87	29	73
D59	3.18	7.60	0	0	0	0	7.60	16	56
D60	3.89	9.29	0	0	0	0	9.29	14	52
D61	2.43	5.80	0	0	0	0	5.80	23	65
D62	2.52	6.01	0	0	0	0	6.01	22	64
D63	1.88	4.50	0	0	0	0	4.50	24	67
D64	0.67	1.59	0	0	16	0	17.59	10	47
D65	0.31	0.74	0	0	0	0	0.74	47	106
D66	0.68	1.63	0	0	0	0	1.63	40	87
D67	1.87	4.46	0	0	0	0	4.46	25	68
D68	2.67	6.38	0	0	0	0	6.38	20	62
D69	3.62	8.65	0	0	18	0	26.65	3	36
D70	0.91	2.18	0	0	19	0	21.18	7	43
D71	0.88	2.10	0	0	0	0	2.10	36	81
D72	1.13	2.71	0	0	0	0	2.71	31	75

Code	Length	Criteria-I	Criteria-II	Criteria-III	Criteria-IV	Criteria-V	Total Score	Classwise Rank	Overall Rank
		Score	Score	Score	Priority Of ward	Special Areas			
D73	4.75	11.34	0	0	17	0	28.34	2	33
D74	3.34	7.99	0	0	16	0	23.99	4	38
D75	1.73	4.13	0	0	0	0	4.13	26	69
D76	0.89	2.12	0	0	0	0	2.12	35	80
D77	2.99	7.14	0	0	0	0	7.14	18	58
D78	6.28	15.00	0	0	16	0	31.00	1	32
D79	2.80	6.69	0	0	0	0	6.69	19	60
D80	3.91	9.35	0	0	0	0	9.35	13	51
D81	1.09	2.61	0	0	0	0	2.61	32	76
D82	5.47	13.08	0	0	0	0	13.08	11	48
D83	1.30	3.12	0	0	0	0	3.12	28	72

2. Digital Name Coding

Digital Name is a code given to each road which is unique and generated by an order of alphabetical and numerical digits. Each code is different to the other and forms the basis of differentiating from other road.

The first step taken in naming the streets is to identify the start and end point of a street. This was done with the help of municipal officials and local participation. A start point may be defined as a point located in the western end of a street, if the street is aligned in the West-East alignment and vice-versa. Similarly, in case of a street aligned in the North-South alignment, the start point shall be located in the Northern end of the street.

If the alignment of a street is not exactly North-South or West-East then the start point is defined by the angle by which a street is deviated from the North-South or the West-East line. If a street's deviation is within 45 degrees from North-South line then its start point shall be on the Northern end, else on the Western end of the West-East line. Although the above convention was followed, the situation of streets in some places can imply the method to be impractical. Hence, major service centres and markets or thoroughfares are also considered as the reference point for start point of a street.

After the designation of the start and end points, streets are assigned a unique code in the format A010101. The first letter in the Code represents a major road network (SRN, DRCN or Feeder Roads) in the rural municipality, which shall be taken as the reference for the Digital Name Coding of the Rural Municipal roads. The 2nd and 3rd number represent the number of primary branches from this major road network. Similarly, 4th and 5th number represent the number of secondary branches from the primary branches linking the major road and so on which maintains a hierarchy in coding. Each code may contain 1 letter only to a combination of 15 numbers and letters or more.

While coding, the streets branching from the main streets to the left are given only odd numbers (A01 or A13) and those branching from the right are given even numbers (A02

or A10). The major issue in Digital Name Coding process arises in the coding of new roads in the future. This issue is important as the codes are allocated progressively to each street and any new street shall be given a subsequent code after the last assigned code depending upon the left or right side of the street. The new Digital codes will break the continuity of the Digital naming of the streets but whatsoever these codes will be used for computer database as the local people only use street names for the recognition of the roads in the rural municipality

3. Projected Budget for Twenty Years period (In hundred Thousands)

Year	Projected Budget in Hundred Thousands						
	Class A	Class B	Class C	Class D	Construction	Maintenance	Total
1	400	300	200	100	1,000	429	1,429
2	460	345	230	115	1,150	493	1,643
3	529	397	265	132	1,323	567	1,890
4	608	456	304	152	1,520	651	2,171
5	700	525	350	175	1,750	750	2,500
6	805	603	402	201	2,011	862	2,873
7	925	694	463	231	2,313	991	3,304
8	1,064	798	532	266	2,660	1,140	3,800
9	1,224	918	612	306	3,060	1,311	4,371
10	1,407	1,055	704	352	3,518	1,508	5,026
11	1,618	1,214	809	405	4,046	1,734	5,780
12	1,861	1,396	930	465	4,652	1,994	6,646
13	2,140	1,605	1,070	535	5,350	2,293	7,643
14	2,461	1,846	1,231	615	6,153	2,637	8,790
15	2,830	2,123	1,415	708	7,076	3,033	10,109
16	3,255	2,441	1,627	814	8,137	3,487	11,624
17	3,743	2,807	1,872	936	9,358	4,011	13,369
18	4,305	3,228	2,152	1,076	10,761	4,612	15,373
19	4,950	3,713	2,475	1,238	12,376	5,304	17,680
20	5,693	4,270	2,846	1,423	14,232	6,099	20,331
Total	40,980	30,730	20,490	10,250	102,450	43,910	146,350

4. Transformation of projection system from WGS 1982 to MUTM 1984

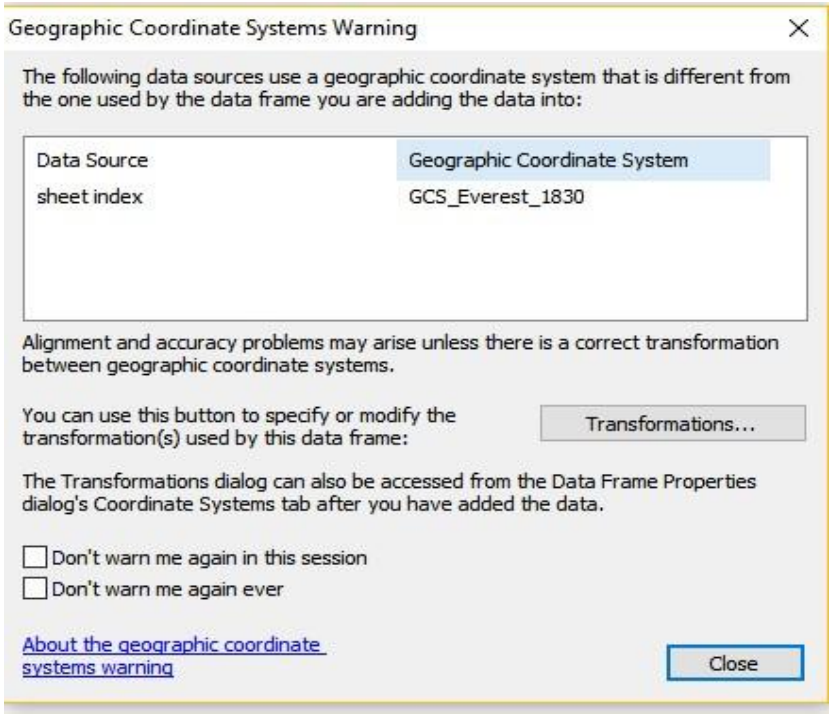
Maps use coordinate systems to display data. A coordinate system is a reference framework that defines the position of features in either two- or three-dimensional space. Coordinate systems can be of different types, such as geographic and projected. A geographic coordinate system is based on a three-dimensional spherical surface and locations defined using degrees of longitude and latitude. A projected coordinate system is a planar system that uses two-dimensional coordinates and more often uses distance measurements as units.

When a new map or scene is created, the default coordinate system is WGS 1984 Web Mercator. For a global scene, the coordinate system can't be changed. You can choose a different coordinate system for maps and local scenes. As you add layers, they are automatically displayed using the same coordinate system as the map or scene. The map or scene's coordinate system need not be the same as the data you are using, because it will project data on the fly.

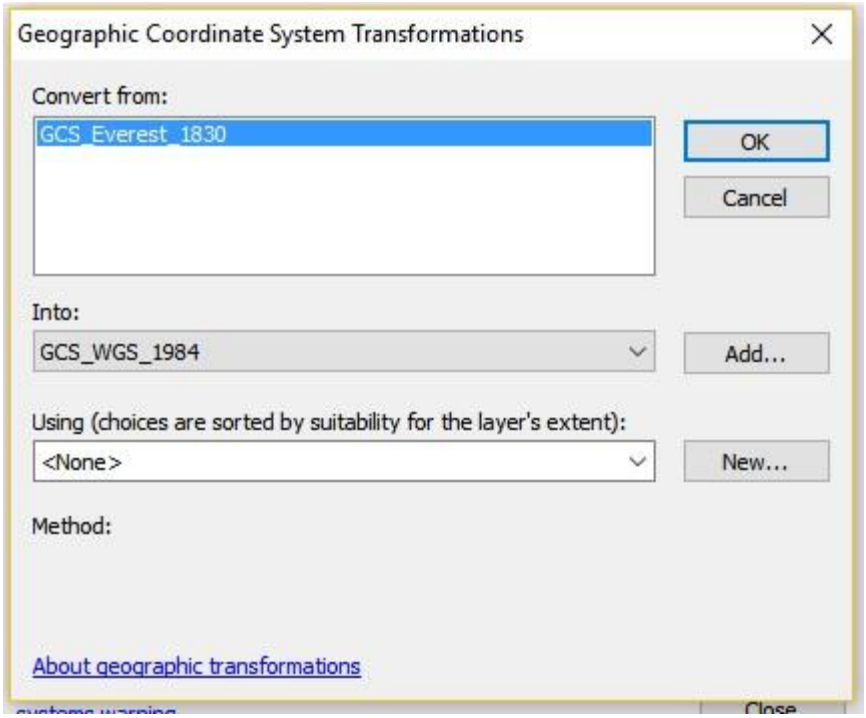
After defining the projection and coordinate system that matches your data, you may still find you want to use data in a different coordinate system and projection. This is where transformations are useful. Transformations are required to convert data that is specified in one projection into another. They allow you to take data that might be stored in a projection and convert it to align with data you hold in a different projection. Unless your data lines up, you'll face difficulties and inaccuracies in any analysis and mapping you perform on the mismatched data.

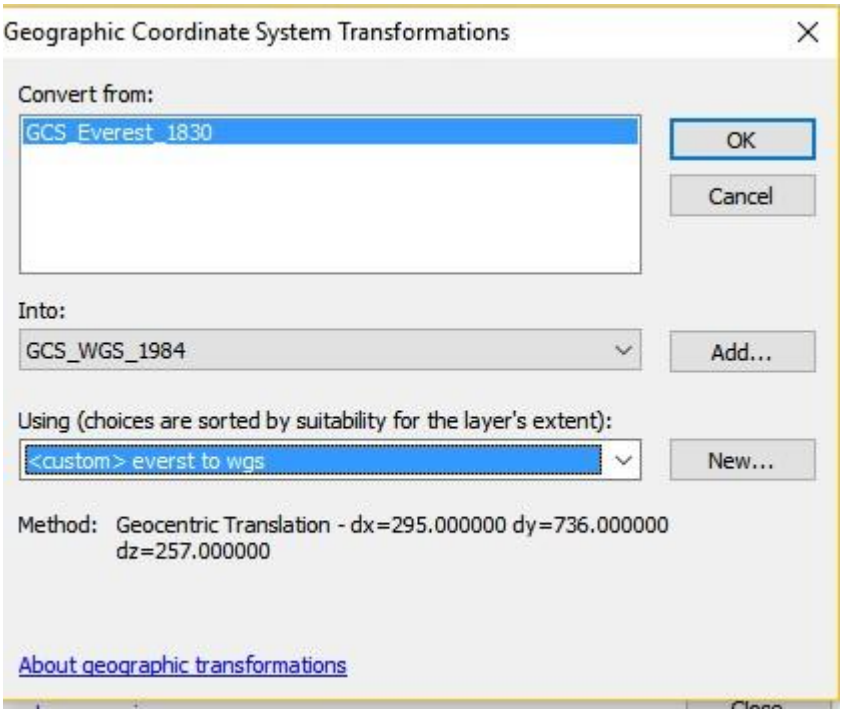
Geographic transformations can be performed to translate coordinates from one geographic coordinate system to another. When a layer with a different geographic coordinate system is added to the map, a transformation will be applied automatically, but it is necessary to specify a different transformation as a property of the map.

How to perform geographic transformation



Click on transformation





Click on ok

Similarly if we had the data frame in GCS Everest 1830 system, and we need to transform the data layers (properties having WGS 1984) to Everest 1830, then we use the geodetic translation system with d_x=-295, dy=-736, dz=-257

5.Description of Rural Municipal Roads

S.No.:	Road Code	Road Name	Description
1	A01	Simpani-Sarikhet- Kailash Rural Municipality	This road passes through Ward 2,Ward 3, and it serves approximately 1350 population. The road has total length of 13.89 Km. Out of which 11.28 Km of road is earthen, and 2.61 Km of track is yet to be opened.
2	A02	Manahari-Chainpur-Ranibang-manchhap-Khairang-Malekhu	This road passes through Ward 4,Ward 5,Ward 7,Ward 9, and it serves approximately 2700 population. The road has total length of 44.44 Km. Out of which 24.12 Km of road is earthen, and 20.33 Km of track is yet to be opened.
3	A03	Bangdirang- Chainpur	This road passes through Ward 5, and it serves approximately 135 population. The road has total length of 0.84 Km. Out of which 0.84 Km of road is earthen, and construction of new track is not required.
4	A04	Chainpur-Devitar-Gotdada-Manidada	This road passes through Ward 5,Ward 8, and it serves approximately 1755 population. The road has total length of 16.33 Km. Out of which 8.98 Km of road is earthen, and 7.35 Km of track is yet to be opened.
5	A05	Thakaltar-Siladhani- Todke-Charimara-Gaijarang- Saleni-Khairang-Kailash RM	This road passes through Ward 6,Ward 7,Ward 8,Ward 9, and it serves approximately 3150 population. The road has total length of 39.15 Km. Out of which 22.52 Km of road is earthen, and 16.63 Km of track is yet to be opened.
6	B01	Kerabari- Thumki- Sanobhawor-Thulobhawor- Murikot	This road passes through Ward 1,Ward 2,Ward 3, and it serves approximately 765 population. The road has total length of 12.55 Km. Out of which 12.55 Km of road is earthen, and construction of new track is not required.
7	B02	Newarpani- Kolgaire-Dungu-Galcharang- Kubhintar- Burja Dada	This road passes through Ward 1, and it serves approximately 1125 population. The road has total length of 14.31 Km. Out of which 6.98 Km of road is earthen, and 7.33 Km of track is yet to be opened.
8	B03	Gaudhan-Biralitar- Sunari Chaura-Poure- Gothari-Manitar	This road passes through Ward 1,Ward 2,Ward 3, and it serves approximately 653 population. The road has total length of 9.37 Km. Out of which 8.21 Km of road is earthen, and 1.16 Km of track is yet to be opened.

S.No.:	Road Code	Road Name	Description
9	B04	Sunari Saura-Kudule- Palase-Sarikhet- Botbari-Chainpur	This road passes through Ward 2,Ward 3,Ward 5, and it serves approximately 990 population. The road has total length of 6.99 Km. Out of which 3.93 Km of road is earthen, and 3.05 Km of track is yet to be opened.
10	B05	Sahitar- Chanaute-Ningrang-Trishulithan	This road passes through Ward 2,Ward 3, and it serves approximately 585 population. The road has total length of 4.87 Km. Out of which 1.03 Km of road is earthen, and 3.84 Km of track is yet to be opened.
11	B06	Adhikari Chowk-Lawti-Manahari Khola	This road passes through Ward 3, and it serves approximately 360 population. The road has total length of 2.98 Km. Out of which 2.98 Km of road is earthen, and construction of new track is not required.
12	B07	Churedada-Kutasing	This road passes through Ward 5, and it serves approximately 135 population. The road has total length of 3.3 Km. Out of which 3.3 Km of road is earthen, and construction of new track is not required.
13	B08	Bangdirang-Botbari	This road passes through Ward 5, and it serves approximately 342 population. The road has total length of 2.27 Km. Out of which 2.27 Km of road is earthen, and construction of new track is not required.
14	B09	Dungu-Panjani-Raksirang	This road passes through Ward 4,Ward 5, and it serves approximately 360 population. The road has total length of 5.7 Km. Out of which 0.79 Km of road is earthen, and 4.9 Km of track is yet to be opened.
15	B10	Ratuwa-Gingu- Raksirang	This road passes through Ward 4, and it serves approximately 203 population. The road has total length of 4.54 Km. Out of which 1.8 Km of road is earthen, and 2.75 Km of track is yet to be opened.
16	B11	Manidada-Mahakal-Charimara	This road passes through Ward 6,Ward 7,Ward 8, and it serves approximately 180 population. The road has total length of 3.42 Km. Out of which 3.42 Km of road is earthen, and construction of new track is not required.
17	B12	Karta-Pangthali-Sidam	This road passes through Ward 8, and it serves approximately 315 population. The road has total length of 9.14 Km. Out of which none of the section is earthen, and 9.14 Km of track is yet to be opened.

S.No.:	Road Code	Road Name	Description
18	B13	Aaibeni- Chautara- Garling-Charimara	This road passes through Ward 6,Ward 7,Ward 8, and it serves approximately 900 population. The road has total length of 11.03 Km. Out of which none of the section is earthen, and 11.03 Km of track is yet to be opened.
19	B14	Pangthali- Bangrang- Siladhani	This road passes through Ward 8, and it serves approximately 585 population. The road has total length of 6.57 Km. Out of which none of the section is earthen, and 6.57 Km of track is yet to be opened.
20	B15	Khandahare-Aaiparang-Bujhrang	This road passes through Ward 8, and it serves approximately 315 population. The road has total length of 4.31 Km. Out of which 3.13 Km of road is earthen, and 1.18 Km of track is yet to be opened.
21	C01	Ramkuwa-Dungu	This road passes through Ward 1, and it serves approximately 225 population. The road has total length of 3.09 Km. Out of which 3.09 Km of road is earthen, and construction of new track is not required.
22	C02	Sanobhawar-Dhungyan	This road passes through Ward 1, and it serves approximately 135 population. The road has total length of 2.08 Km. Out of which 2.08 Km of road is earthen, and construction of new track is not required.
23	C03	Deukot-Kerabari- Gothari	This road passes through Ward 1,Ward 3, and it serves approximately 473 population. The road has total length of 9.32 Km. Out of which 7.16 Km of road is earthen, and 2.16 Km of track is yet to be opened.
24	C04	Kudule- Machhedi- Jamire Swara-Karshana Dada- Indrung	This road passes through Ward 1,Ward 2, and it serves approximately 540 population. The road has total length of 5.94 Km. Out of which 0.96 Km of road is earthen, and 4.98 Km of track is yet to be opened.
25	C05	Kudule-Aapbari-Remkim-Jubal-Baretar	This road passes through Ward 2, and it serves approximately 450 population. The road has total length of 5.32 Km. Out of which 1.42 Km of road is earthen, and 3.89 Km of track is yet to be opened.
26	C06	Gringti-Koldada- Sano Dothe	This road passes through Ward 3, and it serves approximately 135 population. The road has total length of 2.53 Km. Out of which 2.04 Km of road is earthen, and 0.49 Km of track is yet to be opened.

S.No.:	Road Code	Road Name	Description
27	C07	Kolanti-Chihandada- Sarikhet	This road passes through Ward 3, and it serves approximately 68 population. The road has total length of 1.42 Km. Out of which 0.88 Km of road is earthen, and 0.54 Km of track is yet to be opened.
28	C08	Kudhsingh-Lapur-Raksirang	This road passes through Ward 4,Ward 5, and it serves approximately 1125 population. The road has total length of 8.28 Km. Out of which 0.61 Km of road is earthen, and 7.67 Km of track is yet to be opened.
29	C09	Ratuwa-Raksirang-Jaisintal-Tarsikot- Vimaltar	This road passes through Ward 4,Ward 6, and it serves approximately 900 population. The road has total length of 15.21 Km. Out of which 8.1 Km of road is earthen, and 7.12 Km of track is yet to be opened.
30	C10	Karta-Dhusabagar-Gotdada	This road passes through Ward 8, and it serves approximately 135 population. The road has total length of 3.54 Km. Out of which none of the section is earthen, and 3.54 Km of track is yet to be opened.
31	C11	Dantar-Tenta-Kangsirang-Poketar-Loja	This road passes through Ward 9, and it serves approximately 900 population. The road has total length of 7.42 Km. Out of which 1.44 Km of road is earthen, and 5.98 Km of track is yet to be opened.
32	C12	Simargaun-Bujhrabg-Ghaidada-Dhusabagar	This road passes through Ward 7,Ward 8, and it serves approximately 450 population. The road has total length of 6.76 Km. Out of which 4.52 Km of road is earthen, and 2.24 Km of track is yet to be opened.
33	C13	Shilinge-Kadase- Dungthali	This road passes through Ward 8, and it serves approximately 248 population. The road has total length of 4.61 Km. Out of which 0.87 Km of road is earthen, and 3.74 Km of track is yet to be opened.
34	C14	Ghaiyabari-Serdhum- Garling	This road passes through Ward 7, and it serves approximately 225 population. The road has total length of 6.29 Km. Out of which 1.08 Km of road is earthen, and 5.21 Km of track is yet to be opened.
35	D01	Thakure Dada- Dhungyan	This road passes through Ward 1,The road has total length of 1.54 Km. Out of which 1.54 Km of road is earthen, and construction of new track is not required.
36	D02	Churlingkhola - Ward Office	This road passes through Ward 1,The road has total length of 0.53 Km. Out of which 0.53 Km of road is earthen, and construction of new track is not required.

S.No.:	Road Code	Road Name	Description
37	D03	Dungu- Farngtar Ward Office	This road passes through Ward 1,The road has total length of 0.63 Km. Out of which 0.63 Km of road is earthen, and construction of new track is not required.
38	D04	Beltar-Aaptar- Bhumethum	This road passes through Ward 1,The road has total length of 3.35 Km. Out of which 1.17 Km of road is earthen, and 2.19 Km of track is yet to be opened.
39	D05	Aadamar-Dungu	This road passes through Ward 1,The road has total length of 0.41 Km. Out of which 0.41 Km of road is earthen, and construction of new track is not required.
40	D06	Kubhintar-Ghyangsing Tar	This road passes through Ward 1,The road has total length of 2.73 Km. Out of which none of the section is earthen, and 2.73 Km of track is yet to be opened.
41	D07	Aran- Khodro Dada	This road passes through Ward 1,The road has total length of 0.81 Km. Out of which none of the section is earthen, and 0.81 Km of track is yet to be opened.
42	D08	Gaduwan Road	This road passes through Ward 1,The road has total length of 0.71 Km. Out of which 0.71 Km of road is earthen, and construction of new track is not required.
43	D09	Bhati-Bhatibesi	This road passes through Ward 2,Ward 3,The road has total length of 3.88 Km. Out of which none of the section is earthen, and 3.88 Km of track is yet to be opened.
44	D10	Bhatebesi- Khola	This road passes through Ward 3,The road has total length of 0.46 Km. Out of which 0.46 Km of road is earthen, and construction of new track is not required.
45	D11	Magar Tole- School	This road passes through Ward 3,The road has total length of 0.5 Km. Out of which 0.5 Km of road is earthen, and construction of new track is not required.
46	D12	Maintar-Gothari- Bhatebesi	This road passes through Ward 3,The road has total length of 2.19 Km. Out of which 1.13 Km of road is earthen, and 1.07 Km of track is yet to be opened.
47	D13	School- Khola	This road passes through Ward 2,The road has total length of 0.4 Km. Out of which 0.4 Km of road is earthen, and construction of new track is not required.
48	D14	Kudule-Aamdada-Baretar	This road passes through Ward 2,The road has total length of 4.61 Km. Out of which none of the section is earthen, and 4.61 Km of track is yet to be opened.

S.No.:	Road Code	Road Name	Description
49	D15	baretar-Trishulithan-Samrong Bahate	This road passes through Ward 2,The road has total length of 2.95 Km. Out of which none of the section is earthen, and 2.95 Km of track is yet to be opened.
50	D16	Khorhanjang-Sanodeukot	This road passes through Ward 3,The road has total length of 0.32 Km. Out of which none of the section is earthen, and 0.32 Km of track is yet to be opened.
51	D17	Sano Deukot-Alkho	This road passes through Ward 3,The road has total length of 0.56 Km. Out of which 0.56 Km of road is earthen, and construction of new track is not required.
52	D18	Kerabari-Golmate	This road passes through Ward 3,The road has total length of 1.82 Km. Out of which none of the section is earthen, and 1.82 Km of track is yet to be opened.
53	D19	Golmate-Chameragufa- Phoksingtar	This road passes through Ward 3,The road has total length of 2.14 Km. Out of which none of the section is earthen, and 2.14 Km of track is yet to be opened.
54	D20	Yomjan Chowk-Golmate	This road passes through Ward 3,The road has total length of 0.65 Km. Out of which 0.65 Km of road is earthen, and construction of new track is not required.
55	D21	Galmati-Piple	This road passes through Ward 3,The road has total length of 0.38 Km. Out of which 0.38 Km of road is earthen, and construction of new track is not required.
56	D22	Mailchaur-Sathimuri Ghar	This road passes through Ward 3,The road has total length of 0.6 Km. Out of which none of the section is earthen, and 0.6 Km of track is yet to be opened.
57	D23	Bikramchowk-Churling Khola	This road passes through Ward 3,The road has total length of 0.63 Km. Out of which 0.63 Km of road is earthen, and construction of new track is not required.
58	D24	Piple-Kewaldhap	This road passes through Ward 3,The road has total length of 0.41 Km. Out of which 0.41 Km of road is earthen, and construction of new track is not required.
59	D25	Yomjon Chowk- Kewaldhap	This road passes through Ward 3,The road has total length of 1.05 Km. Out of which 1.05 Km of road is earthen, and construction of new track is not required.
60	D26	Jhilkeni-Bagmara	This road passes through Ward 3,The road has total length of 0.85 Km. Out of which 0.85 Km of road is earthen, and construction of new track is not required.

S.No.:	Road Code	Road Name	Description
61	D27	Pakhrin Tole-Kewaldhap	This road passes through Ward 3,The road has total length of 0.27 Km. Out of which none of the section is earthen, and 0.27 Km of track is yet to be opened.
62	D28	Shanti Chowk-Pakhrin Tole	This road passes through Ward 3,The road has total length of 0.26 Km. Out of which none of the section is earthen, and 0.26 Km of track is yet to be opened.
63	D29	Shanti Chowk-Pillardada	This road passes through Ward 3,The road has total length of 0.33 Km. Out of which 0.33 Km of road is earthen, and construction of new track is not required.
64	D30	Manahari Khola-Ghattekhola-Plandang Dada	This road passes through Ward 3,The road has total length of 1.06 Km. Out of which 0.42 Km of road is earthen, and 0.65 Km of track is yet to be opened.
65	D31	Ghatteykhola-Baghmara	This road passes through Ward 3,The road has total length of 1.67 Km. Out of which none of the section is earthen, and 1.67 Km of track is yet to be opened.
66	D32	Loja-Jinai	This road passes through Ward 9,The road has total length of 4.4 Km. Out of which none of the section is earthen, and 4.4 Km of track is yet to be opened.
67	D33	Chalish Ghar- Adhikari Chowk	This road passes through Ward 3,The road has total length of 0.26 Km. Out of which 0.26 Km of road is earthen, and construction of new track is not required.
68	D34	Palase Bajar Road	This road passes through Ward 3,The road has total length of 0.41 Km. Out of which 0.41 Km of road is earthen, 0.1 Km of road is made up of concrete pavement, and construction of new track is not required.
69	D35	Palase Bajar- Suryadaye School	This road passes through Ward 3,The road has total length of 0.13 Km. Out of which 0.13 Km of road is earthen, and construction of new track is not required.
70	D36	Bharang- Adhikari Chowk	This road passes through Ward 3,The road has total length of 1.06 Km. Out of which 1.06 Km of road is earthen, and construction of new track is not required.
71	D37	Subedi Chowk- Kharkhare	This road passes through Ward 3,The road has total length of 0.22 Km. Out of which none of the section is earthen, and 0.22 Km of track is yet to be opened.
72	D38	Chautara- Lamadada	This road passes through Ward 3,The road has total length of 0.17 Km. Out of which 0.17 Km of road is earthen, and construction of new track is not required.

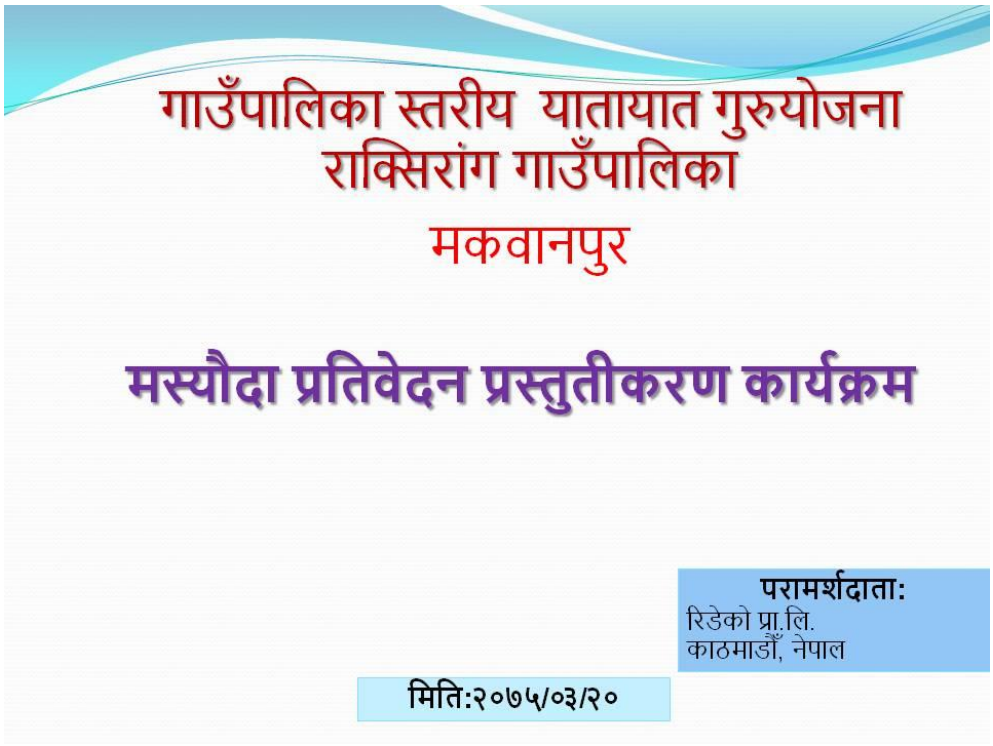
S.No.:	Road Code	Road Name	Description
73	D39	Chautara- Gumba	This road passes through Ward 3,The road has total length of 0.43 Km. Out of which 0.43 Km of road is earthen, and construction of new track is not required.
74	D40	Khahare-Sano Gringti-Gringti	This road passes through Ward 3,The road has total length of 0.94 Km. Out of which none of the section is earthen, and 0.94 Km of track is yet to be opened.
75	D41	Khahare-Kalidhap	This road passes through Ward 2,The road has total length of 0.33 Km. Out of which 0.33 Km of road is earthen, and construction of new track is not required.
76	D42	Khahare- Samrang	This road passes through Ward 3,The road has total length of 0.27 Km. Out of which 0.27 Km of road is earthen, and construction of new track is not required.
77	D43	LojaDovan-Sukel	This road passes through Ward 9,The road has total length of 0.83 Km. Out of which 0.83 Km of road is earthen, and construction of new track is not required.
78	D44	Koldada-Kolanti-Jamdar Kholsa	This road passes through Ward 3,The road has total length of 1.16 Km. Out of which 0.6 Km of road is earthen, and 0.56 Km of track is yet to be opened.
79	D45	Bardada-Bageshwori	This road passes through Ward 3,The road has total length of 0.39 Km. Out of which none of the section is earthen, and 0.39 Km of track is yet to be opened.
80	D46	Aule-bageshwori-Baldhami Tole	This road passes through Ward 3,The road has total length of 0.88 Km. Out of which none of the section is earthen, and 0.88 Km of track is yet to be opened.
81	D47	Lwati-Kailash Gaunpalika	This road passes through Ward 3,The road has total length of 0.15 Km. Out of which 0.15 Km of road is earthen, and construction of new track is not required.
82	D48	Nageshwori - bangkhora	This road passes through Ward 3,The road has total length of 0.3 Km. Out of which 0.3 Km of road is earthen, and construction of new track is not required.
83	D49	Thadechuri-Thade-Meghrang-Aalerang-Chainpur	This road passes through Ward 5,The road has total length of 1.92 Km. Out of which none of the section is earthen, and 1.92 Km of track is yet to be opened.
84	D50	Alerang Rural Road	This road passes through Ward 5,The road has total length of 0.28 Km. Out of which 0.28 Km of road is earthen, and construction of new track is not required.

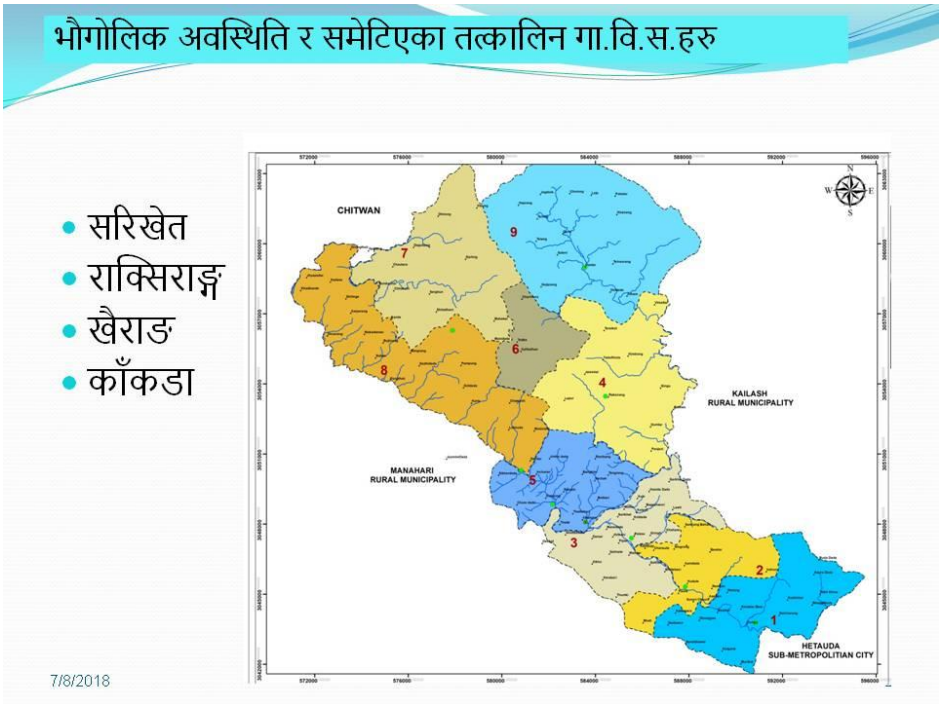
S.No.:	Road Code	Road Name	Description
85	D51	Chainpur-Thadichuri- Kudhsingh	This road passes through Ward 5,The road has total length of 2.27 Km. Out of which 1.25 Km of road is earthen, and 1.02 Km of track is yet to be opened.
86	D52	Chainpur Rural Road	This road passes through Ward 5,The road has total length of 0.43 Km. Out of which none of the section is earthen, and construction of new track is not required.
87	D53	Chainpur-Gaunpalika	This road passes through Ward 5,The road has total length of 0.11 Km. Out of which 0.11 Km of road is earthen, and construction of new track is not required.
88	D54	Manebhanjang-bankim	This road passes through Ward 5,The road has total length of 0.49 Km. Out of which 0.49 Km of road is earthen, and construction of new track is not required.
89	D55	Churedada Rural Road	This road passes through Ward 5,The road has total length of 3.08 Km. Out of which 3.08 Km of road is earthen, and construction of new track is not required.
90	D56	Churedada-Incharan	This road passes through Ward 5,The road has total length of 3.59 Km. Out of which 3.59 Km of road is earthen, and construction of new track is not required.
91	D57	Devitar-Sikhardada	This road passes through Ward 5,Ward 8,The road has total length of 2.56 Km. Out of which none of the section is earthen, and 2.56 Km of track is yet to be opened.
92	D58	Thoplase-Kodakhola	This road passes through Ward 5,The road has total length of 1.2 Km. Out of which none of the section is earthen, and 1.2 Km of track is yet to be opened.
93	D59	Sachak-Bamkim-Lapur	This road passes through Ward 5,The road has total length of 3.18 Km. Out of which none of the section is earthen, and 3.18 Km of track is yet to be opened.
94	D60	Pangthali-Jyamiredada	This road passes through Ward 8,The road has total length of 3.89 Km. Out of which none of the section is earthen, and 3.89 Km of track is yet to be opened.
95	D61	Pangthali-Rajarang-Nagdaha	This road passes through Ward 7,The road has total length of 2.43 Km. Out of which none of the section is earthen, and 2.43 Km of track is yet to be opened.
96	D62	Devitar-Maisirang	This road passes through Ward 8,The road has total length of 2.52 Km. Out of which 0.63 Km of road is earthen, and 1.89 Km of track is yet to be opened.

S.No.:	Road Code	Road Name	Description
97	D63	Lobhuda-Chamanti	This road passes through Ward 8,The road has total length of 1.88 Km. Out of which none of the section is earthen, and 1.88 Km of track is yet to be opened.
98	D64	Syachura-Jomsirang	This road passes through Ward 4,The road has total length of 0.67 Km. Out of which none of the section is earthen, and 0.67 Km of track is yet to be opened.
99	D65	Jomsirang-Dumtar	This road passes through Ward 4,The road has total length of 0.31 Km. Out of which 0.31 Km of road is earthen, and construction of new track is not required.
100	D66	Tar-DevithanSchool	This road passes through Ward 9,The road has total length of 0.68 Km. Out of which 0.68 Km of road is earthen, and construction of new track is not required.
101	D67	Gingu-YaduKhola	This road passes through Ward 4,The road has total length of 1.87 Km. Out of which 1.87 Km of road is earthen, and construction of new track is not required.
102	D68	YaduKhola-Kindrang	This road passes through Ward 4,The road has total length of 2.67 Km. Out of which none of the section is earthen, and 2.67 Km of track is yet to be opened.
103	D69	Raksirang-Kindrang	This road passes through Ward 4,The road has total length of 3.62 Km. Out of which none of the section is earthen, and 3.62 Km of track is yet to be opened.
104	D70	Kindrang- Limestone Mine	This road passes through Ward 4,The road has total length of 0.91 Km. Out of which none of the section is earthen, and 0.91 Km of track is yet to be opened.
105	D71	Gonekhola-Kulobadh	This road passes through Ward 4,The road has total length of 0.88 Km. Out of which 0.88 Km of road is earthen, and construction of new track is not required.
106	D72	Kulobadh-Vimaltar	This road passes through Ward 4,The road has total length of 1.13 Km. Out of which none of the section is earthen, and 1.13 Km of track is yet to be opened.
107	D73	kalikathan-Lapur	This road passes through Ward 4,Ward 6,The road has total length of 4.75 Km. Out of which none of the section is earthen, and 4.75 Km of track is yet to be opened.
108	D74	Thulotodke-Sanotodke-Jaisintal	This road passes through Ward 6,The road has total length of 3.34 Km. Out of which 1.57 Km of road is earthen, and 1.77 Km of track is yet to be opened.

S.No.:	Road Code	Road Name	Description
109	D75	Sanotodke-Dungkhola	This road passes through Ward 6,The road has total length of 1.73 Km. Out of which none of the section is earthen, and 1.73 Km of track is yet to be opened.
110	D76	Madaldamar- Sidam	This road passes through Ward 8,The road has total length of 0.89 Km. Out of which none of the section is earthen, and 0.89 Km of track is yet to be opened.
111	D77	Dusarang- Madaldamar	This road passes through Ward 8,The road has total length of 2.99 Km. Out of which 2.99 Km of road is earthen, and construction of new track is not required.
112	D78	Bhuibisauni- Chhakum-Garling	This road passes through Ward 7,Ward 8,The road has total length of 6.28 Km. Out of which none of the section is earthen, and 6.28 Km of track is yet to be opened.
113	D79	Silinge-Kuitan- Yomkachhar	This road passes through Ward 7,Ward 8,The road has total length of 2.8 Km. Out of which 0.43 Km of road is earthen, and 2.37 Km of track is yet to be opened.
114	D80	Khandakare- Jhyapsitar- Dungthali	This road passes through Ward 8,The road has total length of 3.91 Km. Out of which 0.62 Km of road is earthen, and 3.29 Km of track is yet to be opened.
115	D81	Dungthali-Gaibang	This road passes through Ward 5,The road has total length of 1.09 Km. Out of which 1.09 Km of road is earthen, and construction of new track is not required.
116	D82	Chautara- Duguwang- Dhirang	The road has total length of 5.47 Km. Out of which none of the section is earthen, and 5.47 Km of track is yet to be opened.
117	D83	Mahakal-Musirang	This road passes through Ward 7,The road has total length of 1.3 Km. Out of which none of the section is earthen, and 1.3 Km of track is yet to be opened.

6.Presentation Slides:





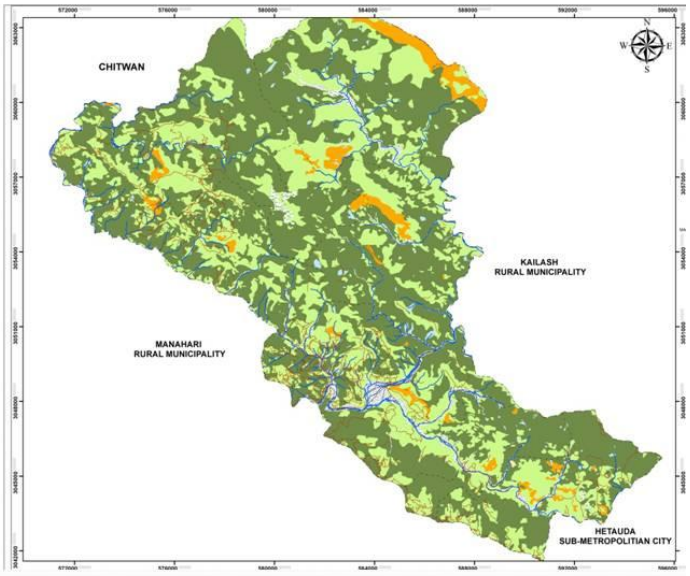
गाउँपालिकाको सम्क्षिप्त परिचय

राक्सिराङ्ग गाउँपालिका को
कुल जनसङ्ख्या =२६,१९२ (२०६८ सालको जनगणना अनुसार)
कुल क्षेत्रफल = २३५.७ बर्ग कि.मि.
जनघनत्व = १११.१२ व्यक्ति प्रति वर्ग कि.मि.

सिमाना :
पुर्व, : हेटौडा उप-महनगरपालिका
दक्षिण: मनहरी गाउँपालिका
पश्चिम : चितवन जिल्ला
उत्तर : कैलास गाउपालिका

भूउपयोग

Category	Percentage Area
Barren Land	0.02
Building	0.10
Bush	3.30
Cliff	0.66
Cultivation	33.20
Forest	55.09
Grass	0.36
River	3.32
Road	0.40
Sand	3.22
Waterbody	0.33
Total	100.00



7/8/2018 4

छलफलका विषयवस्तुहरु

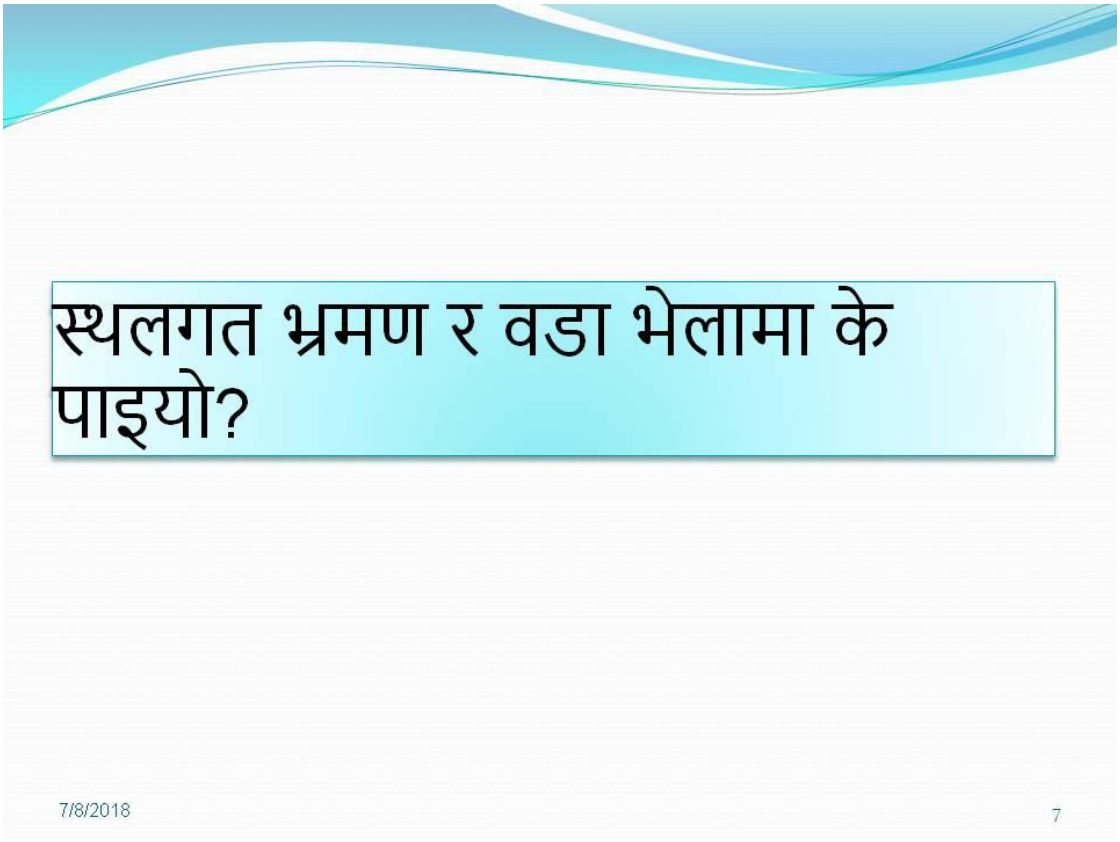
- गाउँपालिकाको दुरदृस्टी
- गाउँपालिकाको अग्रणी क्षेत्रहरू
- सडकको हालको अवस्था
- सडकको वर्गीकरण
- सडकको वर्गीकरण अनुसार लम्बाई र अवस्था
- वजेटको आवस्यकता
- ५ वर्ष को लागि अनुमानित बजेट

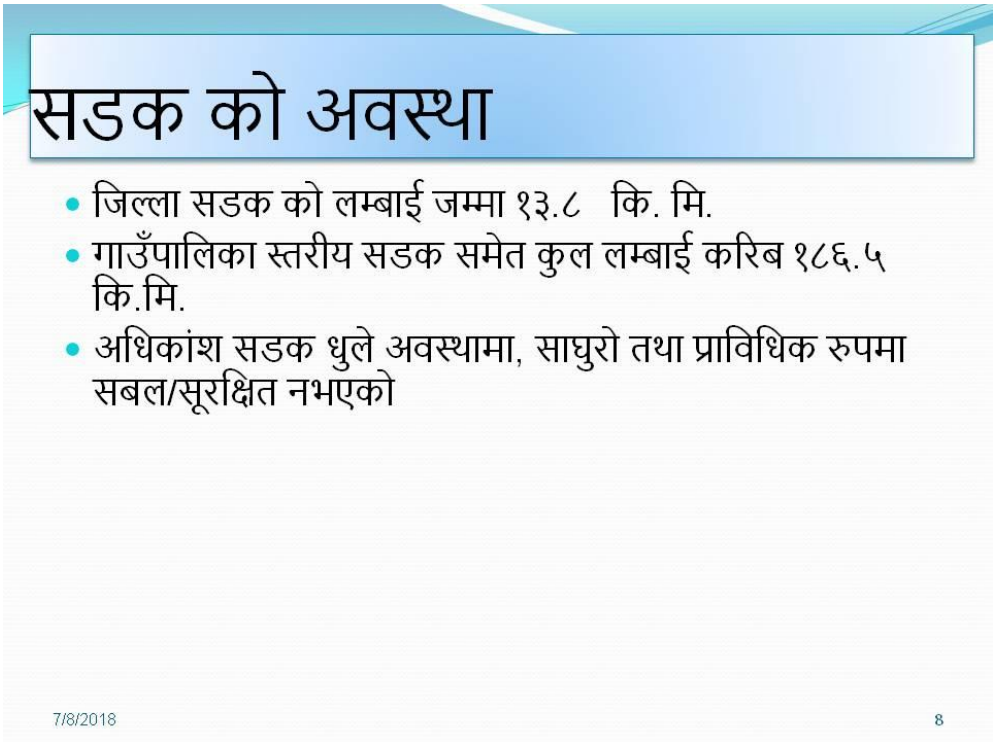
7/8/2018 5

गाउँपालिकाको अग्रणी क्षेत्रहरू

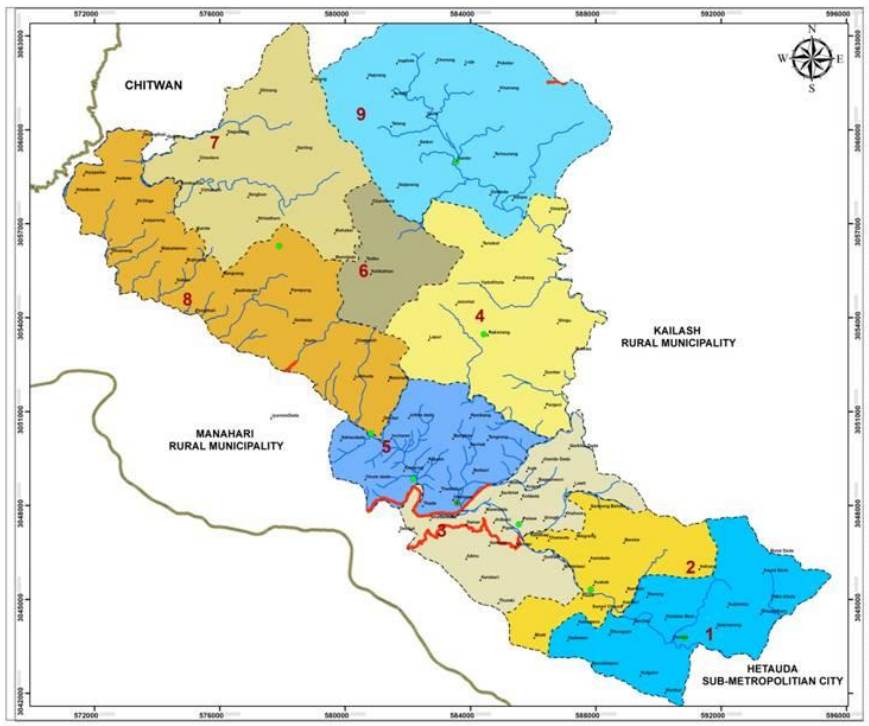
- पर्यटन
- कृषि
- पशुपालन
- उद्योग

7/8/2018 6


स्थलगत भ्रमण र वडा भेलामा के पाइयो?
7/8/2018
7


सडक को अवस्था
जिल्ला सडक को लम्बाई जम्मा १३.८ कि. मि.
गाउँपालिका स्तरीय सडक समेत कुल लम्बाई करिब १८६.५ कि.मि.
अधिकांश सडक धुले अवस्थामा, साघुरो तथा प्राविधिक रुपमा सबल/सूरक्षित नभएको
7/8/2018
8

राष्ट्रिय तथा जिल्ला स्तरीय सडक सन्जाल



7/8/2018 9

सडकको घनत्व हाम्रो र राष्ट्रिय?

- हाम्रो ७.१२ कि.मि प्रति १००० व्यक्ति तथा ०.८२ कि.मि. वर्ग कि.मि
- सन् २०३१ सम्मको सरकारी लक्ष्य राष्ट्रिय शहरी क्षेत्र ७.५ कि.मि प्रति १००० व्यक्ति तथा ३.२६ कि.मि. वर्ग कि.मि

7/8/2018 10

सतहको आधार मा सडक संजाल

Ward No.:	Road Surface (Km)			Sub Total
	Concrete	Earthen	Gravel	
1		24.65		24.65
2		11.56		11.56
3	0.10	41.55		41.64
4		23.96		23.96
5		21.86	0.43	22.29
6		19.87		19.87
7		9.13		9.13
8		18.29		18.29
9		15.10		15.10
Total	**0.10**	**185.97**	**0.43**	**186.50**

7/8/2018 11

सतहको आधार मा सडक संजाल

Ward No.:	Road Surface (Km)			Sub Total
	Concrete			
1				24.65
2				11.56
3	0.10			41.64
4				23.96
5			43	22.29
6				19.87
7		9.13		9.13
8		18.29		18.29
9		15.10		15.10
Total	**0.10**	**185.97**	**0.43**	**186.50**

सन् २०३१ सम्मको सरकारी लक्ष्य: कम्तीमा ५०% सडक कालोपत्रे गर्ने

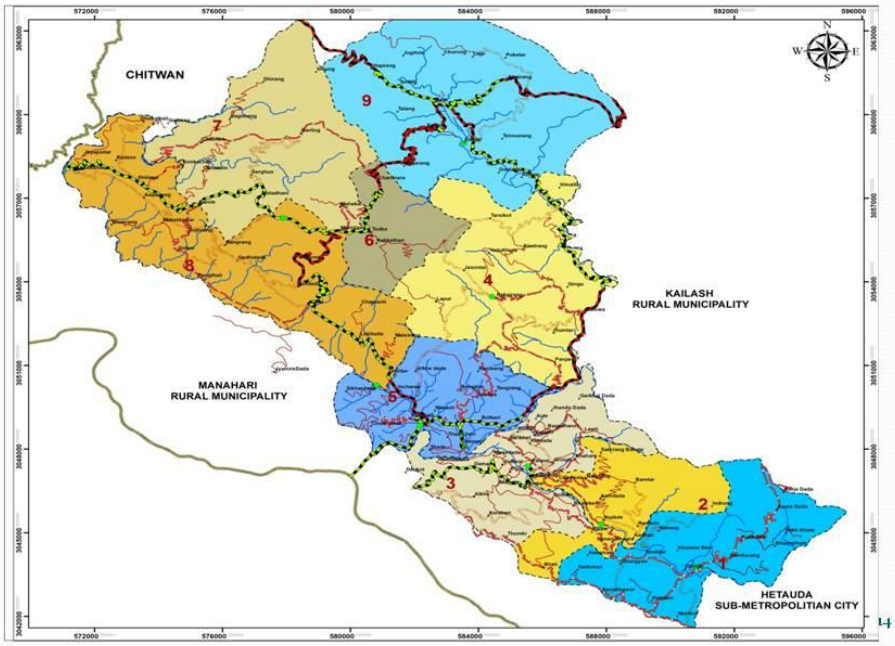
7/8/2018 12

सडक को क्षेत्राधिकार र setback

क्रस	सडक को प्रकार	क्षेत्राधिकार	setback	कैफियत
१	राष्ट्रिय सडक	२५/५०	६	
२	जिल्ला सडक	१०/२०	६	
३	गाउँस्तरिय सडक			
	क वर्ग	२०	२.५	
	ख वर्ग	१५	२.५	
	ग वर्ग	१०	२	
	घ वर्ग	६	१.५	

7/8/2018 13

क वर्गको सडक (६ वटा)=१०१.९१ कि मि

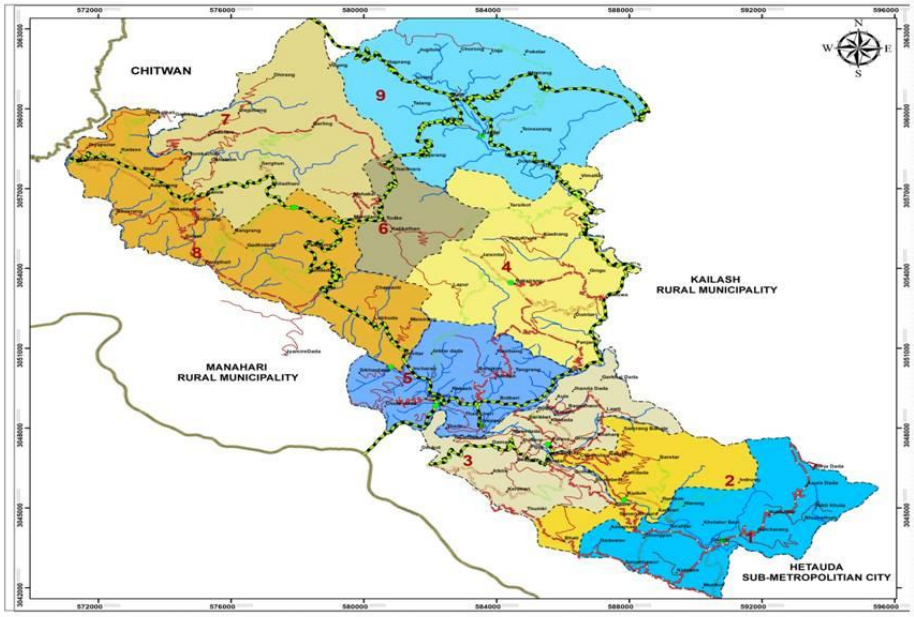


7/8/20 14

Road Code	Road Name	Length (Km)		
		New Track	Earthen	Total
A01	Simpani-Sarikhet	-	7.09	7.09
A02	Manahari-Chainpur-Khairang-Malekhu	13.84	24.65	38.49
A03	Bangdirang- Chainpur	-	0.84	0.84
A04	Chainpur-Devitar-Gotdada- Manidada	7.35	8.98	16.33
A05	Lothar Khola-Siladhani- Todke-Charimara-Gaijarang- Saleni-Quite	9.69	18.51	28.21
A06	Quite-Khairang-Kokhare-Kailash Gaunpalika	6.94	4.01	10.94
Total		37.83	64.08	101.91

7/8/2018 15

ग वर्गको सडक=१७ वटा सडकको कुल लम्बाई ८९.५१ कि मि



7/8/2018 18

Road Code	Road Name	Length (Km)		
		New Track	Earthen	Total
C01	Ramkuwa-Dungu	-	3.09	3.09
C02	Sanobhawar-Dhungyan	-	2.08	2.08
C03	Deukot-Kerabari- Gothari	2.16	7.16	9.32
C04	Kudule- Machhedi- Jamire Swara- Karshana Dada- Indrung	4.98	0.96	5.94
C05	Kudule-Aapbari-Remkim-Jubal-Baretar	3.89	1.42	5.32
C06	Gringti-Koldada- Sano Dothe	0.49	2.04	2.53
C07	Kolanti-Chihandada- Sarikhet	0.54	0.88	1.42
C08	Kudhsingh-Lapur-Raksirang	7.67	0.61	8.28
C09	Ratuwa-Raksirang-Jaisintal- Tarsikot- Vimaltar	7.12	8.10	15.21
C10	Karta-Dhusabagar-Gotdada	3.54	-	3.54
C11	Pangthali- Bangrang- Siladhani	6.57	-	6.57
C12	Simargaun-Bujhrabg-Ghaidada- Dhusabagar	2.24	4.52	6.76
C13	Khandahare-Aaiparang-Bujhrang	1.18	3.13	4.31
C14	Ghaiyabari-Serdhum- Garling	5.21	1.08	6.29
C15	Shilinge-Kadase- Dungthali	3.74	0.87	4.61
C16	Dantar-Tenta-Kangsirang	2.80	1.44	4.23
C17	Kansirang-Poketar-Loja	3.18	-	3.18
	Total	52.14	37.37	89.51

7/8/2018 19

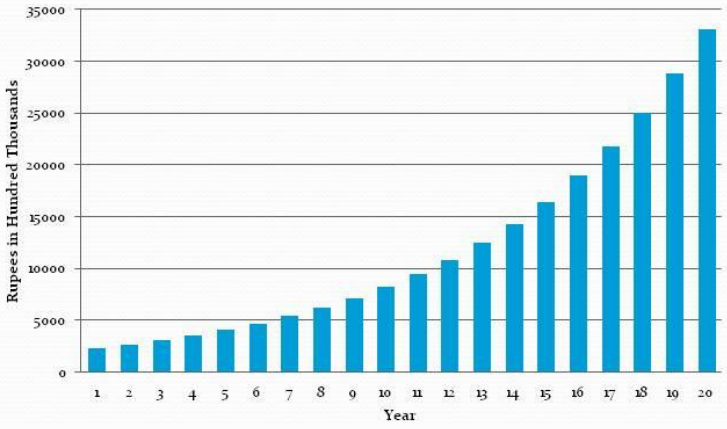
आवश्यक पुल तथा कल्भर्ट

वर्ग	पुल	कल्भर्ट	कजवे
क	१६	१५	४५
ख	८	१४	२१
ग	२	२	७
जम्मा	२६	३१	७३

7/8/2018 20

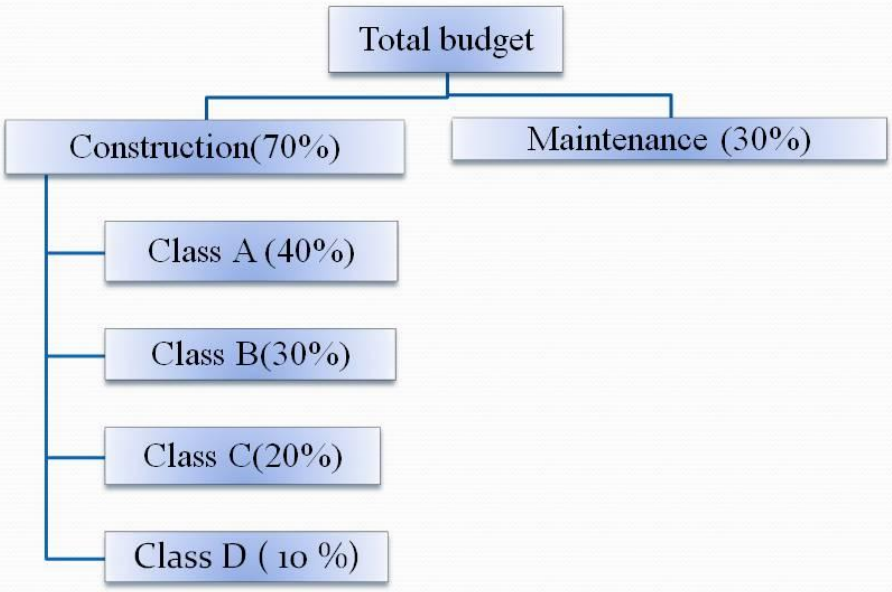
अनुमानित बजेट २० वर्षको लागि ४ अर्ब

Twenty Years Perspective Plan



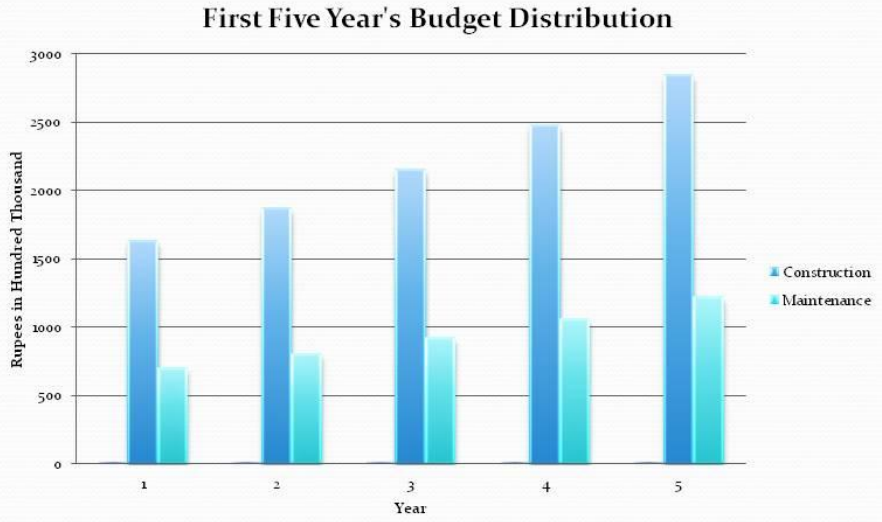
7/8/2018 21

बजेटको वितरण



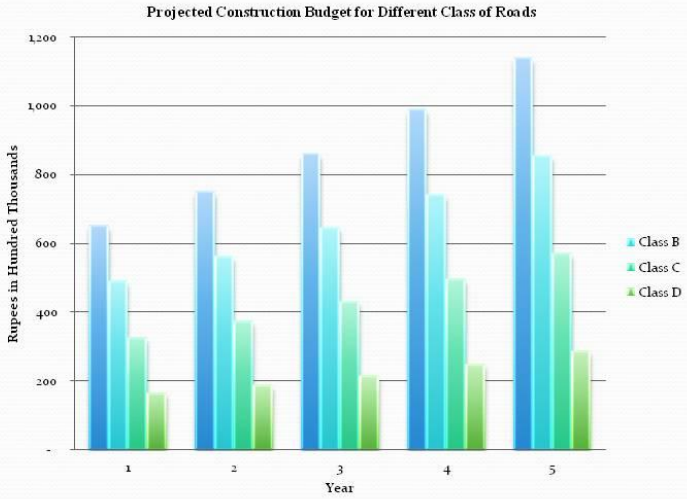
7/8/2018 22

अनुमानित बजेट ५ वर्षको लागि करिब १५६ करोड

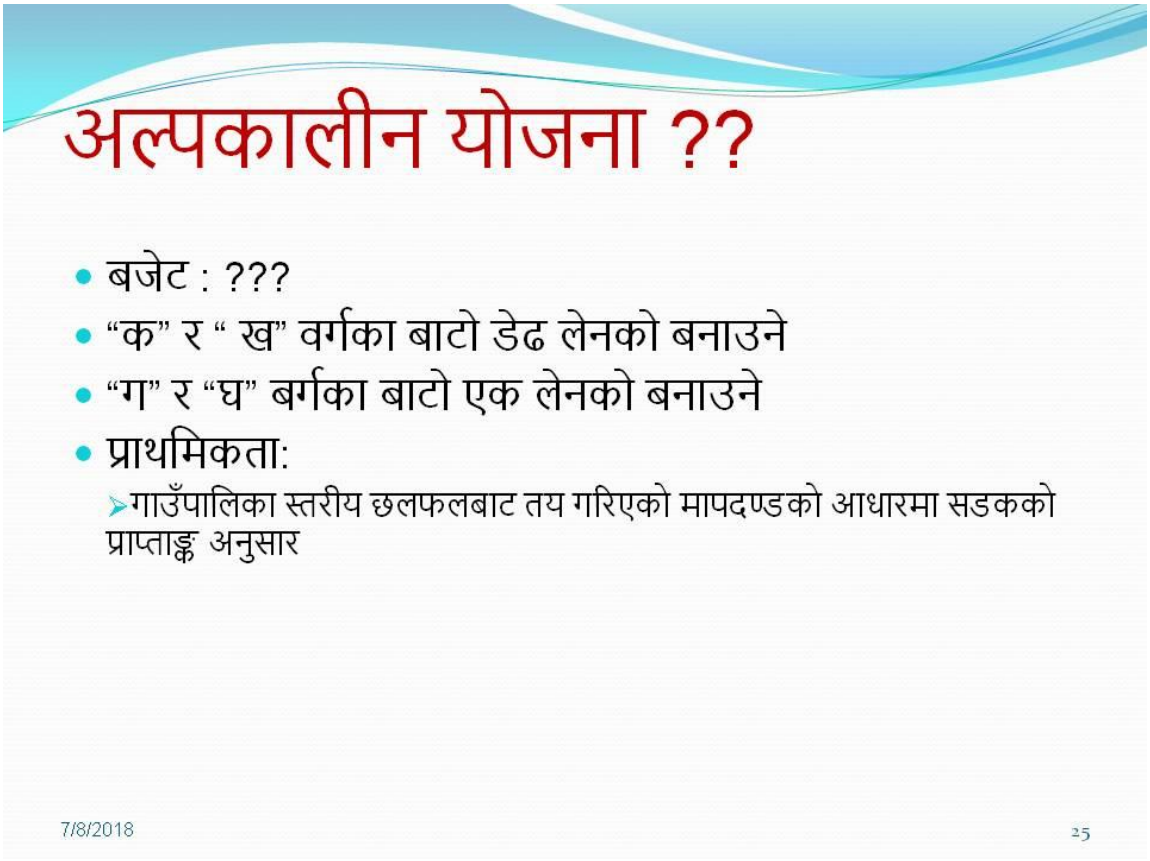


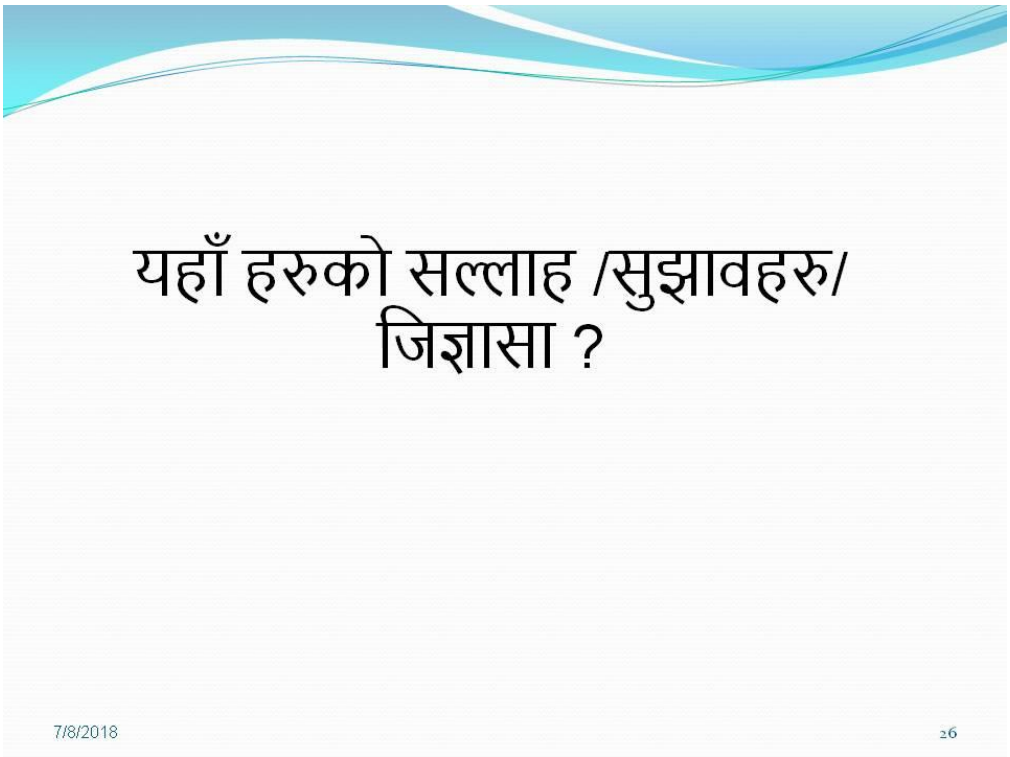
7/8/2018 23

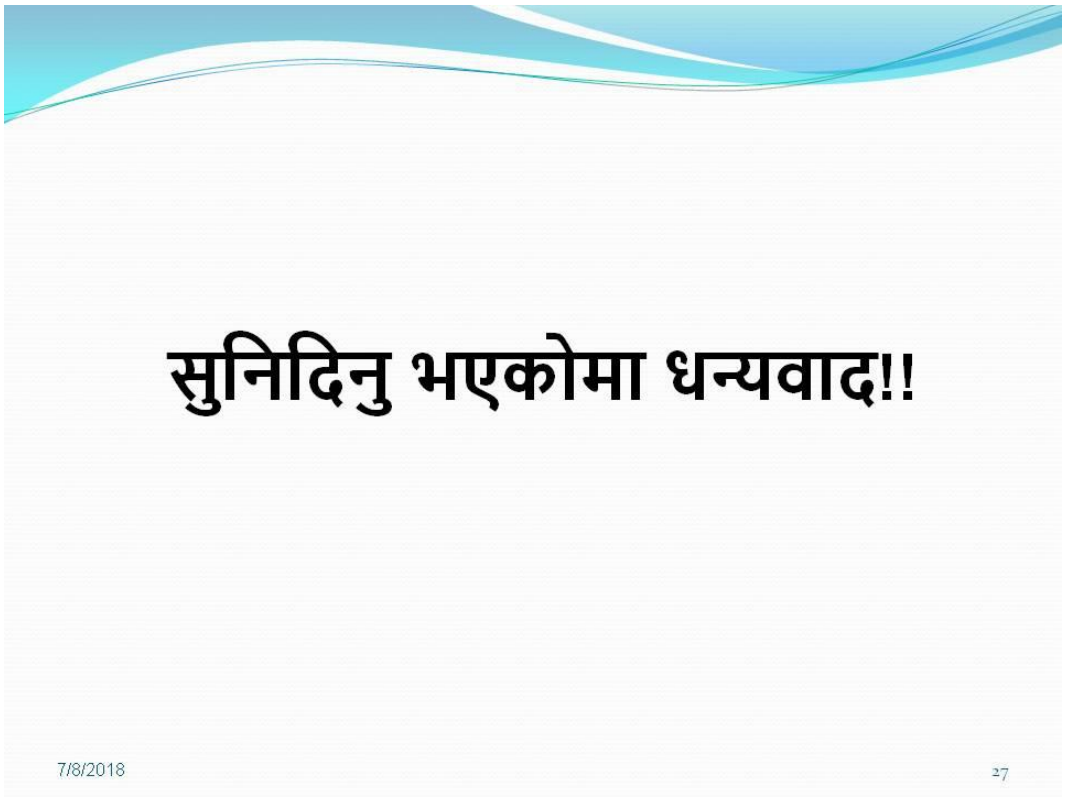
अनुमानित बजेट ५ वर्षको लागि करिब १५६ करोड



7/8/2018 24


अल्पकालीन योजना ??
बजेट : ???
“क” र “ ख” वर्गका बाटो डेढ लेनको बनाउने
“ग” र “घ” बर्गका बाटो एक लेनको बनाउने
प्राथमिकता:
गाउँपालिका स्तरीय छलफलबाट तय गरिएको मापदण्डको आधारमा सडकको प्राप्ताङ्क अनुसार
7/8/2018
25


यहाँ हरुको सल्लाह /सुझावहरु/
जिज्ञासा ?
7/8/2018
26


सुनिदिनु भएकोमा धन्यवाद!!
7/8/2018
27

7. Ward Demand Forms

8. Ward Minutes