

Gharapjhong Rural Municipality Office of the Rural Municipal Executive

Jomsom, Mustang Gandaki Province, Nepal



Rural Municipal Transport Master Plan August, 2024



Gharapjhong Rural Municipality
Office of the Rural Municipal Executive

Jomsom, Mustang

Gandaki Province, Nepal

RURAL MUNICIPAL TRANSPORT MASTER PLAN (RMTMP)

VOL-I

PREPARED BY:

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	Act onyms/Abbi eviations
RM	Rural Municipality
DCC	District Coordination Committee
DTMP	District Transport Master Plan
GIS	Geographic Information System
GPS	Global Positioning System
IDPM	Indicative Development Potential Map
RMIM	Rural Municipality Inventory Map
RMRCC	Rural Municipality Road Coordination Committee
NMT	Non- Motorized Transport
RMTMP	Rural Municipal Transport Master Plan
RMTPP	Rural Municipal Transport Perspective Plan
VDC	Village Development Committee
MTPP	Municipal Transport Perspective Plan
PCU	Passenger Car Unit
DOLI	Department of Local Infrastructure
OD	Origin and Destination
ToR	Terms of Reference
НН	Household
VDCs	Village Development Committees
РТ	Public Transport
Min.	Minute
Km.	Kilometre
Sq. km	Square Kilometre
На	Hectare

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Executive Summary

Modern economic processes are closely linked to notable increases in easeness of movement and utility. Only when people have everyday mobility, is it possible to live in organized human settlements. Transport facilities help in developing access with the urban linkages. Road accessibility can reduce isolation, stimulate crop production and other market activities, encourage public services and help to transfer technology. Road construction has been seen to bring about visible changes and notable enthusiasm in life. Road infrastructure is considered as "the infrastructure for infrastructure". However, in the absence of clear criteria and rational guidelines, road construction is carried out in adverse manner resulting in haphazard use and wastage of limited resources. For the purpose of evaluating and planning the current road and transportation infrastructures and amenities within the Rural Municipality and its environs, the Rural Municipal Transport Master Plan (RMTMP) is prepared.

Gharapjhong Rural Municipality lies in Mustang district of Gandaki Province. In 12 March 2017, the government of Nepal implemented a new local administrative structure consisting of 753 local units. With this implementation of the new local administrative structure, VDCs have been replaced with the Municipal and Rural Municipal councils.

The Gharapjhong Rural Municipality was established by merging the Marpha and Jomsom VDCs and parts of Tukuche VDC having a total area of **319.79 sq. kms**. The present population according to census 2021 is **3,712** and the population after the merging was 3,071. The population density of Gharapjhong Rural Municipality is **11.61 person/sq.km**. Gharapjhong Rural Municipality has altogether 5 wards.

RMTMP started with the formation 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 **82.15 Km** (excluding SRN, PRN and foot-trails). Based on field survey, ward no. 05 has highest length of road and ward no. 01 has lowest road length among all wards. The total of **33.02 Km** new tracks was proposed.

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, Industrial and Trade centre and with promoting this, the tourism can be improved as well. By improving the agriculture, industry, trade and tourism sector we have to develop the health, education and environment of the people of this Municipality.

This study formulated the road hierarchy for the various roads namely Class A, B, C, D and *Other Local Roads*. Class D and *Other Local Roads* basically deal with access while Class A and B deal with the mobility whereas Class C basically deals with both mobility and accessibility to higher services. The minimum right of way and setback for the different classes of roads are recommended as follows:

S.N.	Road Class	Min. RoW (m)	Setback (m)	Possible Pavement width (m)
1	В	10	1.5	8
2	С	8	1.5	5.5
3	D	6	1.5	3.75
4	Others	4	1.5	-
5	Padmarga	2 (varies at different sections)	-	-

The total lengths of Class B, C, D and Other Local Roads are summarized in the table below:

Class	RoW (m)	Road Surface/Approx. Length (Km)						
		Concrete	Earthen	Gravelled	New Track	Stone Paved	Stairs	Grand Total
В	10	0.05	16.78	0.65	5.74	-	-	23.21
С	8	-	41.81	-	4.30	-	-	46.12
D	6	0.08	19.23	0.43	21.72	-	-	41.47
Others	4	0.35	0.77	1.23	1.26	0.76	-	4.37
Padmarga	2	0.06	32.99	-	1.71	3.97	0.97	39.69
Grand Total		0.54	111.58	2.31	34.73	4.73	0.97	154.86

There is one National Highway and one Province Roads passing through this Rural Municipality which play important role for inter-municipality mobility as well as accessibility.

For the development of overall transportation infrastructures there is a need of approximately **613.36 crores** of budgets which in summary is as follows:

S. No.	Project	Required Capital
1	Upgrading all roads inside rural municipality with necessary infrastructures	4,193,756,152
2	Cross Drainage Structures	57,048,000
3	Maintenance of all roads	1,821,773,000
4	Construction of Bus Park with bus terminal	20,000,000
5	Construction of Bus Stands (1 in each ward)	15,000,000
6	Construction of Helipad for emergency (1 in each ward)	15,000,000
7	Installation of traffic signals at 3 locations	4,500,000
8	Traffic Safety and Signs	3,500,000
9	Road Safety education	3,000,000
	Total	6,133,577,152

However, the potential of Rural Municipality to invest in transportation infrastructure is **171.83 crore** Nepalese rupees (considering the capital of Rural Municipality increases by 10 percent each year) over twenty years period of time. The Rural Municipality needs to find sources for another **435.43 crore** Nepalese rupees for construction and maintenance of roads and **441.53 crore** Nepalese rupees for overall infrastructure development from different sources. The Municipality should collaborate with federal government, province government and private sectors. Similarly, involving people in development works would help to generate revenue for infrastructure development. Likewise, Rural Municipality should increase their internal income through different income generating activities. For the RMTMP period, the Rural Municipality aims to invest approximately **18.32 crores** of budget through Rural Municipality in road infrastructure construction in the next 5 fiscal years' period and this budget will increase on the years following.

Year	Capacity of Rural Municipality (in Thousands)						
	Class B	Class C	Class D	Others	Construction	Maintenance	Sub Total
1	5,250	8,400	6,300	1,050	21,000	9,000	30,000
2	5,775	9,240	6,930	1,155	23,100	9,900	33,000
3	6,353	10,164	7,623	1,271	25,411	10,890	36,301
4	6,988	11,180	8,385	1,398	27,951	11,979	39,930
5	7,687	12,298	9,224	1,537	30,746	13,177	43,923
Total	32,053	51,282	38,462	6,411	128,208	54,946	183,154

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. RMTMP will also help to preserve the land from acquisition at various sections of the rural municipality. At the same time, it will increase the mobility and accessibility scenario within the rural municipality.

The overall road network along with location points are shown in an interactive online map with satellite basemap. The details of the roads and locations can be obtained from the interactive map through the following link:

https://www.tinyurl.com/gharapjhongroads

Chapter 1: Introduction

1.1. Background

Societies' social and economic activities have always relied heavily on accessibility and mobility. Modern economic processes are closely linked to notable increases in easeness of movement and utility. An examination of the development of transportation systems from a historical standpoint highlights the effects of technological advancements and the ways in which advancements in transportation were influenced by shifts in the economy, society, and geography. As a result, the long historical history of transportation networks was characterized by times of rapid change during which new transportation technologies were implemented. Only when people have everyday mobility is it possible to live in organized human settlements. Transport facilities help in developing access with the urban linkages. Road accessibility can reduce isolation, stimulate crop production and other market activities, encourage public services and help to transfer technology. Road construction has been seen to bring about visible changes and notable enthusiasm in life. Road infrastructure is considered as "the infrastructure for infrastructure". However, in the absence of clear criteria and rational guidelines, road construction is carried out in adverse manner resulting in haphazard use and wastage of limited resources.

Transportation systems benefit from their own operational characteristics like costs, capacity, efficiency, dependability, and pace/speed. A complex web of relationships between the transport supply, which reflects the network's operating capability, the demand for transportation, and the need for mobility within an economy, is shaping how transportation systems evolve.

Even while transportation has a favorable effect on socioeconomic systems, there can be drawbacks as well, like traffic congestions, crashes, disasters, and gaps in mobility. Haphazard development of settlement in the urban and sub-urban area is a great problem which we have learned from the past earthquake and other special shock events. For 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 problems 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 Municipality and the surrounding Municipalities. So as to be presented as proper 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 major objective of this study is to prepare the Rural Municipal Transport Master Plan (RMTMP) of Gharapjhong Rural Municipality. With participatory and bottom-up-from-thesettlement-level approach of planning approach, it will include a constructive plan to incorporate all the transportation needs and facilities for now and coming decades. The specific objectives of the RMTMP are mentioned below:

- 1. Prepare the Rural Municipal Inventory Map (RMIM) of all road networks.
- 2. Identify the major road networks linking the Rural Municipality with the surrounding areas.
- Collection of demands for new/rehabilitation transport linkages from Municipalities/settlements based on city development plan.
- 4. Prepare the Perspective Plan of transport services and facilities (Rural Municipal Transport Perspective Plan)
- 5. Prepare physical and financial implementation plan of prioritized roads for the RMTMP period.
- 6. Prepare a five years Rural Municipal Transport Master Plan (RMTMP).
- 7. Prepare an online interactive map for the road network of Gharapjhong Rural Municipality.

1.3. Scope and Limitation of MTMP

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

a. Analyze Mobility status of the Rural Municipality

The consultant will also have conducted 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.

b. Access the condition of public transportation

The consultant will have collected data on different public transportation routes and their operation characteristics, which operate within the Rural Municipal area and to other adjoining area.

c. Prepare Rural Municipal Inventory Map (RMIM) of existing roads within Gharapjhong Rural Municipality.

The consultant will have prepared 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.

d. Scoring criteria

The consultant will have developed scoring criteria to screen and prioritize all 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.

e. Road classification and Nomenclature

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

f. 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.

 g. Prepare a realistic Physical and Financial Implementation Plan of Prioritised Roads for the RMTMP period

The consultant shall have collected 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.

h. Prepare Rural Municipal Transport Master Plan (RMTMP) of Gharapjhong Rural Municipality

The consultant shall have prepared Rural Municipal Transport Master Plan (RMTMP) for Gharapjhong 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, and prepare road inventory map and transport infrastructure network and management plan based on the travel demand, population growth, and growth rate of vehicular and transport infrastructure.

i. Pepare framework for medium term and long-term planning

The consultant shall also have forecasted 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 major transport sector interventions in the long term.

j. Prepare online interactive map of transport infrastructure network

The consultant shall have prepared the online interactive map of transport intrastructure network with satellite image basemap, and the link to the online map shall be provided to the Rural Municipal council. The online interactive map shall be accessible in the internet through such link.

1.4. Approach and Methodology

Encouraging and promoting the development of transportation networks that integrate different modes of transportation in a way that effectively maximizes the mobility of people and products within and through urbanized regions, and minimizes transportation-related disparities is in the best interests of the rural municipality, if not the whole nation. An integrated planning process that considers requirements, financial resources, and municipal plans is the goal. MTMP will help to assist the planning of such roads to fulfill 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.

a. Approach:

The Rural Municipal Transport Master Plan preparation process shall heavily rely on participatory bottom-up approach, prioritizing the needs and voices of local communities, in contrast to traditional practices of trickle-down approaches. Techno-political interface shall be incorporated into the planning process, where active participation from political party representatives, line agencies, and Rural Municipality officials is essential. This is cruicial in developing areas with diverse rural landscapes and challenges, like Mustang. The Rural Municipal Road Coordination Committee (RMRCC) shall be established as the Rural Municipality's authorized legislative body, and its members, who include concerned technical officials and representatives, assist in making necessary policy decisions during the RMTMP preparation and implementation process.

b. 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 and several relevant reports/publications. The study got acceleration with formation of RMRCC and inception 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 RMRCC. The scoring criteria for prioritizing road network was identified based on ToR and shall be approved by Rural Municipality. Then, the hierarchy of roads will be proposed and perspective plan of various interventions will be proposed 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.



Figure 1: Methodological Framework

a. Secondary Data Collection

Secondary data encompasses any type of information gathered from secondary sources. The vearly reports from district level offices, DOR, IDO, and discussions with various other stakeholders were the sources of these data. The next source of diverse secondary data is the Rural Municipal Road Coordination Committee (RMRCC), which is composed of individuals from different political backgrounds and fields. A field study was also conducted as part of the Rural Municipality's overall socioeconomic assessment. This involved gathering information about high development potential areas, such as hubs for business, commerce, and markets, tourist destinations, service centers (such as hospitals, health facilities, and agriculture service sub-centres), high value cash crop production, livestock farming, agriculture, horticulture, and cottage and agro-based industries, etc. Data on the population of the Rural Municipality, a variety of maps displaying service centers, an inventory of the transportation infrastructure, historical plans and reports from sector studies, industry standards, and policy objectives were gathered from secondary sources, such as the Bureau of Statistics, Survey Department, local NGOs, line agencies, DCC, Rural Municipality, etc. Other secondary data included in the study included digitized topographic maps, administrative maps of the rural municipality, strategic road network plan created by the Department of Roads, etc.

b. Primary Data Collection:

As primary data collection, tracking of the existing road network along with detail information of its width, surface type, and possible intervention required for the effectiveness of services was carried out. Data on current household and trip characteristics, traffic characteristics, existing accessibility and mobility level of settlements, and prioritized road network required for each ward were obtained via various reliable methods. The primary data collection methods carried out in the field was:

- Road Inventory Survey
- Demand Survey
- Public Transport and Services Study

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.

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.

c. Data Processing, Analysis and Presentation of Reports

First, data gathered in the field was entered into GIS database and MS Office (MSWord and MSExcel) tools. All complete and reliable data sets were converted into usable information, and maps, graphs, figures, and tables were used to illustrate the Rural Municipality's current situation. In a similar way, those that were added to the GIS database offer a variety of maps and tables. Forecasts were made for the RMTMP and RMTPP time periods regarding population and traffic data. For predicting and interpretation, a variety of transportation models were employed. Finally, a number of interventions were suggested, and an economic analysis of them was also done.

d. Municipal Coding of Roads

Municipal code is given to each road which is unique and generated through the combination of province, district and rural municipality indicators followed by class of the road. Each code is different to the other and forms the basis of differentiating from other road.

After the designation of the start and end points, streets are assigned a unique code in the format **403RM02B001**. The first digit in the Code represents Province number. It ranges from 1 to 7 for respective provinces. The 2^{nd} and 3^{rd} digits of code represent the district code within the province. It is denoted as 01, 02, 03 and so on for respective districts within the province. Similarly, district code is followed by M or RM which designate wheather the municipal body is a Municipality or Rural Municipality. It is then followed by the Municipality code within the district (01, 02, ...). Finally, the class of the road (A/B/C/D...) followed by three-numbers code

for individual road (001) completes the municipal coding of roads. Each municipal code contains 10 digits in case of municipality and 11 digits in case of Rural Municipality.

For Gharapjhong Rural Municipality, the Municipal Code is shown in the table below:

Province Code	District Code	Municipality Initials (M/RM)	Municipality Code	Road Class	Road Code
4	03	RM	02	В	001

Table 1: Municipal Code for Gharapjhong Rural Municipality

Source: CBS (https://cbs.gov.np/provincial-maps-with-codes/)

Hence any Municipal code of road of Class B in Gharapjhong Rural Municipality takes the format of **<u>403RM02B001</u>**. For the ease of formatting of tables, the digits upto the municipality code is omitted as it is same for all the roads inside the Rural Municipality. The code of road followed by class only (B001) is written throughout this report.

So, the municipal code of road <u>B003</u> should be understood as <u>403RM02B003</u>.

e. 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 Rural 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.

S.N	Scoring Criteria	Scoring Unit	Score
1	Link providing service to large settlement areas/population	Population served/km	30
	Link providing service to existing		
	• Market center		
2	Tourist attraction areas	No of areas	10
	• Other obligatory centres as decided by the RM		
3	Link providing service to the existing service centres such as health centres, education centres (schools/campuses), offices (RM office/Government office, etc.),	Number of different service sector	30
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
	Total	1	100

Table 2: Scoring Criteria for prioritization of Municipal Road

Chapter 2: Review of Existing Infrastructure Situation

This chapter discusses the Rural Municipality's current state and future prospects using a variety of primary and secondary data sources. This chapter primarily deals with socioeconomic, travel, land use, and transportation aspects. It also analyzes the accessibility and mobility scenarios inside the Rural Municipality. The primary data that were gathered serve as the analysis's primary data source.

2.1 Location

Gharapjhong Rural Municipality lies in Southern part of Mustang district of Gandaki Province. Topographically the Rural Municipality entails from 28.66° N to 28.87° N latitude and from 83.57° E to 83.90° E longitude.

East:	Manang District
West:	Thasang and Varagung Muktikshetra Rural Municipality
North:	Varagung Muktikshetra Rural Municipality
South:	Thasang Rural Municipality

Table 3	Borders	of	Gharapihong	Rural	Municipality
		~~	o and a planta		

This Rural Municipality is surrounded by two rural municipalities of Mustang District and one rural municipality of Manang district. Gharapjhong Rural Municipality neighbours to Thasang and Varagung Muktikshetra Rural Municipality towards North, West and South. In the East, Gharapjhong neighbours to Manang Ngisyung Rural Municipality of Manang Disctrict.



Figure 2: Location Map of Gharapjhong Rural Municipality

2.2 Administrative Division

In 12 March 2017, the government of Nepal implemented a new local administrative structure consisting of 753 local units. With this implementation of the new local administrative structure, VDCs have been replaced with the Municipal and Rural Municipal councils.

The Gharapjhong Rural Municipality was established by merging the Marpha and Jomsom VDCs and parts of Tukuche VDC having a total area of **319.79 sq. kms**. The present population according to census 2021 is **3,712** and the population after the merging was 3,071. The population density of Gharapjhong Rural Municipality is **11.61 person/sq.km**. Gharapjhong Rural Municipality has altogether 5 wards.

Wards	Previous VDCs	Area (Sq. Km)	Population (2021)
Ward 01	Marpha (01), Tukuche (08,09)	49.4	217
Ward 02	Marpha (02-04)	19.62	683
Ward 03	Marpha (05-09)	72.04	1,085
Ward 04	Jomsom (05-08)	64.41	1,214
Ward 05	Jomsom (01-04,09)	114.32	513
	Total	319.79	3,712

Table 4: Formation of wards of Gharapjhong Rural Municipality

Source: MoFAGA, Nepal

2.3 Land Cover

Gharapjhong Rural Municipality lies in the mountainous region of Nepal. Most of the area is covered by barren land, grass, forest and bushes. Cultivation and riverbed cover significant areas other than previously mentioned areas in Gharapjhing Rural Municipality.

Table 5: Land use condition in Gharapjhong Rural Municipality

Landuse	Area Occupied (Sq. Km)	Percentage Occupied
Barren Land	121.93	38.13%
Grass	95.00	29.71%
Forest	47.94	14.99%
Bush	37.34	11.68%
Cultivation	6.19	1.94%
Others	11.39	3.56%
Grand Total	319.79	100.00%



Figure 3: Pie-chart showing the land covers of Gharapjhong Rural Municipality

2.4 Transportation

a. Road inventory

For the collection of existing road infrastructure data, GPS survey was used and total length of road surveyed was **82.15 Km** (excluding SRN, PRN and foot-trails). Based on field survey, ward no. 05 has highest length of road and ward no. 01 has lowest road length among all wards. The total of **33.02 Km** new tracks was proposed.

Wards	Road	Sub-Total				
	Concrete	Earthen Gravelled		Stone Paved		
Ward 01	-	6.72	-	-	6.72	
Ward 02	-	13.48	-	-	13.48	
Ward 03	0.13	6.49	1.08	0.76	8.46	
Ward 04	0.35	9.14	1.12	-	10.61	
Ward 05	-	42.76	0.11	-	42.87	
Grand Total	0.49	78.59	2.31	0.76	82.15	

 Table 6: Existing Road condition based on Surface Type (excluding SRN, PRN and Foot Trails)

The road inventory including new track is given below:

Warda	Roa	d Surface/App		Sub Total		
vv arus	Concrete	Earthen	Gravelled	New Track	Stone Paved	Sub-Total
Ward 01	-	6.72	-	2.67	-	9.39
Ward 02	-	13.48	-	12.57	-	26.05
Ward 03	0.13	6.49	1.08	9.32	0.76	17.78
Ward 04	0.35	9.14	1.12	2.90	-	13.51
Ward 05	-	42.76	0.11	5.57	-	48.44
Grand Total	0.49	78.59	2.31	33.02	0.76	115.17

Table 7: Existing Road condition based on Surface Type with New Tracks (excluding SRN, PRN and Foot Trails)



Figure 4: Pie-chart showing the Surface type of roads in Gharapjhong Rural Municipality (excluding SRN, PRN and Foot Trails)

Other than the roads mentioned above, there are National Highways of Strategic Road Network, Ring Road developed in the Province Road Network, and foot trails of existing and proposed surface types present in the rural municipality. The data is shown in the table below.

Warda	Existing Surface of Padmarga/Approx. Length (Km)					Sub Total	CDN	DDN
warus	Concrete	Earthen	New Track	Stairs	Stone Paved	Sub-Total	SKIN	PRIN
Ward 01	-	2.10	-	-	0.33	2.43	-	3.21
Ward 02	0.06	11.20	-	0.53	0.74	12.52	5.94	-
Ward 03	-	5.70	1.38	0.08	1.07	8.23	4.51	-
Ward 04	-	11.16	0.33	0.36	0.06	11.91	5.36	0.65
Ward 05	-	2.83	-	-	1.77	4.60	-	8.09
Grand Total	0.06	32.99	1.71	0.97	3.97	39.69	15.81	11.95

Table 8: SRN, PRN and Foot Trails in Gharapjhong Rural Municipality

15.81 km of SRN and 11.95 km of PRN is present in Gharapjhong Rural Municipality, whose upgradation to black-top is under process. Based on the data collected, it can be seen that the road density per 1000 population is **22.13** km per 1000 population and **0.26** km per square kilometre of area. This value is high as compared to national statistics such as 1.91 km per 1000 population and low as compared to national statistics such as 0.344 km per square kilometre.

Wards	Рор	oulation (2 Census)	078	Area (Sq.	Road (In	Road Per Sq.	Road per 1000	
	Male	Female	Total	KM) KM)		KIII	Population	
Ward 01	117	100	217	49.4	6.72	0.14	30.97	
Ward 02	352	331	683	19.62	13.48	0.69	19.73	
Ward 03	585	500	1085	72.04	8.46	0.12	7.80	
Ward 04	637	577	1214	64.41	10.61	0.16	8.74	
Ward 05	252	261	513	114.32	42.87	0.38	83.57	
Total	1,943	1,769	3,712	319.79	82.15	0.26	22.13	

Table	9:	Road	Density	ward	wise
Labic	· •	Itouu	Density	TT CLI CL	WIDC

The Intervention required for the Road Network of Gharapjhong Rural Municipality is shown in the table below:

	Road intervention/ Length of roads (Km)					
Ward No.	Maintenance	Upgradation	New Construction			
Ward 1	-	6.72	2.67			
Ward 2	-	13.48	12.57			
Ward 3	0.13	7.57	9.32			
Ward 4	0.35	10.26	2.90			
Ward 5	-	42.87	5.57			
Grand Total	0.49	80.90	33.02			

Table 10: Intervention Required for Road Networks inside Gharapjhong Rural Municipality

In this road inventory survey, it was found that some roads of Gharapjhong Rural Municipality are narrow and their width is insufficient to cross two vehicles from opposite direction at a time. Also, the actual width of National Highway and Province road is small in comparison to their right of way.

a. Bridge/Crossings

Gharapjhong Rural Municipality consists of hilly/mountainous lands as well as flats consisting of many streams and rivers. Travelling across such geographical surface requires large

number of bridges and crossings. So, a number of culverts are proposed inside the rural municipality during the RMTMP Period. According to the survey data, there are 2 Motorable bridges, 15 suspension bridges and 3 special bridges in Gharapjhong Rural Municipality.

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 which is shown in the table below:

		Priority/Approx. Length (Kms)								
	Wards	1	2	3	4	5	Grand Total			
	Ward 01	3.13	1.29	0.19	1.08	0.20	5.89			
	Ward 02	16.18	2.39	0.64	0.14	0.23	19.59			
	Ward 03	0.52	0.70	0.36	0.53	0.23	2.34			
	Ward 04	4.99	3.81	2.22	0.39	0.12	11.52			
	Ward 05	0.57	2.74	0.67	3.06	1.06	8.09			
	Grand Total	25.38	10.91	4.10	5.20	1.83	47.43			

Table 11: Road Priority Length ward wise

The intervention required for the prioritized road is summarized below:

 Table 12: Intervention Required for the Prioritized Road Networks

	Priotrized Road intervention/ Length of roads (Km)						
Ward No.	Maintenance	Upgradation	New Construction				
Ward 1	-	5.89	-				
Ward 2	-	13.48	6.11				
Ward 3	0.13	1.44	-				
Ward 4	-	8.62	2.90				
Ward 5	-	7.52	0.57				
Grand Total	0.13	36.96	9.58				

The list of prioritized roads of all wards is shown in the table below:

sb ⁻	rity	Road Code	Road Name	Approx. Length (Km)					
Wai	Prior			Conc rete	Earthen	Gravel	New Track	Stone	Total
		1 B002	Chhairo Bailie Bridge Chapra dekhi	-	3.13	-	-	-	
	1		Pakki Pul Sano Lakki hudai Chimang						3.13
	2	B001	Ghyang Chhairo Samudayik Bhawan	-	1.29	-	-	-	1.29
01			hudai Chairo Chhahara Gumba Samma						
Ward	3	D001	Bailie Bridge ko Bato dekhi Samudayik Bhawan Samma	-	0.19	-	-	-	0.19
	4	D008	Kiuthang Chowk dekhi School Swasthay Chauki hudai Gumba khet Sokoghyun hudai Gheku Samma	-	1.08	-	-	-	1.08
	5	D005	Chhairo Gau Bhitra Sadak	-	0.20	-	-	-	0.20
			Grand Total	-	5.89	•	-	-	5.89
	1	B003	Marpha Dhaulagiri Base Camp Jane Sadak	-	10.45	-	5.74	-	16.18
	2	C001	Marpha Sapi Krishi Farm Jane Sadak	-	2.39	-	-	-	2.39
d 02	3	D014	Ghatta Khola dekhi Chi Khel Maidan Jane Sadak	-	0.64	-	-	-	0.64
War	4	D015	Marpha Homes dekhi Sabha Griha Samma	-	-	-	0.14	-	0.14
	5	D012	Buddha Ghar dekhi Chi Khel Maidan Samma	-	-	-	0.23	-	0.23
		Grand Total		-	13.48	-	6.11	-	19.59
	1	D016	Ghattekhola Sadak	0.08	-	0.43	-	-	0.52
3	2	B004	Homestay Sadak	0.05	-	0.65	-	-	0.70
o p	3	B006	Naya Sadak	-	0.36	-	-	-	0.36
Wai	4	0005	Dhukuche Sadak	-	-	-	-	0.53	0.53
-	5	0004	Dharothang Sadak	-	-	-	•	0.23	0.23
		0004	Grand Total	0.13	0.36	1.08	-	0.76	2.34
	1	C004	Dhapu Marga	-	2.08	-	2.90	-	4.99
	2 CUUS Kungle Marga	-	5.61	-	-	-	5.61		
04	3	D021	Lopenkunje Samma Padmarga)	-	2.22	-	-	-	1.08 0.20 5.89 16.18 2.39 0.64 0.14 0.23 19.59 0.52 0.70 0.36 0.53 0.23 2.34 4.99 3.81 2.22 0.39 0.12 11.52 0.57 2.74
Ward	4	D023	Nilgiri Marga (Adalat dekhi Litikh Samma Krishi Sadak)	-	0.39	-	-	-	0.39
	5	D022	Krishi Bank Paxadi Baikalpik Hospital Jane Bato	-	0.12	-	-	-	0.12
			Grand Total	-	8.62	-	2.90	-	11.52
rd	1	0008	Chini Ghang Chheti Bhagal Sadak	-	-	-	0.57	-	0.57
Wai 05	2	C007	Sallarukh Chinighang Dhunchithang Sadak	-	2.74	-	-	-	2.74

Table 13: List of Prioritized roads

rds	Priority	Road Code	Road Name	Approx. Length (Km)					
Wai				Conc rete	Earthen	Gravel	New Track	Stone	Total
	3	D029	Kuchhap Teranga Gumba Sadak	-	0.67	-	-	-	0.67
	4	D025	Dhumba Tal Pulchowk Dhumba Sadak	-	3.06	-	-	-	3.06
	5	D026	Ghochi Sadak (Krishi)	-	1.06	-	-	-	1.06
	Grand Total		-	7.52	-	0.57	-	8.09	

c. Traffic Condition

Gharapjhong Rural Municipality possesses mixed traffic. There is very high traffic volume in National Highway roads connecting from Baglung to Upper Mustang. However, the traffic on other Municipal roads is fairly low. Considerable trips of public transportation are available in road connecting Baglung, Pokhara and Kathmandu. Bus, Minibus, Small pickup vans and jeeps are used for the public transportation in the roads connecting Gharapjong with other centers on the route as well as reserve basis. The traffic at Jomsom and Marpha area is high, and it acts as the focal point of all the traffic inside the rural municipality. Taxis, Jeeps, Motorbikes, pickup vans, trucks, etc. are mostly seen in Jomsom bazar area. For private mode of transportation, mostly motorcycles are used within the locality. For the goods transportation purposes, trucks, mini trucks, small pickup vans are being used along with public Jeeps, and for the transportation of construction materials such as sand, stone and gravel, tractors and trippers are being used.

2.5 Public Transportation

Public transport is a shared passenger transport service, which is available for use by anyone who pays the set fares. It generally operates on fixed routes and may include modes such as three-wheelers, mini/micro buses, buses, trolley buses, trams, trains and ferries. Besides reducing congestion and air pollution by providing transportation services to a large number of people, highcapacity public transport systems may also influence the urban form and quality of life in cities. While in areas, public transportation mainly deals with providing accessibility, transport of construction materials and goods and linkage with nearest urban area. A good public transport system provides efficient and affordable mobility, and access to work, school/colleges, social, recreation and economic activities.

a. Passenger Movement

Public transportation is inevitable need in today's world. Development of a region cannot be effective and efficient without proper public transportation system. Local public transportation generally deals with cost effectiveness, time saving and comfort of travel. However, public transportation services more broadly support well-being for residents by also providing transportation to employment, schools, places of worship, and social and recreational destinations. Access to public transportation in areas is limited by travel times and distances, frequency of service, cost, and limitations in funding to address these challenges.

Generally, two types of trips are generated inside Gharapjhong Rural Municipality. First one is trips made from Rural Municipality to nearest cities Beni, Baglung, Pokhara, Narayanghat, and finally to capital city - Kathmandu. Second types of trips are intra Municipal trips destined to Rural Municipality center or ward centers. For first kind of trips, public vehicles (Bus, Taxi, Jeep) are run. There is a buspark under-construction in Gharapjhong. Open spaces are mostly used as the temporary bus stations. For the second kind of trip, Minibus, Small pickup vans and taxis are available either on route basis or on the reserve basis.



Figure 5: Public Transportation inside Municipality

b. Freight Transportation

Freight transport is the physical process of transporting commodities and merchandise goods and cargo. In past, people of areas of Nepal used to be independent in basic life requirements. However, with an increase of technology and accessibility, import and export has increased significantly. People are now dependent on imported goods for day-to-day life operation. Majority of goods being imported in Gharapjhong are daily consumption materials - food, clothes, stationary and so on - and agricultural produces are the major export. Generally, goods for daily used are imported from Pokhara.

At the beginning, transportation of goods used to be carried by people themselves, which was expensive and tedious process. Transportation through such methods was only possible for people with high purchasing power. Later on, people started using animals as a means of goods of transportation. Horses are still used in some areas of this Rural Municipality for transportation of goods. This decreased transportation cost and time of travel and in the meantime, this increased access of general public to imported goods. This significantly increased dependency of people on imported goods. After 90's, road network reached in almost every part of country which significantly increased movement of goods inside country. Nowadays, trucks, minitrucks, pick-up vans are used to transport goods inside the rural municipality. Similarly, tippers and tractors are mainly used to transport construction materials in and out of the rural municipality.



Figure 6: Showing Freight Transportation medium in Gharapjhong Rural Municipality

2.6 Travel Pattern and Characteristics

Within Gharapjhong Rural Municipality, two types of trips are typically produced. First one is trips made from Rural Municipality to nearest cities Beni, Baglung, Pokhara, Narayanghat, and
finally to capital city - Kathmandu. Second type of trip is intra Municipal trips destined to Rural Municipality center or ward centers. For first kind of trips, public vehicles (Bus, Taxi and Jeep) are run. There is a buspark under-construction in Gharapjhong. Open spaces are mostly used as the temporary bus stations. For the second kind of trip, Minibus, Small pickup vans and taxis are available either on route basis or on the reserve basis.

2.7 Accessibility

Since this rural municipality is located at the district headquarter of Mustang district, except few settlements, almost all settlements are connected to the ward offices as well as the Rural Municipality office through the road network. Although few of the roads in closer settlements are functional in all seasons, most roads are not all-weather roads in the Rural Municipality. As compared to others, most of the most roads are not in good condition in Gharapjhong Rural Municipality. The maximum trip of people is generated towards respective ward offices and Rural Municipality office for all official work through which the trip is distributed to the nearby cities.

2.8 Transport Infrastructure Connectivity

The Gharapjhong Rural Municipality is located in the Northwestern part of Gandaki Province. So, the traveling route is fairly long from the Capital city. Gharapjhong Rural Municipality is connected to other parts of the country through road network and air travel too. Gharapjhong is at a distance of 150 kms from Province headquarters Pokhara, and 350 kms from Capital City Kathmandu. The major routes opted by the people to get in and out of Gharapjhong Rural Municipality are: Muktinath – Jomsom – Beni – Pokhara – Kathmandu; Korala – Jomsom – Beni – Pokhara - Narayanghat. Sufficient public transportation modes are operated on these routes. Also, the Jomsom airport in Gharapjhong RM acts as a quick route of transportation to and from Kathmandu or Pokhara. There a usually a flight from and to Pokhara in the morning.

2.9 Vehicle Ownership Status

People of Gharapjhong Rural Municipality own various types of vehicles. About 6.2% of households own car/jeep/vans (4-wheeler), about 23.2% of households own motorcycle/scooter (2-wheeler), and about 3% of households own bicycles(non-motorized 2-wheeler). The very high number of motorcycles as compared to other vehicle types may be because of the affordability and the flexibility of riding characteristics. Since this rural municipality is connected to Beni, Pokhara and Korala border, some people own public transportation like, Bus, jeep and taxi. For freight transport the people own and use vehicles like trucks, tippers, tractors and Pickup jeep. For transportation of construction materials, Tippers and Tractors are widely used in this Rural Municipality.

2.10 Road Network Deficiencies

The major deficiencies of road network are as follows:

- 1. Narrow and earthen roads
- 2. Lack of proper side and cross drainage structures
- 3. Majority of roads fail to provide service during excessive rainfall.
- 4. Slope of roads is too high for smooth operation of vehicle in hill side of this rural municipality.
- 5. Roads do not interlink between each other for proper operation of public vehicles

2.11 Visionary City Development Plan

The vision of Gharapjhong Rural Municipality should be to develop an environment friendly and clean Rural Municipality by fostering its cultural and religious history and importance with modern urban facilities. However, this plan is yet to be prepared. For this, the main visionary city development plan of the Rural Municipality is to develop/preserve the following:

- 1. Agriculture
- 2. Trade
- 3. Tourism
- 4. Industry
- 5. Education
- 6. Health

2.12 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 Municipalities the basis of network planning. Existing/potential areas are defined as:

- > Existing/potential areas for development of large industries.
- > Areas with extensive small cottage industries.
- Potential areas for tourism development.
- > Area with important historic and religious places.
- Areas with extensive horticulture.
- Areas with extensive high value cash crops
- Area with service centers such as hospital, post office, telecommunication, school, campus, security offices, Bus Park, sport and recreational centers etc.
- ➢ Area with large settlements.
- Areas with Refining Construction Materials
- Areas with extensive livestock farming.

Chapter 3: Hierarchy of Road Network

3.1 Road Hierarchy

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. 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. These objectives and design criteria are aimed at achieving an efficient road system whereby conflicts between the roadway and the adjacent land use are minimized and the appropriate level of interaction between the roadway and land use is permitted. The road hierarchy can, then, form the basis of ongoing planning and system management aimed at reducing the mixing of incompatible functions.

3.2 Objectives of Road Hierarchy

The key objective of a road hierarchy is to ensure the orderly grouping of roadways in a framework around which state and local governments can plan and implement various construction, maintenance, and management schemes and projects. It should also assist local and state governments with the adoption of appropriate standards for roadway construction.

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;
- preserving areas where through traffic is discouraged;
- Ensuring activities most closely related to frontage development, including social interaction and parking, can be given more space within precincts where environmental and access functions should predominate.
- orderly planning of heavy vehicle and dangerous goods routes;
- planning and provision of public transport routes;
- planning and provision of pedestrian and bicycle routes;

- identifying the effects of development decisions in and on surrounding areas and roadways within the hierarchy;
- development design that facilitates urban design principles such as accessibility, connectivity, efficiency, amenity and safety;
- assigning control over access onto traffic carrying roads to ensure safe and efficient operation for traffic;
- Identifying treatments such as barriers, buffers and landscaping to preserve amenity for adjacent land uses. Thus, in order for road hierarchy to be effective, it needs to be much more than just a map of colored lines. This paper presents road hierarchy principles that can be applied to produce a powerful planning tool.

3.3 Strategic and Province Road Network

There is one National Highway (SRN) of approx. length **15.81 Km** passing through the Gharapjhong Rural Municipality.

S.N	Code No.	Road Name	Approx. Length (Km)	Surface Type	Road Type	Remarks
1	NH48	Kaligandaki Corridor 15.81		Gravelled	National Highway	Upgradation Ongoing
Grand Total			15.81			

Table 14: Strategic Road Network inside Gharapjhong Rural Municipality

One Province Road Networks (PRN) of total length of about **11.95 Km** passes through this Rural Municipality.

Table 15: Province Road Network inside Gharapjhong Rural Municipality

C N	Code	DIN		Approx. Length (Km)		
S.N	No.	Koad Name Kow (m)		Gravelled	Total	
1	PRN	Ringroad	15 (also varies at different special sections)	11.95	11.95	
Grand Total				11.95	11.95	

3.4 Classification of Rural Municipal Road Network

A productive transportation system accompanies an order. The hierarchy of road is dependent upon the function that the street is required to perform, and the kind of movement and the way users present. The outline speeds, way widths and other geometric characteristics are adapted to suit the way work. Based on these guidelines, the road networks inside Rural Municipality are classified in four classes:



Figure 7: Road Network Hierarchy

a. Arterial Roads

They are the primary roads & are on top in hierarchy of roads for guaranteeing versatility capacity. They convey the biggest volumes of movement and longest trips in Municipality. These are characterized by through movement with confined access from carriageway to the side. In such cases, unique provisions ought to be acquainted with decrease clash with the through movement. These roads have the most extreme right of way and traffic volume around the four classes.

b. Sub-Arterial Roads

This class of road takes after all the capacities of an arterial road and is portrayed by portability, and indulges through movement with confined access from carriageway to the

side. It conveys same movement volumes as the arterial roads. Because of its overlapping nature, Sub-arterial roads can function as arterials. This is setting particular and is dependent upon the capacity and the area use advancement it passes through.

c. Distributor/Collector Roads

As the name recommends, these are connector ways which circulate the activity from access lanes to arterial and sub arterial roads. They are portrayed by portability and access just as. They are portrayed by low-speed limit and have a comparatively small ROW. It conveys moderate movement volumes contrasted with the arterial roads. Because of its covering nature, merchant streets can go about as a sub arterial road and as access lanes, contingent on the capacity and the area utilization of the surroundings.

d. Local Roads

These are utilized for access capacities to bordering lands and regions. A greater part of excursions in the area normally begins or end on these streets. They cater to low velocity and have a nominal ROW of 6m. They convey generally lower volumes of movement at low speeds. They are described by access prevalently; they could be utilized for gatherer capacities.

S.N.	Road Class	Min. RoW (m)	Setback (m)	Possible Pavement width (m)
1	PRN	15 (varies at different sections)	3.0	-
2	В	10	1.5	8
3	С	8	1.5	5.5
4	D	6	1.5	3.75
5	Others	4	1.5	-
6	Padmarg	2 (varies at different sections)	-	-

Table 16: Arrangement of Road width

In total, there are roads of length **115.17 Km** within the Rural Municipality excluding Strategic Road Network (SRN), Province Road Network (PRN) and Foot-trails, either <u>in planned or existing</u> <u>condition</u>. However, with SRN, PRN and foot trails surveyed, the total length of roads, streets and tails was found to be approx. **182.61 Km**. 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 RMTMP.

3.5 Rural Municipality Level Sub-Arterial Roads (Class B)

The municipality level sub-arterial roads function as alternatives for arterial roads. They link arterial roads with collector and distributor roads. 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 neighboring wards which provide access between higher class and class C road falls on the category of class B. The proposed right of way (ROW) of this class road is 10 m.



Figure 8: Typical sample section for Road class C (ROW = 10m)

Code	Pood Nomo	RoW	1	Approx. I	Length (K	Km)	-
No.	Road Name	(m)	Conc rete	Earthen	Gravel	New Track	Total
B001	Bailie Bridge Pakki pul hudai Tali Ghyang Chhairo Samudayik Bhawan hudai Chairo Chhahara Gumba Samma	10	-	1.29	-	-	1.29
B002	Chhairo Bailie Bridge Chapra dekhi Pakki Pul Sano Lakki hudai Chimang Kiuthang Chowk Samma		-	3.13	-	-	3.13
B003	Marpha Dhaulagiri Base Camp Jane Sadak	10	-	10.45	-	5.74	16.18
B004	Homestay Sadak	10	0.05		0.65		0.70
B005	Lamthang Sadak		-	1.04	-	-	1.04
B006	Naya Sadak	10	-	0.36	-	-	0.36
B007	Pancho Sadak	10	-	0.51	-	-	0.51
	Grand Total		0.05	16.78	0.65	5.74	23.21

 Table 17: List of Rural Municipality Level Sub-Arterial Roads (Class B)

Consultant: Alpha Design and Development Pvt. Ltd.

3.6 Rural Municipality Level Collector Roads (Class C)

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 neighboring wards which provide access between Class B and Class D roads falls on the category of class C. The right of way of this class road is 8m.

Code	D 1N	RoW	Approx. I	Tetal	
No.	Koad Name	(m)	Earthen	New Track	Total
C001	Marpha Sapi Krishi Farm Jane Sadak	8	2.39	-	2.39
C002	Kichithan Sadak	8	1.69	-	1.69
C003	Pulchowk Sadak	8	1.92	-	1.92
C004	Dhapu Marga	8	2.08	2.90	4.99
C005	Kungle Marga	8	3.81	-	3.81
C006	Dhumba Phyangthang Seto Khola Ghaitong Sadak	8	1.52	1.40	2.93
C007	Sallarukh Chinighang Dhunchithang Sadak	8	2.74		2.74
C008	Thini Kaisang Sadak	8	9.59	-	9.59
C009	Thini Khol Lhokothang Sadak	8	1.62	-	1.62
C010	Thini Namu Sadak	8	13.96	-	13.96
C011	Dharmashala Sadak	8	0.50	-	0.50
	Grand Total		41.81	4.30	46.12

Table 18: List of Municipality Level Collector roads (Class C)

3.7 Rural Municipal Level Sub-Collector Roads (Class D)

Roads which provide connection to higher order roads with all agricultural roads which connect a residential area or farm with a mini-market centre or an agro-based production centre and means for mobility of local trips are understood as road class D. The proposed right of way for class D roads is 6 m.

Road	D. IN	RoW	Aj	oprox. Le	ngth (Ki	m)	T-4-1
Code	Koad Name	(m)	Concrete	Earthen	Gravel	New Track	Total
D001	Bailie Bridge ko Bato dekhi Samudayik	6	-	0.19	-	-	0.19
	Bhawan Samma Bailie Bridge dekhi Kaligandaki Kinar						
D002	hudai Mhutanche Chihanghat Ringroad	6	-	-	-	1.24	1.24
	jodne Sadak						
D003	Samma	6	-	0.07	-	-	0.07
D004	Chhairo Chho dekhi Gau Paxadi hudai	6	-	0.20	-	-	0.20
	Samudayik Bhawan Samma						
D005	Chhairo Gau Bhitra Sadak	6	-	0.20	-	-	0.20
DODE	Chhairo School Gate dekhi Mul Sichai	6				1 02	1 02
0000	Chhairo Chhahara Gumba Samma	0	-	-	-	1.05	1.03
D007	Ghatte Dada Balprasad ko Khet hudai	6	-	0.28	-	-	0.28
	Thulo Lakki Samma			0.20			
D008	Chauki hudai Gumba khet Sokoghyun	6	-	1.08	-	-	1.08
	hudai Gheku Samma						
D009	Samudayik Bhawan dekhi Sinchai Kulo	6	-	-	-	0.40	0.40
	Tali Ghvang Bato dekhi Wada niskine						
D010	Bato	6	-	0.03	-	-	0.03
D011	Aalubari dekhi Sapi Krishi Farm Samma	6	-	-	-	6.12	6.12
	Buddha Ghar dekhi Chi Khel Maidan						
D012	Samma	6	-	-	-	0.23	0.23
D013	Dhanprakash ko Khet dekhi Tindhara	6	-	-	-	0.23	0.23
	Ghatta Khola dekhi Chi Khel Maidan Jane						
D014	Sadak	6	-	0.64	-	-	0.64
D015	Marpha Homes dekhi Sabha Griha	6	-	-	-	0.14	0.14
D016	Sdillind Chattakhola Sadak	6	0.09		0.42		0.52
D010		0	0.08	-	0.45	-	0.52
D017	Pancho Sadak	6	-	-	-	8.87	8.87
D018	Puthang Highway dekhi Uttar Bhitri Sadak	6	-	0.06	-	-	0.06
D019	Puthang Sadak	6	_	0.40	-	_	0.40
D010				0.40		0.45	0.45
0020		0	-	-	-	0.45	0.45
D021	Lopenkunje Samma Padmarga)	6	-	2.22	-	-	2.22
0022	Krishi Bank Paxadi Baikalpik Hospital Jane	6	_	0.12	_	_	0.12
0022	Bato	0		0.12			0.12

Table 19: List of Local Level roads (Class D)

Road	Road Name	RoW	Aj	m)	Tatal		
Code	Koad Name	(m)	Concrete	Earthen	Gravel	New Track	Total
D023	Nilgiri Marga (Adalat dekhi Litikh Samma Krishi Sadak)	6	-	0.39	-	-	0.39
D024	Dhumba Dhojyang Sadak		-	1.26	-	-	1.26
D025	Dhumba Tal Pulchowk Dhumba Sadak		-	3.06	-	-	3.06
D026	Ghochi Sadak (Krishi)		-	1.06	-	-	1.06
D027	Ghongthang Bhatang Sadak	6	-	1.15	-	-	1.15
D028	Hyarujho View Tower Sadak	6	-	1.11	-	-	1.11
D029	Kuchhap Teranga Gumba Sadak	6	-	0.67	-	-	0.67
D030	Pamithang Chhamachho Sadak	6	-	-	-	3.01	3.01
D031	Phyangthang Chemchyo Murghyung Sadak	6	-	5.03	-	-	5.03
Grand Total			0.08	19.23	0.43	21.72	41.47

3.8 Other Roads

All the roads of ROW 4m are not considered into rural municipal level classification and categorized as *Other Roads*. These roads shall be excluded from the budget planning of RMTMP/RMTPP.

Rode		RoW						
Code	Road Name	(m)	Concrete	Earthen	Gravelled	New Track	Stone	Total
0001	Kiuthang Chowk dekhi Chimag Gau bhitra ko Bato	4	-	0.17	-	-	-	0.17
0002	2Kiuthang dekhi Sebithan Jane Bato4-0.08		0.08	-	-	-	0.08	
O003	Kyun Jhayng Jhyang bata Marpha Helipad jane Sadak	4	-	-	-	0.11	-	0.11
0004	Dharothang Sadak	4	-	-	-	-	0.23	0.23
0005	Dhukuche Sadak	4	-	-	-	-	0.53	0.53
0006	Jomsom APF Sadak	4	-	-	1.12	-	-	1.12
0007	Prashasan Marga	4	0.35	0.52	-	-	-	0.87
0008	Chini Ghang Chheti Bhagal Sadak	4	-	-	-	0.57	-	0.57
0009	Kunughyung Sadak	4	-	-	0.11	-	-	0.11
0010	Malmi Ghang dekhi Chhangjho Ghang samma Sadak	4	-	-	-	0.58	-	0.58
Grand Total			0.35	0.77	1.23	1.26	0.76	4.37

Table 20: Streets falling in Other Roads Category

3.9 Foot Trails

Since, the region is mountainous and the whole Mustang District is popular for its tourist destinations, there are foot trails present in this Rural Municipality.

		RoW/	A	Grand				
Code	Road Name	(m)	Conc rete	Earthen	New Track	Stairs	Stone	Total
P001	Samagri dekhi Chhairo Gau Samma Padmarga	2.0	-	-	-	-	0.33	0.33
P002	Dalit Basti Marpha Sign Board Jane Padmarga	1.5	-	-	-	0.09	-	0.09
P003	Dhaulagiri Hotel dekhi Pra Gumba Jane Padmarga	1.5	-	-	-	-	0.19	0.19
P004	Highway dekhi Ward 2 Karyalaya Jane Padmarga		-	0.26	-	-	-	0.26
P005	Highway Marpha Homes dekhi Sabha Griha hudai Khang Samma Padmarga		-	-	-	-	0.27	0.27
P006	Highway Surendra ko Khet dekhi Khang Samma Padmarga		-	0.21	-	-	-	0.21
P007	Jerry Galli Briksharopan Jane Bato		-	0.16	-	-	0.11	0.26
P008	Jerry Galli dekhi Dalit Basti Jane Padmarga		-	-	-	-	0.10	0.10
P009	Kosheli Chowk dekhi Khola Samma Goreto	2.0	-	0.10	-	-	-	0.10
P010	Kot Ghar dekhi Dalit Basti Jane Padmarga		-	-	-	-	0.07	0.07
P011	Marpha dekhi Dhaulagiri Base Camp Jane Padmarga	2.0	-	3.99	-	-	-	3.99
P012	Marpha Health Post Padmarga	3.0	0.06	0.11	-	-	-	0.17
P013	Marpha Mhaneghang dekhi Dhaulagiri Base Camp Jane Padmarga	4.0	-	-	-	0.11	-	0.11
P014	Marpha Sechi Goreto Bato	2.0	-	3.74	-	-	-	3.74
P015	Rajmarga dekhi Thaleban Jane Padmarga	2.0	-	2.63	-	-	-	2.63
P016	Tindhara dekhi Apple Park Samma Padmarga	1.5	-	-	-	0.33	-	0.33
P017	Aani Gumba Bato	3.0	-	-	-	-	0.07	0.07
P018	Buddha Samudayik Bhawan dekhi Dharothan Sadak Samma	2.0	-	-	-	-	0.28	0.28
P019	Club Marga	1.5	-	-	-	0.08	-	0.08
P020	Eklebhatti Bato	2.0	-	0.23	-	-	-	0.23

Table 21: Foot Trails in Gharapjhong Rural Municipality

Consultant: Alpha Design and Development Pvt. Ltd.

		RoW/	Approx Length/Surface type					Grand
Code	Road Name	(m)	Conc rete	Earthen	New Track	Stairs	Stone	Total
P021	Ghyokhang Bato	1.5	-	-	-	-	0.13	0.13
P022	Ghyokhang Bich ko Bato	1.5	-	-	-	-	0.04	0.04
P023	Ghyokhang Tallo Bato	2.0	-	-	-	-	0.08	0.08
P024	Lamathang Kichithang Padmarga		-	-	1.38	-	-	1.38
P025	Park dekhi Ghatte Khola Sadak Samma Padmarga	2.0	-	0.08	-	-	-	0.08
P026	Park dekhi Syang Aarogya Kendra Samma Padmarga		-	-	-	-	0.12	0.12
P027	Somle Bato	Somle Bato 2.0 - -		-	-	0.07	0.07	
P028	3 Tangcho Padmarga 2		-	5.33	-	-	-	5.33
P029	Tashi Lhakhang Bato		-	-	-	-	0.09	0.09
P030	Yrken Chhyoling Gumba dekhi Park Samma Padmarga		-	-	-	-	0.19	0.19
P031	Badri Marga dekhi Lithik Sadak Samma Bato	3.0	-	0.13	-	-	-	0.13
P032	Dhagarjung Padmarga	2.0	-	5.44	-	-	-	5.44
P033	Highway dekhi Samaj Ghar Jane Bato	3.0	-	0.14	-	-	-	0.14
P034	Hyarujho View Tower Sidi Padmarga	2.0	-	-	-	0.36	-	0.36
P035	Kathepul dekhi Dakshin Sidi Padmarga	2.0	-	0.09	-	-	0.06	0.14
P036	Purano Gumba Marga	2.0	-	0.32	-	-	-	0.32
P037	Sidi dekhi Lungtapar Dhorje Xodne Sthal Padmarga	2.0	-	-	0.33	-	-	0.33
P038	Sohan Marga	2.0	-	0.16	-	-	-	0.16
P039	Devlal ko Ghar dekhi Mhane hudai mathi Homestay Gate Samma Bato	2.0	-	0.13	-	-	0.16	0.29
P040	Durbar Chowk dekhi Devlal ko Ghar Samma Bato	2.0	-	-	-	-	0.07	0.07
P041	Durbar Chowk dekhi Homestay Gate Samma Bato	2.0	-	0.14	-	-	-	0.14
P042	Jomsom Health Post Chowk dekhi Snow Leopard Cave ko Bato Samma Padmarga	2.0	-	0.09	-	-	-	0.09
P043	Khampachhetang dekhi Jhalunge Pul hudai Gharapjhong Killa Jane Bato	2.0	-	0.27	-	-	0.44	0.72
P044	Lhakim Karpo Gumba dekhi Deepak ko Ghar Samma Bato	2.0	-	-	-	-	0.07	0.07

		RoW	A	oprox Ler	ngth/Surf	ace typ	е	Grand
Code	Road Name	(m)	Conc rete	Earthen	New Track	Stairs	Stone	Total
P045	Mhane dekhi Chinighang Samma Bato	2.0	-	0.10	-	-	-	0.10
P046	Mhane dekhi Sichai Kulo hudai Lhokung Ke Samma Bato	2.0	-	0.26	-	-	-	0.26
P047	Nakhicham Mhane dekhi Ghatta hudai Snow Leopard Gate Samma Bato	2.0	-	0.22	-	-	-	0.22
P048	Samle Bato (Ka)	2.0	-	0.20	-	-	-	0.20
P049	Samle Bato (Kha)		-	0.09	-	-	-	0.09
P050	Samle Bato (Ga)		-	0.56	-	-	-	0.56
P051	San Prasad ko Bari dekhi Devlal ko Ghar Samma bato		-	-	-	-	0.05	0.05
P052	Shree Mukti Namuna Aabi Ring Road Samma Bato		-	0.08	-	-	-	0.08
P053	Snow Leopard Cave Jane Padmarga		-	0.14	-	-	-	0.14
P054	4 Syau Gram Jane Bato		-	0.25	-	-	-	0.25
P055	Thakali Homestay dekhi Mathi Bato		-	0.16	-	-	-	0.16
P056	Topthang dekhi Chinighang Samma Bato	2.0	-	-	-	-	0.21	0.21
P057	Topthang dekhi Gumba hudai Ring Road Samma Bato (Ka)	2.0	-	0.03	-	-	0.13	0.16
P058	Topthang dekhi Gumba hudai Ring Road Samma Bato (Kha)	2.0	-	0.05	-	-	-	0.05
P059	Topthang dekhi Nakyucham Samma Bato	1.5	-	-	-	-	0.17	0.17
P060	Tshiring Prasad ko Ghar dekhi Mhane Samma Bato	2.0	-	0.06	-	-	-	0.06
P061	Ward Karyalaya Chowk dekhi Topthang hudai Sallarukh Sadak Samma Bato	2.0	-	-	-	-	0.46	0.46
P062	Kyuthang dekhi Ghursang Gufa hudai Leka Padmarga (Yak Kharka Padmarga)	2.0	-	2.10	-	-	-	2.10
P063	Jhongana Ghang Padmarga	2.0	-	0.06	-	-	-	0.06
P064	Jomsom hudai Tower Padmarga	2.0	-	4.89	-	-	-	4.89
	Grand Total		0.06	32.99	1.71	0.97	3.97	39.69

3.10 New Tracks

Thirteen new tracks have been proposed in this RMTMP. The estimated total length of proposed new tracks is **33.02 KM**, as listed below.

S.N	Road Code	Road Name	Total Length (Km)				
1	B003	Marpha Dhaulagiri Base Camp Jane Sadak	5.74				
2	C004	Dhapu Marga	2.90				
3	C006	Dhumba Phyangthang Seto Khola Ghaitong Sadak	1.40				
4	D002	Bailie Bridge dekhi Kaligandaki Kinar hudai Mhutanche Chihanghat Ringroad jodne Sadak	1.24				
5	D006	Chhairo School Gate dekhi Mul Sichai Kulo hudai Chha Ghyema Charana hudai Chhairo Chhahara Gumba Samma	1.03				
6	D009	Samudayik Bhawan dekhi Sinchai Kulo hudai Hilme Ghatta Dada Samma	0.40				
7	D011	Aalubari dekhi Sapi Krishi Farm Samma Sadak	6.12				
8	D012	Buddha Ghar dekhi Chi Khel Maidan Samma	0.23				
9	D013	Dhanprakash ko Khet dekhi Tindhara Samma Sadak	0.23				
10	D015	Marpha Homes dekhi Sabha Griha Samma	0.14				
11	D017	Pancho Sadak	8.87				
12	D020	Sokupla Sadak	0.45				
13	D030	Pamithang Chhamachho Sadak	3.01				
14	O003	Kyun Jhayng Jhyang bata Marpha Helipad jane Sadak	0.11				
15	O008	Chini Ghang Chheti Bhagal Sadak	0.57				
16	0010	Malmi Ghang dekhi Chhangjho Ghang samma Sadak	0.58				
Grand Total							

Table 22: List of Proposed New Tracks

3.11 Summary of Rural Municipal Road Networks

Road inventory survey was conducted throughout this 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. Refer annex of this report for map in detail.

Class	Ro\//	Road Surface/Approx. Length (Km)						
	(m)	Concrete	Earthen	Gravelled	New Track	Stone Paved	Stairs	Grand Total
В	10	0.05	16.78	0.65	5.74	-	-	23.21
С	8	-	41.81	-	4.30	-	-	46.12
D	6	0.08	19.23	0.43	21.72	-	-	41.47
Others	4	0.35	0.77	1.23	1.26	0.76	-	4.37
Padmarga	2	0.06	32.99	-	1.71	3.97	0.97	39.69
GrandTotal		0.54	111.58	2.31	34.73	4.73	0.97	154.86

Table 23: Length of Roads based on surface condition

At the junctions of major roads, there is always high risk of traffic collision due to blind spot formation and inadequate sight distances. Also, some intersections require special treatment to develop in a proper and standard way. In light of such possibilities, **this RMTMP proposes to increase the ROW of the roads at the junction by 20 percent upto the distance 10m from the new row line of other meeting road.**



Figure 9: Modified ROW Line

Chapter 4: Municipality Transport Perspective Plan

4.1 Vision

To develop effective, reliable and safe transportation system inside Rural Municipality

4.2 Mission

By utilizing internal and external resources, the Municipality will develop effective transportation infrastructures inside Rural Municipality. The Rural Municipality aims to increase economic standard of public by providing access, minimizing travel time and increasing economic activities inside Rural Municipality

4.3 **Objectives:**

- a. To strengthen major road that connects Rural Municipality with other parts of Nepal
- b. To strengthen roads that connects ward centers with Rural Municipal centre
- c. To develop effective public transportation system inside Rural Municipality
- d. To co-ordinate with provincial government and central government to upgrade strategic roads.

4.4 Threats and Opportunities

a. Threats and Challenges:

Although Municipality is mainly focused in developing transportation infrastructures, there are some major threats in achieving goal of Rural Municipality. They are as follows:

- Limited Financial resources: The construction cost of road infrastructures is too high, whereas, the Rural Municipality has limited resources. There is a probability that the Municipality will not be able to generate financial resources for development of transportation infrastructures as expected.
- 2. Geography: This Rural Municipality possess difficult geographic features. There are high hills, steep slopes, and unstable lands. Constructing roads in such difficult terrain is a challenge to this Rural Municipality.

- 3. Large number of cross drainage structures: This Rural Municipality possess large number of rivulets and streams which need high amount of cross drainage structures. The increase in number of cross drainage structures will significantly increase the construction cost of road.
- 4. Natural Disaster: Certain parts of this Rural Municipality are prone to landslide and debris flow and flood. Such natural disasters might destroy road infrastructures.

b. Opportunities

In addition to above mentioned threats and challenges, there are some opportunities in development of transportation infrastructure for this Rural Municipality.

- 1. Self-Decision power: The constitution of Nepal has granted self decision-making power to local governments which allows them to deploy funds to whenever and wherever required.
- Involvement of local people: Since people are interested in development works happening in their locality, Rural Municipality can involve them in development works. That might be through sharing of funding or sharing of labor.
- This Rural Municipality is supported by one National Highway that connects Terai Region to China Border and one Province road network passes through this Rural Municipality which plays a major role in mobility and economics of this Rural Municipality.
- 4. Availability of Construction Materials: For the construction of road infrastructures, some construction materials are usually locally available in this Rural Municipality in abundance quantity. This decreases the cost of construction.

4.5 Expected Output

The aim of this Municipal Transport Master Plan is to make Municipality prosperous according to vision set by Municipality. While implementing this MTMP, following outputs are expected in long and short run:

			Expected Output			
S. No	Particulars	Unit	Base Year 2080/81	Short Term (5 Years)	Long Term (20 Years)	
1	Total Length of Road	Km	82.15	100.00	115.17	
2	Length of Bituminous/Concrete Road	Km	0.49	25.00	115.17	
3	Length of Gravelled Road	Km	2.31	30.00	-	
4	Length of Unpaved Road	Km	79.35	45.00	-	
5	Length of Track Widened	Km	-	30.00	115.17	
6	Road Density	Km/ Sq. Km	0.26	0.31	0.36	
7	Road Density	Km/1000 Population	22.13	26.94	31.03	
8	Periodic Maintenance	Km	2.80	55.00	115.17	
9	Routine Maintenance	Km	82.15	100.00	115.17	
10	Buspark	Nos.	-	1	1	
11	Bus Stands	Nos.	-	3	5	
12	Helipad	Nos.	-	3	5	

Table 24: Expected Output

4.6 Data Sources

a. Rural Municipality (Office of the Rural Municipal Executive)

The following data were provided by Rural Municipality

- 1. Budget of Rural Municipality for Fiscal Year 2080/81
- 2. Policies and Programs of Rural Municipality
- 3. Central government and Province government plans overarching in Rural Municipality
- 4. Existing Road conditions of Rural Municipality
- 5. Contact details of ward level authorities
- 6. Information about wards, settlements, routes to reach ward centres.

b. Ward-level Office

The following data were provided by Wards of Rural Municipality

- 1. Number of roads inside ward
- 2. Priority of Road inside ward
- 3. Tole committees of ward
- 4. Traffic conditions inside ward,
- 5. Social organizations/institutions inside ward

c. People of Municipality

Following data was obtained from people of Rural Municipality:

- 1. Name of each road
- 2. Population and settlement served by each road
- 3. Existing width and surface condition of each road
- 4. Problems faced in transportation sector
- 5. New tracks that are required to be opened
- 6. Projects and plans they are expecting from this RMTMP

4.7 Community Engagement and Consultation

Community engagement was a priority during development of the Rural Municipal Transport Master Plan. Public consultation is also a key component of the Rural Municipal Road classification process. For a project to be successful, it must ensure that the appropriate review agencies, Municipal bodies, the public and interested stakeholders are given the opportunity to provide their input in a meaningful way at key points in the study process, ensuring that community issues, needs and priorities are addressed and considered. Both focused and broad consultation activities were used to ensure effective communication throughout the RMTMP development process.

a. Rural Municipal Workshop

Different workshop at Rural Municipality was conducted to seek valuable support and organizational expertise regarding compliance issues and other concerns from the respective jurisdictions. Municipal level workshop with the elected members of Rural Municipality, staffs and other stakeholders occurred at appropriate times throughout the project to ensure no

complications arose at the time of approval. Three Municipal level workshops is to be conducted throughout this project.

1. Orientation Workshop

Orientation workshop was held on 14th of Jestha, 2081 in the morning from 11:00 am to 2:00 pm. This workshop was conducted to provide information about RMTMP and Integrated Development Master Plan, its procedure, significance and set up long-term and short-term goal. Approximately 25 people attended orientation workshop and provided their valuable suggestions and support to this RMTMP.



Figure 10: Orentation Workshop of RMTMP at Rural Municipal Office

b. Ward Level Workshops

Ward level workshops were conducted to collect existing transportation infrastructure data, view of general public regarding RMTMP and expectations of public from Rural Municipality. This workshop was conducted in all wards in presence of ward chairman, ward members, related stakeholders and representatives of consultant. The date and time of ward level workshops are as follows:

Ward	Date	Time	Location
1	2081-02-15	8:30 AM	Ward 1 Office
2	2081-02-15	2:00 PM	Ward 2 Office
3	2081-02-16	8:00 AM	Ward 3 Office
4	2081-02-16	2:00 PM	Ward 4 Office
5	2081-02-17	8:00 AM	Ward 5 Office

People of this municipality were enthusiastically involved in those workshops and put forward their problems and needs regarding transportation. In average, 20-30 people attended ward level workshops. This workshop also decided the Right of Way (RoW) and priority of roads of each ward.







Figure 11: Ward level Workshop at different wards

4.8 Scoring system for screening, grading and prioritization

As the financial resources of 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 these criteria, Municipal and ward roads have been prioritized class wise. The details of prioritization criteria are included in chapter 1 of this report and prioritized roads are shown in Annex with detail of score on each criterion and ranking.

4.9 **Possible inter-Municipality/district linkages**

Two Province Roads pass through this municipality which serves as the major linkage with other districts and municipality. Similarly, All the rural municipality level Sub-Arterial roads (Class B) provides linkage between National highways and collector roads. These sub-arterial roads along with Collector roads (Class C), Sub collector D, and *Other Local Roads* support the inter-Rural Municipality movement and serves as the local roads.

4.10 Possibilities of Public Transportation

Given the function it performs, public transportation is an essential component of every community. In addition to being economically sensible, public transportation, when properly managed, also helps cities, especially those with significant car dependency, deal with various issues. The mere existence of popular modes of transportation like trains, buses, trams, and trolleys does not indicate how useful a particular mode of transportation is. Five sustainability principles—affordability, accessibility, connectedness, holistic transportation, paired with land use planning, and planning that takes environmental effects into account—must be present in the public transportation system. A good public transportation system should also offer frequent service and numerous connections. Also, the efficient use of public transport requires locations to be used for boarding and alighting of the passengers. Proposed bus stops are at location: Jomsom Bazar, Syang, Marpha, Samagri, Thini gau Homestay and Samle.

4.11 Road Crashes and Safety Measures

a. Road Crashes

Road crash stands as a major killer in Nepal. On an average, 1,800 people die in road crashes across the country every year. Many crashes go unreported mainly because the parties involved settle the matter themselves. Crashes with minor injury or damage to vehicles are often settled at the crash site and are not reported to police. Only crashes causing human injury are reported.

Nearly 75 per cent of the crashes are attributed to negligence of drivers. In 2016-17 drivers' negligence caused 7,487 road crashes out of which 1,392 were due to speeding, 288 due to drink driving, 376 due to recklessness of passengers, 213 while overtaking vehicles, 149 because of mechanical failure, 33 overload, 31 stray cattle, 94 poor road condition and 15 bad weather.



Figure 12: Overloaded vehicle

Source: The Kathmandu Post

According to the Ministry of Health, road crash (7 per cent) is the fourth leading cause of death after infectious diseases, child and maternal mortality (42 per cent), cardiovascular diseases (25 per cent) and cancer (11 per cent) in Nepal.

b. Safety Measures

The basic strategy of a Safe System approach is to ensure that in the event of a crash, the impact energies remain below the threshold likely to produce either death or serious injury. This threshold will vary from crash scenario to crash scenario, depending upon the level of protection offered to the road users involved. Five pillars have been identified to reduce the risk of crashes inside Rural Municipality.

i. Road Safety Management

The first and foremost step to reduce the risk of crashes is to formulate and implement road safety measures. Government of Nepal has formulated several rules and regulations regarding traffic operations and safety. The Municipality should implement those rules inside Municipality so as to reduce the loss of life and property. Similarly, the Municipality should train related stakeholders about traffic safety, rules, regulations and acts regarding traffic operations.

ii. Safe Road and Mobility

The road infrastructures and mobility of vehicles should be safe so as to reduce the risk of crashes. The construction of roads should be followed by provision of roadside safety structures. Implementation of this procedure must begin from arterial roads and gradually should cover all roads inside Municipality. Roadside safety can be increased significantly by applying some common and cost-effective safety measures.

i. Bio- Engineering

Though roads serve as lifelines for many communities, they also cause environmental degradation in the forms of erosion, shallow landslides, and river sedimentation. As a solution, "eco-safe roads," or those that incorporate soil bioengineering techniques to minimise negative environmental impacts, can significantly reduce economic losses and environmental degradation, and even enhance local livelihoods.



Figure 13: Bio-Engineering Works

ii. Traffic Signs

Each of Arterial Roads and Major Market/Places need traffic safety signs for both the motorist and the people who are using the same roadways. Bright, eye-catching and complying to the standard codes, signs are a must. They should also be very clear and easy for everyone to understand. These traffic safety signs have the potential to save lives and reduce accidents.



Figure 14: Traffic Signs

iii. Road Markings

Installing road markings in visible and understandable condition is vital for road safety. They help road users to navigate the road systems, making us aware of upcoming hazards and of key bits of information to help us drive appropriately for the situation. The reliance on these features cannot be exaggerated, and without their clarity, it can cause confusion on the roads. Road markings are especially important at nighttime when, in the dark conditions, we rely on their presence even more so.



Figure 15: Road Markings on Narayanghat-Muglin Road

Source: Nagariknews

iv. Traffic Calming

Physical obstructions meant to slow down and possibly divert vehicles in residential areas are called traffic calming devices. More generally, it can be referred as changing a road in an attempt to lower vehicle speeds, reduce traffic volumes, divert cut-through traffic, or some combination therein.

Some Traffic Calming Measures

1	Angled Slow Points	12	Raised Crosswalks
2	Center Islands	13	Raised Intersections
3	Chicanes	14	Realigned Intersections
4	Chokers	15	Reduced Intersection Turning Radius
5	Diverters/Diagonal Barriers	16	Roundabouts
6	Full Closures	17	Speed Humps
7	Half Closures	18	Speed Tables
8	Intersection Neckdowns	19	Striped Bicycle Lanes to Narrow the Drive Lanes
9	Mid-Block Bulb-Outs	20	Textured Pavement
10	Median Barriers	21	Traffic Circles
11	Neckdowns		



Figure 16: Traffic Calming Using: Speed Bump (left), Obstacles (Right)

v. Bus Bays

A branch from or widening of a road that permits buses to stop, without obstructing traffic, while laying over or while passengers board and alight; also known as a blister, duckout, turnout, pullout, pull-off or lay-by.



Figure 17: Bus Bay

Photo: NTA, Ireland

iii. Safe Vehicles

Another important factor to reduce traffic crashes is to make vehicles safe and sound. The vehicles operating inside Municipality should be as per standard set by Government of Nepal. Similarly, Municipality should start route provision procedure to operate public vehicles inside and to/from Municipality. Similarly, Municipality should provide basic incentives to promote in-vehicles safety features, provide basic vehicle repair and maintenance trainings. Likewise, Municipality should investigate crashes occurred and implement the recommendation of investigation.



Figure 18: Pollution Caused by Old vehicles

Consultant: Alpha Design and Development Pvt. Ltd.

iv. Safe Road Users

To reduce road crashes, road users must be safe themselves. Municipality should strictly implement the provision of using seatbelts, and helmets while driving. Similarly, the Municipality should conduct awareness campaign to provide knowledge about proper use of road infrastructures. Similarly, driving license must be made compulsory for driving. Likewise, there must be provision of driving training centres and capacity enhancement.

v. Post-Crash Response

Although we can minimize traffic crashes, we can not totally abolish road crashes. For this reason, we should prepare for quick post-crash response to reduce the effect of crashes. For quick rescue in case of a crash, the Municipality should have provision of:

- Toll-Free number for emergencies
- Ambulance facility
- Primary treatment facility within 30 minutes
- Necessary fund to aid victims of accidents
- Alternative routes for mobility

Chapter 5: Capital Programming

5.1 Timing and Priorities

To help guide the Rural Municipality in implementing the infrastructure plans recommended in the RMTMP, a suggested timing for projects has been developed based on a technical assessment that considered a number of key elements, such as, capacity needs, connectivity and compatibility with other Rural Municipal objectives and plans. The table below presents a summary of the recommended mid to long term roadway improvements and the estimated timetable for their implementation. The plan focuses on improvements of major Rural Municipal roads, accessibility to services and connectivity to other parts of country.

Urban Development Strategy aims to pave 50% of the Municipal roads by the end of 2030 AD for New Municipalities and this MTMP has planned to pave <u>all roads</u> within the perspective period of 20 years i.e., by the year of 2044 AD in its <u>full width</u>.

The timing for the improvements shown in table in below has been based on the results of the transportation analysis and a staging of the works to balance the financial impact over time.

S. No.	Plan	Year	Term	Improvement Type
1	Upgrading Road Connecting Rural Municipal Office	2024-2026	Immediate	Gravelling
2	Upgrading Road Connecting ward Office	2024-2026	Immediate	Gravelling
3	Upgrading Road Connecting Rural Municipal Office	2026-2029	Short Term	Blacktopping
4	Upgrading Road Connecting ward Office	2026-2029	Short Term	Blacktopping
5	Construction of at least two helipads	2026-2029	Short Term	New Construction
6	Upgrading tracks connecting all settlements	2026-2034	Mid-Term	Gravelling
7	Upgrading tracks connecting all settlements	2026-2034	Mid-Term	Blacktopping
8	Upgrading class, A and B roads to full extent	2034-2044	Long- Term	Widening/ Blacktopping
9	Construction of helipad in all ward centres	2034-2044	Long- Term	New Construction
10	Construction of Bus Park with terminal	2034-2044	Long- Term	New Construction

Table 26: Timing and Priorities of Programs

5.2 Financial Analysis

The Rural Municipality should continue to monitor available provincial and federal funding programs to establish if any of the recommended improvements identified in this RMTMP will be eligible. Ultimately, the most reliable and consistent sources of funding for transportation system improvements will be the annual development budget of Rural Municipality.

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:

- full length of road requires one sided longitudinal drainage structures
- Financial capacity of Rural Municipality increases by 10% each year

In total, there are roads of length **115.17 Km** within the Rural Municipality excluding Strategic Road Network (SRN), Province Road Network (PRN) and Foot-trails, either <u>in planned or existing</u> <u>condition</u>. However, with SRN, PRN and foot trails surveyed the total length of roads, streets and trails was found to be approx. **182.61 Km.** 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 RMTMP.

S.N.	Road Class	Min. RoW (m)	Setback (m)	Pavement width (m)
1	PRN	15	3	-
2	В	10	1.5	7
3	С	8	1.5	5.5
4	D	6	1.5	3.75
5	Others	4	1.5	3.5
6	Padmarga	2	0	-

Table 27: Arrangement of Road Width

The table below presents a summary of the estimated costs to construct the recommended mid to long term transportation improvements. Construction costs for the road improvement have been estimated using unit costs provided by Department of Urban Development and Building Construction (DUDBC).

S. No.	Project	Required Capital
1	Upgrading all roads inside rural municipality with necessary infrastructures	4,193,756,152
2	Cross Drainage Structures	57,048,000
3	Maintenance of all roads	1,821,773,000
4	Construction of Bus Park with bus terminal	20,000,000
5	Construction of Bus Stands (1 in each ward)	15,000,000
6	Construction of Helipad for emergency (1 in each ward)	15,000,000
7	Installation of traffic signals at 3 locations	4,500,000
8	Traffic Safety and Signs	3,500,000
9	Road Safety education	3,000,000
	Total	6,133,577,152

Table 28: Estimated Cost of Programs Featured in this RMTMP

Based on this rate of item and total required interventions, a total of approximately **613.36 crore** of Nepalese rupees is projected to be required to develop overall transportation infrastructure and maintain them. For this, the assumption made is that the financial capacity of rural municipality increases by 10% each year. These costs will change slightly as the roads are improved and the standard costs change. This should be updated on annual basis.



Figure 19: Required Capital for Construction and Maintenance of Roads of Rural Municipality in 20 years

5.3 Funding the Program

The cost of transportation infrastructure development and management is significantly higher than the capacity of Municipality. For implementation of this RMTMP, Rural Municipality needs a capital of approximately **613.36 crore** Nepalese rupees. However, the potential of Municipality to invest in transportation infrastructure is **171.83 crore** Nepalese rupees (considering 25% of total capital of Rural Municipality and that capital of Rural Municipality increases by 10 percent each year) over twenty years period of time. The budget allocation for Construction and Maintenance of all roads inside Rural Municipality for 20 years period is shown in following table.

Amount in Thousands							
Required Capital	Capacity of Rural Municipality	Deficit in Capital					
106,024	30,000	76,024					
116,629	33,000	83,629					
128,290	36,300	91,990					
141,119	39,930	101,189					
155,231	43,923	111,308					
170,753	48,315	122,438					
187,829	53,147	134,682					
206,613	58,462	148,151					
227,276	64,308	162,968					
250,000	70,738	179,262					
275,000	77,812	197,188					
302,501	85,594	216,907					
332,751	94,153	238,598					
366,029	103,568	262,461					
402,629	113,925	288,704					
442,891	125,317	317,574					
487,181	137,849	349,332					
535,899	151,634	384,265					
589,490	166,798	422,692					
648,439	183,477	464,962					
6,072,577	1,718,250	4,354,327					

Table	29:	Financial	Requirement	and	Capacity	of Rural	Municip	ality
1 4010			rtequit entent		Cupacity	or rear as		'any

The Rural Municipality needs to find sources for another **435.43 crore** Nepalese rupees for construction and maintenance of all roads inside Rural Municipality or **441.53 crore** Nepalese rupees for overall infrastructure development from different sources. The Rural Municipality

should collaborate with federal government, province government and private sectors. Similarly, involving people in development works would help to generate revenue for infrastructure development. Likewise, Rural Municipality should increase their internal income through different income generating activities.



Figure 20: Required Capital vs Capacity of Rural Municipality

5.4 Long-Term Investment for RMTPP

Having the constraints of budgets and timing, the rural municipality may have to keep on investing in the transport sector until the RMTPP goals are fulfilled. If the municipality is not capable of managing the funds required for completion of perspective plan (in 20 years), the perspective year might get extended until the goals are achieved. So, assuming that the rural municipality is unable to manage fund from any external sources, the perspective plan for the transportation inside the rural municipality could be extended upto 33^{rd} year.

So, to complete the goals of Transportation planning within the mentioned timeframe, Rural Municipality must collaborate with provincial and federal government, national and international donor agencies, as well as private sectors.

5.5 Scoring and Ranking of Rural Municipal Roads

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 RMTMP, we have adopted the criteria given by the ministry with discussion and minor modification with the concerned stakeholders. Based on these criteria, Rural Municipal and ward roads have been prioritized class-wise. The details of prioritization criteria are included in chapter 1 of of this report and prioritized roads are shown in table with detail of score and ranking.

Road Class	Road Code	Road Name	Road Length (Km)	Score	Class wise Rank	Over all Rank
В	B004	Homestay Sadak	0.70	89.80	1	1
В	B006	Naya Sadak	0.36	77.74	2	7
В	B002	Chhairo Bailie Bridge Chapra dekhi Pakki Pul Sano Lakki hudai Chimang Kiuthang Chowk Samma	3.13	72.04	3	10
В	B003	Marpha Dhaulagiri Base Camp Jane Sadak	16.18	71.35	4	11
В	B001	Bailie Bridge Pakki pul hudai Tali Ghyang Chhairo Samudayik Bhawan hudai Chairo Chhahara Gumba Samma	1.29	71.04	5	12
В	B007	Pancho Sadak	0.51	45.74	6	26
В	B005	Lamthang Sadak	1.04	45.74	7	27
С	C004	Dhapu Marga	4.99	79.00	1	5
С	C005	Kungle Marga	3.81	78.00	2	6
С	C007	Sallarukh Chinighang Dhunchithang Sadak	2.74	63.19	3	18
С	C003	Pulchowk Sadak	1.92	55.74	4	23
С	C001	Marpha Sapi Krishi Farm Jane Sadak	2.39	50.35	5	25
С	C002	Kichithan Sadak	1.69	40.74	6	35
С	C010	Thini Namu Sadak	13.96	30.19	7	43
С	C006	Dhumba Phyangthang Seto Khola Ghaitong Sadak	2.93	15.19	8	51
С	C008	Thini Kaisang Sadak	9.59	15.19	8	51

Table 30: Score and Ranking of Municipal Roads

Consultant: Alpha Design and Development Pvt. Ltd.
Road Class	Road Code	Road Name	Road Length (Km)	Score	Class wise Rank	Over all Rank
С	C009	Thini Khol Lhokothang Sadak	1.62	15.19	10	53
С	C010	Dharmashala Sadak	0.50	13.04	11	54
D	D002	Bailie Bridge dekhi Kaligandaki Kinar hudai Mhutanche Chihanghat Ringroad jodne Sadak	1.24	89.25	1	2
D	D016	Ghattekhola Sadak	0.52	89.02	2	3
D	D001	Bailie Bridge ko Bato dekhi Samudayik Bhawan Samma	0.19	70.04	5	13
D	D014	Ghatta Khola dekhi Chi Khel Maidan Jane Sadak	0.64	64.35	6	15
D	D008	Kiuthang Chowk dekhi School Swasthay Chauki hudai Gumba khet Sokoghyun hudai Gheku Samma	1.08	64.04	7	17
D	D005	Chhairo Gau Bhitra Sadak	0.20	63.04	8	19
D	D012	Buddha Ghar dekhi Chi Khel Maidan Samma	0.23	62.35	9	20
D	D025	Dhumba Tal Pulchowk Dhumba Sadak		61.19	10	21
D	D015	Marpha Homes dekhi Sabha Griha Samma	0.14	58.35	11	22
D	D020	Sokupla Sadak	0.45	50.74	12	24
D	D021	Chhimitong Sadak (Highway dekhi Lopenkunje Samma Padmarga)	2.22	45.01	13	28
D	D022	Krishi Bank Paxadi Baikalpik Hospital Jane Bato	0.12	45.00	14	29
D	D023	Nilgiri Marga (Adalat dekhi Litikh Samma Krishi Sadak)	0.39	45.00	14	29
D	D004	Chhairo Chho dekhi Gau Paxadi hudai Samudayik Bhawan Samma	0.20	42.04	17	34
D	D029	Kuchhap Teranga Gumba Sadak	0.67	37.19	18	37
D	D017	Pancho Sadak	8.87	35.74	19	38
D	D018	Puthang Highway dekhi Uttar Bhitri Sadak	0.06	35.74	19	38
D	D019	Puthang Sadak	0.40	35.74	19	38
D	D026	Ghochi Sadak (Krishi)	1.06	35.19	22	41
D	D003	Chhairo Aabi dekhi Wada 1 Karyalaya Samma	0.07	18.04	23	44
D	D006	Chhairo School Gate dekhi Mul Sichai Kulo hudai Chha Ghyema Charana hudai Chhairo Chhahara Gumba Samma	1.03	18.04	23	44

Road Class	Road Code	Road Name	Road Length (Km)	Score	Class wise Rank	Over all Rank
D	D007	Ghatte Dada Balprasad ko Khet hudai Thulo Lakki Samma	0.28	18.04	23	44
D	D009	Samudayik Bhawan dekhi Sinchai Kulo hudai Hilme Ghatta Dada Samma	0.40	18.04	23	44
D	D010	Tali Ghyang Bato dekhi Wada niskine Bato	0.03	18.04	23	44
D	D011	Aalubari dekhi Sapi Krishi Farm Samma Sadak	6.12	17.35	28	49
D	D013	Dhanprakash ko Khet dekhi Tindhara Samma Sadak	0.23	17.35	28	49
D	D024	Dhumba Dhojyang Sadak	1.26	10.19	30	56
D	D027	Ghongthang Bhatang Sadak	1.15	10.19	30	56
D	D028	Hyarujho View Tower Sadak	1.11	10.19	30	56
D	D030	Pamithang Chhamachho Sadak	3.01	10.19	30	56
D	D031	Phyangthang Chemchyo Murghyung Sadak	5.03	10.19	30	56
Other	0004	Dharothang Sadak	0.23	85.74	1	4
Other	O005	Dhukuche Sadak	0.53	76.74	2	08
Other	0007	Prashasan Marga	0.87	70.00	3	14
Other	0008	Chini Ghang Chheti Bhagal Sadak	0.57	64.19	4	16
Other	O006	Jomsom APF Sadak	1.12	40.00	5	36
Other	0001	Kiuthang Chowk dekhi Chimag Gau bhitra ko Bato	0.17	33.04	6	42
Other	0002	Kiuthang dekhi Sebithan Jane Bato	0.08	13.04	7	54
Other	O003	Kyun Jhayng Jhyang bata Marpha Helipad jane Sadak	0.11	12.35	8	55
Other	0009	Kunughyung Sadak	0.11	5.19	9	61
Other	0010	Malmi Ghang dekhi Chhangjho Ghang samma Sadak	0.58	5.19	10	61

5.6 Maintenance and Improvement of Roads

i. 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:

a. 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.

b. 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.

c. 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.

d. 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.

Road	Road Width		Leng	th of road in km f	or maintenance (Kn	ı)
Code	(m)	Emergency	Routine	Recurrent (Earthen)	Recurrent (Gravelled)	Periodic (Gravelled)
B001	4.00	1.29	1.29	1.29	-	-
B002	3.00	0.61	0.61	0.61	-	-
B002	4.00	2.52	2.52	2.52	-	-
B003	-	-	-	-	-	-
B003	4.00	10.45	10.45	10.45	-	-
B004	6.00	0.65	0.65	-	0.65	0.65
B005	4.00	1.04	1.04	1.04	-	-
B006	6.00	0.36	0.36	0.36	-	-
B007	4.00	0.51	0.51	0.51	-	-
C001	4.00	2.39	2.39	2.39	-	-
C002	6.00	1.69	1.69	1.69	-	-
C003	4.00	1.92	1.92	1.92	-	-
C004	-	-	-	-	-	-
C004	3.00	2.08	2.08	2.08	-	-
C005	2.00	3.81	3.81	3.81	-	-
C006	-	-	-	-	-	-
C006	4.00	1.52	1.52	1.52	-	-
C007	3.00	2.74	2.74	2.74	-	-
C008	3.00	9.59	9.59	9.59	-	-
C009	3.00	1.62	1.62	1.62	-	-
C010	4.00	13.96	13.96	13.96	-	-
C011	4.00	0.50	0.50	0.50	-	-
D001	3.00	0.19	0.19	0.19	-	-
D002	-	-	-	-	-	-
D003	3.00	0.07	0.07	0.07	-	-
D004	3.00	0.20	0.20	0.20	-	-
D005	4.00	0.20	0.20	0.20	-	-
D006	-	-	-	-	-	-
D007	3.00	0.28	0.28	0.28	-	-
D008	3.00	1.08	1.08	1.08	-	-
D009	-	-	-	-	-	-
D010	5.00	0.03	0.03	0.03	-	
D011 D012						
D012	_			_		
D014	3.00	0.64	0.64	0.64	-	-
D015	-	-	-	-	-	-
D016	4.00	0.43	0.43	-	0.43	0.43
D017	-	-	-	-	-	_
D018	4.00	0.06	0.06	0.06	-	-
D019	4.00	0.40	0.40	0.40	-	-

Table 31: Length of road for maintenance for first year of RMTMP (in thousands)

Road	Road Width	Length of road in km for maintenance (Km)									
Code	(m)	Emergency	Routine	Recurrent (Earthen)	Recurrent (Gravelled)	Periodic (Gravelled)					
D020	-	-	-	-	-	-					
D021	3.00	2.22	2.22	2.22	-	-					
D022	3.00	0.12	0.12	0.12	-	-					
D023	3.00	0.39	0.39	0.39	-	-					
D024	3.00	1.26	1.26	1.26	-	-					
D025	4.00	3.06	3.06	3.06	-	-					
D026	3.00	1.06	1.06	1.06	-	-					
D027	3.00	1.15	1.15	1.15	-	-					
D028	4.00	1.11	1.11	1.11	-	-					
D029	4.00	0.67	0.67	0.67	-	-					
D030	-	-	-	-	-	-					
D031	3.00	5.03	5.03	5.03	-	-					
O001	3.00	0.17	0.17	0.17	-	-					
O002	3.00	0.08	0.08	0.08	-	-					
O003	-	-	-	-	-	-					
O004	4.00	0.23	0.23	0.23	-	-					
O005	4.00	0.53	0.53	0.53	-	-					
O006	4.00	1.12	1.12	-	1.12	1.12					
O007	4.00	0.52	0.52	0.52	-	-					
O008	-	-	-	-	-	-					
O009	4.00	0.11	0.11	-	0.11	0.11					
O010	-	-	-	-	-	-					

Dood	Dood		Maintainance Cost in Thousands								
Code	Width (m)	Emergency	Routine	Recurrent (Earthen)	Recurrent (Gravelled)	Periodic (Gravelled)					
B001	4.00	44	44	44	-	-					
B002	3.00	16	16	16	-	-					
B002	4.00	86	86	86	-	-					
B003	-	-	-	-	-	-					
B003	4.00	358	358	358	-	-					
B004	6.00	33	33	-	33	33					
B005	4.00	36	36	36	-	-					
B006	6.00	19	19	19	-	-					
B007	4.00	18	18	18	-	-					
C001	4.00	82	82	82	-	-					
C002	6.00	87	87	87	-	-					
C003	4.00	66	66	66	-	-					
C004	-	-	-	-	-	-					
C004	3.00	54	54	54	-	-					
C005	2.00	65	65	65	-	-					
C006	-	-	-	-	-	-					
C006	4.00	52	52	52	-	-					
C007	3.00	70	70	70	-	-					
C008	3.00	246	246	246	-	-					
C009	3.00	42	42	42	-	-					
C010	4.00	479	479	479	-	-					
C011	4.00	17	17	17	-	-					
D001	3.00	5	5	5	-	-					
D002	-	-	-	-	-	-					
D003	3.00	2	2	2	-	-					
D004	3.00	5	5	5	-	-					
D005	4.00	7	7	7	-	-					
D006	-	-	-	-	-	-					
D007	3.00	7	7	7	-	-					
D008	3.00	28	28	28	-	-					
D009	-	-	-	-	-	-					
D010	3.00	1	1	1	-	-					
D011	-	-	-	-	-	-					
D012	-	-	-	-	-	-					

Table 32: Cost of maintenance for first year of RMTMP (in thousands)

Road	Road]	Maintainance Cos	t in Thousands	
Code	Width (m)	Emergency	Routine	Recurrent (Earthen)	Recurrent (Gravelled)	Periodic (Gravelled)
D013	-	-	-	-	-	-
D014	3.00	17	17	17	-	-
D015	-	-	-	-	-	-
D016	4.00	15	15	-	15	15
D017	-	-	-	-	-	-
D018	4.00	2	2	2	-	-
D019	4.00	14	14	14	-	-
D020	-	-	-	-	-	-
D021	3.00	57	57	57	-	-
D022	3.00	3	3	3	-	-
D023	3.00	10	10	10	-	-
D024	3.00	32	32	32	-	-
D025	4.00	105	105	105	-	-
D026	3.00	27	27	27	-	-
D027	3.00	30	30	30	-	-
D028	4.00	38	38	38	-	-
D029	4.00	23	23	23	-	-
D030	-	-	-	-	-	-
D031	3.00	129	129	129	-	-
O001	3.00	4	4	4	-	-
O002	3.00	2	2	2	-	-
O003	-	-	-	-	-	-
O004	4.00	8	8	8	-	-
O005	4.00	18	18	18	-	-
O006	4.00	38	38	-	38	38
O007	4.00	18	18	18	-	-
O008	-	-	-	-	-	-
O009	4.00	4	4	-	4	4
O010	-	-	-	-	-	-

ii. 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.

			Existi	ng Conditi	on (Km)		Existing	Right	Pavement	~	Retaining (Cu	Structures .M)	Side	Track	Track	Gravelling	Blacktopping	Total Cost of Construction
Class	Road Code	Concrete	Earthen	Gravel	New Track	Total	Width (m)	of Way (m)	Width (m)	Gravelling Width (m)	Masonary Structures	Gabion Structures	Drain (Km)	Opening Cost, (in Thousands)	Widening Cost, (in Thousands)	Cost, (in Thousands)	Cost, (in Thousands)	(Including all required structures), (in Thousands)
В	B001	-	1.29	-	-	1.29	4.0	10	7.00	8.0	578.28	385.52	1.67	-	9,913	10,281	23,131	56,754
В	B002	-	0.61	-	-	0.61	3.0	10	7.00	8.0	275.20	183.46	0.80	-	5,504	4,892	11,008	27,795
B	B002	-	2.52	-	-	2.52	4.0	10	7.00	8.0	1,132.21	754.81	3.27	-	19,409	20,128	45,288	111,119
B	B003	-	-	-	5.74	5.74	-	10	7.00	8.0	2,582.05	1,721.36	7.46	90,167	-	45,903	103,282	299,312
B	B003	-	10.45	-	-	10.45	4.0	10	7.00	8.0	4,700.78	3,133.85	13.58	-	80,585	83,569	188,031	461,348
В	B004	0.05	-	0.65	-	0.70	6.0	10	7.00	8.0	314.15	209.44	0.91	-	3,590	1,396	11,759	24,041
В	B005	-	1.04	-	-	1.04	4.0	10	7.00	8.0	468.48	312.32	1.35	-	8,031	8,329	18,739	45,978
B	B006	-	0.36	-	-	0.36	6.0	10	7.00	8.0	163.85	109.23	0.47	-	1,873	2,913	6,554	15,144
B	B007	-	0.51	-	-	0.51	4.0	10	7.00	8.0	231.40	154.26	0.67	-	3,967	4,114	9,256	22,710
С	C001	-	2.39	-	-	2.39	4.0	8	5.50	6.5	1,074.51	716.34	3.10	-	12,280	15,521	33,770	86,524
С	C002	-	1.69	-	-	1.69	6.0	8	5.50	6.5	759.21	506.14	2.19	-	4,338	10,966	23,861	56,796
С	C003	-	1.92	-	-	1.92	4.0	8	5.50	6.5	865.91	577.27	2.50	-	9,896	12,508	27,214	69,726
С	C004	-	-	-	2.90	2.90	-	8	5.50	6.5	1,305.62	870.41	3.77	36,474	-	18,859	41,034	126,687
С	C004	-	2.08	-	-	2.08	3.0	8	5.50	6.5	937.73	625.16	2.71	-	13,396	13,545	29,472	78,189
С	C005	-	3.81	-	-	3.81	2.0	8	5.50	6.5	1,713.42	1,142.28	4.95	-	29,373	24,749	53,850	147,762
С	C006	-	-	-	1.40	1.40	-	8	5.50	6.5	631.45	420.96	1.82	17,640	-	9,121	19,845	61,270
С	C006	-	1.52	-	-	1.52	4.0	8	5.50	6.5	684.91	456.61	1.98	-	7,828	9,893	21,526	55,152
С	C007	-	2.74	-	-	2.74	3.0	8	5.50	6.5	1,231.18	820.78	3.56	-	17,588	17,784	38,694	102,657
С	C008	-	9.59	-	-	9.59	3.0	8	5.50	6.5	4,313.61	2,875.74	12.46	-	61,623	62,308	135,571	359,673
С	C009	-	1.62	-	-	1.62	3.0	8	5.50	6.5	729.74	486.49	2.11	-	10,425	10,541	22,935	60,847
С	C010	-	13.96	-	-	13.96	4.0	8	5.50	6.5	6,281.60	4,187.73	18.15	-	71,790	90,734	197,422	505,818
С	C011	-	0.50	-	-	0.50	4.0	8	5.50	6.5	225.00	150.00	0.65	-	2,571	3,250	7,071	18,118
D	D001	-	0.19	-	-	0.19	3.0	6	3.75	4.8	87.45	58.30	0.25	-	750	923	1,874	5,577
D	D002	-	-	-	1.24	1.24	-	6	3.75	4.8	558.00	372.00	1.61	11,691	-	5,890	11,957	42,497
D	D003	-	0.07	-	-	0.07	3.0	6	3.75	4.8	32.95	21.97	0.10	-	282	348	706	2,102
D	D004	-	0.20	-	-	0.20	3.0	6	3.75	4.8	89.77	59.85	0.26	-	769	948	1,924	5,725
D	D005	-	0.20	-	-	0.20	4.0	6	3.75	4.8	90.63	60.42	0.26	-	518	957	1,942	5,521
D	D006	-	-	-	1.03	1.03	-	6	3.75	4.8	464.96	309.97	1.34	9,742	-	4,908	9,963	35,411
D	D007	-	0.28	-	-	0.28	3.0	6	3.75	4.8	126.72	84.48	0.37	-	1,086	1,338	2,715	8,082
D	D008	-	1.08	-	-	1.08	3.0	6	3.75	4.8	486.30	324.20	1.40	-	4,168	5,133	10,421	31,015
D	D009	-	-	-	0.40	0.40	-	6	3.75	4.8	177.96	118.64	0.51	3,729	-	1,878	3,813	13,553
D	D010	-	0.03	-	-	0.03	3.0	6	3.75	4.8	13.78	9.19	0.04	-	118	145	295	879
D	D011	-	-	-	6.12	6.12	-	6	3.75	4.8	2,753.40	1,835.60	7.95	57,690	-	29,064	59,001	209,696

Table 33: Detail cost and quantity for improvement of Rural Municipal Roads

			Existi	ng Conditio	on (Km)		Fyisting	Right	Pavement		Retaining (Cu	Structures I.M)	Side	Track	Track	Gravelling	Blacktonning	Total Cost of Construction
Class	Road Code	Concrete	Earthen	Gravel	New Track	Total	Width (m)	of Way (m)	Width (m)	Gravelling Width (m)	Masonary Structures	Gabion Structures	Drain (Km)	Opening Cost, (in Thousands)	Widening Cost, (in Thousands)	Cost, (in Thousands)	Cost, (in Thousands)	(Including all required structures), (in Thousands)
D	D012	-	-	-	0.23	0.23	-	6	3.75	4.8	102.36	68.24	0.30	2,145	-	1,080	2,193	7,796
D	D013	-	-	-	0.23	0.23	-	6	3.75	4.8	103.40	68.93	0.30	2,166	-	1,091	2,216	7,875
D	D014	-	0.64	-	-	0.64	3.0	6	3.75	4.8	289.81	193.21	0.84	-	2,484	3,059	6,210	18,483
D	D015	-	-	-	0.14	0.14	-	6	3.75	4.8	64.92	43.28	0.19	1,360	-	685	1,391	4,944
D	D016	0.08	-	0.43	-	0.52	4.0	6	3.75	4.8	232.19	154.79	0.67	-	1,327	387	4,183	11,289
D	D017	-	-	-	8.87	8.87	-	6	3.75	4.8	3,990.30	2,660.20	11.53	83,606	-	42,120	85,506	303,896
D	D018	-	0.06	-	-	0.06	4.0	6	3.75	4.8	26.64	17.76	0.08	-	152	281	571	1,623
D	D019	-	0.40	-	-	0.40	4.0	6	3.75	4.8	179.36	119.57	0.52	-	1,025	1,893	3,843	10,927
D	D020	-	-	-	0.45	0.45	-	6	3.75	4.8	202.02	134.68	0.58	4,233	-	2,132	4,329	15,386
D	D021	-	2.22	-	-	2.22	3.0	6	3.75	4.8	1,000.62	667.08	2.89	-	8,577	10,562	21,442	63,817
D	D022	-	0.12	-	-	0.12	3.0	6	3.75	4.8	54.65	36.43	0.16	-	468	577	1,171	3,485
D	D023	-	0.39	-	-	0.39	3.0	6	3.75	4.8	173.88	115.92	0.50	-	1,490	1,835	3,726	11,089
D	D024	-	1.26	-	-	1.26	3.0	6	3.75	4.8	566.51	377.67	1.64	-	4,856	5,980	12,139	36,131
D	D025	-	3.06	-	-	3.06	4.0	6	3.75	4.8	1,376.43	917.62	3.98	-	7,865	14,529	29,495	83,853
D	D026	-	1.06	-	-	1.06	3.0	6	3.75	4.8	474.82	316.55	1.37	-	4,070	5,012	10,175	30,283
D	D027	-	1.15	-	-	1.15	3.0	6	3.75	4.8	519.01	346.01	1.50	-	4,449	5,478	11,122	33,101
D	D028	-	1.11	-	-	1.11	4.0	6	3.75	4.8	497.39	331.59	1.44	-	2,842	5,250	10,658	30,301
D	D029	-	0.67	-	-	0.67	4.0	6	3.75	4.8	302.43	201.62	0.87	-	1,728	3,192	6,481	18,424
D	D030	-	-	-	3.01	3.01	-	6	3.75	4.8	1,355.34	903.56	3.92	28,398	-	14,306	29,043	103,221
D	D031	-	5.03	-	-	5.03	3.0	6	3.75	4.8	2,265.49	1,510.32	6.54	-	19,418	23,913	48,546	144,488
Other	O001	-	0.17	-	-	0.17	3.0	4	3.50	3.5	74.32	49.54	0.21	-	212	578	1,486	4,002
Other	O002	-	0.08	-	-	0.08	3.0	4	3.50	3.5	36.88	24.59	0.11	-	105	287	738	1,986
Other	O003	-	-	-	0.11	0.11	-	4	3.50	3.5	49.85	33.24	0.14	696	-	388	997	3,239
Other	O004	-	0.23	-	-	0.23	4.0	4	3.50	3.5	102.53	68.36	0.30	-	-	797	2,051	5,229
Other	O005	-	0.53	-	-	0.53	4.0	4	3.50	3.5	239.96	159.97	0.69	-	-	1,866	4,799	12,238
Other	O006	-	-	1.12	-	1.12	4.0	4	3.50	3.5	502.59	335.06	1.45	-	-	-	10,052	21,723
Other	O007	0.35	0.52	-	-	0.87	4.0	4	3.50	3.5	392.89	261.93	1.14	-	-	1,826	4,694	15,644
Other	O008	-	-	-	0.57	0.57	-	4	3.50	3.5	255.33	170.22	0.74	3,567	-	1,986	5,107	16,589
Other	O009	-	-	0.11	-	0.11	4.0	4	3.50	3.5	49.58	33.06	0.14	-	-	-	992	2,143
Other	O010	-	-	-	0.58	0.58	-	4	3.50	3.5	262.79	175.19	0.76	3,671	-	2,044	5,256	17,073

5.7 Short Term (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 10% each year. The Rural Municipality aims to invest approximately 3 Crore of budget through Rural Municipality in road infrastructure in the following fiscal year and this budget will increase on the years following.

5.7.1 Sharing of Funds

The distribution of the available road sector budget for the RMTMP 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 RMTMP period. After large network of road is developed, this amount will be used in maintenance work.



Figure 21: Distribution of Budget in RMTMP period

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

Voor	Projected Budget (in Thousand)									
rear	Construction	Maintenance	Total							
1	74,217	31,807	106,024							
2	81,640	34,989	116,629							
3	89,803	38,487	128,290							
4	98,783	42,336	141,119							
5	108,662	46,569	155,231							
Total	453,105	194,188	647,293							

Table 34: First Five Year Projected Budget distribution



Figure 22: Projected Budget distribution for RMTMP period

Similarly, the projected construction budget for different classes of roads is as follow:

Veen	Projected Budget (in Thousand)												
rear	Class B	Class C	Class D	Others	Maintenance	Total							
1	18,554	29,687	22,265	3,711	31,807	106,024							
2	20,410	32,656	24,492	4,082	34,989	116,629							
3	22,451	35,921	26,941	4,490	38,487	128,290							
4	24,696	39,513	29,635	4,939	42,336	141,119							
5	27,165	43,465	32,599	5,433	46,569	155,231							
Total	113,276	181,242	135,932	22,655	194,188	647,293							

Table 35: First Five Year Projected construction Budget for different class of roads



Figure 23: Projected Construction Budget for different class of roads for RMTMP period

5.7.2 First Five-Year Municipality Transport Implementation Plan

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

- 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 investment plan for first five-year plan is as follow:

Table 36: First Five Year Investment Plan for Construction and maintenance of roads

Vear	Capacity of RM (in Thousands)									
rear	Construction	Maintenance	Total							
1	21,000	9,000	30,000							
2	23,100	9,900	33,000							
3	25,411	10,890	36,301							
4	27,951	11,979	39,930							
5	30,746	13,177	43,923							
Total	128,208	54,946	183,154							



Figure 24: Investment plan for MTMP period

Table 37: First	Five Year	Investment Plan	ı for different	class of roads
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Voor	Capacity of Rural Municipality (in Thousands)									
rear	Class B	Class C	Class D	Others	Construction	Maintenance	Sub Total			
1	5,250	8,400	6,300	1,050	21,000	9,000	30,000			
2	5,775	9,240	6,930	1,155	23,100	9,900	33,000			
3	6,353	10,164	7,623	1,271	25,411	10,890	36,301			
4	6,988	11,180	8,385	1,398	27,951	11,979	39,930			
5	7,687	12,298	9,224	1,537	30,746	13,177	43,923			
Total	32,053	51,282	38,462	6,411	128,208	54,946	183,154			





Chapter 6: Implementation and Monitoring of RMTMP

The RMTMP provides both long-term direction for the future development of the Rural Municipality's transportation system and a plan for immediate action, including several recommendations the Rural Municipality can implement through its regular activities. Successful implementation will ultimately require that concurrent efforts be undertaken to achieve the key strategies set out by Rural Municipality.

Inevitably forecasts and other assumptions made in preparing the RMTMP will prove imprecise or directions will change over time. As such, this RMTMP should be considered a starting point for transportation planning and monitoring. The plan should be updated regularly, at a minimum every 5 years.

The following sections provide guidance on implementing and monitoring this RMTMP.

6.1 Use of RMTMP

The RMTMP is the overarching strategic document that provides a framework for how the Rural Municipality will address its transportation needs to the year 2044. It describes, anticipates and plans for the movement of people and goods in a multi-modal, accessible transportation system. The RMTMP is not a provincially legislated document, and therefore has no statutory authority. That authority is provided through the Rural Municipality's Official Plan by incorporating the main policy directions of the RMTMP. The primary purpose of the RMTMP is to guide the Rural Municipality's transportation-related decision making and provide direction for its discussions and negotiations with other agencies and governments. It also provides the need and justification for transportation infrastructure projects that require approval from Rural Municipality, thereby satisfying long term plan of Rural Municipality of that process with problem or opportunity identification and evaluation of alternative solutions. In addition, the RMTMP is not just a plan of infrastructure actions. It provides the policy framework on which to make operational decisions for the Rural Municipality.

6.2 Community Outreach

Public involvement was an integral component of the plan development process and will be a key to successful implementation of the RMTMP and future updates of the plan. As a result of the extensive community engagement process, many individuals have identified an interest in being kept informed of the progress of the RMTMP and should be notified when the plan is complete and available for viewing. The web site of Rural Municipality and other information systems inside Rural Municipality should continue to be the focal point for the dissemination of information regarding the RMTMP and implementation progress.

6.3 Integration with Official Plans and Programs of Rural Municipality

The policy and network recommendations of the RMTMP should be incorporated into the yearly plan and programs of Rural Municipality to provide the foundation and basis for implementation. The Rural Municipality should determine how and when to incorporate these recommendations into the yearly budget of Rural Municipality. Development of the RMTMP has had regard for on-going planning initiatives of other agencies. However, since several of those initiatives are still incomplete, it is conceivable that the Rural Municipality may be required to implement certain transportation aspects of the studies in its yearly plan

6.4 Monitoring the Plan

The RMTMP is not intended to be a static document. Rather it must be flexible and adapt to changes in travel characteristics, user behaviour, development trends, growth patterns and other unforeseen events over time. There are also several initiatives planned or underway by other agencies that may also have an effect on the recommendations of the RMTMP as they unfold. It is important to gather pertinent information about the Rural Municipal transportation system and factors affecting its use and development on a regular basis. A clear understanding of changing conditions and progress enables more informed implementation decisions and priority setting. It also assists in assessing how well the Rural Municipality is progressing towards its Transportation Vision and supports reviews of the RMTMP itself. Regular monitoring allows progress to be tracked and performance to be

measured and reported. The program would feature monitoring to assess changes in transportation system performance over time.

6.5 Plan Review and Update

Regular reviews and updates of the RMTMP allow for the on-going assessment of its effectiveness and relevance. Establishing this stable transportation planning cycle ensures the plan strategies remain flexible to respond to unforeseen developments and imprecise assumptions. The performance of the plan in achieving the Transportation Vision can also be reviewed, and necessary adjustments in strategy made. As well, the consultant recommends that master plans be reviewed every five years to determine the need for a detailed formal review and/or updating.

The review process provides a timely opportunity to revisit the assumptions of the RMTMP and consider the need for an update. The monitoring program discussed in above will also provide an indication of the need for a review.

All future RMTMP updates should include a comprehensive and proactive public outreach program. This program should include Public Information Centres, stakeholder workshops and other innovative outreach strategies that solicit input from all residents within the Rural Municipality, including youth and the transportation disadvantaged.

Over the time period preceding the formal review, Rural Municipal body's decisions on transportation issues will have the inevitable effect of amending, deleting, replacing or complementing some of the policies in the RMTMP. For this reason, individuals must consider this plan in conjunction with the record of subsequent Municipal decisions to obtain a complete understanding of current policy and plans. The Rural Municipality may amend the RMTMP in the intervening period to incorporate substantive changes or major initiatives, but on-going updates are not contemplated.

Chapter 7: CONCLUSION

The Rural Municipal Transport Master Plan (RMTMP) of Gharapjhong Rural Municipality is prepared after the analysis of field data and requirement of the Rural Municipality itself. This RMTMP planning is based on the assumption that the spending capacity of Rural Municipality increases by 10% per year. The total budget for 20 years of implementation of this RMTMP is projected to be **613.36 Crore** Nepalese rupees. Among that total budget, for road construction and maintenance the total budget required is **607.26 Crore** Nepalese rupees, 70% of which is allocated for construction and 30% is allocated for maintenance of existing structures. The ultimate goal of this RMTMP is to blacktop all the roads inside the Rural Municipality to their full extent. But the total capacity of the rural municipality to invest in Transportation Infrastructures for next 20 years is only **171.83 Crore.** So, the rural municipality needs to manage the deficit amount from various sources to implement this RMTMP.

The overall road network along with location points are shown in an interactive online map with satellite basemap. The details of the roads and locations can be obtained from the interactive map through the following link:

https://www.tinyurl.com/gharapjhongroads

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 RM itself or with collaboration with private entities. Similarly, the RM should allocate different land use zones based on their current and future use, which will be applicable in future planning of infrastructure facilities inside RM. RMTMP will also help to preserve the land from acquisition at various sections of the rural municipality. At the same time, it will increase the mobility and accessibility scenario within the RM. Moreover, it will preserve agricultural land and motivates the people from opening of wider roads.

References

Australia, M. R. (2011). Road Hierarchy Criteria.

- Central Bureau of Statistics. (2023). *National Census 2021*. Kathmandu: Government of Nepal, National Planning Commission Secretariat.
- Cole, S. (2005). Applied Transport Economics Policy, Management and Decision Making. London: Kogan Page Limited.

Elgar, E. (2002). Transport Economics. Cheltenham: Edward ELgar Publishing Limited.

Eppell, V. A., Bunker, J., & McClurg, B. (2001). A four level road hierarchy for network planning and management. *Proceedings 20th ARRB Conference*. Melbourne: Jaeger, Vicki, Eds.

kadiyali, D. L. (2011). Traffic Engineering and Transport planning.

- Litman, T. (2015). Evaluating Active Transport Benefits and Costs (Guide to valuing walking and cycling improvements and encouragement programs). Victooria Transport Policy Institute.
- McClurg, B., Bunker , J., & Eppell, V. (2001). A four level road hierarchy for network planning and management. *ARRB*. Melbourne.
- Meyer M.D & Miller E.J. Urban Transportation Planning.
- National Planning Commission. (2012). *National population and housing census (A national report)*. Kathmandu: Central Bureau of Statistics.
- Government of Nepal, (2068). Nepal Urban Road Standard 2068 (Draft).
- Department of Roads, Nepal Road Standard 2070.
- TRB. (2013). *Transit capacity and quality of service manual*. Washington D.C.: Transit cooperative research program.

National Urban Development Strategy 2015, GoN, Ministry of Urban Development

Town of Halton Hills, Transportation Master Plan (2011)

Province Transport Master Plan, Gandaki Province

Nepal Road Safety Action Plan 2011-2020, GoN, Ministry of Physical Planning and Transport Management

National Cycle Manual, National Transport Authority, Ireland

The Himalayan Times publication, 25 August, 2016 and 01 November, 2017

Editorial, 24 December, 2018, The Himalayan Times

The Kathmandu Post, 24 September, 2014

ANNEX –I WARD WISE ROAD

	Road			Appro	ox. Length	ı (Km)	
S.N	Code	Road Name	(m)	Earthen	Gravel	New Track	Total
1	PRN	Ring Road	15.0	-	3.21	-	3.21
2	B001	Bailie Bridge Pakki pul hudai Tali Ghyang Chhairo Samudayik Bhawan hudai Chairo Chhahara Gumba Samma	10.0	1.29	-	-	1.29
3	B002	Chhairo Bailie Bridge Chapra dekhi Pakki Pul Sano Lakki hudai Chimang Kiuthang Chowk Samma	10.0	3.13	-	-	3.13
4	D001	Bailie Bridge ko Bato dekhi Samudayik Bhawan Samma	6.0	0.19	-	-	0.19
5	D002	Bailie Bridge dekhi Kaligandaki Kinar hudai Mhutanche Chihanghat Ringroad jodne Sadak	6.0	-	-	1.24	1.24
6	D003	Chhairo Aabi dekhi Wada 1 Karyalaya Samma	6.0	0.07	-	-	0.07
7	D004	Chhairo Chho dekhi Gau Paxadi hudai Samudayik Bhawan Samma	6.0	0.20	-	-	0.20
8	D005	Chhairo Gau Bhitra Sadak	6.0	0.20	-	-	0.20
9	D006	Chhairo School Gate dekhi Mul Sichai Kulo hudai Chha Ghyema Charana hudai Chhairo Chhahara Gumba Samma	6.0	-	-	1.03	1.03
10	D007	Ghatte Dada Balprasad ko Khet hudai Thulo Lakki Samma	6.0	0.28	-	-	0.28
11	D008	Kiuthang Chowk dekhi School Swasthay Chauki hudai Gumba khet Sokoghyun hudai Gheku Samma	6.0	1.08	-	-	1.08
12	D009	Samudayik Bhawan dekhi Sinchai Kulo hudai Hilme Ghatta Dada Samma	6.0	-	-	0.40	0.40
13	D010	Tali Ghyang Bato dekhi Wada niskine Bato	6.0	0.03	-	-	0.03
14	0001	Kiuthang Chowk dekhi Chimag Gau bhitra ko Bato	4.0	0.17	-	-	0.17
15	0002	Kiuthang dekhi Sebithan Jane Bato	4.0	0.08	-	-	0.08
		Grand Total		6.72	3.21	2.67	12.60

<u>Foot Trails</u>

SN	Road	Road Name		Length		
Code		Koau Ivaine	(m)	Earthen	Stone	Total
1	P001	Samagri dekhi Chhairo Gau Samma Padmarga	2.0	-	0.33	0.33
2	P062	Kyuthang dekhi Ghursang Gufa hudai Leka Padmarga (Yak Kharka Padmarga)	2.0	2.10	-	2.10
	Grand Total			2.10	0.33	2.43

SN	Road	Dood Name	ROW	Approx. I	ength (Km)	Total
9.11	Code	Koau Name	(m)	Earthen	New Track	Total
1	B003	Marpha Dhaulagiri Base Camp Jane Sadak	10.0	10.45	5.74	16.18
2	C001	Marpha Sapi Krishi Farm Jane Sadak	8.0	2.39	-	2.39
3	D011	Aalubari dekhi Sapi Krishi Farm Samma Sadak	6.0	-	6.12	6.12
4	D012	Buddha Ghar dekhi Chi Khel Maidan Samma	6.0	-	0.23	0.23
5	D013	Dhanprakash ko Khet dekhi Tindhara Samma Sadak	6.0	-	0.23	0.23
6	D014	Ghatta Khola dekhi Chi Khel Maidan Jane Sadak	6.0	0.64	-	0.64
7	D015	Marpha Homes dekhi Sabha Griha Samma	6.0	-	0.14	0.14
8	O003	Kyun Jhayng Jhyang bata Marpha Helipad jane Sadak	4.0	-	0.11	0.11
	Grand Total			13.48	12.57	26.05

Foot Trails

S N Road Name		Dood Nama	ROW	App	rox. Leng	gth (Kn	1)	Total
9.14	Code	Koau Naille	(m)	Concrete	Earthen	Stairs	Stone	Total
1	P002	Dalit Basti Marpha Sign Board Jane Padmarga	1.5	-	-	0.09	-	0.09
2	P003	Dhaulagiri Hotel dekhi Pra Gumba Jane Padmarga	1.5	-	-	-	0.19	0.19
3	P004	Highway dekhi Ward 2 Karyalaya Jane Padmarga	1.0	-	0.26	-	-	0.26
4	P005	Highway Marpha Homes dekhi Sabha Griha hudai Khang Samma Padmarga	1.0	-	-	-	0.27	0.27
5	P006	Highway Surendra ko Khet dekhi Khang Samma Padmarga	1.0	-	0.21	-	-	0.21
6	P007	Jerry Galli Briksharopan Jane Bato	1.5	-	0.16	-	0.11	0.26
7	P008	Jerry Galli dekhi Dalit Basti Jane Padmarga	1.0	-	-	-	0.10	0.10
8	P009	Kosheli Chowk dekhi Khola Samma Goreto	2.0	-	0.10	-	-	0.10
9	P010	Kot Ghar dekhi Dalit Basti Jane Padmarga	1.0	-	-	-	0.07	0.07
10	P011	Marpha dekhi Dhaulagiri Base Camp Jane Padmarga	2.0	-	3.99	-	-	3.99
11	P012	Marpha Health Post Padmarga	3.0	0.06	0.11	-	-	0.17
12	P013	Marpha Mhaneghang dekhi Dhaulagiri Base Camp Jane Padmarga	4.0	-	-	0.11	-	0.11
13	P014	Marpha Sechi Goreto Bato	2.0	-	3.74	-	-	3.74
14	P015	Rajmarga dekhi Thaleban Jane Padmarga	2.0	-	2.63	-	-	2.63
15	15 P016 Tindhara dekhi Apple Park Samma Padmarga		1.5	-	-	0.33	-	0.33
	Grand Total			0.06	11.20	0.53	0.74	12.52

CN	Road	DeedNews	ROW		Appr	ox. Length ((Km)		T-4-1
5. IN	Code	Koad Name	(m)	Concrete	Earthen	Gravelled	New Track	Stone	Total
1	B004	Homestay Sadak	10.0	0.05	-	0.65	-	-	0.70
2	B005	Lamthang Sadak	10.0	-	1.04	-	-	-	1.04
3	B006	Naya Sadak	10.0	-	0.36	-	-	-	0.36
4	B007	Pancho Sadak	10.0	-	0.51	-	-	-	0.51
5	C002	Kichithan Sadak	8.0	-	1.69	-	-	-	1.69
6	C003	Pulchowk Sadak	8.0	-	1.92	-	-	-	1.92
7	C011	Dharmashala Sadak	8.0	-	0.50	-	-	-	0.50
8	D016	Ghattekhola Sadak	6.0	0.08	-	0.43	-	-	0.52
9	D017	Pancho Sadak	6.0	-	-	-	8.87	-	8.87
10	D018	Puthang Highway dekhi Uttar Bhitri Sadak	6.0	-	0.06	-	-	-	0.06
11	D019	Puthang Sadak	6.0	-	0.40	-	-	-	0.40
12	D020	Sokupla Sadak	6.0	-	-	-	0.45	-	0.45
13	0004	Dharothang Sadak	4.0	-	-	-	-	0.23	0.23
14	O005	Dhukuche Sadak	4.0	-	-	-	-	0.53	0.53
	G	irand Total		0.13	6.49	1.08	9.32	0.76	17.78

Foot Trails

SN	Road	Road Name	ROW		Approx. Leng	gth (Km)		Total
0.11	Code	Koau Name	(m)	Earth	New Track	Stairs	Stone	Iotai
1	P017	Aani Gumba Bato	3.0	-	-	-	0.07	0.07
2	P018	Buddha Samudayik Bhawan dekhi Dharothan Sadak Samma	2.0	-	-	-	0.28	0.28
3	P019	Club Marga	1.5	-	-	0.08	-	0.08
4	P020	Eklebhatti Bato	2.0	0.23	-	-	-	0.23
5	P021	Ghyokhang Bato	1.5	-	-	-	0.13	0.13
6	P022	Ghyokhang Bich ko Bato	1.5	-	-	-	0.04	0.04
7	P023	Ghyokhang Tallo Bato	2.0	-	-	-	0.08	0.08
8	P024	Lamathang Kichithang Padmarga	2.0	-	1.38	-	-	1.38
9	P025	Park dekhi Ghatte Khola Sadak Samma Padmarga	2.0	0.08	-	-	-	0.08
10	P026	Park dekhi Syang Aarogya Kendra Samma Padmarga	2.0	-	-	-	0.12	0.12
11	P027	Somle Bato	2.0	-	-	-	0.07	0.07
12	P028	Tangcho Padmarga	2.0	5.33	-	-	-	5.33
13	P029	Tashi Lhakhang Bato	1.0	-	-	-	0.09	0.09
14	P030	Yrken Chhyoling Gumba dekhi Park Samma Padmarga	2.0	-	-	-	0.19	0.19
15	P063	Jhongana Ghang Padmarga	2.0	0.06	-	-	-	0.06
		Grand Total		5.70	1.38	0.08	1.07	8.23

	Road	Road Name	DOW	Ap	prox. Len	gth (Km)		
S.N	Code		(m)	Concrete	Earthen	Gravel	New Track	Total
1	PRN	Ring Road	15.0	-	-	0.65	-	0.65
2	C004	Dhapu Marga	8.0	-	2.08	-	2.90	4.99
3	C005	Kungle Marga	8.0	-	3.81	-	-	3.81
4	D021	Chhimitong Sadak (Highway dekhi Lopenkunje Samma Padmarga)	6.0	-	2.22	-	-	2.22
5	D022	Krishi Bank Paxadi Baikalpik Hospital Jane Bato	6.0	-	0.12	-	-	0.12
6	D023	Nilgiri Marga (Adalat dekhi Litikh Samma Krishi Sadak)	6.0	-	0.39	-	-	0.39
7	O006	Jomsom APF Sadak	4.0	-	-	1.12	-	1.12
8	O007	Prashasan Marga	4.0	0.35	0.52	-	-	0.87
	Grand Total			0.35	9.14	1.76	2.90	14.16

<u>Foot Trails</u>

C N	Road	Dood Nome	ROW		Approx. Leng	th (Km)		Total
9.IN	Code	Koau Name	(m)	Earth	New Track	Stairs	Stone	Total
1	P031	Badri Marga dekhi Lithik Sadak Samma Bato	3.0	0.13	-	-	-	0.13
2	P032	Dhagarjung Padmarga	2.0	5.44	-	-	-	5.44
3	P033	Highway dekhi Samaj Ghar Jane Bato	3.0	0.14	-	-	-	0.14
4	P034	Hyarujho View Tower Sidi Padmarga	2.0	-	-	0.36	-	0.36
5	P035	Kathepul dekhi Dakshin Sidi Padmarga	2.0	0.09	-	-	0.06	0.14
6	P036	Purano Gumba Marga	2.0	0.32	-	-	-	0.32
7	P037	Sidi dekhi Lungtapar Dhorje Xodne Sthal Padmarga	2.0	-	0.33	-	-	0.33
8	P038	Sohan Marga	2.0	0.16	-	-	-	0.16
9	P064	Jomsom hudai Tower Padmarga	2.0	4.89	-	-	-	4.89
	Grand Total			11.16	0.33	0.36	0.06	11.91

	Road		POW	Approx	. Length	(Km)	
S.N	Code	Road Name	(m)	Earthen	Gravel	New Track	Total
1	PRN	Ring Road	15.0	-	8.09	-	8.09
2	C006	Dhumba Phyangthang Seto Khola Ghaitong Sadak	8.0	1.52	-	1.40	2.93
3	C007	Sallarukh Chinighang Dhunchithang Sadak	8.0	2.74	-	-	2.74
4	C008	Thini Kaisang Sadak	8.0	9.59	-	-	9.59
5	C009	Thini Khol Lhokothang Sadak	8.0	1.62	-	-	1.62
6	C010	Thini Namu Sadak	8.0	13.96	-	-	13.96
7	D024	Dhumba Dhojyang Sadak	6.0	1.26	-	-	1.26
8	D025	Dhumba Tal Pulchowk Dhumba Sadak	6.0	3.06	-	-	3.06
9	D026	Ghochi Sadak (Krishi)	6.0	1.06	-	-	1.06
10	D027	Ghongthang Bhatang Sadak	6.0	1.15	-	-	1.15
11	D028	Hyarujho View Tower Sadak	6.0	1.11	-	-	1.11
12	D029	Kuchhap Teranga Gumba Sadak	6.0	0.67	-	-	0.67
13	D030	Pamithang Chhamachho Sadak	6.0	-	-	3.01	3.01
14	D031	Phyangthang Chemchyo Murghyung Sadak	6.0	5.03	-	-	5.03
15	O008	Chini Ghang Chheti Bhagal Sadak	4.0	-	-	0.57	0.57
16	O009	Kunughyung Sadak	4.0	-	0.11	-	0.11
17	0010	Malmi Ghang dekhi Chhangjho Ghang samma Sadak	4.0	-	-	0.58	0.58
		Grand Total		42.76	8.20	5.57	56.53

Foot Trails

CN	Road	Dood Name	ROW	Length	(Km)	Tetal
5. N	Code	Koad Name	(m)	Earth	Stone	Total
1	P039	Devlal ko Ghar dekhi Mhane hudai mathi Homestay Gate Samma Bato	2.0	0.13	0.16	0.29
2	P040	Durbar Chowk dekhi Devlal ko Ghar Samma Bato	2.0	-	0.07	0.07
3	P041	Durbar Chowk dekhi Homestay Gate Samma Bato	2.0	0.14	-	0.14
4	P042	Jomsom Health Post Chowk dekhi Snow Leopard Cave ko Bato Samma Padmarga	2.0	0.09	-	0.09
5	P043	Khampachhetang dekhi Jhalunge Pul hudai Gharapjhong Killa Jane Bato	2.0	0.27	0.44	0.72
6	P044	Lhakim Karpo Gumba dekhi Deepak ko Ghar Samma Bato	2.0	-	0.07	0.07
7	P045	Mhane dekhi Chinighang Samma Bato	2.0	0.10	-	0.10
8	P046	Mhane dekhi Sichai Kulo hudai Lhokung Ke Samma Bato	2.0	0.26	-	0.26
9	P047	Nakhicham Mhane dekhi Ghatta hudai Snow Leopard Gate Samma Bato	2.0	0.22	-	0.22
10	P048	Samle Bato (Ka)	2.0	0.20	-	0.20
11	P049	Samle Bato (Kha)	2.0	0.09	-	0.09

Ghara	Gharapjhong Rural Municipality, Mustang			Rural Municipal Transport Master Plan 20				
C N	Road	DeedNews	ROW	Length	(Km)	T-4-1		
S.N	Code	Koad Name	(m)	Earth	Stone	Total		
12	P050	Samle Bato (Ga)	2.0	0.56	-	0.56		
13	P051	San Prasad ko Bari dekhi Devlal ko Ghar Samma bato	2.0	-	0.05	0.05		
14	P052	Shree Mukti Namuna Aabi Ring Road Samma Bato	2.0	0.08	-	0.08		
15	P053	Snow Leopard Cave Jane Padmarga	2.0	0.14	-	0.14		
16	P054	Syau Gram Jane Bato	2.0	0.25	-	0.25		
17	P055	Thakali Homestay dekhi Mathi Bato	2.0	0.16	-	0.16		
18	P056	Topthang dekhi Chinighang Samma Bato	2.0	-	0.21	0.21		
19	P057	Topthang dekhi Gumba hudai Ring Road Samma Bato (Ka)	2.0	0.03	0.13	0.16		
20	P058	Topthang dekhi Gumba hudai Ring Road Samma Bato (Kha)	2.0	0.05	-	0.05		
21	P059	Topthang dekhi Nakyucham Samma Bato	1.5	-	0.17	0.17		
22	P060	Tshiring Prasad ko Ghar dekhi Mhane Samma Bato	2.0	0.06	-	0.06		
23	P061	Ward Karyalaya Chowk dekhi Topthang hudai Sallarukh Sadak Samma Bato	2.0	-	0.46	0.46		
		Grand Total		2.83	1.77	4.60		

ANNEX –II MINUTING RECORDS

Page No. Date : 1 1 STIJ Mia 20CA/02/98 JIN FINARON 128 ofteris. Elushis. Torcoll 211301 84 475 (9 81 UMY 21141 8121 Zani FELLAINI 5 EILYGHIS 211341 Naria JEAZINA MAILTA AUI ALA 0160 निम अनुसारको 3akaidmi aU Inc 2154 JUZZI Sylend 928 ~ オガーリショア and you in an ang U TANT 201 02162 12(121 Brezigr.L 951 प्रश्द शकाल ,1 -3 ST 25 21) JAIC Sister 11-8 × 101 Rini · 7.9-37. ६) 02162 er sid mis U Sps 10 4 4427 C 51 19 a. men 11 1, 5,5 00 CAR NAM वडा राषस 90) 213701 হান E. Č 12/30 Sus mita 972 स्रादम 101 MIS Z 001 4 2500122141513 2517 210 A. 41 mille Ids ic SI.A. 10 0 Va 41 9 USIA tiald 18.31 D. 34 9-FI ZAUTA मि 3193 N Q 7 d M आहा बहादर भकाले 951 merer 402,21 20 G URINZIZIA ZIN 1 0291 g **A** SIM 11 1, 22 ATT TRUI ALLAN 11 1

Page No. Date : 1 UENIAEZA a) acushis. suisunanonian siisunan Ediza מוציע הנציא והצייה והדיווביובר הינואון 27 रार्डपालिका हररिय सामायान डार्डरजना अन्तर्रात सडक वर्डीकरठाका लगिरा सडक Antern Instroi ANDEN 3) गाउँपालिका स्तीरेश यात्रायात राहर होग्लाका attist Azzisch Franch Hranzini 8) Taiasi / TOTZEL Po.9> SERIA NA SUC ENTER SIZI STIBUTINON हतीय यातारात जात्वरी जाता तर्जुता सहवाश विकिन्न विषयका हत्याल ठांदी जाउपालिका रतारेय आन्तरकुय, कार्यज्ञ आचा जना जारेये. ति २२ प्रस्ताव में २ उपट दलफल रादा उगाँउपालिका सिरिय सारायात जार्यातना अन्यर्ग विद्याल HISO Dan due minioni usalen astantoiani लगार्ग् निम्नानुसारको सडक हेन्नाशिका किशारिका זונה הטוט שורני JATIEICHTE Coll-Etas ast 98 FARE ai strout Th 90 5722 69 ट मीटट JT 2 जीए ET

Page No. Date : मिः रू यह लाम में र इया दलयात्म उार्दा यहा उद्रत्योजना तर्जनाका मिली तब्याइन हेक्तम जनेका लगाउँग प्रत्येक का कार्यकामा प्राम्बरियाना दोली पुरी वडा कीला उरि उद्रत्योजना सन्तर्शनको तब्याइक होकला उरिने निर्ठाय उत्रिये / 8) प्रस्ताक में 8 उपर हरूपाल गढ़ी यस पराम्हिपा-ता टोलीलर्ड नगर्डपालिका कार्यलय एकम् बडा कार्यलयले संजन्वय उारी तण्याद्व संकलन एकम संजञ्ज उद्वयोजना तर्जुज प्रक्रियाम, संब्ला रजी निर्णय उत्तर्घा / यस परार्ज्सा-2020/02/98 512 मोगबाट बरो मुक्त अई मिउसे 2:00 बर्ग 99:00 Anu

Page No. Date : 1 57 श्वरताड- जिल्ला Mit 200 AJIN ALAST 3 115 57 3112T A. USIL IRU8 as U I EMPTAIL 31 JUDYTAG 21171210 5124 216 21571 Jarel 2 TELLE A 1-111 21 Th UF 3111211 अध्यक्ष 9,87 आषा व. अडालि - STEARET Mar चक स्तेह थका ली ٩. वडा सदस्य 8.5 नडा सबस्य कार्य पालिका सदस्य 3 For दर्जा देवी रसाईली - वडा सपरन्य र गाँचन क्री जाउँ अष्यक्ष ले र रामाजवाद मस्ता मिन्ह वहादूर नरनाईली प्रसाद जींचन 24444 ন্যান প্রামান 44221 मिवन्द्र थकाली 25 3 कि वहा सचिव स्रीनेल परियार कार्यालय खर्रयोग and a 99 y 40421 - QINSIZIAIZION रमेश दिलाल 8 92 11 Ir 217 2TROI ORIN 35 1, -N

Page No. Date : a)21ET 2120 Shiz. JIM Summer 21 AIZITA STREETING राजुमाला लगाउंग यस बडा द मा अएका विद्यमान र प्रस्तावित सडकहरूको पहिलान तथा सडक सङ्ग्रहानि उनव्याद्यक संकलन उन्हें। 2) धारायात्र अद्भारीलना अन्तर्गत प्राथमिलतात्ना इग्राह्यारका क्राम्हान्सार सडकहरन्का हतार उन्ते । 3) विविद्य । BOTZEG: मित) प्रस्ताव में 9 उपर स्त्रापत्र अर्दी वापक्रींड, आँउपालिका का यातायात अर्ड्राजना तर्जुमाका लागि यस वर्ड् है 9 7) अएका बिद्यान एक एक प्रस्तावित एउकहरूको पाहरमन तन्त्रा मउक मन्छन्द्री आंवश्यक तन्या इन्द्र Genera Jiel misi unica milizi, 1 האין ענתים הע שער בתונהם זוצר עותועות געייאני इन्तर्गत प्राथानिकताका ड्याद्यांता का है व निर्धन सडकहर जिम्न अलानुसार निर्णय जारियो / Graimondani 3-112/12ni H300EG मा 9) हैरे बेली वज यप्रा देखि पक्की पुल सको लक्की हैंदे चिमाउ. क्युशाउ. चोक समा (90 MEZ 27112001

Page No. Date : / / त्र हो की देखें की प्रत हैंद्र तनी हयाद हैरो सामुदायिक अवन हैंद्र हैरे दहरा 55का सम्म (१० मिटट रोगायिकार) ग्राम्य केली बजको कारेने देखे सामुदायिक अबन सम्म (द मिर्ट्य सेत्राधिकार) त्रेण ह) मध्यारः रोक द्रोटिक स्कूल स्वास्क्य चोको हैंद्र अन्न खेल सोकोह्यूँ हैंद्र होक सम्म (द्ष मिया देग्राहिकार) जिये देरों आई बिगत्रका एउक (६ मिट होता हिका माह) चिमार गाउँ लित्रका स्टक (हमिय देग्राधिकार) मिन्द्र) प्रस्ताव के इडि इत्यात जर्मा विविध्न इत्यान उपरियो । प्रस्तुत वैस्क २०८२ १०२ १९ गरे मह मल कर बिहान ट: ३० रुजे सुक अई विड्रसी वर:00 रुजे हामापन जल्दी mani

Page No. Date : 1 गण्डकी प्रदर्भ आज मित्र 2029 साल जेला जाहताको वयु गते भारताका दिन मुहलाइ. जिल्ला बायक्रोड. आउँट्यालिका वडा में २ क) 03) अह्यका क्री मन बहादुट हिशाचन ज्यूको अह्यक्रातामा वापक्रीड उगडेपालिकाकी यातायात जुद्ध्योजना तयार उन्हे मार्वन्धी वडा हतरिय केर्य जिम्म आत्माको उपार्ष्यतीमा act toorzee Sizer SUTEUN -9) औ महा वहादुर हिसाबल पडा अखरा हा बड़ा अध्यक्ष ही राजु प्रसिंह जालवल दोयणलिहा सहत्व स्ति के सी हरि जात का का का सहस्य 12 & A कुट्ट हिरासक में कार्य पालिका स्ट्रस्थ छालिता दातात जारेणलिंग खरत्य 314711 ST छलायाया जरियार चडा वस्विव al 3422 31621 हु की बमल हिरायहर गाउँ मुखिया उतिकृ ज्वात्यत गाउँमाविया SI ठी वकि हिरायन गाउ सिमिसिव ३२० (जाल हिराचन 127 21 90. 21 श्रकि हिराखन 99-24 विहिंद ज्याखत माल वहाड़ी कारण-सत 72. र्हानाल स्रिम्बन 93. हूलो छाण्डा लाल का 98. खुने महादु हिरायन 92. RIFER लाल सल 93. - लाहीमाहा जातित्वल X91Km 96. १८. लॉल प्राह हिरावन विकेमान का पहल onuteric अक्रिरामें दबात्यत ourhigas. 20% 10 GIG 601 (008) 120. पुरी द्वमार नामकन 29. पुर्वेहा लाल-यन 22. 4=119,23. 2113 4miler

Page No. प्रभोड त Date : 1 माकाः द्रहेराः गण्डकी द्रहेराः इंग्री मेगार त्वान्तिय 28.21 TEN हैरेड डमार डिराजन 3, 24. At २९. भी नगेर्द्र लाख रहर da a. 2220 F 26. 51 २८. ४ वीमन जाल रात 23. St lagun armen 2217 ERIE ariginar 30. 50 29. 20 रात 23161 जात्मचल 30 देवीलाल लालवत 32. Egla A विनोद्ध काल राज 33. 2021 moren 38. ST rudy रखेला स्वास्वन 3%. 21 3 coto corcer 35. SO logitz barbar Del 36. sand ति ३- थल ज्या - थल ST SC. 33. st estation Hor Jol 80. A sitin caren 89. 31 विजेत काल्सिय BHON WEUL K2. 151 obde 82.151 Regarde Ownerth मिण mar x &. 1st STUN Urgi er Se. St BIN OFIGI Green डिरान्टन 85. N RIN 21121 gts azisi ग्वजा D \$6. सन्डर्घ जोरुन 8 x रमेर विभान 20 20 TIMEILOTALIA St Kala Eh: तज्ञानांग मार्ग-2 यत धरपकार जा.पा. दा मुम्याजना सडबुर्ह्न पादि गाने ते था विद्यमान र प्रफार्गने 34 nyoi आवश्मन तत्याहर मेंदल गर्भ साम् कर्या-घं यातामात मुद्रयोजना अन्तर्गत प्राधामडेता का आधारमा 2, ऋगान सार सडकहद्र दें। हतीं ह जाते 3, Falaer 1

Page No. Date : 1 101486 गण्डकी क 9 26210 H ier unis. Erra नाफि ZIALAIN 13ulla 3 511 21 3 A प्रित 26 वडा मा HEG 642 Tan प्रधा 121 manis 5386 सडय F 21 0 2 isai 5-412 2Azar 2 Agmi 777 124 T TJ II a 2 エカ 2 101 750 4 20 מותואת योजना 25 आधा मा 9121 to 2 न्त्र के 2 カメラ FISSES でった 1 192 11 3 1124 STELITY] धार्षकेना हा Z150566 5.4.9 HICO, and dul2 a Tout 2 215 9 - 614 ZIY T đ 39 822 HARS 9 34 ALL तमाग्र X 3 99 5 tul 41-134 10
Page No. Date : 1 min 2029/02/98 min gerarian 12,00 UH 31101 गाउँगालिका का ने द का का आधार ERUSH) 2 स्पाद वालाली ज्यूको अहरा यातात्रा राषकोड. stt thing STIZATION MANTA STARTA TATA STATIL STA सारबन्धी वडा स्तारटा केळा निम्त उनम्पाको उपार्थ्वा तीन out Thorzen oncen 3412042 फलेन्द्र प्रसाद अकाली फलेन्द्र समाद याताली, त) आध्य वडा अध्यक्ष रोजी गामाली, का.पा. सपत्य Taz sur and, as Hufe allony SITE OFIGE ZION LA 3 (बीय ma 8 5113 उगडे मुर्वाय YHIL ZIONIN alonia HEAR 22 (2), 1 34947 Talla 2, Mantor Noz pland 5113 HIZIG STEA MA QUANTER, क्लाव को आधार 2 an i or arz 90 yura vancer 6917 992/ (Onl 2anov/ (2) 92 Zonia Sta Egg QEIZ (0) (Jos azig 210210V 98, STORE Vanio 0 9.4 TAROZ Zionlor 98) (INGETS) zionie 90) 201002 yellor Harry S gt) Finn Vanto 93) SLEZT Maria 20) Forst and elan d da) 3162 1ETS pland 22) REAL STUDION 8 Yanziarar Zhar UISA 28) \$ (4022) 2Th 2101 alin, 1, 11

Page No. Date : वर्षि २६) 2721 1200 , प्राम्हादाता होली Calmis 20) निर्धामाया आण्डात्री , यहां समित वडा सचिव DENTAELO 9) रत हाराद्री, गाँउपालिकाको यातायात्र मुल्योजका तर्जुणाका लगाउँ यस वुडा द छा भएका विद्यमान [HEATAA HISCHEGAN UTERIN NEW FISCH strazeros Aquisios Eranos STA Hraset 2) यातायात अन्त्री साम प्रायाणिक ताका आधारणा जणानुसार सडकहल्की द्वार जोती 3) Talasi 1 FADIZEC-मि. 97 सहलाव के a उपट इलयाने जादा रापक्रींड जाउपाले-काको द्यातायात महिद्योजना सर्नुजाको काठि यस as ha m sound taking T Stand ashelon TIERIA MAI FIS Hraself strazza razisos सितन गरि मार्ग कार्र भरियो לא הוצוגיות לא אות אינייני גער אינייניין לג לא לא אינייניין איניינייין אינייניין אינייניי वडा हं ३ मित्रका पडछ मिरुग माग्रेनुस किर्वाय उग्रियो

Page No. माड गाउँगारु ने वहा कार्यक त्याड, मुस्ताड गण्डली होन साल अर्ड सार्ट्सा राजी Date : 1 1 growmanaran H3Ch86 5097 घट्टवाला जाउठ - 5 होमस्टे सउड 2> · 20 नमाँ धारु 3) 90 - 31-4 दुर्ग्य खडवु 83 धरो खरुउ 81-4 2 फलेन्द्र प्रसाद अकाली वडा अध्यस ... (ain 251 11 1

Page No. Date : 1 1 STIT MA 20 CA RUCHENUT B MEMON 42 STA 53 LAUM मित मुस्लाङ ाजिल्ला वार्यप्रमेड. आउँपालिका वडा में ४ को तडी अन्यत्र श्री यात्र प्रसापु शकाली ज्यूको अन्यप्रमाना AUGHTS. JUSUNATON ON ATAINT STERIAT NUIL स्रार्थ थेठक जिल्हा अन्द्रसारको निर्णयहरू आर्थे। जी मार्ग्रा 031 Salentina OH 1 to यामप्रसाब थकाव्यी 95 21 211 HAIL LOURT वडा अध्यक , 05 312251 19512 21 रगन वडा सद्दय AT 31176 53205. 3 asi 21624 8 junday 2113 साम्ब EUN HErs 95151 4210 3 राजन खातिन र कार्र 36 (2) OL 4 21 M 4 41 of तेव वहा युट भवा की 910) चाद वहादूर थकाली (0 1299) ठोक्या घरेल on) ant diff हृद्य प्रसाद र्थेष 93 Any acting 20. चल्द्र वाह्यदूर रेप्रिडठ 29. घम मार् शुरुठठ 22-8133 J, 21/ 23 28 m' areiz (noi のオー」をになって 22 22 -11- E/ 2155 91.8 सानु बि म. 26 स्रायन लाल किने. 25) GUAN 012-50 25) 30) 21AM ZIRYA

Page No. Date : 1 1 शोनम मल्ल में. बडा की नोमसोस, गण्डकी प्रदेश 31 RE विश्व याड्क्र 32 serals. obtes. 33 obens. 38 Any 2525. 34 मलत 38 815. 2525format 331 21 (80) (89) 244.415 550 82 isidas. MIZIG onn 43 AILATIS. 214-8. arr なのえ 88 aconti 214219 200 89 जानस 9/05 84 attallot Texts - Jigas-1 Auto 30001 6 82 30 1992 no Ð 85 eur SICM 20 R X 27 SIDIE xiz-ud 22 Reteatez 3328 स्तानेल भह्या 23. Lrs-49-1 550 72 near XX. 21 man まれしく 21 201 TT' 26 104 ala YZ 0 265 28 SIGI EUX ALAIN Eeo KINZ 29 121 15 311(73 T Lyn 42. yay 2165. P 63 3 9

Page No. Date : 1 1 सत के माटी नेपाली सत परप्रकार्ड र 68 जोमसाम दूर्दा गण्डकी दूर्दा रनवीला otarol the. Eed, 102/30 हिरी आइ मी 64 od las. 4.30 3-2415. 3202. Ee6, 3205. CE 1957 EET, igg, And 512-5 d=113-113 60 Gian Nu1 6.91 69 Plas 62 anou लमा BIZAS. सांतम 63 68 खुबड भ गुरुटे-69 ant 31205. येञ्ठा 680 JI5+2. ~ नार्शा 66 2450 20121 62 2205. 2)205. TISIK 2 63 GTON 20 नेपाल 291 ETA Oralgi $\tau 2)$ sule all 0 T3 GISIS 28 MISOMISO 25350 TZ Em 1550 35356 TE 周·高 a 0 21105112 y qui 21910 Ele Xally a 4 Pl: 2125 NETHIM TC A T9 भी ल रतन्द्रश 8 So (Theling alim Я H 89. 1207 XGIG Ul1 50

Page No. Date : 1 1 प्रफाबर्द y. A. 9, TH ERYATT. JI. 4 त्रीमावा 41210 कार्ति यम बडा ते. ४ AT NKST 122 INTA रताडि रुद्र पहिनान ART IST GALLY GITAZING amiss thear my 5-7-2 यातात्रम र्जामणे जना कारतेरोत पार्थाप्रकेताडा आधारमा अमानुसार साइउंहन्डे। Entrent1 4.7.2 a fazi निर्वायहद 7. 4.9. प्रावने. 341 9 धलादन जाइ Erunis उपालिडे के यातायात म्द्रियोजना 71 5 यत नेडा त्नार्ज भएका विद्यमान 5. K ЯT 2 YCATOTA Zasassa 448-011 maria 221 455 223128 ALAT St2 demisit כוא भरिया GUY प्रताबने 2 उपर द्वप्रत जहा 21121212 236 योजना फ्रान्तेजन प्राधामरेगडा आधात्म कार्म. ४ मित्रहा रतडा तिम्त उत्राह्मतुखा निमेच गरिमा र्ष आधामा स्टर्भरेन वयाम्प्रको जग्गा दे 9. धपु वडार दिला ta うしょ 2 जोजलोग मार- कुल्म वन जान वारेर -Qni 3 स्त्री फेदफ्ला (ध्रमार्ग वडा बामेलम देखे -वडा जामीतम - लाबिर 2 मे. वडा देवतर्रा देह मार्ग)हम 8 2 पुलने देउँबा2 मोन्द 0516 निरित Fim ((तोन्धमार्ग) हर्न (and Finst pref बडा अध्यक्ष alar.

Page No. Date : 1 1 विद्या कार्य ज्ञाहजाकी १७ उन्ते STIN MIN 2029 FIM TOTEQ'(Ch) 70 TAD ME ais. TUTON/ alughis. a3107 2 JIJUIINChI as sterry Tantal sugar Th 3-1222212/11/ arushis. JIJUIING ZUNIZIA ans 5% 501 AZAT 59f Myars 800 BEITAN FAILU 3011-2 IZIE (G mo Sinter CIE BUILDEN ર્ઝ Vichter a5) 3122/21 -2 बहादु CICINA a).U). AU(U CATIS M 04681 Ziane n. q. H. म 712-05 30 8 n.a.H. ch. 10 Chigan Uchier 5113 niaul 01202 210n W E En ynga TES OFATA 9 THE WWW 0 11 11 C 3 " 11 5)8 TUT SEIZ auntal 21 लव ann eland 905 H0221 Uls U21221212121 99 De 12mm 22121 92 2 11 1) (13) 211 21201 ORIN 11 1, 27001 42712 2100 m) REAL asi 98)

100th Page No. Date : YENTAK a) यस द्यापकोड. आउपालिलाको यातायात उद्भयो लग र्ग्ताका लगार्डा वस का मू या आएक विधमान द AENTIAN RESOLETAN GIE 21101 Gail HESS FIRATER Stazurs rouising Hanera Jik 1 2) עותועות געוליון אינואינוא אינואיוא אינואיוא א Susuran Aning HIC Franker Enic STA 3) 191921 nonier П 9.> ЯЕЛА П 9 За салья этаг ин ЕГИЗАЗ JIISUITANANTAN ZUAILIN STERIAT AUTINAN (115) यस वडा में द्र मा खण्का विद्यमान र प्रस्तावित एडमहत्वे पहिरात तथा मडक सारबन्धि आवश्यक तथ्याइक Figure JIST LIST CHICA MILED A.2) AFRIG na sul Earthan Jiat ZIAIZIA Sprainstan Brows Intrandian Strentin नेश्व किर्मा सडक जिस्त केलानुसार mora GIRINANAITAT SATERIAN (BOAREL चिनीयाड - देती अगल (नडके (देमी. स्रोगित 50 9> 2) MONIGIA - FUNTERIS - 25 FRIZIS HSB (T FALL & ATTISION (324 NSI J, Fai FISOS (2 51) - ZUITIZCHI dewt

-N Page No. Date : w 1 1 ACVZ116 जाउ मेमज 85 6201 - 2 rai HSO (EN) - WYIE SIN हो H303 (5 7). STATIERON X 14 M.3> Palazo Saura STREA YEdan Folo 90 2102146 बडा अध्यक्ष 2 Ward Chairman

ANNEX –III: DEMAND FORMS

	घरपझोङ ग	॥उँपालि	का, मुस्त	नाङ			
۶. २.	माग फारम वडा न. :		THE REAL	गुरोध)	5.5 1		
		विंग, ज	ALL	बाटोको	प्रकार	ويروي ويتعركوه الإركاني	प्राथमि
को	ड बाटोको नाम	चौडाई	नया बाटो खोल्ने	स्तरोन्नति गर्ने	पुनरुत्थान गर्ने	अवधिक मर्मत	- कता क्रम •
9,	दरा गती पुडा न्यपा दिट्वी मर्क्स छल् सानो लक्सी लिमाइ	90					9
2,	नती हुइ प्रबंध छत्य इई तली ध्याइ हरी स्वामरीकी अवत इस देखा हुछ	90 T					2
2	मन्त्री श्र मा बारो हो दि सामुझाछन	٤		12.11	1 (1 TA (1 × TA)		32
8	भवत रेला मेन्यु शाहा न्यानु-' स्तुत्न- स्वाप्त्य- - गत्ना स्वन स्वार्ज भूम - हाव म्ला	1A 8					8
بر	En 113 [m] 27 453	ž,					X
5	দ্দিদার সার শির্দ্বা শ্রার	5					E

पहिलो प्रार्थमिकताका लागि १, दोस्रोका लागि २ भर्नुहोस्।

माथिको प्रार्थमिकता 2019/0192.
 मितीमा बसेको वडा बैठकबाट तोकिएको हो।

४. लाभान्वित बस्ती :



िर्दत घटरा गुम्बा दिरो घटरा अरग र्दरे आधाषत विभानप आजा रामुर भवन हरी ५. वडामा भएका मुख्य मुख्य केन्द्रहरुः MANIC. Grand nay 2 O Farter ESIS () जानतान्त्रीर देरो सामुराणि 711 @ नित्र गिरी आ. निपाल ग कलकी धहरा زما) (- गर्न,) महिले। समुह भवन Dert En Casus (8) ETA ERITA S) Z 21 JT13 4515 (2) न्जिमाङ सामु गामने भूनत 90 . gain (3) दतिते समाज जिनिमाली 99 @ ENIGATION HIBSINGS MAN TIME (12 ि भन्नि सामुद्रानिक भन्त, साम्द (an nal ६. वडामा भएका मुख्य मुख्य वस्तीहरुबाट वडा कार्यालय र गाउँपालिका कार्यालय जान लाग्ने औसत

६. वडामा भएका मुख्य मुख्य वस्तीहरुबाट वडा कॉर्यालय र गाउपालिको कॉर्यालय जीव लोग्व जोतत समयको बिबरणः

	and stable TES	औसत समय (मिनेटमा)						
मुख्य वस्तीहरु	घरधुरी/	वडा व	फार्याल य	गाउँपालिक	ग कार्यालय			
The second second	जनसंख्या	पैदल	गाडी/बाइक	पैदल	गाडी/वाइक			
e Ty HIS	220	3051.	902.	25102	30711			
(2) देरी	200	251.	271.	9.2 5101	20 21			
	- 1 ibi 11-	un fil de	1		the second second			
	21 22.71	ar the second						
the interior to the address								
	1.012			the strong				
					in the second			

७. माथी लेखिएको विवरण सहि छ। २०८०/०२ १४२ माथी उल्लेखित विवरण सबै छलफलबाट पारित गरिएको घोसणा गर्दछु। एक प्रतिलिपी वडा कार्यालयमा रेकर्डका लागि राखिएको छ।

वडा संयोजकको हस्ताक्षर नामः आस पहादुर् भन्हा स मिति : 2079/02/92

> वडा अध्यक्ष Ward Chairman



वडा सचिवको हस्ताक्षर

वडा साचवका हस्ताक्षर नामः नोविन्द्र भव्ठाप्ती मिति : २०८०/०२/१४

घरपझोङ गाउँपालिका, मुस्ताङ

माग फारम (सडकका लागि अनुरोध)



१. वडा न. : ____

२. प्रार्थमिकताका आधारमा तालिका भर्नुहोस् :

	कोड बाटोको नाम		2	प्रायमि			
कोड		चौडाई (जी-)	नया बाटो खोल्ने	स्तरोन्न्ति गर्ने	पुनरुत्थान गर्ने	अबधिक मर्मत	करा क्रम *
۹,	जाफा - धीरायसि वेस क्याज	90	~	V			9
2,	मार्फ - स्तिप कुछि फार्म हाउ	Z					2
2,	धट्टकोन - नि. स्वेलमेगान	Ę					3
8,	आप्ति हिम्दा - रतभा मृह रतम	2					8
ξ,	ब्रह्यरेड्ब. लि.खेलफ्रीम श्रम	E					X

पहिलो प्रार्थमिकताका लागि १, दोस्रोका लागि २ भर्नुहोस्

-

४. लाभान्वित बस्ती :



५. वडामा भएका मुख्य मुख्य केन्द्रहरुः	िश्विर भारता
@ मार्फी ट्वारतान्धीर	
2 stata	9 71174 7531
3 Internation and and as 5	Sapple all
(trade for s. 27 + aj	७ त्रद्रात् १हरा
() मा गुन्म	Ag hand and
(5) RE45: 2721	192) VIEW torr, 513.97



६. वडामा भएका मुख्य मुख्य वस्तीहरुबाट वडा कार्यालय र गाउँपालिका कार्यालय जान लाग्ने औसत समयको बिबरणः

		औसत समय (मिनेटमा)						
मुख्य वस्तीहरु	घरधुरी/	वडा ब	नर्यालय	गाउँपालिका कार्यालर				
<u>^</u>	जनसंख्या	पैदल	गाडी/बाइक	पैदल	गाडी/बाइक			
मार्फा गर्छ,	160	929.		945	2007.			
		and						
					1 Via			
	1 10 10 C		and the second second					
				alana diserangi selarangi selarangi selarangi selarangi selarangi selarangi selarangi selarangi selarangi selar Selarangi selarangi se				
				$\frac{\partial F}{\partial r} = \frac{\partial F}{\partial r}$				
					14			

७. माथी लेखिएको विवरण सहि छ। २००१ ०/१८ माथी उल्लेखित विवरण सबै छलफलबाट पारित गरिएको घोसणा गर्दछु। एक प्रतिलिपी वडा कार्यालयमा रेकर्डका लागि राखिएको छ।

वडा.अध्यल

वडा संयोजकको हस्ताक्षर नामः 747 र्न १ टि<127 मिति : 2009 242



वडा सचिवको हस्ताक्षर नामः फुलामार्गा परिसार् मिति : 2009 (02 (१८ घरपझोङ गाउँपालिका,

माग फारम (सडकका लागि अनुराष्ट्र),

१. वडा न. : ...र

२. प्रार्थमिकताका आधारमा तालिका भर्नुहोस् ः

कोड	बाटोको नाम			प्राथमि कता			
		चौडाई	नया बाटो खोल्ने	स्तरोन्नति गर्ने	पुनरुत्थान गर्ने	अबधिक मर्मत	क्रम *
9,	घट्टे जाला सडक	٤		/			
2,	होत्रस्ट सउड	90		~			
3,	रमा सडब	90		~			
۴,	दुक्न सडड	31.7		~			
٤,	धरी थाइः सडड	अन्म		~			

पहिलो प्रार्थमिकताका लागि १, दोस्रोका लागि २ भर्नुहोस्।

- माथिको प्रार्थमिकता 2009 02 95
 मितीमा बसेको वडा बैठकबाट तोकिएको हो।
- ४. लाभान्वित बस्ती :

कोड **	बस्तीको नाम, घरधुरी/ जनसंख्या
	42101 2715. BZA
	दुवन्य जाँउ
	With Eys. 7113
	gamia fant
	जुम्माइ. जांड (बहार) होती में बच्ती

** २ न. तालिका अनुसार भर्नुहोस्।

५. वडामा भएका मुख्य मुख्य केन्द्रहरु 9) 27115. 200224 37142 211 2 tovan 4101 90 3 201224 3नारोजप Vm) end comis avai 8 भन्न) जुमा 3 and & UIICTS. STAI STA Trai MI ISE GIAI chimi

६. वडामा भएका मुख्य मुख्य वस्तीहरुबाट वडा कार्यालय र गाउँपालिका कार्यालय जान लाग्ने औसत समयको बिबरणः

		औसत समय (मिनेटमा)					
मुख्य वस्तीहरु	घरधुरी/ जनसंख्या	यडा '	कार्यालय	गाउँपालि	का कार्यालय		
goritint		पैदल	गाडी/बाइक	पैदल	गाडी/बाइक		
GUIN ZUIS OZA	50/220	3%	9	Ep	20		
70-11 2113	22/20	90	3	90	20		
raleus Dita	6/29	90	3	64	22		
youton and	92/80	20	G	62	22		
4 9411, DITS (ACT))	851920	30	92	20	92		
क रोते के बात	2/20	22	90	50	27		
			-				

७. माथी लेखिएको विवरण सहि छ। 2001 ० १६ माथी उल्लेखित विवरण सबै छलफलबाट पारित गरिएको घोसणा गर्दछु। एक प्रतिलिपी वडा कार्यालयमा रेकर्डका लागि राखिएको छ।

फलेन्द्र प्रसाद थकाली

वडा अध्यक्ष

वडा संयोजकको हस्ताक्षर नाम: धार्लेन्द्र प्रसाद थकाली मिति : 20 टन (02 / 9६ (तहेल्र्ड) वडा सचिवको हस्ताक्षर नाम: निर्धगाथ भण्डार्टी मिति : २० ८९ / ०२ /१६

घरपझोङ गाउँपालिका, मुस्ताङ



माग फारम (सडकका लागि अनुरोध)

१. वडा न. :४

२. प्रार्थमिकताका आधारमा तालिका भर्नुहोस् ः

	कोड बाटोको नाम	14		प्राथमि कना			
कोड		चौडाई	नया बाटो खोल्ने	स्तरोन्नति गर्ने	पुनरुत्थान गर्ने	अबधिक मर्मत	क्रम *
9)	421154210 512311 GIZO - Ery 0512 21517	ZFT		1			
2)	तोमस्रोम व्याट - कुर्के वन जाने बाटो	-ZA					
z)	वडा कार्यात्म केर्टन - र्यामको, किंद झाम्म (हन जार्जा)	ETh					
%)	वडा कार्यलय - ट्याविम २ त-वडा (वेदवत्वर्ध्वकं मार्ग)	玉舟					
3	कार्व पुलका, देखार स्रोन्द इद लिटिया साम (बदी जार्ज)	द्रक्रि					

पहिलो प्रार्थमिकताका लागि १, दोस्रोका लागि २ भर्नुहोस्।

माथिको प्रार्थमिकता 2079/02/96 मितीमा बसेको वडा बैठकबाट तोकिएको हो।

४. लाभान्चित बस्ती :

कोड **			बस्तीको नाम, घरधुरी/ जनसंख्या
er)	yalari	जीमकोम	200 / 220
1			

** २ न. तालिका अनुसार भर्नुहोस्।

५. वडामा भएका मुख्य मुख्य केन्द्रहरुः BN ANZAIN THOMAS STATEN NEW DI-A जिला आस्पताल जोनमोंग हारियां जिसी आवर्तिय कारिड र रेग्रे सामुदामिक छल छित्र केन्द्र Ronfina children have 99 ast anniary बीन गुम्बा (क्रोमसोम) STOCT STRING 92) 93) Fron Stalond 21101 21102 १४) महिता महुर जॉममोम (View Point) 12) (2)2 2124日 - 212-11

६. वडामा भएका मुख्य मुख्य वस्तीहरुबाट वडा कार्यालय र गाउँपालिका कार्यालय जान लाग्ने औसत समयको बिबरणः

मुख्य वस्तीहरु		औसत समय (मिनेटमा)					
	घरधुरा/	वडा	कार्यालय	गाउँपालिका कार्याल			
- • •	जनसंख्या	पैदल	गाडी/बाइक	पैदल	गाडी/बाइक		
นุยลา ราหสาก	200/ 270	90	2	90	2		
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		10					
					and the second second		

७. माथी लेखिएको विवरण सहि छ। <u>२०८९ /०२/१६</u> मितिमा बसेको वडा बैठकले माथी उल्लेखित विवरण सबै छलफलबाट पारित गरिएको घोसणा गर्दछु। एक प्रतिलिपी वडा कार्यालयमा रेकर्डका लागि राखिएको छ।

वडा संयोजकको द्वस्ताक्षर eich ici नामः यात्र प्रसाध मिति : 2079 यामप्रसाद

नामः नारायार मितिः २२व द्वार्थिद्व / १९६८ स्वर्ग तचिव वडा सचिवको हस्ताक्षर

ताङ

घरपझोङ गाउँपालिका, मुस्ताङ

माग फारम (सडकका लागि अनुरोध)

१. वडा न.

२. प्रार्थमिकताका आधारमा तालिका भर्नुहोस् :

		चौडाई (मि)	बाटोको प्रकार				प्राथमि कता
कोड	बाटोको नाम		नया बाटो खोल्ने	रत्तरोन्नति गर्ने	पुनरुत्थान गर्ने	अबधिक मर्मत	क्रम *
ÿ	चिति हारु देती अग्रेल सिडक	E	V			2	9
R	(1001 (-20 - Frito ais - estorezis E150	Z		V			2
Z	कुइम तेड्रा आउला संडक	Z		~			3
8	र्शुल्या ताल पुलयाक राज्या संदर्भ	E		V			8
X	ह्यांचि सडक	Er					z

पहिलो प्रार्थमिकताका लागि १, दोस्रोका लागि २ भर्नुहोस्

- माथिको प्रार्थमिकता मितीमा बसेको वडा बैठकबाट तोकिएको हो।
- ४. लाभान्वित बस्ती :

कोड **	बस्तीको नाम, घरधुरी/ जनसंख्या				
2)	toat				
2)	ZIM				h.
2)	Grat				

** २ न. तालिका अनुसार भर्नुहोस्

18.24 RUHAR 97) धननी दंगाहतय 98) धन्ननी होंप्र स्टे Astas 120 Ast 'icen any itell DIS IER ५. वडामा भएका मुख्य मुख्य केन्द्रहरुः मी माने जम्म मा म দ্র্যা তার্ न्दात के रखार्य (नज) S Grai qe) ANTA जीमसोम इवास्या योंसी क्रिय में रेडरा ग्रीना 99) torizity 5159 92) ELLHADE (Beal (Beal) 45.55 JIAI 48) हम हो ताल Gri STAT (57 मा) नामा घार्ष (as-al 200) (B निल्हार) बोत करान्य) ६. वडामा भएका मुख्य मुख्य वस्तीहरुबाट वडा कार्यालय र गाउँपालिका कार्यालय जान लाग्ने औसत समयको बिबरणः औसत समय (मिनेटमा) घरधुरी/ गाउँपालिका कार्यालय वडा कार्यालय मुख्य वस्तीहरु जनसंख्या गाडी/बाइक पैदल गाडी/बाइक पैदल 9210 3/2 8211 90 1 929 929 9050 3019 6217 Zotu T 800 2014 aoum COTA 211

७ माथी लेखिएको विवरण सहि छ। <u>2079/02/96</u> मितिमा बसेको वडा बैठकले माथी उल्लेखित विवरण सबै छलफलबाट पारित गरिएको घोसणा गर्दछु। एक प्रतिलिपी वडा कार्यालयमा रेकर्डका लागि राखिएको छ।

9

वडा संयोजकको हस्ताक्षर नामः प्रादेप् भकानी मिति : 2009/02/90

	वडा सचिव				
:					
1	वडा सचि	वको हस्त	ाक्षर		
नाम:					
मिति	:				

ANNEX – IV PHOTOGRAPHS



Consultant: Alpha Design and Development Pvt. Ltd.



Rural Municipal Transport Master Plan 2024



Consultant: Alpha Design and Development Pvt. Ltd.





Gharapjhong Rural Municipality Office of the Rural Municipal Executive Jomsom, Mustang Gandaki Province, Nepal



Gharapjhong Rural Municipality **Office of the Rural Municipal Executive**

Jomsom, Mustang

Gandaki Province, Nepal

RURAL MUNICIPAL TRANSPORT MASTER PLAN (RMTMP)

VOL-II

PREPARED BY:

Alpha Design and Development Pvt. Ltd.

Baneshwor-31, Kathmandu

August, 2024



Gharapjhong Rural Municipality, Mustang

ANNEX-V: GIS MAPS

Consultant: Alpha Design and Development Pvt. Ltd.

STRATEGIC ROAD NETWORK MAP OF NEPAL



Consultant: Alpha Design and Development Pvt. Ltd.

Gharapjhong Rural Municipality, Mustang



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Gharapjhong Rural Municipality, Mustang



Consultant: Alpha Design and Development Pvt. Ltd.

Rural Municipal Transport Master Plan 2024

ANNEX –I WARD WISE ROAD

	Road		ROW	Appro	ox. Length	ı (Km)	
S.N	Code	Road Name	(m)	Earthen	Gravel	New Track	Total
1	PRN	Ring Road	15.0	-	3.21	-	3.21
2	B001	Bailie Bridge Pakki pul hudai Tali Ghyang Chhairo Samudayik Bhawan hudai Chairo Chhahara Gumba Samma	10.0	1.29	-	-	1.29
3	B002	Chhairo Bailie Bridge Chapra dekhi Pakki Pul Sano Lakki hudai Chimang Kiuthang Chowk Samma	10.0	3.13	-	-	3.13
4	D001	Bailie Bridge ko Bato dekhi Samudayik Bhawan Samma	6.0	0.19	-	-	0.19
5	D002	Bailie Bridge dekhi Kaligandaki Kinar hudai Mhutanche Chihanghat Ringroad jodne Sadak	6.0	-	-	1.24	1.24
6	D003	Chhairo Aabi dekhi Wada 1 Karyalaya Samma	6.0	0.07	-	-	0.07
7	D004	Chhairo Chho dekhi Gau Paxadi hudai Samudayik Bhawan Samma	6.0	0.20	-	-	0.20
8	D005	Chhairo Gau Bhitra Sadak	6.0	0.20	-	-	0.20
9	D006	Chhairo School Gate dekhi Mul Sichai Kulo hudai Chha Ghyema Charana hudai Chhairo Chhahara Gumba Samma	6.0	-	-	1.03	1.03
10	D007	Ghatte Dada Balprasad ko Khet hudai Thulo Lakki Samma	6.0	0.28	-	-	0.28
11	D008	Kiuthang Chowk dekhi School Swasthay Chauki hudai Gumba khet Sokoghyun hudai Gheku Samma	6.0	1.08	-	-	1.08
12	D009	Samudayik Bhawan dekhi Sinchai Kulo hudai Hilme Ghatta Dada Samma	6.0	-	-	0.40	0.40
13	D010	Tali Ghyang Bato dekhi Wada niskine Bato	6.0	0.03	-	-	0.03
14	0001	Kiuthang Chowk dekhi Chimag Gau bhitra ko Bato	4.0	0.17	-	-	0.17
15	0002	Kiuthang dekhi Sebithan Jane Bato	4.0	0.08	-	-	0.08
		Grand Total		6.72	3.21	2.67	12.60

<u>Foot Trails</u>

SN	Road	Road Name	ROW	Length		
5.1	Code	Koau Name	(m)	Earthen	Stone	Total
1	P001	Samagri dekhi Chhairo Gau Samma Padmarga	2.0	-	0.33	0.33
2	P062	Kyuthang dekhi Ghursang Gufa hudai Leka Padmarga (Yak Kharka Padmarga)	2.0	2.10	-	2.10
Grand Total				2.10	0.33	2.43

SN	Road	Road Name	ROW	Approx. I	ength (Km)	Total
9.1N	Code	Koad Name	(m)	Earthen	New Track	Total
1	B003	Marpha Dhaulagiri Base Camp Jane Sadak	10.0	10.45	5.74	16.18
2	C001	Marpha Sapi Krishi Farm Jane Sadak	8.0	2.39	-	2.39
3	D011	Aalubari dekhi Sapi Krishi Farm Samma Sadak	6.0	-	6.12	6.12
4	D012	Buddha Ghar dekhi Chi Khel Maidan Samma	6.0	-	0.23	0.23
5	D013	Dhanprakash ko Khet dekhi Tindhara Samma	6.0	-	0.23	0.23
		Sadak				
6	D014	Ghatta Khola dekhi Chi Khel Maidan Jane	6.0	0.64	-	0.64
_		Sadak				
7	D015	Marpha Homes dekhi Sabha Griha Samma	6.0	-	0.14	0.14
0	0002	Kyun Jhayng Jhyang bata Marpha Helipad	10		0.11	0 1 1
0	0003	jane Sadak	4.0	-	0.11	0.11
	Grand Total			13.48	12.57	26.05

<u>Foot Trails</u>

SN	Road	Road Name	ROW	App	rox. Leng	gth (Kn	1)	Total
9.14	Code	Koau Naille	(m)	Concrete	Earthen	Stairs	Stone	Total
1	P002	Dalit Basti Marpha Sign Board Jane Padmarga	1.5	-	-	0.09	-	0.09
2	P003	Dhaulagiri Hotel dekhi Pra Gumba Jane Padmarga	1.5	-	-	-	0.19	0.19
3	P004	Highway dekhi Ward 2 Karyalaya Jane Padmarga	1.0	-	0.26	-	-	0.26
4	P005	Highway Marpha Homes dekhi Sabha Griha hudai Khang Samma Padmarga	1.0	-	-	-	0.27	0.27
5	P006	Highway Surendra ko Khet dekhi Khang Samma Padmarga	1.0	-	0.21	-	-	0.21
6	P007	Jerry Galli Briksharopan Jane Bato	1.5	-	0.16	-	0.11	0.26
7	P008	Jerry Galli dekhi Dalit Basti Jane Padmarga	1.0	-	-	-	0.10	0.10
8	P009	Kosheli Chowk dekhi Khola Samma Goreto	2.0	-	0.10	-	-	0.10
9	P010	Kot Ghar dekhi Dalit Basti Jane Padmarga	1.0	-	-	-	0.07	0.07
10	P011	Marpha dekhi Dhaulagiri Base Camp Jane Padmarga	2.0	-	3.99	-	-	3.99
11	P012	Marpha Health Post Padmarga	3.0	0.06	0.11	-	-	0.17
12	P013	Marpha Mhaneghang dekhi Dhaulagiri Base Camp Jane Padmarga	4.0	-	-	0.11	-	0.11
13	P014	Marpha Sechi Goreto Bato	2.0	-	3.74	-	-	3.74
14	P015	Rajmarga dekhi Thaleban Jane Padmarga	2.0	-	2.63	-	-	2.63
15	P016	Tindhara dekhi Apple Park Samma Padmarga	1.5	-	-	0.33	-	0.33
	Grand Total			0.06	11.20	0.53	0.74	12.52

CN	Road	DeedNews	ROW		Appr	ox. Length ((Km)		T-4-1
5. IN	Code	Koad Name	(m)	Concrete	Earthen	Gravelled	New Track	Stone	Total
1	B004	Homestay Sadak	10.0	0.05	-	0.65	-	-	0.70
2	B005	Lamthang Sadak	10.0	-	1.04	-	-	-	1.04
3	B006	Naya Sadak	10.0	-	0.36	-	-	-	0.36
4	B007	Pancho Sadak	10.0	-	0.51	-	-	-	0.51
5	C002	Kichithan Sadak	8.0	-	1.69	-	-	-	1.69
6	C003	Pulchowk Sadak	8.0	-	1.92	-	-	-	1.92
7	C011	Dharmashala Sadak	8.0	-	0.50	-	-	-	0.50
8	D016	Ghattekhola Sadak	6.0	0.08	-	0.43	-	-	0.52
9	D017	Pancho Sadak	6.0	-	-	-	8.87	-	8.87
10	D018	Puthang Highway dekhi Uttar Bhitri Sadak	6.0	-	0.06	-	-	-	0.06
11	D019	Puthang Sadak	6.0	-	0.40	-	-	-	0.40
12	D020	Sokupla Sadak	6.0	-	-	-	0.45	-	0.45
13	0004	Dharothang Sadak	4.0	-	-	-	-	0.23	0.23
14	O005	Dhukuche Sadak	4.0	-	-	-	-	0.53	0.53
	G	irand Total		0.13	6.49	1.08	9.32	0.76	17.78

<u>Foot Trails</u>

SN	Road	Road Name	ROW		Approx. Leng	gth (Km)		Total
0.11	Code	Koau Maine	(m)	Earth	New Track	Stairs	Stone	Iotai
1	P017	Aani Gumba Bato	3.0	-	-	-	0.07	0.07
2	P018	Buddha Samudayik Bhawan dekhi Dharothan Sadak Samma	2.0	-	-	-	0.28	0.28
3	P019	Club Marga	1.5	-	-	0.08	-	0.08
4	P020	Eklebhatti Bato	2.0	0.23	-	-	-	0.23
5	P021	Ghyokhang Bato	1.5	-	-	-	0.13	0.13
6	P022	Ghyokhang Bich ko Bato	1.5	-	-	-	0.04	0.04
7	P023	Ghyokhang Tallo Bato	2.0	-	-	-	0.08	0.08
8	P024	Lamathang Kichithang Padmarga	2.0	-	1.38	-	-	1.38
9	P025	Park dekhi Ghatte Khola Sadak Samma Padmarga	2.0	0.08	-	-	-	0.08
10	P026	Park dekhi Syang Aarogya Kendra Samma Padmarga	2.0	-	-	-	0.12	0.12
11	P027	Somle Bato	2.0	-	-	-	0.07	0.07
12	P028	Tangcho Padmarga	2.0	5.33	-	-	-	5.33
13	P029	Tashi Lhakhang Bato	1.0	-	-	-	0.09	0.09
14	P030	Yrken Chhyoling Gumba dekhi Park Samma Padmarga	2.0	-	-	-	0.19	0.19
15	P063	Jhongana Ghang Padmarga	2.0	0.06	-	-	-	0.06
		Grand Total		5.70	1.38	0.08	1.07	8.23

Consultant: Alpha Design and Development Pvt. Ltd.

	Dood	Road Name	POW	Ap				
S.N	Code		(m)	Concrete	Earthen	Gravel	New Track	Total
1	PRN	Ring Road	15.0	-	-	0.65	-	0.65
2	C004	Dhapu Marga	8.0	-	2.08	-	2.90	4.99
3	C005	Kungle Marga	8.0	-	3.81	-	-	3.81
4	D021	Chhimitong Sadak (Highway dekhi Lopenkunje Samma Padmarga)	6.0	-	2.22	-	-	2.22
5	D022	Krishi Bank Paxadi Baikalpik Hospital Jane Bato	6.0	-	0.12	-	-	0.12
6	D023	Nilgiri Marga (Adalat dekhi Litikh Samma Krishi Sadak)	6.0	-	0.39	-	-	0.39
7	O006	Jomsom APF Sadak	4.0	-	-	1.12	-	1.12
8	O007	Prashasan Marga	4.0	0.35	0.52	-	-	0.87
	Grand Total			0.35	9.14	1.76	2.90	14.16

<u>Foot Trails</u>

C N	Road	Road Nama	ROW		Total			
9.IN	Code	Koau Name	(m)	Earth	New Track	Stairs	Stone	Total
1	P031	Badri Marga dekhi Lithik Sadak Samma Bato	3.0	0.13	-	-	-	0.13
2	P032	Dhagarjung Padmarga	2.0	5.44	-	-	-	5.44
3	P033	Highway dekhi Samaj Ghar Jane Bato	3.0	0.14	-	-	-	0.14
4	P034	Hyarujho View Tower Sidi Padmarga	2.0	-	-	0.36	-	0.36
5	P035	Kathepul dekhi Dakshin Sidi Padmarga	2.0	0.09	-	-	0.06	0.14
6	P036	Purano Gumba Marga	2.0	0.32	-	-	-	0.32
7	P037	Sidi dekhi Lungtapar Dhorje Xodne Sthal Padmarga	2.0	-	0.33	-	-	0.33
8	P038	Sohan Marga	2.0	0.16	-	-	-	0.16
9	P064	Jomsom hudai Tower Padmarga	2.0	4.89	-	-	-	4.89
	Grand Total			11.16	0.33	0.36	0.06	11.91

	Road		POW	Approx	. Length	(Km)	
S.N	Code	Road Name	(m)	Earthen	Gravel	New Track	Total
1	PRN	Ring Road	15.0	-	8.09	-	8.09
2	C006	Dhumba Phyangthang Seto Khola Ghaitong Sadak	8.0	1.52	-	1.40	2.93
3	C007	Sallarukh Chinighang Dhunchithang Sadak	8.0	2.74	-	-	2.74
4	C008	Thini Kaisang Sadak	8.0	9.59	-	-	9.59
5	C009	Thini Khol Lhokothang Sadak	8.0	1.62	-	-	1.62
6	C010	Thini Namu Sadak	8.0	13.96	-	-	13.96
7	D024	Dhumba Dhojyang Sadak	6.0	1.26	-	-	1.26
8	D025	Dhumba Tal Pulchowk Dhumba Sadak	6.0	3.06	-	-	3.06
9	D026	Ghochi Sadak (Krishi)	6.0	1.06	-	-	1.06
10	D027	Ghongthang Bhatang Sadak	6.0	1.15	-	-	1.15
11	D028	Hyarujho View Tower Sadak	6.0	1.11	-	-	1.11
12	D029	Kuchhap Teranga Gumba Sadak	6.0	0.67	-	-	0.67
13	D030	Pamithang Chhamachho Sadak	6.0	-	-	3.01	3.01
14	D031	Phyangthang Chemchyo Murghyung Sadak	6.0	5.03	-	-	5.03
15	O008	Chini Ghang Chheti Bhagal Sadak	4.0	-	-	0.57	0.57
16	O009	Kunughyung Sadak	4.0	-	0.11	-	0.11
17	0010	Malmi Ghang dekhi Chhangjho Ghang samma Sadak	4.0	-	-	0.58	0.58
		Grand Total		42.76	8.20	5.57	56.53

Foot Trails

CN	Road	Dood Name	ROW	Length	(Km)	Tetal
5. N	Code	Koad Name	(m)	Earth	Stone	Total
1	P039	Devlal ko Ghar dekhi Mhane hudai mathi Homestay Gate Samma Bato	2.0	0.13	0.16	0.29
2	P040	Durbar Chowk dekhi Devlal ko Ghar Samma Bato	2.0	-	0.07	0.07
3	P041	Durbar Chowk dekhi Homestay Gate Samma Bato		0.14	-	0.14
4	P042	Jomsom Health Post Chowk dekhi Snow Leopard Cave ko Bato Samma Padmarga	2.0	0.09	-	0.09
5	P043	Khampachhetang dekhi Jhalunge Pul hudai Gharapjhong Killa Jane Bato	2.0	0.27	0.44	0.72
6	P044	Lhakim Karpo Gumba dekhi Deepak ko Ghar Samma Bato	2.0	-	0.07	0.07
7	P045	Mhane dekhi Chinighang Samma Bato	2.0	0.10	-	0.10
8	P046	Mhane dekhi Sichai Kulo hudai Lhokung Ke Samma Bato	2.0	0.26	-	0.26
9	P047	Nakhicham Mhane dekhi Ghatta hudai Snow Leopard Gate Samma Bato	2.0	0.22	-	0.22
10	P048	Samle Bato (Ka)	2.0	0.20	-	0.20
11	P049	Samle Bato (Kha)	2.0	0.09	-	0.09

Consultant: Alpha Design and Development Pvt. Ltd.

Ghara	rapjhong Rural Municipality, Mustang			Rural Municipal Transport Master Plan 2024				
C N	Road	DeedNews	ROW	Length	(Km)	T-4-1		
5. N	Code	Koad Name	(m)	Earth	Stone	Total		
12	P050	Samle Bato (Ga)	2.0	0.56	-	0.56		
13	P051	San Prasad ko Bari dekhi Devlal ko Ghar Samma bato	2.0	-	0.05	0.05		
14	P052	Shree Mukti Namuna Aabi Ring Road Samma Bato	2.0	0.08	-	0.08		
15	P053	Snow Leopard Cave Jane Padmarga	2.0	0.14	-	0.14		
16	P054	Syau Gram Jane Bato	2.0	0.25	-	0.25		
17	P055	Thakali Homestay dekhi Mathi Bato	2.0	0.16	-	0.16		
18	P056	Topthang dekhi Chinighang Samma Bato	2.0	-	0.21	0.21		
19	P057	Topthang dekhi Gumba hudai Ring Road Samma Bato (Ka)	2.0	0.03	0.13	0.16		
20	P058	Topthang dekhi Gumba hudai Ring Road Samma Bato (Kha)	2.0	0.05	-	0.05		
21	P059	Topthang dekhi Nakyucham Samma Bato	1.5	-	0.17	0.17		
22	P060	Tshiring Prasad ko Ghar dekhi Mhane Samma Bato	2.0	0.06	-	0.06		
23	P061	Ward Karyalaya Chowk dekhi Topthang hudai Sallarukh Sadak Samma Bato	2.0	-	0.46	0.46		
		Grand Total		2.83	1.77	4.60		