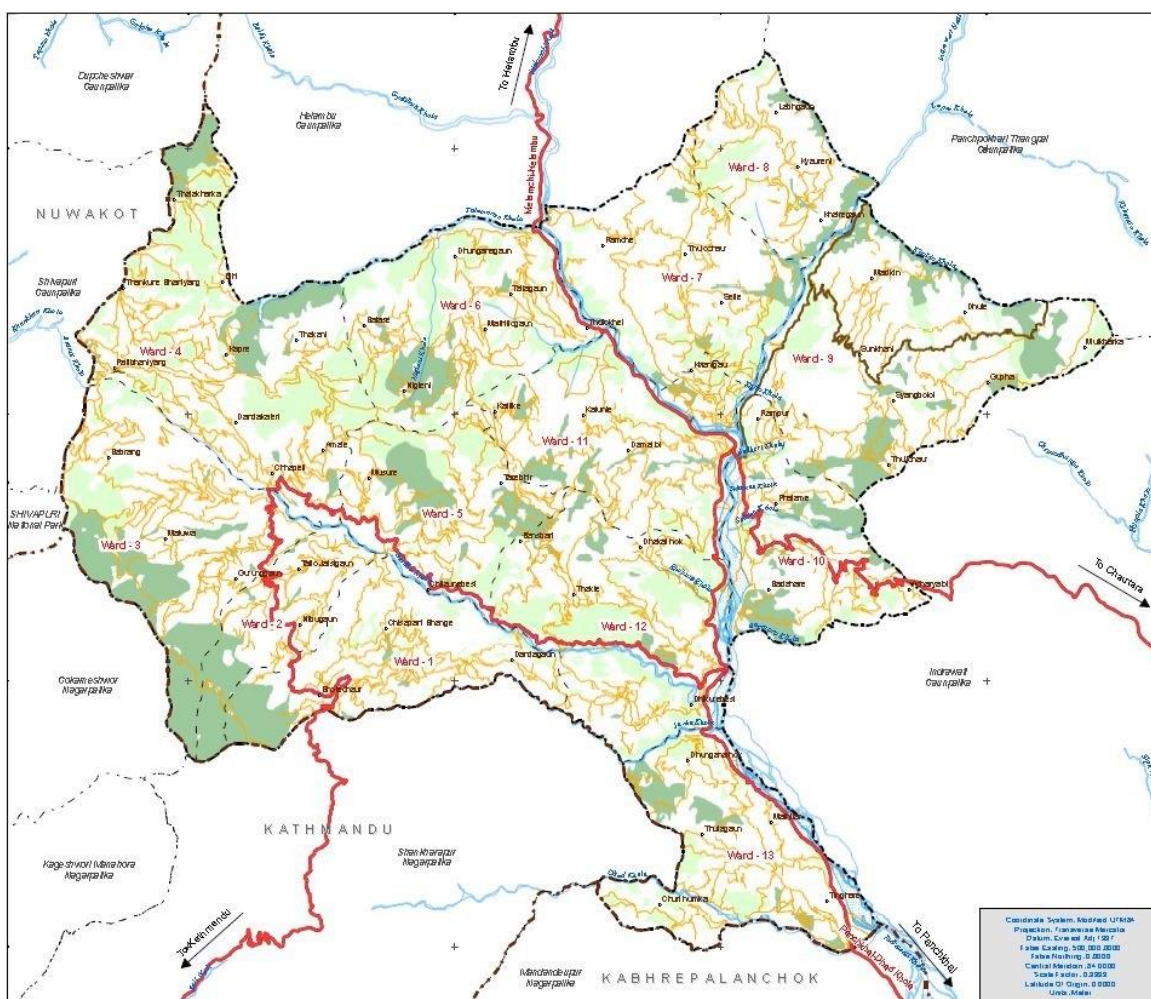




Government of Nepal
Ministry of Federal Affairs and Local Development
Office of Melamchi Municipality

Preparation of Municipal Transport Master Plan (MTMP) of Melamchi Municipality



Prepared By:

JV of

A-Not Architecture and Architect Pvt. Ltd. &

Architects and Allied Pvt. Ltd.

FINAL REPORT

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The Study Team

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Abbreviations

DoLIDAR	:	Department of Local Infrastructure Development and Agriculture Roads
DoR	:	Department of Roads
DPA	:	Development Potential Area
DTO	:	District Technical Office
GIS	:	Geographical Information System
GoN	:	Government of Nepal
GPS	:	Global Positioning System
Ha	:	Hectare
HH	:	House Hold
IDPM	:	Indicative Development Potential Map
I/NGO	:	International/Non - Governmental Organization
KM	:	Kilometers
LSGA	:	Local Self-Governance Act
MIM	:	Municipality Inventory Map
MoFALD	:	Ministry of Federal Affairs and Local Development
MRCC	:	Municipality Roads Coordination Committee
MT	:	Metric Ton
MTMP	:	Municipality Transport Master Plan
MTPP	:	Municipality Transport Perspective Plan
NGO	:	Non - Governmental Organization
NRs	:	Nepalese Rupees
P-RRA	:	Participatory Rapid Urban/municipal Appraisal
ToR	:	Terms of Reference
TU	:	Transportation Unit
UR	:	Urban Road
VDC	:	Village Development Committee
VR	:	Village Roads
Yr	:	Year
ZoI	:	Zone of Influence

सारांश

सडक सञ्जाललाई विकासको मेरुदण्ड मानिन्छ। जसले मानिसको सेवा तथा सुविधाको पहुँचलाई अभै फराकिलो बनाउँदछ। यातायातले गर्दा मानव आवागमन एवं सामान ढुवानी सहजता बढ्नु गई बजार, केन्द्र, औद्योगिक क्षेत्र, सामाजिक सुविधा प्रदान गर्ने केन्द्रहरू जस्तै स्वास्थ्य, शिक्षा आदि सँगको पहुँचलाई अभै सहज हुन जान्छ र विभिन्न किसिमका अवसरहरू प्राप्त हुन जान्छ। यातायात क्षेत्रमा अनुसन्धान तथा यस क्षेत्रको योजना र विकास मुख्यतः मानव आवागमन एवं सामान ढुवानीको आधारमा गरिन्छ। नगर यातायात गुरुयोजनाले नगरपालिका भित्र दुरगामी योजनावद्ध नगरस्तरिय सडक सञ्जालको विकासमा टेवा पुर्‍याउँछ। तसर्थ यो नगर यातायात गुरुयोजना तयार पारिएको छ।

मेलम्ची नगरपालिका बागमति अञ्चलको सिन्धुपाल्चोक जिल्लामा पर्दछ। यो नगरपालिका यस जिल्लाको एउटा प्रमुख तथा पुरानो बजारहरू मध्येको एक हो। २०७४ मा यस नगरपालिका को जनसंख्या ५८,८१४ पुगेको छ। यस नगरपालिकाको जनघनत्व ३६६ जनसंख्या प्रति वर्ग कि. मि. रहेको देखिन्छ।

नगरपालिकाको आर्थिक श्रोत र तर्क संगत निर्णय प्रकृयाको लागि निर्देशिकाहरू तथा मापदण्डको आधारमा सामाजिक तथा आर्थिक विकासको तथ्यांक एवं अन्य सामाग्रीहरूको संकलन र अध्ययनको विश्लेषण एवं संश्लेषणको आधारमा यस नगरपालिका भित्र जम्मा छ वटा वर्तमान तथा संभावित बजार केन्द्रहरू Centrality Index को आधारमा पहिचान गरिएको छ। जस अनुसार क श्रेणीमा एउटा ख श्रेणीमा एउटा र ग श्रेणीमा एउटा स्थलहरू रहेका छन्।

सडक सञ्जाल अर्न्तगत पर्ने सडकहरू सडक आधार क्षेत्रको आधारमा वर्गिकरण गरिएको छ, जसअनुसार

सडक श्रेणी	लम्बाई, कि. मि.	सडक संख्या
क	५२।५२	५
ख	४२।९७	५
ग	१५३।६८	३०
जम्मा	२४८।१७	४०

यस नगरपालिकामा जम्मा ४० वटा सडकहरू रहेका छन्। जसको कुल लम्बाई २४९.८८ कि. मि. छ। यी सडकहरूका विभाजन संघीय मामिला तथा स्थानीय विकास मन्त्रालयको नगर यातायात गुरुयोजना तयार गर्ने निर्देशिकाहरूका आधारमा क श्रेणी सडक (मुख्य सडक), ख श्रेणी सडक (सहायक सडक) तथा ग श्रेणी सडक (टोल सडक) गरिएको छ। सडकहरूको विवरण माथि प्रस्तुत गरिएको छ। यस बाहेक यस नगरपालिका भएर छ वटा सहायक राजमार्ग जान्छन्। यसले गर्दा यस नगरपालिकाको सडक सञ्जाल राम्रो देखिन्छ र यो नगरपालिका देशको अन्य भाग सँग पूर्ण रूपमा सडक सँग जोडिएको देखिन्छ। नगरपालिकाको सडक सञ्जाल राम्रो भएता पनि सडकहरूको भौतिक अवस्था राम्रो रहेको छैन। सडकहरू धुले र ग्राभेल भएको कारणले उक्त समस्या आएको देखिन्छ। यसको साथै सडक छेउ नालाको अभावमा पनि सडकको अवस्था दिन दिनै नाजुक बन्दै गएको देखिन्छ। तसर्थ सडक सञ्जालमा थप सुधार साथै सडकको भौतिक अवस्थाको सुधार आजको आवश्यकता हो।

नगरपालिकाको वर्तमान सडक सञ्जाल, सामाजिक र आर्थिक अवस्था तथा बजारहरूका विकास अवस्थाको अध्ययन तथा अहिले आवश्यकता अनुसार नगर यातायात गुरुयोजना अर्न्तगत क श्रेणीको ५२.५२ कि. मि. सडक, ख श्रेणीको ४२.९७ कि. मि. सडक तथा ग श्रेणीको १५२.९९ कि. मि. सडक स्तरोन्नतीको लागि प्रस्ताव गरिएको छ।

पाँच वर्षिय आर्थिक योजना नगरपालिकाको अर्थिक अवस्था र अन्य निकायहरूबाट प्राप्त हुने आर्थिक सहयोगको आधारमा तयार पारिएको छ। जस अनुसार पाँच वर्षको लागि कुल प्रक्षेपित रकम रु ३२९,९७३,९४४.९४ रहेकोमा ७० प्रतिशत रकम सडक स्तरोन्नतीको लागि र बाँकी ३० प्रतिशत मर्मत तथा संभारको लागि विनियोजन गरिएको छ।

नगर यातायात गुरुयोजना तथा पाँच वर्षिय आर्थिक योजनाको आधारमा पाँच वर्षको लागि वर्षेनी भौतिक तथा आर्थिक लक्ष्य निर्धारमा गरिएको छ। यस लक्ष्यले वर्षेनी कुन श्रेणीको सडक कति कि. मि. निर्माण/स्तरोन्नती तथा मर्मत/संभार गर्ने र त्यसको लागि आवश्यक रकम समेटेको छ। यसको विस्तृत विवरण तलको तालिकामा समावेश गरेको छ।

रकम रु हजारमा

सडक वर्ग	075/076		076/077		077/078		078/079		079/080	
	लम्बाई (कि. मी.)	प्रस्तावित बजेट	लम्बाई (कि. मी.)	प्रस्तावित बजेट	लम्बाई (कि. मी.)	प्रस्तावित बजेट	लम्बाई (कि. मी.)	प्रस्तावित बजेट	लम्बाई (कि. मी.)	प्रस्तावित बजेट
क	1.82	43,266.66	2.00	47,514.16	2.00	47,514.16	1.84	43,654.13	1.00	23,300.38
ख	-	-	0.23	4,405.83	0.78	14,789.83	1.55	31,110.65	2.93	58,604.22
ग	-	-	-	-	-	-	-	-	0.50	7,813.14
जम्मा	1.82	43,266.66	2.23	51,919.99	2.78	62,303.98	3.39	74,764.78	4.43	89,717.74

Executive Summary

It is obvious that transport is one of the major components to improve access of the people to services and facilities through increased mobility. Increased mobility results in better linkages with the market centres, service centres, agricultural production pocket areas, business centres, industrial area and help in generating numerous opportunities in the municipality. With the transport sector interventions and planning based on accessibility considerations, Municipality Transport Master Plan (MTMP) for a municipality offers a long term perspective for the planned development of the municipal roads network in the municipality. Thus, MTMP is being developed in Melamchi Municipality including other programmed Municipality to support for the probable investments in the development of systematic transport system with appropriate guidelines and criteria for rational decision making process.

Melamchi Municipality is located in Sindhupalchowk district of Bagmati Zone in Province No. 3 of Nepal. The municipality is one of the major and old market centers of the district. It covers an area of 160.63 km². Road transport is major transport mode in Sindhupalchowk district. There are no airports in the area of Melamchi. The nearest airport is Tribhuvan International Airport which is situated in Kathmandu Valley which is only about 49 Km away from city centre of Melamchi. Surface transport facilities through the national highway, district roads and the feeder roads are significantly high.

The total population of the Melamchi Municipality is 58,814 and the household size is 4.97 in average. Around 50.5 percent of the population is male and 49.5 percent of the population is female. About one third of the population is under 14 years of age, and only 7% of the population are above 60 years of age. Around 44 percent of the total population is economically active. About three quarters of the population are either Tamang, Brahman or Chhetri, where Tamang have the highest proportion of about 34%, followed by Brahman and Chhetri with 24% and 16% respectively.

In order to arrive at the socio-economic profile of various existing and potential market centers, the consultant has studied relevant documents/reports and conducted socio-economic survey through consultation and interaction with program/project personnels and the local people. After a thorough study of the roads in the municipality, the road class includes the following as discussed below.

Road Class	Length, km	Nos. of Roads
A	52.52	5
B	42.97	5
C	153.68	30
Total	248.40	40

The municipal roads network in Melamchi Municipality consist of 40 roads comprising a total of nearly 241.88 km length which are classified as class A (Main collector Road), B (Collector Road) and C (Tole Road) in accordance with the Guidelines of MTMP prepared by Ministry of Federal Affairs and Local Development (MoFALD) and the discussions with the MRCC. The remaining roads have been classified as Class D Roads. Besides urban/municipal road network, this municipality consists of 50.32 km of strategic roads

(Feeder Roads). From these data, it can be regarded that Melamchi Municipality is in a relatively better transport situation. However, most of the municipality roads are earthen/gravel surface, mostly in fair weather condition and need to be upgraded. The roads that are blacktopped are not in a favorable condition. Present study also reveals that accessibility areas can be categorized into accessible and partially accessible wards.

After a thorough study of urban/municipal transport network and the related socio-economic and development trend of existing and potential market centers of the municipality, 52.52 km road of Class 'A', 42.97 km road of Class 'B' and 153.68 km road of Class 'C' are proposed for upgrading / rehabilitation.

The first five-year financial plan is prepared on the basis of the present available financial resources and the existing trend of funding from various sources and their projections for the next five years. Total projected financial resource for the first five year is NRs. 321,973,144.94. Sharing of the total financial resource to various interventions of roads and bridges is 70 % for upgrading/rehabilitation and 30 % for maintenance.

Based upon the prioritized transport linkages and the projected financial plan, first five year Municipality Transport Master Plan (MTMP) indicating the year-wise physical and financial target has been prepared. Various categories of interventions of new construction, maintenance and upgrading/rehabilitation for different classes of roads including the trail bridges has been addressed with year-wise physical and financial targets. Total target for different interventions in the first five year MTMP has been summarized as follows:

Budget ' 000

Road Class	075/076		076/077		077/078		078/079		079/080	
	Length of construction (Km)	Allocated budget in NRs. 000	Length of construction (Km)	Allocated budget in NRs. 000	Length of construction (Km)	Allocated budget in NRs. 000	Length of construction (Km)	Allocated budget in NRs. 000	Length of construction (Km)	Allocated budget in NRs. 000
A	1.82	43,266.66	2.00	47,514.16	2.00	47,514.16	1.84	43,654.13	1.00	23,300.38
B	-	-	0.23	4,405.83	0.78	14,789.83	1.55	31,110.65	2.93	58,604.22
C	-	-	-	-	-	-	-	-	0.50	7,813.14
Total	1.82	43,266.66	2.23	51,919.99	2.78	62,303.98	3.39	74,764.78	4.43	89,717.74

CHAPTER 1: INTRODUCTION

1.1. BACKGROUND

Melamchi Municipality is located in Sindhupalchowk District of Province no. 3 in the Central Region of Nepal. The municipality is one of the major and old market centers of the district. It covers an area of 160.63 sq.km. Road transport is the major mode of transportation in Sindhupalchowk district. There are no airports in the area of Melamchi. The nearest airport is Tribhuvan International Airport which is situated in Kathmandu Valley which is only about 49 Km away from city centre of Melamchi. Surface transport facilities through the national highway, district roads and the feeder roads are significantly high.

The total population of the Melamchi municipality is 58,814 and the household size is 4.97 in average. Around 50.5 percent of the population is male and 49.5 percent of the population is female. About one third of the population is under 14 years of age, and only 7% of the population are above 60 years of age. Around 44 percent of the total population is economically active. About three quarters of the population are either Tamang, Brahman or Chhetri, where Tamang have the highest proportion of about 34%, followed by Brahman and Chhetri with 24% and 16% respectively.

Development activities are mainly dependent on the transport facilities available. Adequate roads network in any municipality is the key infrastructure for good transportation. Transport facilities help in developing access to urban/municipal-urban linkages; stimulate marketing activities, various service activities and crop production. Road accessibility can reduce isolation; encourage availing public services and help to transfer technology. Road construction has been seen to bring about notable enthusiasm and visible changes in the urban/municipal life. However, in the absence of rational criteria and professional guidelines, road constructions are carried out in an adhoc manner in the newly formed municipality.

Local Self-Governance Act (LSGA) provisions formulation of local development plan according to needs based, bottom-up and participatory approach. It has prominently defined tangible steps for formulation of such development plan. Underlying objective of this plan is to make investment for planned development within each of the local bodies' territory. Ultimately, development endeavors help attaining sustainable livelihood and improved well-being of people. People's needs for sustainable livelihood and improved well-being are such that they require better access to information, markets and opportunities; they need better access to health, education and other goods and services. Accordingly, gradual investment from state owned and private entities in physical infrastructure development evolved urbanized and semi-urbanized settlements leading to improved access to various services, opportunities and resources by interior communities.

Municipality Transport Master Plan (MTMP) is being developed in the municipality to support investments in transport development with appropriate guideline and criteria for rational and transparent decision making process.

Transport is one of the major components to improve people's access to services and facilities through increased mobility which ultimately results in better linkages with market centres, service centres/agricultural production pocket areas and other opportunities in

the municipality. With transport sector interventions and planning based on accessibility considerations, Municipality Transport Master Plan (MTMP) for a municipality offers long term perspective for the planned development of the urban/municipal roads network in the municipality.

Municipality Transport Master Plan is primarily a reflection of existing transport infrastructure situation and future potential ones in consistent with the resources available in the municipality. MTMP essentially covers the urban/municipal transport infrastructures, which are funded, supported and implemented by the municipality. The MTMP preparation strongly advocates meaningful participation of all key stakeholders of urban/municipal roads in the planning process, which makes MTMP more acceptable and ensure ownership. The preparation process goes through a series of techno-political activities that include consultation workshops and interactive meetings with stakeholders to increase participation of the stakeholders. These activities include municipality level workshop and ward level workshops, formal/informal meeting, focus group discussions and transit walk etc. At every stage of its preparation, careful consideration is to be given to ensure easy access and active participation of representatives from line agencies, major political parties, social leaders, local level NGO's, women organizations, dalit and janajatis coordination committees, disabled people, chamber of commerce, transportation association etc. The approach is to work towards consensus building among all the stakeholders.

Proper planning and sustainability are the key issues for development of urban/municipal transport network. The MTMP is designed to take account of the real needs of the people for infrastructure. A comprehensive MTMP serves as a planning document when potential donor agencies, line agencies and development partners will have ready-made tool to discuss with the municipality authority for possible transport sector investments. MTMP becomes an authoritative document of the municipality to negotiate possible grant and loan assistance from the donor agencies. It facilitates project identification. Donors or funding agencies supporting urban/municipal transport investments have accepted MTMP as a prerequisite tool for transport related assistance.

1.2. OBJECTIVE OF THE STUDY

The overall objective of the consulting services is to prepare the Municipality Transport Master Plan (MTMP/MTPP) of the Melamchi Municipality, Sindhupalchowk district, Nepal.

1.3. SCOPE AND LIMITATION

1.3.1. SCOPE OF THE CONSULTING SERVICES

The major scopes of works of the services are enlisted herewith:

- Meeting with the Municipality and stakeholders
- Assist in the Formulation of the Municipality Roads Coordination Committee (MRCC)
- Collections of social data /information
- Inventory of the roads
- Analyze the accessibility situation
- Identify and priorities the interventions based on the accessibility situation
- Finalize visionary city development plan

- Prepare Indicative Developmental Potential Map (IDPM)
- Prepare the Municipality Inventory Map (MIM) of Road networks
- Collection of demands for new/rehabilitation transport linkages
- Prepare the Perspective Plan of transport services and facilities
- Synchronize the draft Perspective Plans of adjoining VDCs/Municipalities/ districts
- Develop scoring criteria and its approval from Municipality
- Prepare the five year Municipality Transport Master Plan (MTMP)
- Prepare a realistic physical and financial implementation plan of prioritized roads for the MTMP
- Prepare Municipal Transport Perspective Plan (MTPP)

The Terms of Reference (ToR) along with the suggested checklist for collection of information is produced in **Annex A** and **Annex B** respectively in this report.

1.4. APPROACH AND METHODOLOGY

1.4.1. APPROACH

Accessibility planning as a part of MTMP preparation is an effective tool to assess the existing situation of the services and facilities. The interventions derived from the accessibility planning represent the real needs and priorities of the local people. The planning approach is participatory and bottom-up from the settlement level. The implementation of such projects can certainly be more participatory and owned by the local communities.

The Municipality Roads Coordination Committee (MRCC) has been constituted at the municipality level as authorized legislative body of the municipality. This body, comprising Infrastructure Development Committee Chair, Executive Officer of municipality, two elected or nominated Municipality members, one representative from different political parties, Chiefs of Lines agencies within the municipality, representative from Women and ethnic minority groups, DTO representative, planning section chief of municipality and Technical Section Chief, provided necessary policy decisions during the MTMP preparation process.

1.4.2. METHODOLOGY

The Consultant has studied the entire procedure of project implementation as recommended by the guidelines and MTMP methodology developed. The Consultant has strictly followed the methodology prescribed by the guideline while preparing MTMP of the municipality. The general methodology of the study is outlined below:

Table 1.1: General Methodology of Study

Action No.	Description
1	Assist in the Formulation of the Municipality Roads Coordination Committee (MRCC)
2	Secondary Sources of Information and Review of the existing MTMP
3	Accessibility Data Collection and Analysis
4	Prepare the Indicative Municipality Development Potential Map (IDPM)
5	Prepare the Municipality Inventory Map (MIM) of Urban Road, Main Trails and Bridges
6	Collection of Demands for New/Upgrading/Rehabilitation Transport Linkages from Wards/Settlements
7	Developing Scoring Criteria and its Approval from Municipality
8	Road classification and nomenclature
9	Preparation of Perspective Plan of Interventions of Services and Facilities
10	Analyze Fund Availability for Roads
11	Preparation of the Municipality Transport Master Plan (MTMP)
12	Prepare a Realistic Physical and Financial Implementation Plan of Prioritized Roads for the MTMP Period

The Consultant has followed the following specific process to accomplish the assignment as specified in the objectives and scopes of work in the ToR.

Figure 1.1: MTMP Planning Process and its Methodology

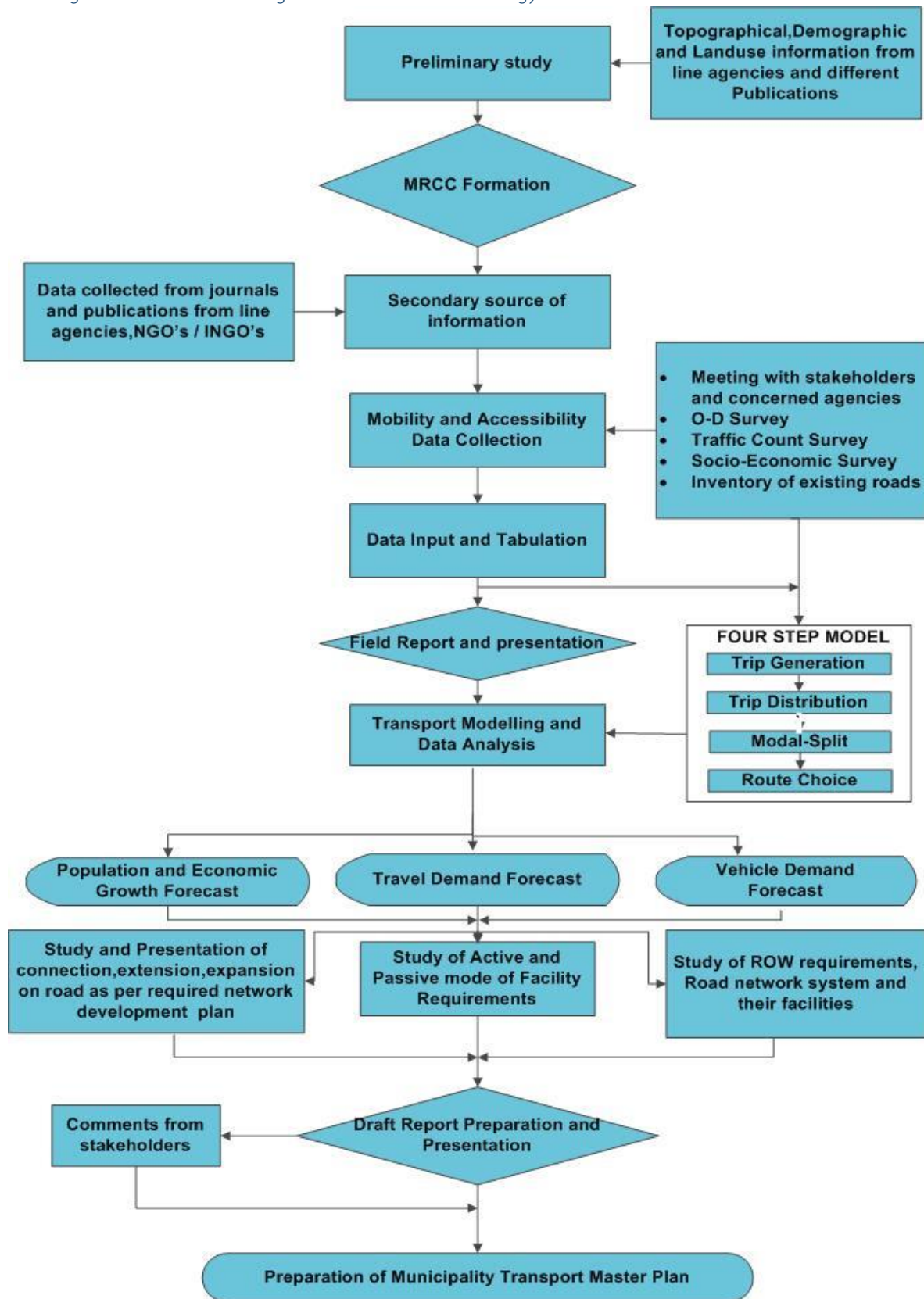
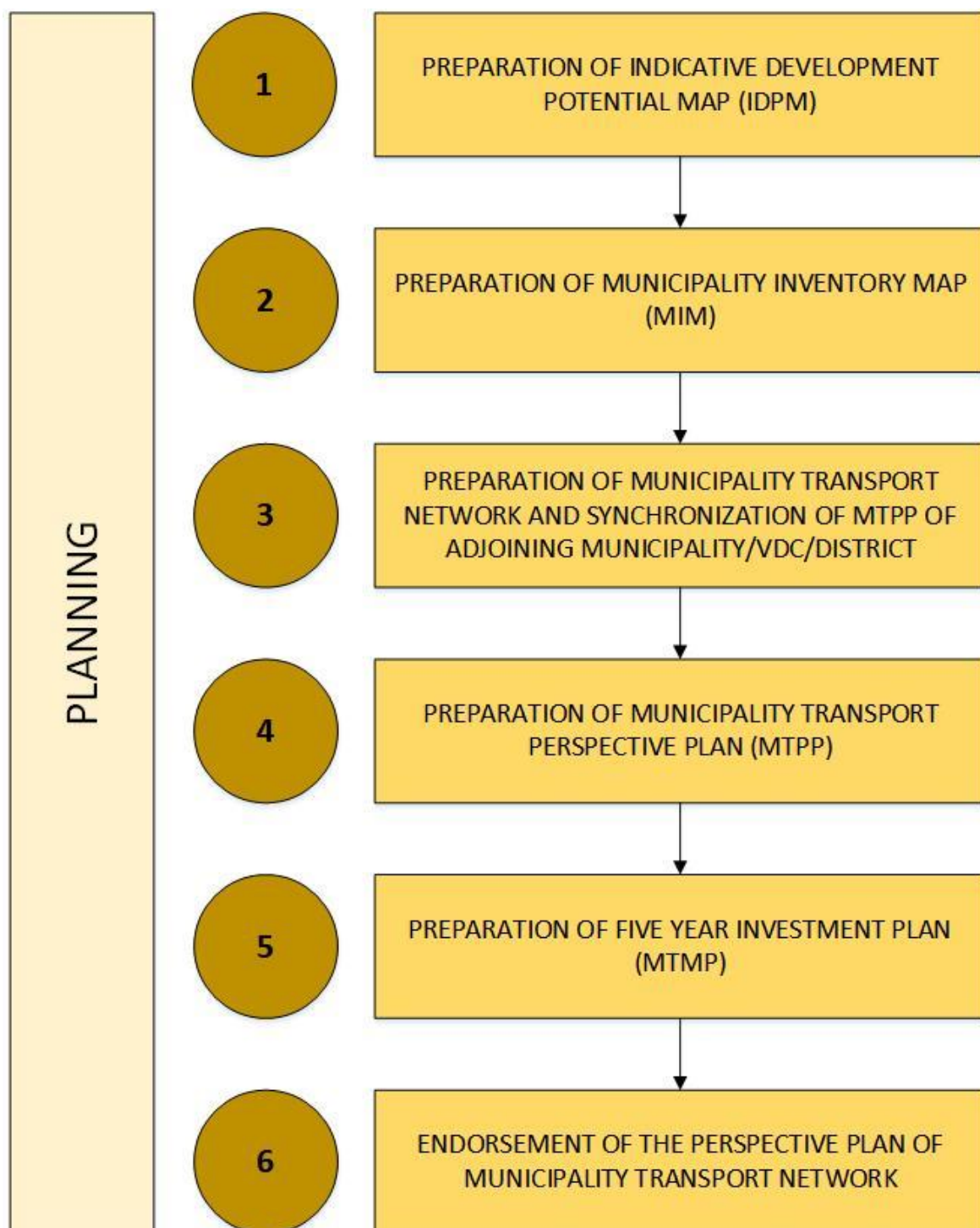


Figure 1.2: Planning Processes for MTMP Preparation



1.4.2.1. ASSIST IN FORMULATION OF MUNICIPALITY ROADS COORDINATION COMMITTEE (MRCC)

The consultants assisted the municipality in the formulation of the Municipality Roads Coordination Committee (MRCC). The committee is to provide support to the municipality in formulating, managing and monitoring Municipality road transport infrastructure policies, rules and regulations.

1.4.2.2. COLLECTION AND REVIEW OF SECONDARY SOURCES OF INFORMATION

Secondary data were collected from by the municipality and consultation with stakeholders, Small Cottage Industries and Local Business Entrepreneurs etc. Field study was carried out for general socio-economic assessment of the municipality. During the field study, data collection was done from primary and secondary sources by using P-RRA and consultation methods with emphasis on related data/information. Field survey method has focused on collection of data regarding area, location and significance of development potential areas such as extensive agriculture, horticulture, livestock farming, high value cash crops, cottage and agro-based industries, centre for business/commerce/markets places, tourism area, service centers; e.g. hospital, health post, agriculture service sub-centre etc. from published reports and documents by line agencies. The information about demographic data of municipality, maps, service flow pattern, various maps showing service centers or the location of SOR (Service of Road) facilities, transport infrastructure inventory, past plans and sector study reports, sector standards and policy targets were collected from the secondary sources - Bureau of Statistics, Kathmandu, Survey Department, Local NGOs, line agencies, the municipality, etc. The details on the documents collected are summarized below:

List of Documents

- Demographic statistics and socio-economic feature of the municipality from the municipality office and CBS website
- List of Roads prepared by the municipality
- Reports of the line agencies
- Report on settlement pattern and market centers of the municipality
- Collection of Maps
- Topo maps of the 1:25000 scales, for use as base map
- Digitized topographic maps of department of survey
- Municipality administrative map
- Municipality road network, Helvetas/ TBSU
- Strategic road network map of DoR.

1.4.2.3. COLLECTIONS OF ACCESSIBILITY DATA AND ANALYSIS

Primary information on existing accessibility level of settlements was derived from the communities, WRCC, Ward officials, school teachers and other related organizations/individuals during the field investigation period to a standard format specially developed for this purpose. The primary data was collected from local people through answer to the structured questionnaires which were filled up by the enumerators. Tracking of the existing road network has been carried out by enumerators employed by consultants using the GPS in the prescribed format as per the Guidelines for the preparation of MTMP.

1.5. ASSOCIATED PROBLEM ENCOUNTERED

The Consultant has tried to collect the required data from the secondary sources as well as group discussions as far as possible, even though it is difficult to get the data from the secondary sources and focus group discussions.

1.6. ADOPTED SOLUTIONS

Key Informant Interview and focus group discussion were used to full fill the data gap as far as possible.

CHAPTER 2: REVIEW OF EXISTING INFRASTRUCTURE SITUATION

2.1. ASSESSMENT OF EXISTING INFRASTRUCTURE SITUATION

Melamchi Municipality has no air transport service to complement the surface transport facilities. Inner and inter municipality mobility and as such the development activities fully depend on expansion of urban/municipal road network within the municipality. In the Municipality, the existing transport system constitutes main roads including strategic roads (Feeder Roads), municipality roads and district road within the municipality are all weather and play vital role in the overall transportation system of the municipality. This municipality has an easy surface transport connection with the major market and commercial cities of the country as well as Indian Boarder. It is to be noted that the most of the urban/municipal roads are in poor condition and need to be improved /upgraded for safe and reliable journey. Brief description of the Main Roads are presented herewith. List of strategic roads is given in Table 2.1.

Table 2.1: List of Main Roads including Strategic Roads

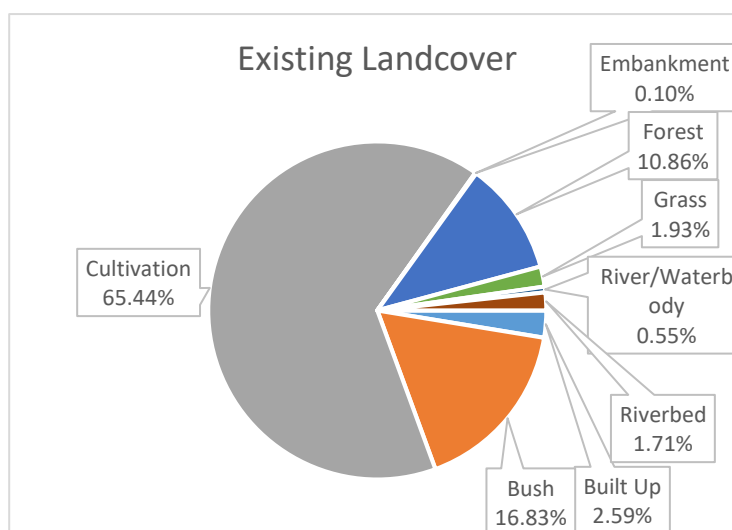
S.N.	ROAD CLASS	ROAD REF NO	ROADNAME	Length in municipality (km)
1	FRN	F030	Melamchi - Helambu Road	6.33
2	FRN	F030	Dhad Khola - Melamchi Road	11.88
3	FRN	F026	Sindu Road	18.95
4	FRN	F026	Bhothang Road	9.35
5	FRN	F026	Shankharapur - Kaule Dobhan	10.2
Total				56.71 km

Source: Field Survey, 2018

The roads in the municipality are not in an acceptable situation. Most of the roads have been damaged due to untimely maintenance and excessive movement of tripper. About 1200 trippers have been registered in the municipality of which, about 700-800 trippers commute on a daily basis. This has also led to the destruction of existing roads. The blacktopped roads have been completely ruined due to the heavy load and lack of proper maintenance. This has brought a serious problem for the travelers and also obstructs the link of the municipality to neighbouring market and cities.

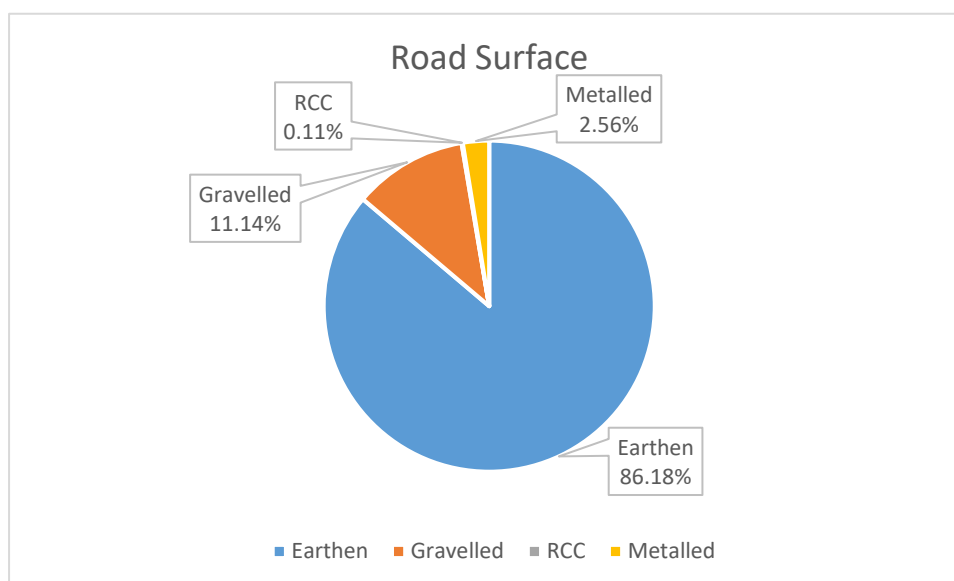
2.2. LANDUSE PATTERN

The existing land use distribution of Melamchi Municipality shows that about 65% of the land is covered with cultivation, as shown in the figure. About 30% of the land is occupied by forest, bush and grass. About 3% of the land is occupied by builtup and the remaining land is constituted by waterbody.



2.3. ROAD AND TRAFFIC

The inventory of the roads in the municipality shows that majority of roads in the municipality is earthen comprising of more than 80% of the roads. The metalled, i.e., blacktop roads available is less than 3% and about 11% of the roads are graveled. The municipality comprises of 0.11% of roads that are the bridges in the municipality.



2.4. VISIONARY CITY DEVELOPMENT PLAN

The municipality is well known as economic centre of the surrounding areas. The place is one of the historic and old markets of Sindhupalchowk district with historical socio-economic linkages with the surrounding settlements and major market centres of the country i.e. Dhulikhel, Banepa and Kathmandu.

It is a place of farming for paddy, wheat, oil seed and vegetable. The climate of the area is favorable for the said cash crops. The most of the people of the municipality is involved in the agriculture.

Based on the existing capacity of the municipality, discussions with the municipality and stakeholders, the lead sectors identified in the municipality are Economic Centre, Commercial Agriculture, Administrative Centre and Tourism Centre.

Administrative / Service Centre: There are Ilaka Police Office, Ilaka Administrative Office, Land Revenue Office, Survey Office, Agriculture Service Centre, Animal Service Centre, Primary Health Service Centre, and Healthposts.

Tourism sector is very significant to Melamchi area considering its diverse tradition and culture. The number of people directly benefited by tourism is not unknown. However, it is obvious that many people are benefited directly or indirectly by tourism. Places like Helambu, Nakote, Melamchi Ghyang and Tarke Ghyang are most attractive places for tourism. According to Nepal Tourism Board, in average, 7,600 to 9,600 trekking permits are issued to the tourists who visit upstream areas of the Melamchi and to the Langtang National Park.

The upper part of Melamchi valley above the Helambu VDC is Langtang National Park. Langtang National Park (LNP) has an excellent condition of the habitat of the wildlife, which is protected. However, in the buffer zone, the habitats are degraded except some patches of forest in the river gorge that have maintained good habitat for wildlife.

Hindu culture dominates the settlements of the valley areas while the Buddhist culture is prevalent in the high mountain settlements. Mid-hill settlements of the valley is the meeting ground of the two cultures. There are more than 11 Hindu temples and shrines, and about 14 monasteries in the Melamchi watershed.

2.5. CONSTRAINTS IN THE IMPLEMENTATION OF MTMP

The transport network consists of several links. It is difficult to construct even the priority roads due to financial constraint and lack of strong effort of the stakeholders. Furthermore, lack of coordination among different stakeholders concerned with the roads can be considered a major constraint in the implementation of MTMP.

CHAPTER 3: INDICATIVE DEVELOPMENT POTENTIAL MAP

3.1. SUMMARY OF MUNICIPAL PROFILE

Melamchi is a municipality in Sindhupalchok District in the Bagmati Zone of central Nepal. At the time of the 1991 Nepal census it had a population of 3936 and had 710 houses in the village. Government of Nepal initiated a drinking water project called Melamchi water supply project to Kathmandu Valley. The boundary of the municipality has been extended by addition of Thakani VDC, Haibung VDC, Bhotechaur VDC, Dubachaur VDC and Lagarche VDC.

The Melamchi Valley is typically narrow, steep Himalayan River-Valley. The lower valley slopes are very steep, rocky and "V" shaped in the High Mountain whereas in the Middle the valley slopes are dissected by rolling alluvial fans at the bottom. The middle mountain slopes, have gentler aspect and are the sites of settlements. The upper mountain slopes are very steep, rocky and with pointed ridgeline. On the contrary, upper hill slopes of middle part are often rounded and smooth and are exploited for mountain agriculture and settlement. Elevation differences between the valley floor and surrounding ridges exceed over 1,000 m in the upper part.

At present, the total population of the Melamchi municipality is 58,814 and the household size is 4.97 in average. Around 50.5 percent of the population is male and 49.5 percent of the population is female. About one third of the population is under 14 years of age, and only 7% of the population are above 60 years of age. Around 44 percent of the total population is economically active. About three quarters of the population are either Tamang, Brahman or Chhetri, where Tamang have the highest proportion of about 34%, followed by Brahman and Chhetri with 24% and 16% respectively.

Culture

Hindu culture dominates the settlements of the valley areas while the Buddhist culture is prevalent in the high mountain settlements. Mid-hill settlements of the valley is the meeting ground of the two cultures. There are more than 11 Hindu temples and shrines, and about 14 monasteries in the Melamchi watershed.

Climate

The lower part of Melamchi valley has Sub-Tropical climate, while the upper part has Cool Temperate climate. Upper part Melamchi valley receives more rainfall than in the lower part. Heavy rainfall occurs in June, July and August. Rainfall in January and February is the lowest. The annual average rainfall in the Melamchi basin is about 2800 mm which is concentrated mostly during four months of the monsoon of mid-June to mid-September. Average annual rainfall conditions vary considerably by location in the valley. In general, average annual rainfall is low at lower elevation and is relatively high in the higher elevation. The average annual rainfall recorded for the period of 1991 to 1996 is 3,410 mm.

Institutions, NGOs and CBOs

There are various government programs conducted through DDCs and VDCs. There are about 38 NGOs and CBOs working the valley. They are working in the field of Health, Environment, Public awareness, Poverty Alleviation and Women development along with youth mobilization. Local Governance Program (LGP), sponsored by UNDP, and Action Aid Nepal (AAN) are working in the field of community development in the valley.

Economy

The per capita income is Rs 6571. Melamchi Valley produces 17,883 metric tons of paddy, while requirement of food grain is lonely 11,027 metric tons per year. About 94 percent of the economically active populations are engaged in farm activities. Most of them are self-employed (over 80%). The major income activities in Melamchi area are services, pottering, business, tourism and remittances. Operation of water mills and fishing are also the major off-farm activities. Fishing is another source of income generating actively for the economically disadvantaged groups of the area. Disadvantaged group includes particularly Majhi, Danuwar, Tamang and Damai & Kami.

Tourism

Tourism sector is very significant to Melamchi area considering its diverse tradition and culture. The number of people directly benefited by tourism is not unknown. However, it is obvious that many people are benefited directly or indirectly by tourism. Places like Helambu, Nakote, Melamchi Ghyang and Tarke Ghyang are most attractive places for tourism. According to Nepal Tourism Board, in average, 7,600 to 9,600 trekking permits are issued to the tourists who visit upstream areas of the Melamchi and to the Langtang National Park.

Health

Over 60 percent of households have access to safe water within 10 minutes' travel time. Only 25 percent households have their own latrines. About 60 percent of the households have garbage pits to dispose household wastes. There is no water based sewer system in the Melamchi Valley. There are altogether 11 health centre within the Melamchi Valley. The nearest hospitals are located in Chautara, Sindhupalchok district and in Banepa (Kavrepalanchok district). An Ayrvedic dispensary is located at Melamchi Bazaar provides outdoor services through Ayurvedic physician. An ambulance has been provided by the MWSP for services in the valley. The service is provided by the Nepal Red Cross.

Environment

River system: The Melamchi River, a tributary of larger Indrawati River basin, originates from the high snowy mountain of the Jugal Himal at an elevation of 5875m. It joins with Indrawati River at Melamchi Pul Bazaar. The length of river is 41 km.

Land use

Land use in the Melamchi watershed is a combination of forest and cultivation. Forest accounts to about 11 percent of the total watershed area while cultivation occupies about 65% of the total area. About 3% of the area is covered with builtup.

Langtang National Park

The upper part of Melamchi valley above the Helambu VDC is Langtang National Park. Langtang National Park (LNP) has an excellent condition of the habitat of the wildlife, which is protected. However, in the buffer zone, the habitats are degraded except some patches of forest in the river gorge that have maintained good habitat for wildlife.

Education and Job Training

About 57 percent of household head are literate. Over 18 percent has received some form of education without attending school, and around 12 percent have some primary level of education, over 15 percent have completed high school and over 11 percent have completed degree. There are 78 primary schools, 10 lower secondary schools, 9 secondary schools and 2 Higher Secondary Schools (10+2) are run by the government in the valley area. In addition, there are 6 boarding schools run by the private sector.

3.2. LIST OF DEVELOPMENT POTENTIAL AREAS

There are various development potential areas that include Melamchi, Bahunepati and Tamarang.

3.2.1. BRIEFS ON DEVELOPMENT POTENTIAL AREAS

Melamchi: It is one of the major and old market centers of the district.

Name of Facilities	No.	Name of Facilities	No.
Campus(no.)	1	Rice and floor mills(no.)	3
Upper High School(no.)	1	Forrest based industries(no.)	1
Hospital(no.)	1	Mechanical/ Fabrication(no.)	1
Health post(no.)	1	Agro based (no.)	1
Hotels & Lodges(no.)	25	Banks (no.)	5
Grocery Shops(no.)	21	Agriculture Service centers(no.)	1
Hardware Shops (no.)	5	Veterinary office (no.)	1
Medical Shops(no.)	2	Post office (no.)	1
Clothes/ readymade shops(no.)	4	Telephone office(no)	1
Household goods	2	Electricity office (no)	1
Stationary	4	NGO (no)	20
		Tourism Place	1

Bahunepati:

Name of Facilities	No.
Upper High School(no.)	1
Primary	1
Health post(no.)	1
Hotels & Lodges(no.)	3
Grocery Shops(no.)	2
Hardware Shops (no.)	1
Medical Shops(no.)	1
Clothes/ readymade shops(no.)	1
Household goods	1
Stationary	2
Rice and floor mills(no.)	2
Mechanical/ Fabrication(no.)	1
Agriculture Service centers(no.)	1
Veterinary office (no.)	1
NGO (no)	2

Talamarang

Name of Facilities	No.
High School(no.)	2
Primary	1
Health post(no.)	1
Hotels & Lodges(no.)	3
Grocery Shops(no.)	1
Hardware Shops (no.)	1
Medical Shops(no.)	1
Clothes/ readymade shops(no.)	1
Household goods	1
Stationary	1
Rice and floor mills(no.)	2
Forrest based industries(no.)	2
Agro based (no.)	1

3.3. RANKED LIST OF GROWTH CENTRES, ENVIRONMENT SENSITIVE AREAS

The ranked list of the growth centres are presented in table given below. As per the table, Melamchi falls under **Market Centre A** followed by Bahunepati under **Market Centre B**; and Taramarang under **Market Centre C**.

Table 3.1: Grading of Market Centres

S. N.	Name of Market Center	Ranking	Grading of Market Centre
1	Melamchi	1	A
2	Bahunepati	3	B
3	Taramarang	2	C

Note : Grade A>100 ,B-(50-100), C-(25-50) and Potential(P)<25

3.4. INDICATIVE DEVELOPMENT POTENTIAL MAP (IDPM)

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

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

- Areas with extensive agriculture.
- Areas with extensive high value cash crops.
- Areas with extensive NTFP.
- Areas with extensive horticulture.
- Areas with extensive livestock farming.
- Areas with extensive fisheries.
- Areas with extensive small cottage industries.
- Potential areas for tourism development.
- Existing/potential areas for development of large industries like hydropower, mining etc

Market Survey

Market Survey was carried out to identify market and service centre. Data and information collected in the field were the basis for determining the relative importance of market/service centre and central places. All services existing in a particular centre listed by the municipality line agencies were also collected from the municipality and supplemented by more detailed field data such as economic population structure for the centre itself and its influence area, by means of P- RRA approach. For evaluation purpose, data from government offices, Industry, Business & Commerce, Education, Health, Communication, Electricity Supply, Drinking Water Supply services were combined for the centre and its influence area. Assessment of economic facilities and services existing in the market/service centers and their influence areas lead to the identification of the most important market/service centre. Centrality analysis of the market facilities and government services were carried out.

The Centrality Index is calculated using following formula $C_j = \sum (W X_{ij})$

Where,

C_j = Centrality Index of the jth market centre

X_{ij} = value of the ith function (number of establishments or shops at the jth market centre)

W_i = Weightage of the jth function

The weightage of each function is calculated by adopting the Median Threshold Population Technique. The Median Threshold Population Technique calculates the weightage as:

$$W_i = \frac{\text{Median population of the } i\text{th function}}{\text{Lowest median population of the market centers, where a function exists}}$$

- The collected information was plotted on the base map indicating their geographical boundaries as accurately as possible.
- Draft Indicative Development Potential Map (IDPM) of the municipality was prepared by plotting all the development potential areas and sites on the Base map. Brief notes on each of the potential development areas plotted were prepared by highlighting the nature and size of the area.

CHAPTER 4: MUNICIPALITY INVENTORY MAP (MIM) OF ROAD NETWORK

4.1. GPS DATA TO GIS

The detail displayed and calculation made by GPS receiver primarily involves the WGS-84 (World Geodetic System 1984) reference system. A road inventory was carried out with GPS. The captured data through GPS were imported in GIS-10.2 using Conversion tool (GPX to Features) to prepare the MIM and other maps as per the ToR.



4.2. LIST OF MUNICIPALITY ROADS

The list of the summary roads is presented in table below and details in the Annex section.

Table 4.1: Summary of Roads

Road Class	Length, km	Nos. of Roads
A	52.52	5
B	42.97	5
C	153.68	30
SRN	50.26	2
Total	298.66	42

Note: Criteria for Road Classification

<i>Class A (Main Collector Road)</i>	<i>RoW = 20 m</i>
<i>Class B (Other Collector Road)</i>	<i>RoW = 15 m</i>
<i>Class C (Main Tole Road)</i>	<i>RoW = 10 m</i>
<i>Class D (Other Road)</i>	<i>RoW = 4m to 6 m</i>

4.3. MUNICIPALITY INVENTORY MAP OF ROAD NETWORK (MIM)

The following steps were taken for preparation of MIM report:

- The inventory survey of the existing urban/municipal roads was carried out and necessary interventions such as new construction, rehabilitation, periodic maintenance, regular maintenance etc. were identified.
- The information/data on existing urban/municipal infrastructures was taken using Global Positioning System (GPS) instruments including GPS tracking of existing roads. GPS tracking constituted major activity for MIM preparation, which has taken considerable effort in field level.
- Information on road surface type, traffic levels, status of passability, status of construction, adequacy of bypasses, existing bridges and their requirements, status of drainage and other improvement required were collected during inventory survey.
- The MIM was presented and discussed in the MRCC meetings and the mode of interventions on rehabilitations, maintenance and upgrading of the existing urban/municipal roads was agreed. The required interventions were analyzed based on accessibility situation.
- Presentation on MIM and IDPM was made in one day meeting with MRCC. This meeting then finalized the proposed IDPM and MIM plans.

4.4. TRAFFIC MOVEMENT

In the municipality, about the sharing of motorbike is almost 86%, followed by zeep/car/van/pickup (7%), truck/mini truck/tracktor (4%) and others.

There is long route transportation facility as the Feeder Road passing through the municipality.

CHAPTER 5: PERSPECTIVE PLAN OF MUNICIPALITY TRANSPORT NETWORK

5.1. PROCESS AND PROCEDURE FOR COLLECTION OF DEMAND

The consultants collected demand of different linkages from wards and settlements, on their needs basis by using Format B as available in Guildelines. The demand was collected in the order of priority incase of more than one transport linkage is demanded from each ward. The demand was derived from the communities, WRCC, Ward officials, school teachers and other related organizations/individuals.

5.2. SCORING SYSTEM FOR SCREENING, GRADING AND PRIORITIZATION

The Consultant developed weight system for the scoring and prioritization criteria for screening, grading and prioritization of all interventions as per discussion with the municipality, stakeholders and beneficiaries and based on the guideline. The scoring and prioritization criteria were approved by the municipality. All the demanded linkages were processed and made through the screening and prioritization process. The score criteria is presented below (Table 5.1)

Table 5.1: Prioritization Criteria and scoring

	Scoring Criteria	Score
Criteria No 1	Priorty by Ward Demand form	10
Criteria No 2	Class of Road specified as per MTMP study.	10
Criteria No 3	Existing Road Width	10
Criteria No 4	Population Serve by the Road	20
Criteria No 5	Recreational/Agriculture/Market Centre/Service Centre	10
Criteria No 6	Road Density	10
Criteria No 7	Settlement Density	10
Criteria No 8	Existing road Surface Type	10
Criteria No 9	backward and poor ethnic	10

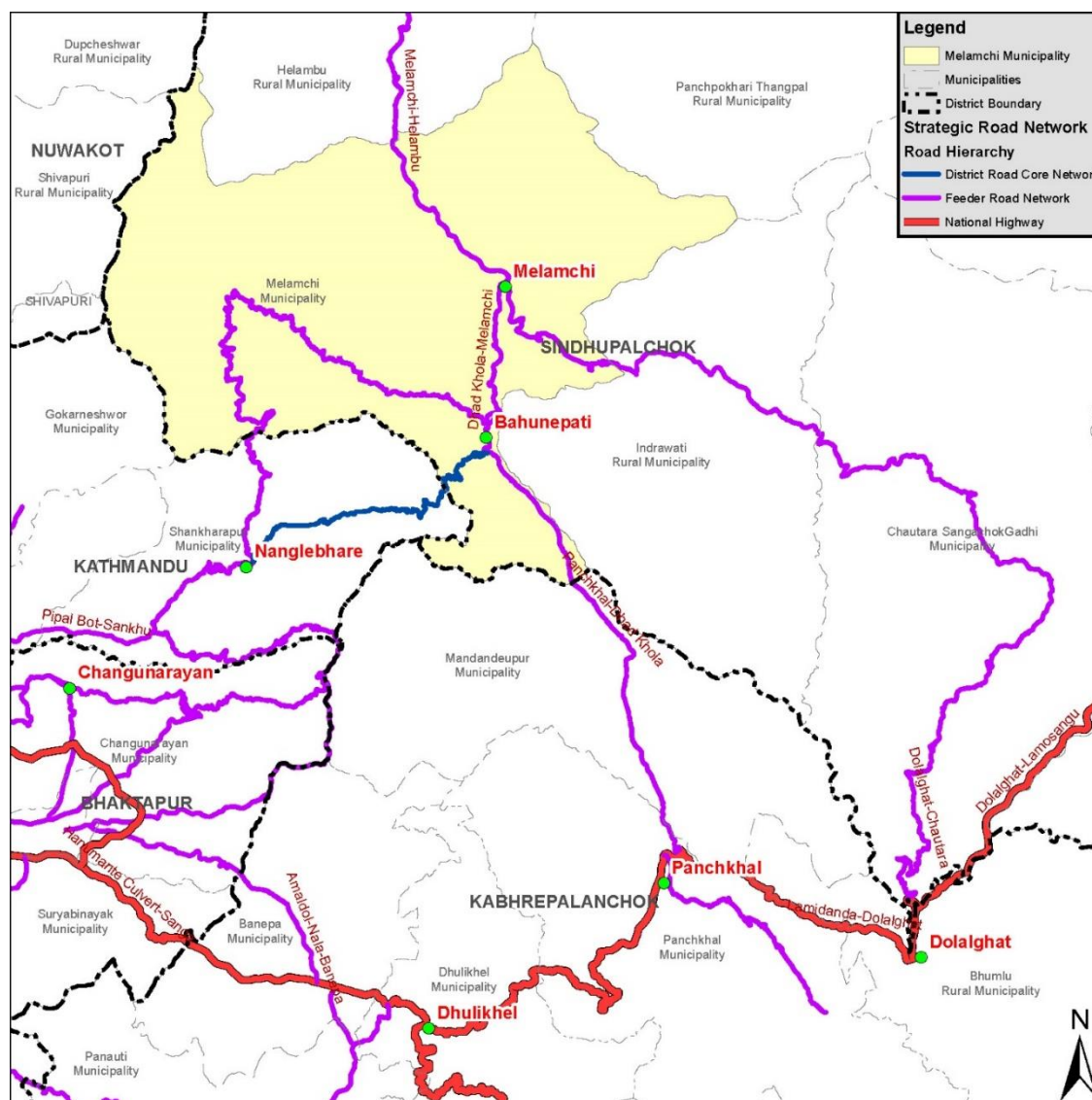
5.3. PERSPECTIVE PLAN OF MUNICIPALITY TRANSPORT NETWORK

The MTPP has perspective of 20 years. The MTPP is revised every five years when a new MTMP is being prepared according to the rolling plan system. Based on the Prioritization Criteria (Table 5.1) as per the guideline, the municipality transport network with respective score and ranking is presented in the annex.

5.4. TRANSPORTATION LINKAGES

The municipality has a linkage to its surrounding major locations such as Kathmandu, Dhulikhel, etc. as shown in the map below. There are two roads from Bahunepati to Naglebhare that lead to Kathmandu. The two roads – Bahunepati to Panchkhal and

Melamchi to Dolalghat links the municipality to the national highway at these two locations respectively. One road leads from Melamchi to Helambu. These linkages provide a good opportunity for the municipality to be connected to surrounding major markets and provide an easy access for business activities.



5.5. PUBLIC TRANSPORT

In order to provide easy access to the people for transportation, bus parks must be developed at two locations namely – Bahunepati and Melamchi, as these two locations have a comparatively dense settlement and these are the major points to link to the surrounding major markets and other municipalities. The bus park in the municipality can be developed for transportation to Helambu and also the direct link to Dolalghat is accessible from this place. Similarly, the buspark in Bahunepati will link the municipality to Kathmandu and Panchkhal and other places. Therefore, busparks in these two places seem to be feasible for the development of the municipality.

5.6. STRATEGIC ROADS IN THE MUNICIPALITY

The details of the roads that are identified as road core network are presented in the table below:

Category*	Road Code	Road Name	Length (km)
DRCN	23DR004	Dauchet-Keureni-Baskhaka-Baruwa	7.00
DRCN	23DR005	F30-Melamchi-Tipeni-Bhotang	6.26
DRCN	23DR009	Melamchi-Jyamire-Sunkhani-Dablang	7.86
DRCN	23DR013	Naubise-Chautara-Melamchi	7.36
DRCN	23DR045	F30-Phatkeshwor-Padherachour-Chhapbhanjyang	5.82
DRCN	23DR046	F30-Fatkeshwor-Chhapbhanjyang	3.95
DRCN	23DR047	Bhotechaur-Kaule-dovan	9.46
DRCN	23DR048	Jaisigaun-Haibung-Patibhanjyang	14.64
DRCN	23DR049	Sindhu-Audit Marga (F30-Bauhunepati-Thankune)	12.29
DRCN	23DR050	Bahaunepati-Khatritole Bhanjyang-Thakle-Sindhukot	7.67
DRCN	23DR051	F30-Melamchi-Selle-Duwachaur-Kakani-Sermathan	12.49
DRCN	23DR052	Sindhu Adit-Bhadaure-Sindhukot-Dhusinichaur-Manebhanjyang-Nepane	15.09
DRCN	23DR053	Sindhu Audit (Chipling/Palchen-Okhrenichour-Thakani)	6.06
DRCN	23DR054	F30-Talarang-Manebhanjyang-Thakani-Kaule	11.32
VRCN	23VR001	Dhungrebazar-Gyalthum-Pipse-Golphubhanjyang-Betini (Nuwakot)	1.05
VRCN	23VR011	Talarang-Bhattar-Beltar-Palchowk	0.16
VRCN	23VR012	Duwachaur-Talarang	4.81
VRCN	23VR013	Melamchi-Dharna-Duwachour	6.63
VRCN	23VR014	Pokharebhanjyang (Duwachour)-Baskharka-Jatan	3.32
VRCN	23VR097	Nawalpur-Okhrene	5.30
VRCN	23VR098	Melamchi-Chankhu-Nawalpur	9.50
VRCN	23VR099	Nawalpur-Falame-Sikharpur	4.56
VRCN	23VR100	Nawalpur-Dhuseni-Sipaghat	0.75
VRCN	23VR103	Bhanjyang-Thati (to Sipaghat)	2.66
VRCN	23VR104	Golmesori-Baretar-Phatkeswor	2.63
VRCN	23VR105	Mahabhir (Bhotechaur)-Giranchour-Sindhukhola	12.87
VRCN	23VR106	Dude-Daduwa-Sulikotghyang-Dhakalkhare	6.54
VRCN	23VR107	Melamchi-Praharichauki-Daduwa-Katunje	4.60
VRCN	23VR108	Melamchi-Dhusenichaur-Dhaule	8.90
VRCN	23VR109	Ekalebesi (Bansbari)-Jarkepatap	2.65
VRCN	23VR110	Bhotechaur-Jhakregaun	3.20
VRCN	23VR111	Bhotechaur-Patigaun-Shindhukot (HP)	3.89
VRCN	23VR112	Shivapuri Inpection Road	9.71
VRCN	23VR113	Kaule-dovan-Patibhanjyang-Okhrenichaur-Dhaule (Thakani)	10.50
Highway	F30	Panchkhal-Helambu	18.34
		Total	249.83

*DRCN = District Road Core Network, VRCN = Village Road Core Network

5.7. FORMULATION OF ROAD HIERARCHY

The study of the existing road network and land use along with existing and potential infrastructure followed by discussion with the MRCC and municipality finalized a preliminary network of roads of different hierarchy. The existing roads in the municipality provides a satisfactory connection to all the parts of the municipality. However, the condition of the road poses a problem for all-weather connection and, thus, roads have been classified into different hierarchy. The roads of Class A, Class B and Class C finalized are presented with brief details below.

Phatkeshwor - Nepalthok - Kotdanda - Shankarapur Municipality (24M01A001):

The road passes through wards 13 and serves an approximate population of 600. It provides services to Phatkeshwor, Nepalthok, Kotdanda, Shankarapur Municipality. The total length and average width of the road are about 3.89 km and 4.00 m respectively, out of which 3.89 km is gravelled . Out of total length, 3.89 km upgrading needs to be done.

Chhapeli - Salmi - Patibhanjyang (24M01A002):

The road passes through wards 3, 4 and serves an approximate population of 800. It provides services to Chhapeli, Salmi, Patibhanjyang. The total length and average width of the road are about 7.08 km and 7.78 m respectively, out of which 3.95 km is earthen , 3.13 km is gravelled . Out of total length, 7.08 km upgrading needs to be done.

Khalde Khola-Simle-Baghmara Corridor Road (24M01A003):

The road passes through wards 9, 10 and serves an approximate population of 1400. It provides services to Khalde Khola, Simle, Baghmara Corridor Road. The total length and average width of the road are about 9.57 km and 5.84 m respectively, out of which 3.30 km is earthen , 6.27 km is gravelled . Out of total length, 6.83 km upgrading, 2.74 km rehabilitation needs to be done.

Talamarang- Dhunga Nabeshi Mane - Bhanjyang - Batase- Okhreni Chaur - Thakani - Palchen - Thulobhanjyang - Patibhanjyang (24M01A004):

The road passes through wards 4, 6 and serves an approximate population of 2400. It provides services to Talamarang, Dhunga Nabeshi Mane, Bhanjyang, Batase, Okhreni Chaur, Thakani, Palchen, Thulobhanjyang, Patibhanjyang. The total length and average width of the road are about 19.77 km and 4.85 m respectively, out of which 19.77 km is earthen . Out of total length, 10.69 km upgrading, 9.08 km rehabilitation needs to be done.

Dobhantar - Jogimaruwa - Kerauni - Labhgaun - Kakani (24M01A005):

The road passes through wards 7, 8, 11 and serves an approximate population of 2100. It provides services to Dobhantar, Jogimaruwa, Kerauni, Labhgaun, Kakani. The total length and average width of the road are about 12.22 km and 6.03 m respectively, out of which 12.07 km is earthen .15 km is metalled . Out of total length, 9.61 km upgrading, 2.30 km rehabilitation, .30 km periodic maintenance needs to be done.

Dhad Khola Bridge - Dumri Chaur - Dhakalthok - Bhimsenthan - Thati - Shankarapur Municipality (24M01B001):

The road passes through wards 13 and serves an approximate population of 700. It provides services to Dhad Khola Bridge - Dumri Chaur - Dhakalthok - Bhimsenthan - Thati - Shankarapur Municipality. The total length and average width of the road are about 4.58 km and 4.00 m respectively, out of which 4.58 km is earthen . Out of total length, 4.58 km upgrading needs to be done.

Bhumesthan - Rampur - Jyamire - Golmasthan - Khadkathok - Dablyang - Nalhale - Magargaun - Patale (24M01B002):

The road passes through wards 9, 10 and serves an approximate population of 1700. It provides services to Bhumesthan, Rampur, Jyamire, Golmasthan, Khadkathok, Dablyang, Nalhale, Magargaun, Patale. The total length and average width of the road are about 13.32 km and 4.43 m respectively, out of which 7.79 km is earthen , 5.53 km is gravelled . Out of total length, 5.98 km upgrading, 7.34 km rehabilitation needs to be done.

Danuwargaun - Swara - Sungurephant - Dharna - Sunkhani - Taprasa - Palchokghyan (24M01B003):

The road passes through wards 7, 8, 11 and serves an approximate population of 2000. It provides services to Danuwargaun, Swara, Sungurephant, Dharna, Sunkhani, Taprasa, Palchokghyan. The total length and average width of the road are about 11.3 km and 5.73 m respectively, out of which 11.30 km is earthen . Out of total length, 11.30 km upgrading needs to be done.

Talarang-Bhattarchap-Pokhare Road (24M01B004):

The road passes through wards 7 and serves an approximate population of 900. It provides services to Talarang, Bhattarchap, Pokhare Road. The total length and average width of the road are about 4.82 km and 5.00 m respectively, out of which 4.82 km is earthen . Out of total length, 4.82 km upgrading needs to be done.

Kaule Dobhan - Danda Thok - Ward 3 Office - Shivapur Chisapani (24M01B005):

The road passes through wards 3 and serves an approximate population of 1000. It provides services to Kaule Dobhan, Danda Thok, Shivapur Chisapani. The total length and average width of the road are about 8.95 km and 4.32 m respectively, out of which 8.95 km is earthen . Out of total length, 8.95 km upgrading needs to be done.

Dhad Khola Bridge - Pharsila - Dhakalbesi (24M01C001):

The road passes through wards 13 and serves an approximate population of 700. It provides services to Dhad Khola Bridge, Pharsila, Dhakalbesi. The total length and average width of the road are about 4.81 km and 3.04 m respectively, out of which 4.81 km is earthen . Out of total length, .21 km upgrading, 4.60 km rehabilitation needs to be done.

Dhunganathok - Shankharapur Municipality Boundary (24M01C002):

The road passes through wards 13 and serves an approximate population of 500. It provides services to Dhunganathok. The total length and average width of the road are about 3.35 km and 4.00 m respectively, out of which 3.35 km is earthen . Out of total length, 3.35 km rehabilitation needs to be done.

Dhukurebesi - Bhanjyang - Dandagaun - Prajitol - Rokatul - Bhotechaur (24M01C003):
The road passes through wards 1, 12 and serves an approximate population of 1700. It provides services to Dhukurebesi, Bhanjyang, Dandagaun, Prajitol, Rokatul, Bhotechaur. The total length and average width of the road are about 13.02 km and 4.56 m respectively, out of which 13.02 km is earthen . Out of total length, 13.02 km upgrading needs to be done.

Khalde - Nibugaun - Sulechhap (24M01C004):
The road passes through wards 1, 2, 5 and serves an approximate population of 500. It provides services to Khalde, Nibugaun, Sulechhap. The total length and average width of the road are about 4.87 km and 3.57 m respectively, out of which 4.87 km is earthen . Out of total length, 4.87 km upgrading needs to be done.

Dandathok - Majuwa - Gurunggaun - Nibugaun (24M01C005):
The road passes through wards 2, 3 and serves an approximate population of 700. It provides services to Dandathok, Majuwa, Gurunggaun, Nibugaun. The total length and average width of the road are about 6.61 km and 4.68 m respectively, out of which 6.61 km is earthen . Out of total length, 6.61 km upgrading needs to be done.

Dahapokhari - Babrang - Dandathok (24M01C006):
The road passes through wards 3, 4 and serves an approximate population of 600. It provides services to Dahapokhari, Babrang, Dandathok. The total length and average width of the road are about 5.97 km and 3.79 m respectively, out of which 5.97 km is earthen . Out of total length, 5.97 km upgrading needs to be done.

Sami - Dandakateri - Palchen (24M01C007):
The road passes through wards 4 and serves an approximate population of 500. It provides services to Sami, Dandakateri, Palchen. The total length and average width of the road are about 4.76 km and 4.00 m respectively, out of which 4.76 km is earthen . Out of total length, 4.76 km upgrading needs to be done.

Amale - Piple - Sanumusure - Okhrenichaur (24M01C008):
The road passes through wards 4 and serves an approximate population of 700. It provides services to Amale, Piple, Sanumusure, Okhrenichaur. The total length and average width of the road are about 6.31 km and 4.01 m respectively, out of which 6.31 km is earthen . Out of total length, 6.31 km upgrading needs to be done.

Dhungechhap - Bhimaldanda - Sindhukot - Dhusenichaur (24M01C009):
The road passes through wards 5, 11 and serves an approximate population of 700. It provides services to Dhungechhap, Bhimaldanda, Sindhukot, Dhusenichaur. The total length and average width of the road are about 7.48 km and 3.77 m respectively, out of which 7.48 km is earthen . Out of total length, 4.15 km upgrading, 3.33 km rehabilitation needs to be done.

Aamle Danda - Chyan Danda (24M01C010):
The road passes through wards 12 and serves an approximate population of 600. It provides services to Aamle Danda, Chyan Danda. The total length and average width of the road are about 3.92 km and 3.16 m respectively, out of which 3.92 km is earthen . Out of total length, 3.30 km upgrading, .62 km rehabilitation needs to be done.

Bahunepati - Bansbari - Thakle - Dhuseni (24M01C011):

The road passes through wards 5, 11, 12 and serves an approximate population of 1400. It provides services to Bahunepati, Bansbari, Thakle, Dhuseni. The total length and average width of the road are about 11.62 km and 4.56 m respectively, out of which 11.62 km is earthen . Out of total length, 3.26 km upgrading, 8.36 km rehabilitation needs to be done.

Chyandanda - Daduwa - Katunje (24M01C012):

The road passes through wards 11, 12 and serves an approximate population of 600. It provides services to Chyandanda, Daduwa, Katunje. The total length and average width of the road are about 3.47 km and 4.00 m respectively, out of which 3.47 km is earthen . Out of total length, 3.47 km rehabilitation needs to be done.

Dhakal Khahare - Dhakalthok - Chalisetol - Pandegaun - Daduwa (24M01C013):

The road passes through wards 11, 12 and serves an approximate population of 1000. It provides services to Dhakal Khahare, Dhakalthok, Chalisetol, Pandegaun, Daduwa. The total length and average width of the road are about 6.82 km and 4.63 m respectively, out of which 6.82 km is earthen . Out of total length, 2.54 km upgrading, 4.28 km rehabilitation needs to be done.

Melamchi - Dhunge - Katunje - Dhuseni (24M01C014):

The road passes through wards 11 and serves an approximate population of 1300. It provides services to Melamchi, Dhunge, Katunje, Dhuseni. The total length and average width of the road are about 8.48 km and 5.00 m respectively, out of which 8.48 km is earthen . Out of total length, 2.13 km upgrading, 6.34 km rehabilitation needs to be done.

Melamchi - Tar (24M01C015):

The road passes through wards 11 and serves an approximate population of 200. It provides services to Melamchi, Tar. The total length and average width of the road are about 0.53 km and 3.00 m respectively, out of which .53 km is earthen . Out of total length, .53 km rehabilitation needs to be done.

Sansare Danda - Shikharpur (24M01C016):

The road passes through wards 9, 10 and serves an approximate population of 600. It provides services to Sansare Danda, Shikharpur. The total length and average width of the road are about 4.02 km and 5.00 m respectively, out of which 4.02 km is earthen . Out of total length, 4.02 km rehabilitation needs to be done.

Shikharpur - Jyamire (24M01C017):

The road passes through wards 9, 10 and serves an approximate population of 300. It provides services to Shikharpur, Jyamire. The total length and average width of the road are about 2.16 km and 4.00 m respectively, out of which 2.16 km is earthen . Out of total length, 2.16 km upgrading needs to be done.

Khadkathok - Syangbotol - Chanmakhu - Gupha - Mulkharka (24M01C018):

The road passes through wards 9 and serves an approximate population of 1000. It provides services to Khadkathok, Syangbotol, Chanmakhu, Gupha, Mulkharka. The total length and average width of the road are about 8.21 km and 5.44 m respectively, out of which 8.21 km is earthen . Out of total length, 4.05 km upgrading, 4.16 km rehabilitation needs to be done.

Gupha Rajdaltol - Halhale (24M01C019):

The road passes through wards 9 and serves an approximate population of 300. It provides services to Gupha Rajdaltol, Halhale. The total length and average width of the road are about 2.33 km and 3.63 m respectively, out of which 2.33 km is earthen . Out of total length, 2.33 km upgrading needs to be done.

Khadkathok - Danuwargaun - Madkin - Baluwa (24M01C020):

The road passes through wards 9 and serves an approximate population of 800. It provides services to Khadkathok, Danuwargaun, Madkin, Baluwa. The total length and average width of the road are about 6.25 km and 5.00 m respectively, out of which 3.16 km is earthen , 3.08 km is gravelled . Out of total length, 6.25 km upgrading needs to be done.

Danuwargaun - Ratmata (24M01C021):

The road passes through wards 9 and serves an approximate population of 300. It provides services to Danuwargaun, Ratmata. The total length and average width of the road are about 1.79 km and 5.00 m respectively, out of which 1.79 km is gravelled . Out of total length, 1.79 km upgrading needs to be done.

Bhaise- Kote Danda (24M01C022):

The road passes through wards 8 and serves an approximate population of 300. It provides services to Bhaise, Kote Danda. The total length and average width of the road are about 1.57 km and 6.00 m respectively, out of which 1.57 km is earthen . Out of total length, 1.57 km upgrading needs to be done.

Pokhare-Labh Gaun (24M01C023):

The road passes through wards 7, 8 and serves an approximate population of 300. It provides services to Pokhare, Labh Gaun. The total length and average width of the road are about 1.85 km and 8.00 m respectively, out of which 1.85 km is earthen . Out of total length, 1.85 km upgrading needs to be done.

Tallathok - Damaitol - Pokharetol (24M01C024):

The road passes through wards 7, 8 and serves an approximate population of 800. It provides services to Tallathok, Damaitol, Pokharetol. The total length and average width of the road are about 4.24 km and 4.00 m respectively, out of which 4.24 km is earthen . Out of total length, 4.24 km upgrading needs to be done.

Ghataretol - Hawadanda - Thulochaur (24M01C025):

The road passes through wards 7, 11 and serves an approximate population of 900. It provides services to Ghataretol, Hawadanda, Thulochaur. The total length and average width of the road are about 5.03 km and 8.00 m respectively, out of which 5.03 km is earthen . Out of total length, 5.03 km upgrading needs to be done.

Nepane - Acharyatol - Ward 6 Office - Majhgaun (24M01C026):

The road passes through wards 6 and serves an approximate population of 800. It provides services to Nepane, Acharyatol, Majhgaun. The total length and average width of the road are about 5.78 km and 4.37 m respectively, out of which 5.78 km is earthen . Out of total length, 3.66 km upgrading, 2.13 km rehabilitation needs to be done.

Dhusenichaur - Mathillogaun (24M01C027):

The road passes through wards 5, 6, 11 and serves an approximate population of 500. It provides services to Dhusenichaur, Mathillogaun. The total length and average width of the road are about 3.81 km and 3.70 m respectively, out of which 3.81 km is earthen . Out of total length, 1.15 km upgrading, 2.66 km rehabilitation needs to be done.

Thankune Bhanjyang - Chiuling (24M01C028):

The road passes through wards 4 and serves an approximate population of 800. It provides services to Thankune Bhanjyang, Chiuling. The total length and average width of the road are about 7.34 km and 1.71 m respectively, out of which 3.13 km is earthen . Out of total length, 3.13 km upgrading needs to be done.

Tallagaun - Terse Deujagaun - Talamarang (24M01C029):

The road passes through wards 6 and serves an approximate population of 400. It provides services to Tallagaun, Terse Deujagaun, Talamarang. The total length and average width of the road are about 2.96 km and 4.00 m respectively, out of which 2.96 km is earthen . Out of total length, 2.96 km upgrading needs to be done.

Phatkeshwor - Kaphalchaur - Ghorsainitol (24M01C030):

The road passes through wards 13 and serves an approximate population of 500. It provides services to Phatkeshwor, Kaphalchaur, Ghorsainitol. The total length and average width of the road are about 3.56 km and 3.00 m respectively, out of which 3.56 km is earthen . Out of total length, 3.56 km upgrading needs to be done.

5.8. RING ROAD

The municipality has identified the need for ringroad, in order to provide linkage to all the places within and outside the municipality area. The total length of the ringroad is 104.55 km, with about 95.24 km roads within the municipality and 9.31 km roads that lie out of the municipality area.

The ringroad incorporates 4 out of 5 class A roads in parts, totaling upto 17.44 km out of total 52.5 km roads, which makes up to about 33% of total length of class A roads. Similarly, 4 out of 5 class B roads, totaling 9.79 km, have been included in parts in the ringroad alignment. Similarly, a total of 39.75 km and 11.46 km roads of class C and class D respectively have been included

Class	Length (km)	Total Length (km)	Proportion of total road	Portion of Ringroad
A	17.44	52.50	33%	17%
B	9.79	43.00	23%	9%
C	39.75	153.63	26%	38%
D	11.46	250.64	5%	11%
SRN	11.79	50.25	23%	11%
Other Roads	14.33			14%
Grand Total	104.55			

in the ringroad alignment, as shown in the adjacent table. Additionally, out of the 50.25 km of SRN roads that lie within the municipality, the ringroad alignment includes 11.79 km roads, which is about 23% of the total length of SRN inside the municipality.

The completion of ringroad shall require a new construction of about 9.21 km of roads, and 1.68 km of trail road shall be upgraded to meet the standard of the ringroad.

From the table, it can be seen that class C roads make up a huge chunk of ringroad. More than a third of ringroad comes in unison with class C roads, and about one fifth of ringroad intersects with class A roads. This shows that class A roads, despite not having the major contribution in ringroad, provide major connection to other roads and settlement in the municipality.

Wards/ Class	A	B	C	D	SRN	Other Roads	Grand Total
1			4.99	3.64	0.87		9.49
2			1.81		1.21		3.02
3	0.60	1.04	10.54				12.17
4	6.39		0.22	0.00	1.68		8.28
5			7.81		0.70		8.51
6	5.16		2.00			0.52	7.68
7	0.66	6.07	0.07	0.27		2.43	9.49
8	3.52	0.21	1.78	1.90			7.40
9	0.56	2.48	6.88			0.33	10.24
10	0.56		0.15	5.16	0.30	0.00	6.17
11			0.74			0.03	0.76
12				0.49	1.54	0.09	2.13
13			2.76		5.49	1.72	9.87
Grand Total	17.44	9.79	39.75	11.46	11.79	5.11	95.24

The wardwise distribution of ringroad in the above table shows that it covers all the wards with majority of the road covering ward 3 and 9 with 12.17 km and 10.24 km respectively. The least part of road (0.76 km) is in ward 11, followed by ward 12 and ward 2 with 2.13 km and 3.02 km respectively. No wards have been left untouched by the ringroad which will facilitate in improvement of both inter-ward and intra-ward accessibility. In addition, the passing of ringroad through the adjoining municipality can also be beneficial to provide accessibility to those places. A total of 95.24 km of ringroad is within the municipality.

5.9. ROAD BUFFER ANALYSIS

A buffer analysis of the roads in the municipality was carried out using ArcGIS. The following table shows the distribution of landcover according to road buffer of 300m, 600m and 1200m. The distance for road buffer was calculated for a walking distance of 15 min, 30 min and 60 min respectively, considering an average walking speed of 1.2 km/hr for hilly terrain. From the table below, it can be seen that the roads of classes A, B, C and SRN collectively covers 158.86 sq. km. (out of 160.63 sq.km.) which is about 99% of the area of municipality. The remaining area is covered by the D class roads. A builtup area of 4.17 sq.km. is incorporated within this buffer zone of 1200m.

Buffer distance of A, B,C and SRN intersection with landcover					
S.N.	Time estimated (min)	Distance assumed(m)	Total Landcover (sq.km.)	Buildable area (sq.km.)	Builtup area (sq.km.)
1	15	300	106.85	97.99	3.60
2	30	600	36.67	31.90	0.48
3	60	1200	15.34	9.50	0.08
Total			158.86	139.38	4.17

The following tables show further breakdown of coverage area of Road classes A, B and C individually.

Buffer distance of A intersection with landcover					
S.N.	Time estimated (min)	Distance assumed(m)	Total Landcover (sq.km.)	Buildable area (sq.km.)	Builtup area (sq.km.)
1	15	300	24.60	21.30	0.58
2	30	600	17.92	16.04	0.41
3	60	1200	28.39	25.54	0.71
Total			70.91	62.88	1.69

Buffer distance of B intersection with landcover					
S.N.	Time estimated (min)	Distance assumed(m)	Total Landcover (sq.km.)	Buildable area (sq.km.)	Builtup area (sq.km.)
1	15	300	18.22	17.11	0.81
2	30	600	15.41	13.51	0.36
3	60	1200	27.39	24.08	0.55
Total			61.02	54.69	1.71

Buffer distance of C intersection with landcover					
S.N.	Time estimated (min)	Distance assumed(m)	Total Landcover (sq.km.)	Buildable area (sq.km.)	Builtup area (sq.km.)
1	15	300	65.22	61.15	2.41
2	30	600	45.44	40.27	0.90
3	60	1200	40.65	32.44	0.69
Total			151.30	133.86	4.00

5.10. FIVE YEAR PROJECTED FINANCIAL PLAN

Major sources of funding for road network development are Municipality including Central Government, Provincial Government, Internal Funds, and other sources such as other donor agencies and People's Participation. Existing available financial resources from various agencies identified for the fiscal year 2075/76 is:

Description	Budget
Central Government	835,655,000
Provincial Government	47,279,000
Internal Fund	167,321,000
Sub Total	835,655,000
Organization Budget	706,500,000
Grand Total	1,542,155,00
% of Total Budget	10.47%
% of Municipal Budget	19.33%

The budget is expected to be increased by 20% each year. The existing budget for road development is proposed to be NRs.30, 287,000.00 excluding 30% people participation as per discussion with the municipality and the financial analysis is made with the increased budget. The total budget for the fiscal year 075/076 is Rs. 43,267,000.00 inclusive of people's participation.

The existing available financial resources for road development identified is projected for the next five years to prepare First Five-year Financial Plan as presented in Table 6.1.

Table 6.1: Projected Financial Plan for Roads only (NRs.'000)

Source of Budget	Fiscal Year				
	075/076	076/077	077/078	078/079	079/080
Central Government	21,201	25,441	30,529	36,635	43,962
Provincial Government	1,514	1,817	2,181	2,617	3,140
Internal Fund	4,543	5,452	6,542	7,850	9,420
Other Sources	3,029	3,634	4,361	5,234	6,280
Sub-Total (70%)	30,287	51,920	62,304	74,765	89,718
People's Participation (30%)	12,980	15,576	18,691	22,429	26,915
Total	43,267	51,920	62,304	74,765	89,718

5.10.1. SHARING OF FUNDS

After a through study and consultation with the concerned authorities, the annual budget available for the development of transportation sector is proposed to be shared for various interventions such as upgrading/rehabilitation (70%) and maintenance (30%) of the roads and that are further divided into Road Class A, B, C, & D.

Summary yearwise sharing of budgets is presented below:

Table 6.2: Summary yearwise sharing of budgets

S.N.	Fiscal Year	Total Budget (NRs.)	Total Budget (NRs. in '000) & Percentage for New, Rehabilitation & Maintenance				Total %
			Rehabilitation/Upgradation		Maintenance		
			Amount	%	Amount	%	
1	075/076	43,267	30,287	70	12,980	30	100
2	076/077	51,920	36,344	70	15,576	30	100
3	077/078	62,304	43,613	70	18,691	30	100
4	078/079	74,765	52,335	70	22,429	30	100
5	079/080	89,718	62,802	70	26,915	30	100
	Total	321,973	225,381		96,592		100

5.10.2. YEAR-WISE TARGETS

The total budget for 5 years period is estimated to be at Rs. 321,973,144.94. The budget for roads is expected to be increased at 20% per year. The total budget required for 1st year is Rs. 43,266,655.68 which will increase by 20% each year and at the 20th year, the budget is expected to be Rs. 1,382,283,113.06. The total budget required for 20 years MTMP period is susceptible to change depending on the revised MTMP every 5 years.

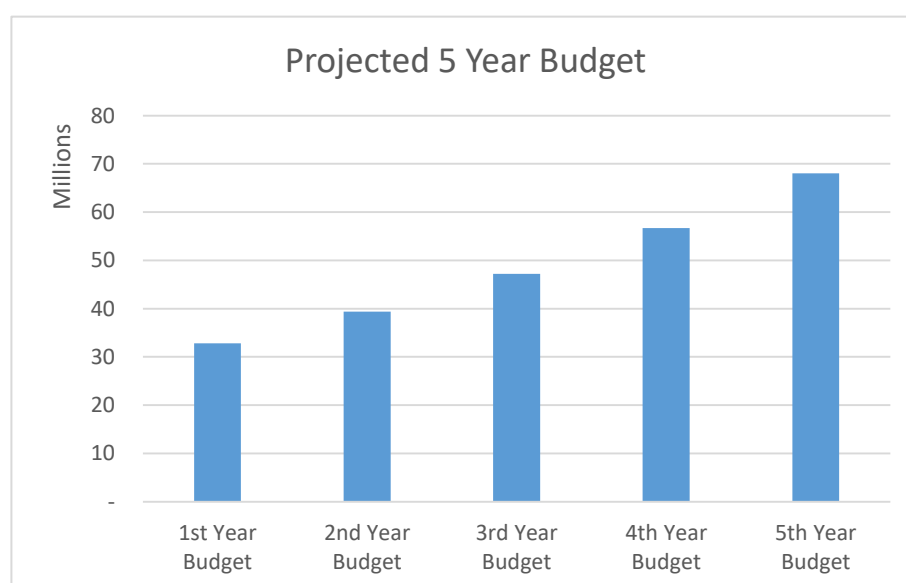


Table 6.3.1: Year-wise Targets (Rehabilitation/Upgradation)

Road code	Rank	Road length (Km)				Avergae width (m)	Cross drainage structure			Total Budget for Five Years	Year I		Year II		Year III		Year IV		Year V	
		Earthen	Graveled	Metaled	Total		Bridge	Causeway	Culvert		Length of construction (Km)	Allocated budget in NRs. 000	Length of construction (Km)	Allocated budget in NRs. 000	Length of construction (Km)	Allocated budget in NRs. 000	Length of construction (Km)	Allocated budget in NRs. 000	Length of construction (Km)	Allocated budget in NRs. 000
Class A Roads																				
A004	1	20	-	-	20	5	1	-	-	116,502	1	23,300	1	23,300	1	23,300	1	23,300	1	23,300
A005	2	12	-	0	12	6	1	-	-	88,748	1	19,966	1	24,214	1	24,214	1	20,354		
Total		32	-	0	32	-	2	-	-	205,249	2	43,267	2	47,514	2	47,514	2	43,654	1	23,300
Class B Roads																				
B002	4	8	6	-	13	4	-	-	-	34,242							1	12,149	1	22,093
B003	3	11	-	-	11	6	-	-	-	57,118			0	4,406	1	14,790	1	18,961	1	18,961
B004	5	5	-	-	5	5	-	-	-	17,550									1	17,550
Total		24	6	-	29	-	-	-	-	108,911	-	-	0	4,406	1	14,790	2	31,111	3	58,604
Class C Roads																				
C003	6	13	-	-	13	5	-	-	-	7,813									1	7,813
Total		13	-	-	13	5	-	-	-	7,813	-	-	-	-	-	-	-	-	1	7,813

5.11. PRIORITIZED MUNICIPALITY ROADS FOR MTMP PERIOD

The prioritized municipality roads for upgrading/rehabilitation during the MTMP period are presented in the annex. It is proposed that the gravel road to be upgraded to blacktopped road and earthen roads to graveled roads.

There are a total of 40 roads proposed segregated into classes A, B and C respectively, with 5 roads each in class A and B category and 30 roads in class C. This will result in a total of 248.40 km of roads in these three classes. The remaining roads in the municipality will serve as class D.

Out of these 40 roads, 6 roads will be included in the five year period due to the budget constraint as we cannot increase the budget suddenly. The roads to be included in the first five year MTMP are given in the table above.

5.12. PRIORITIZED MAIN BRIDGES

Bridges and culverts are in well condition and only the maintenance is required and accordingly proposed. One bridge has been proposed in the Indrawati River near Bahunepati to connect Melamchi municipality to Indrawati Rural Municipality.

CHAPTER 6: CONCLUSION

6.1. OTHER RELEVANT ISSUES

Primarily collections of these data are beyond the scope of the consulting services. In this circumstance, the Consultant has tried to collect these data from the secondary sources as well as group discussions as far as possible, even though it is difficult to get the required data from the secondary sources and focus group discussions. Key Informant Interview and focus group discussion used to full fill the data gap as far as possible. The consultant has faced problem in the analysis and preparation of the MTMP.

6.2. CONCLUSION AND RECOMMENDATION

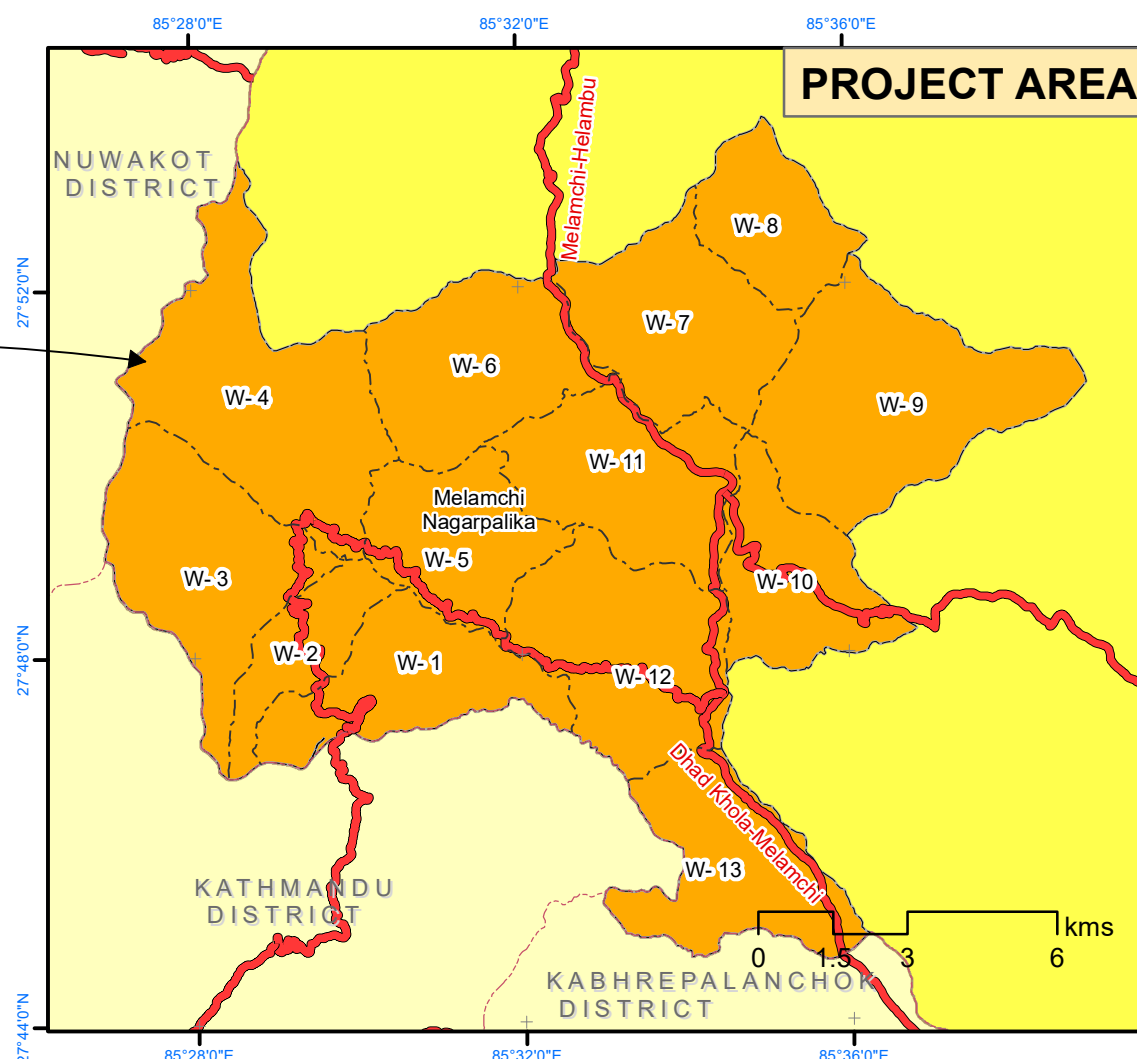
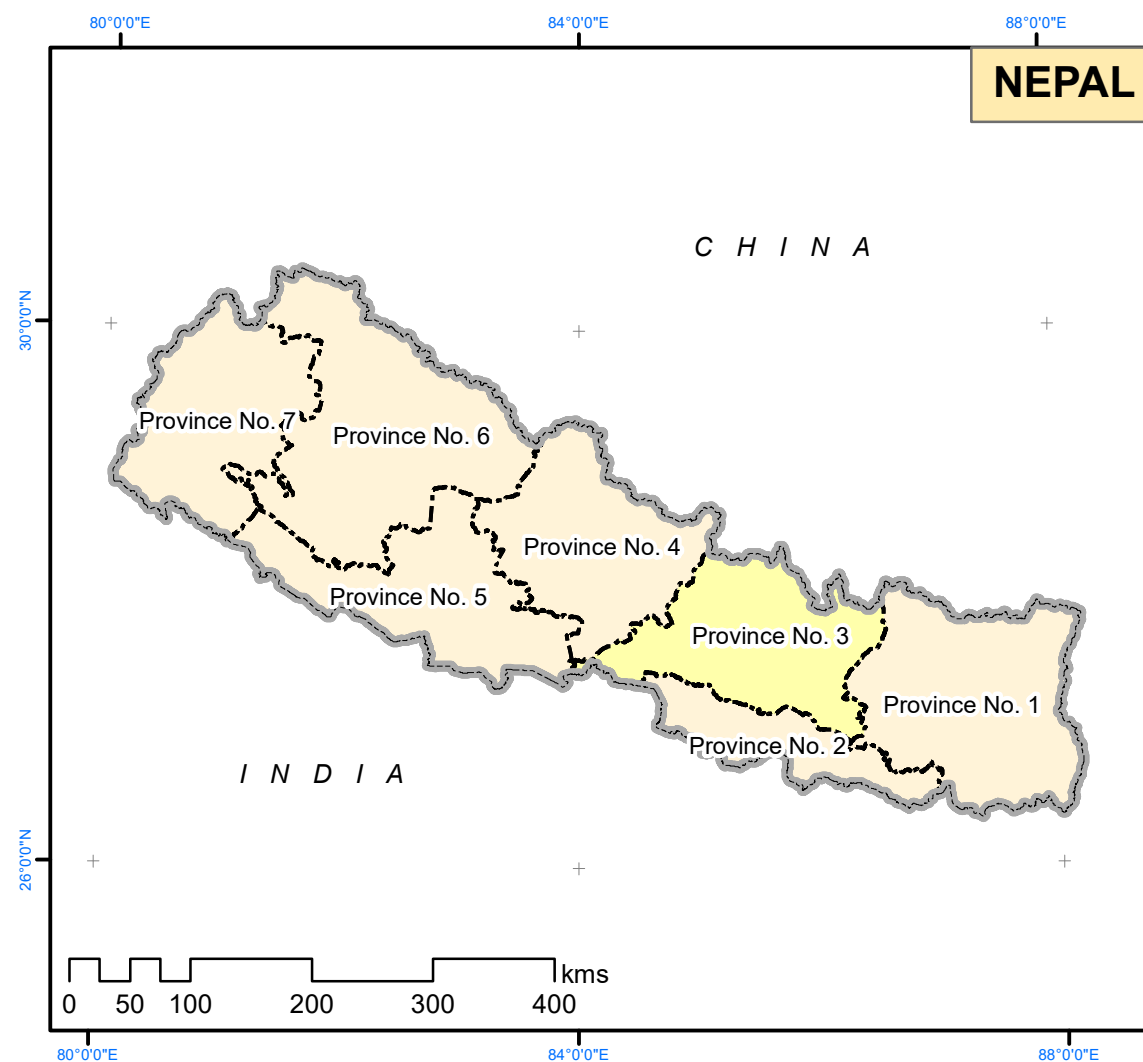
Road transportation is most crucial for socio-economic development of the municipality in Nepal. The municipality must give more emphasis on resource collection and its efficient mobilization. This MTMP will also guide for this purpose. The MTMP is the result of studies considering socio- economic, environmental analysis and potentiality of various sectors as well as the accessibility to transport facilities in the municipality, which will draw the future scenario of the road development and consequently the overall development of the municipality. MTMP focuses on existing transportation situation, expected future road network accessibility and socio-economic benefits. It provides directives on utilization of the local resources by local institutions as well as other development agencies in line with the decentralization and local self-government act. In addition, it will provide Government and other donor agencies a rational basis on which to decide future investments efficiently that will improve district transport accessibility situation.

The proposed interventions are reflection of the requirement of the municipality to improve accessibility of people on goods and services and plan on current trend of financial resource availability. The study is only concerned within the municipal boundary, but due consideration is also given to the nearest road head and the inter district linkages as well. National Strategic Roads and district roads are not included in the MTMP. However, their linkages with the municipal roads network have been fully considered in its preparation.

It is recommended that:

- The municipality shall strictly follow the MTMP particularly in the Perspective Plan of Municipality Road Network in deciding the sub-projects to be undertaken for development for future even beyond the five-year period.
- Emphasis on resource collection and its efficient mobilization for MTMP implementation.
- Strong commitment from all stakeholders is necessary for its implementation.
- Traffic Safety should be take into consideration while designing and implementation of the road.
- Other planning to be integrated with MTPP/MTMP and reviewed periodically.
- Revision of the MTMP at the end of every fifth year evaluating the previous planning and implementation and move forward accordingly.

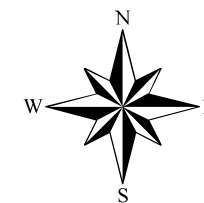
ANNEX I: MAPS



LOCATION MAP

Melamchi Municipality

Sindhupalchowk District



Legend

Administrative

- National Boundary
- Province Boundary
- District Boundary
- Municipality Boundary
- Surrounding Municipality
- Ward Boundary
- Strategic Road Network

Submitted To:



Melamchi Municipality
Sindhupalchowk, Nepal

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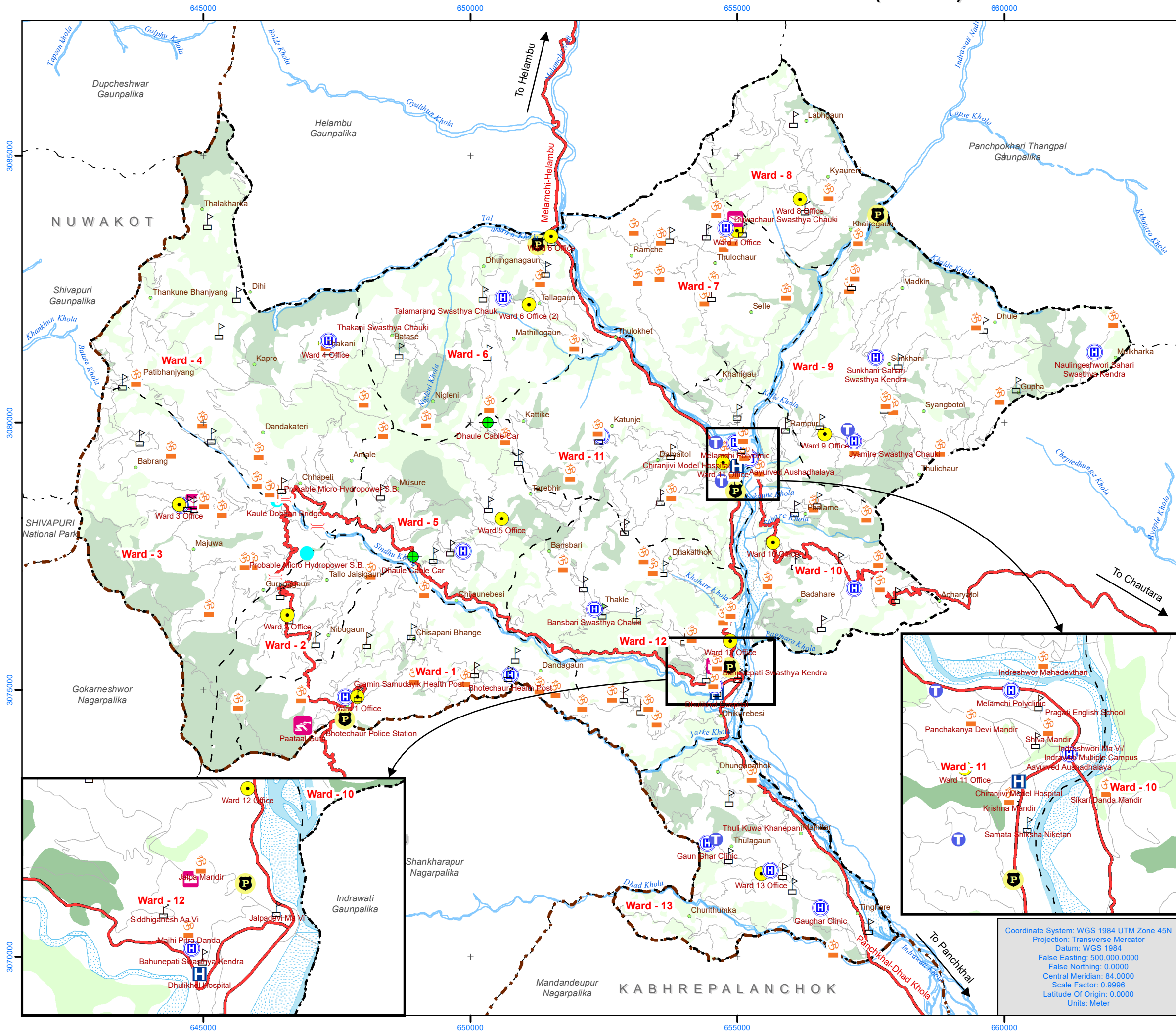
JV

PREPARATION OF MUNICIPAL TRANSPORT MASTER PLAN (MTMP) OF MELAMCHI MUNICIPALITY

Coordinate System: WGS 1984 UTM Zone 45N
Projection: Transverse Mercator
Datum: WGS 1984
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False Northing: 0.0000
Central Meridian: 84.0000
Scale Factor: 0.9996
Latitude Of Origin: 0.0000
Units: Meter

Data Source: Department of Survey, MOFALD

INDICATIVE DEVELOPMENT POTENTIAL MAP (IDPM)



(Scale = 1:70,000)

PREPARATION OF

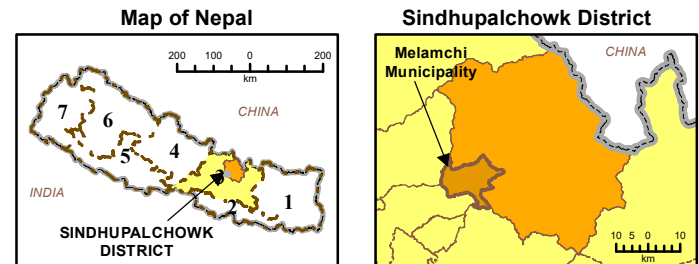
MUNICIPAL TRANSPORT MASTER PLAN (MTMP)

OF MELAMCHI MUNICIPALITY

Map No. 2

Legend

	Bridge		District Boundary
	Cable Car		Municipality Boundary
	Cave		New Ward Boundary
	Health Post		Surrounding Municipalities
	Hospital		Strategic Road Network
	Hydropower		River Network
	Police Station		Municipal Roads
	Post Office		Bush
	School		Forest
	Temple		River/Waterbody
	Ward Office		Riverbed
	Water Tank		



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 Melamchi Municipality

 Sindhupalchowk, Nepal

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 Datum: WGS 1984

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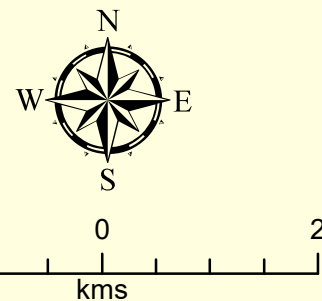
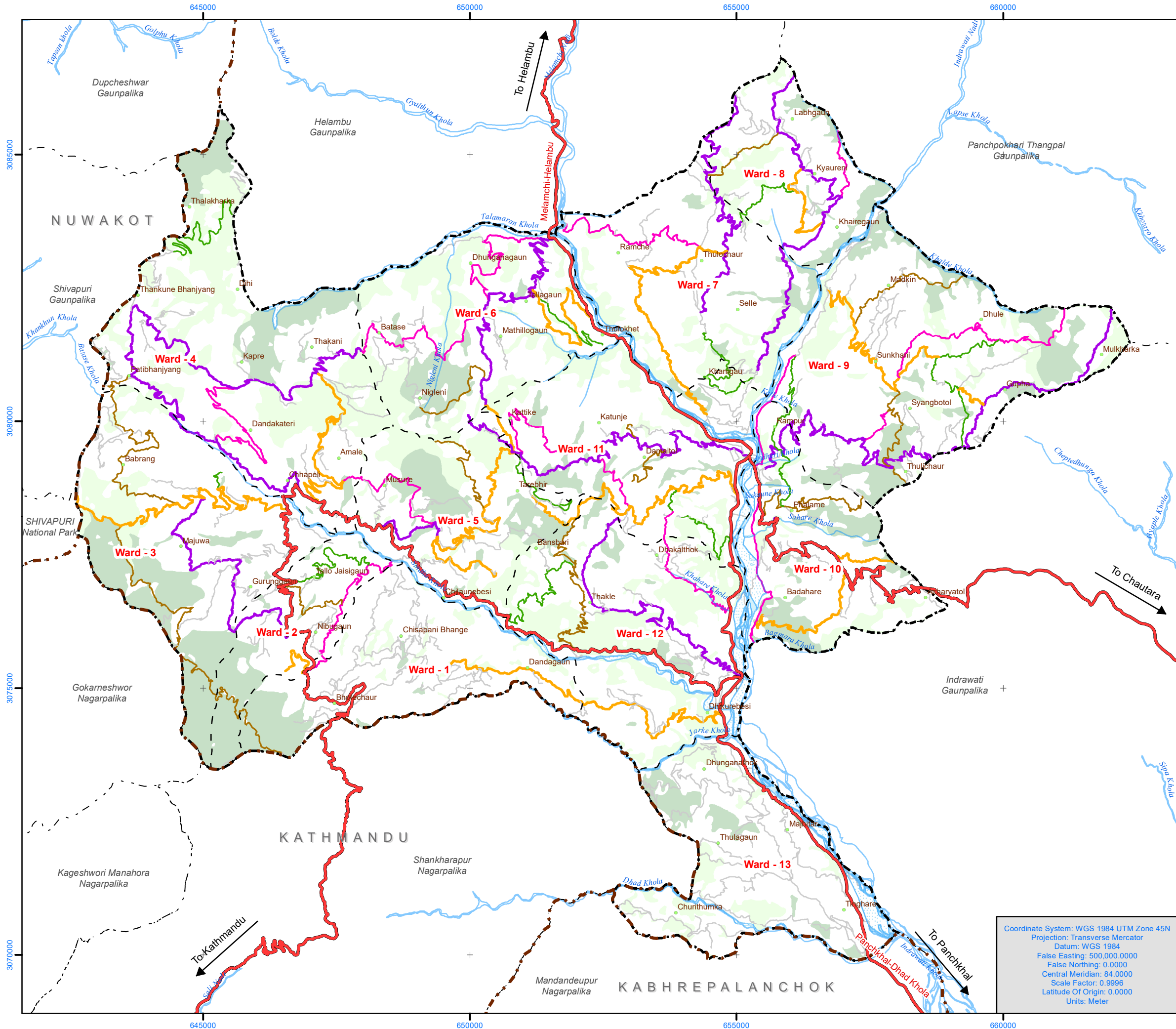
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 Latitude Of Origin: 0.0000

 Units: Meter

ROAD INVENTORY MAP: HIERARCHY BY PRIORITY



(Scale = 1:70,000)

**PREPARATION OF
MUNICIPAL TRANSPORT MASTER PLAN (MTMP)
OF MELAMCHI MUNICIPALITY**

Map No. 3 (a)

Legend

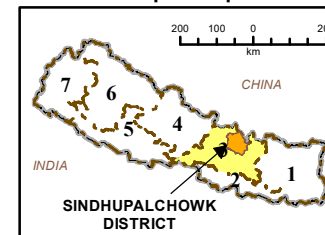
- District Boundary
- Municipality Boundary
- New Ward Boundary
- Surrounding Municipalities
- Strategic Road Network
- River Network

Road by priority

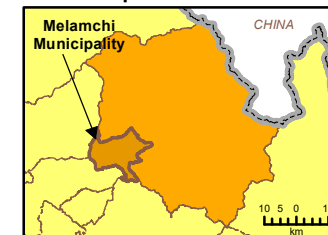
- 1
- 2
- 3
- 4
- 5
- Other Municipal Roads

- Bush
- Forest
- River/Waterbody
- Riverbed

Map of Nepal



Sindhupalchowk District



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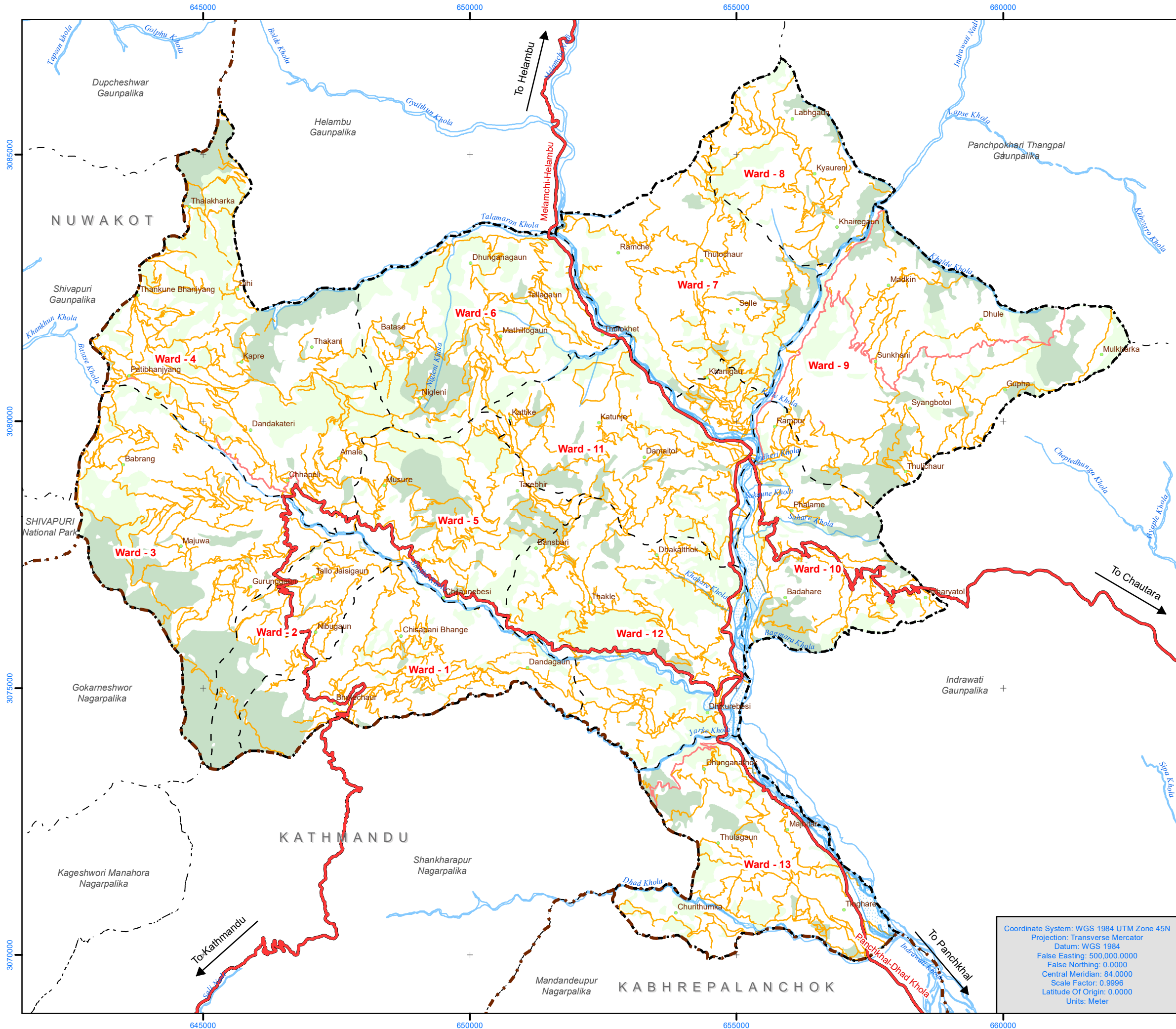
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Sindhupalchowk, Nepal

Coordinate System: WGS 1984 UTM Zone 45N
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Datum: WGS 1984
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False Northing: 0.0000
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Scale Factor: 0.9996
Latitude Of Origin: 0.0000
Units: Meter

ROAD INVENTORY MAP: HIERARCHY BY SURFACE TYPE




 2 1 0 2
 kms
 (Scale = 1:70,000)
**PREPARATION OF
MUNICIPAL TRANSPORT MASTER PLAN (MTMP)
OF MELAMCHI MUNICIPALITY**
Map No. 3 (b)

Legend

- District Boundary
- Municipality Boundary
- New Ward Boundary
- Surrounding Municipalities
- Strategic Road Network
- River Network

Road by Surface Type

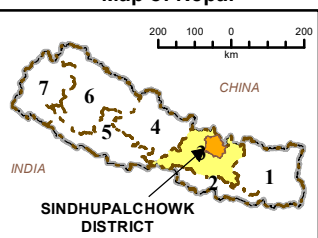
Carriageway Surface

- Metalled
- Gravelled
- Earthen

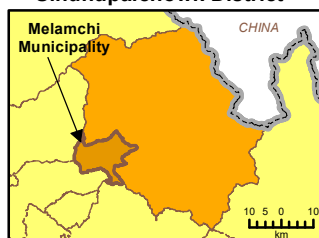
Land Use

- Bush
- Forest
- River/Waterbody
- Riverbed

Map of Nepal



Sindhupalchowk District



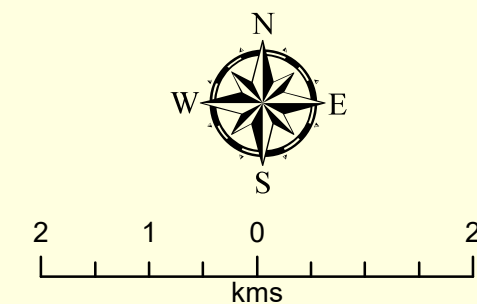
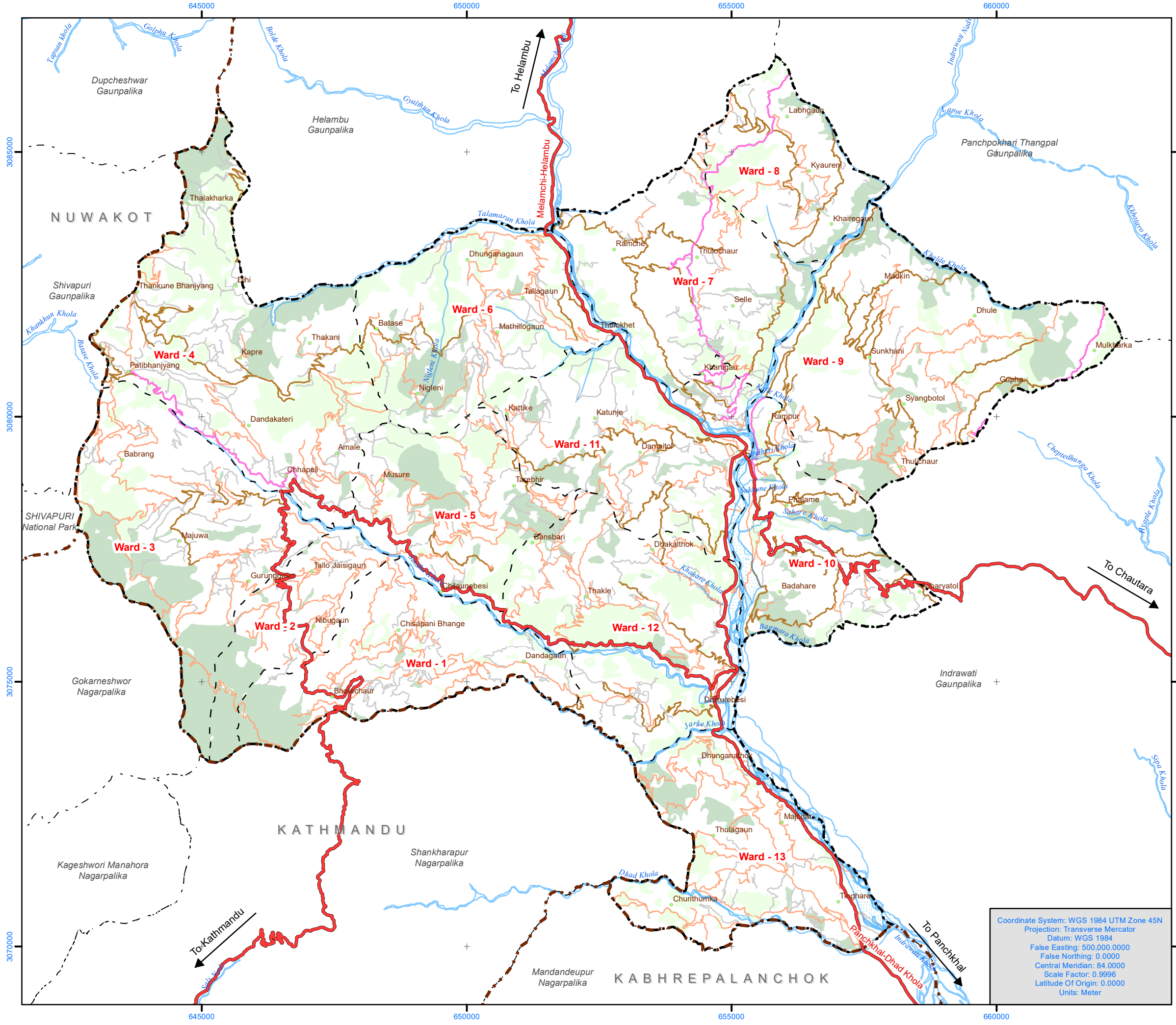
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ROAD INVENTORY MAP: HIERARCHY BY WIDTH



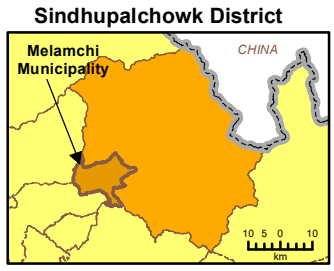
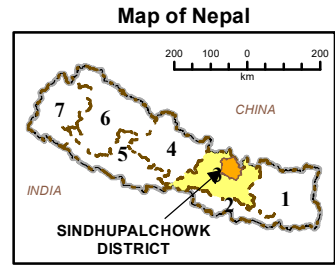
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**PREPARATION OF
MUNICIPAL TRANSPORT MASTER PLAN (MTMP)
OF MELAMCHI MUNICIPALITY**

Map No. 3 (c)

Legend

- District Boundary
 - Municipality Boundary
 - New Ward Boundary
 - Surrounding Municipalities
 - Strategic Road Network
 - River Network
 - Trail Roads
 - Bush
 - Forest
 - River/Waterbody
 - Riverbed
- Road by width
(in m)**
- <4
 - 4 - 6
 - 7 - 8
 - >8



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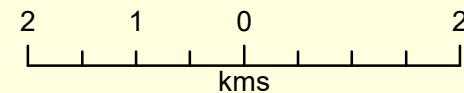
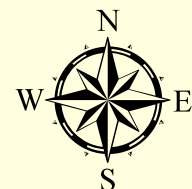
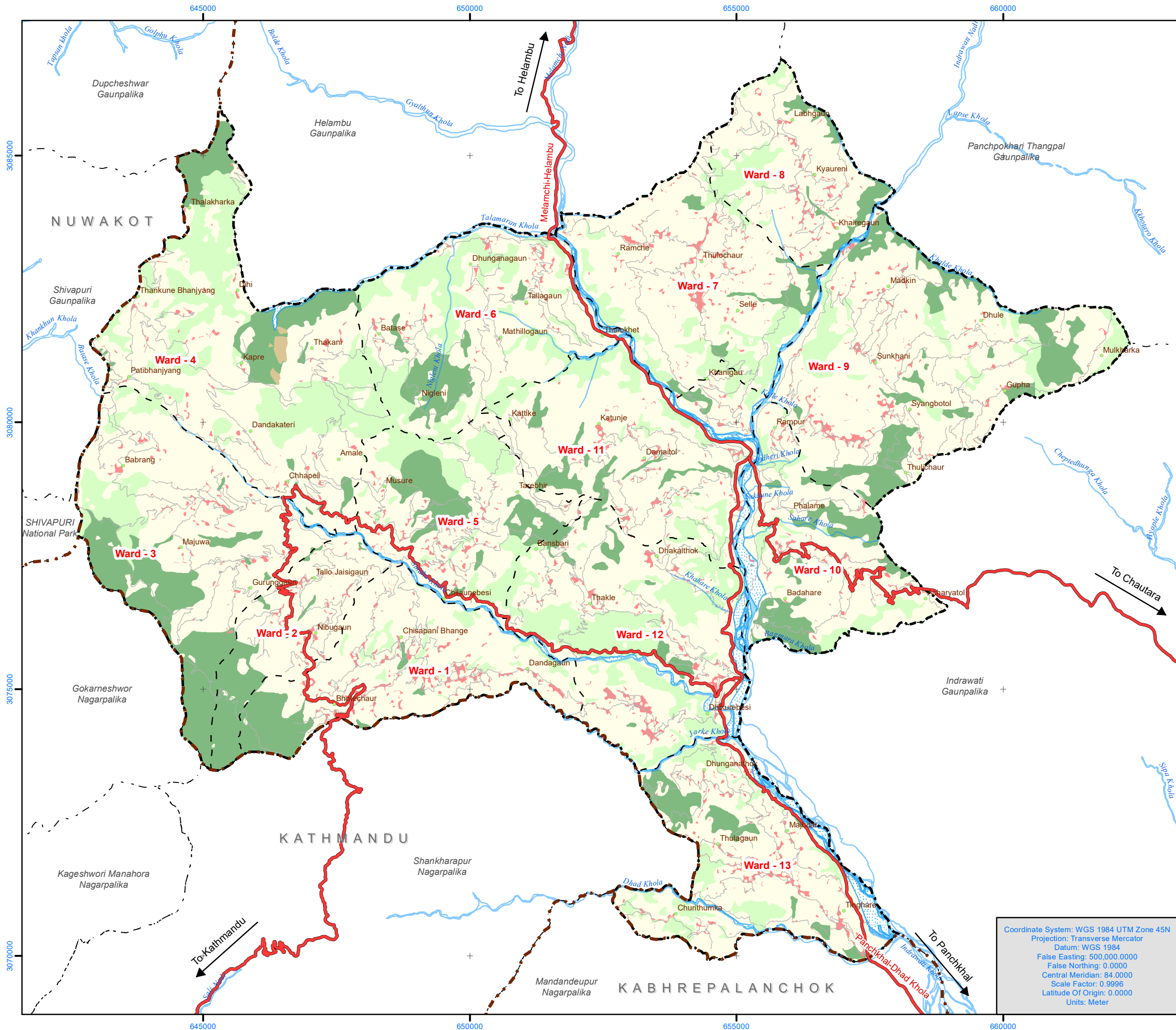
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LANDUSE MAP



(Scale = 1:70,000)

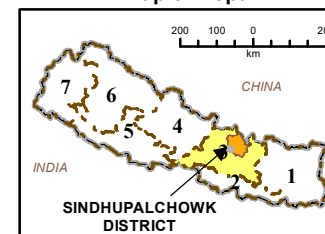
**PREPARATION OF
MUNICIPAL TRANSPORT MASTER PLAN (MTMP)
OF MELAMCHI MUNICIPALITY**

Map No. 4

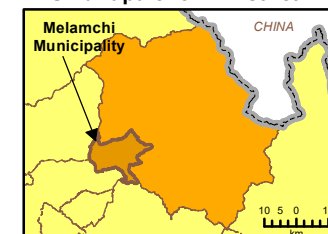
Legend

	District Boundary	Landcover	
	Municipality Boundary		Built Up
	New Ward Boundary		Bush
	Surrounding Municipalities		Cultivation
	Strategic Road Network		Embankment
	River Network		Forest
	Municipal Roads		River/Waterbody
			Riverbed

Map of Nepal



Sindhupalchowk District



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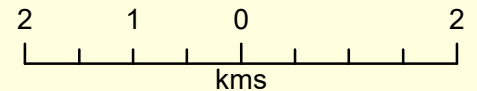
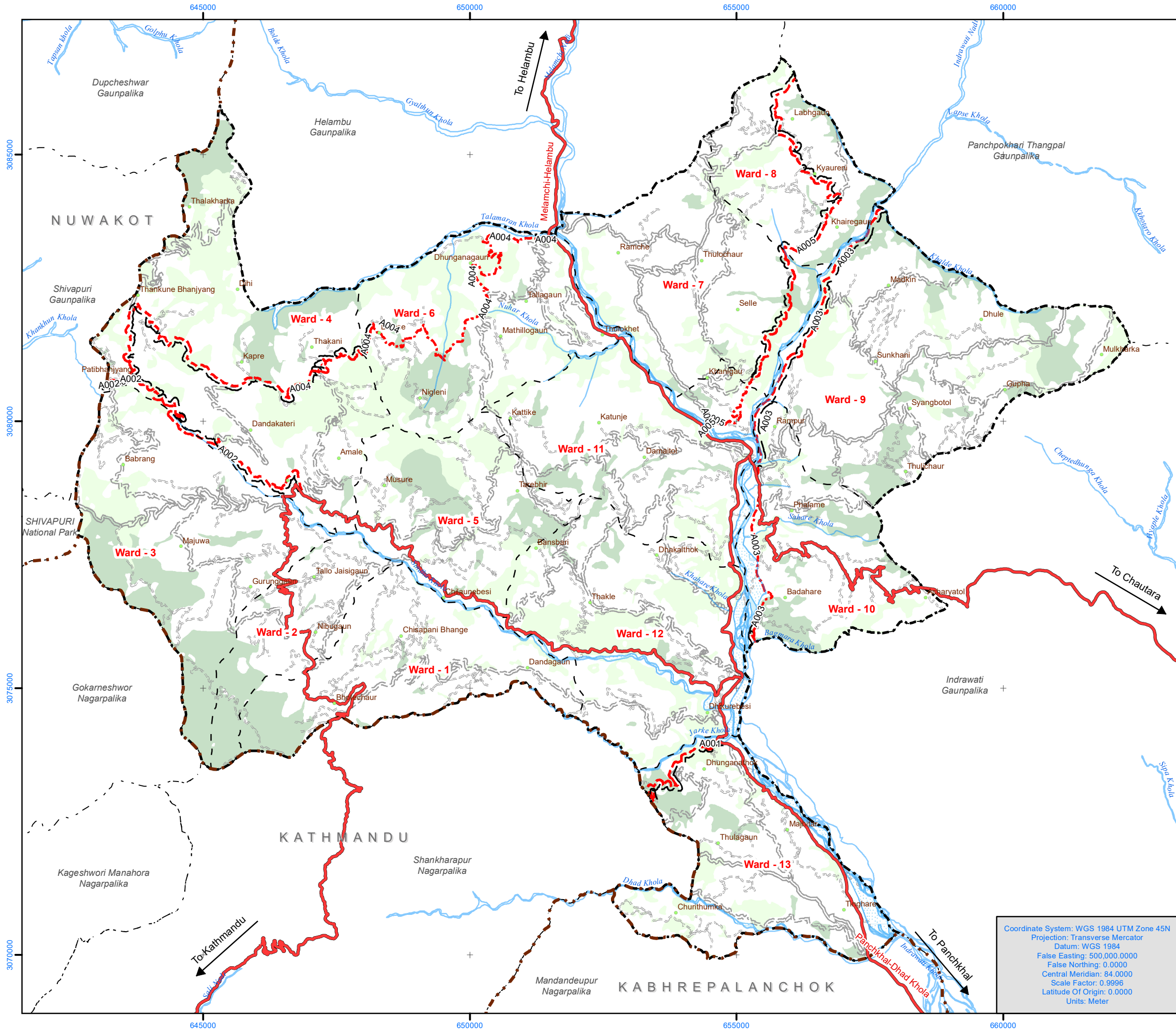
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Melamchi Municipality
Sindhupalchowk, Nepal

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Datum: WGS 1984
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False Northing: 0.0000
Central Meridian: 84.0000
Scale Factor: 0.9996
Latitude Of Origin: 0.0000
Units: Meter

MTPP MAP: CLASS A



(Scale = 1:70,000)

**PREPARATION OF
MUNICIPAL TRANSPORT MASTER PLAN (MTMP)
OF MELAMCHI MUNICIPALITY**

Map No. 5 (a)

Legend

- District Boundary
- Municipality Boundary
- New Ward Boundary
- Surrounding Municipalities
- Strategic Road Network
- River Network

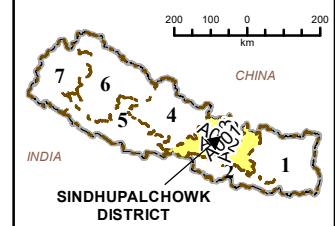
Municipal Class A Roads

Class, Intervention

- A, Periodic Maintenance
- A, Rehabilitation
- A, Upgradation
- Class B Roads
- Class C Roads
- Class D Roads

- Bush
- Forest
- River/Waterbody
- Riverbed

Map of Nepal



Sindhupalchowk District



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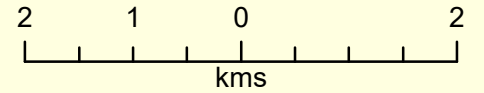
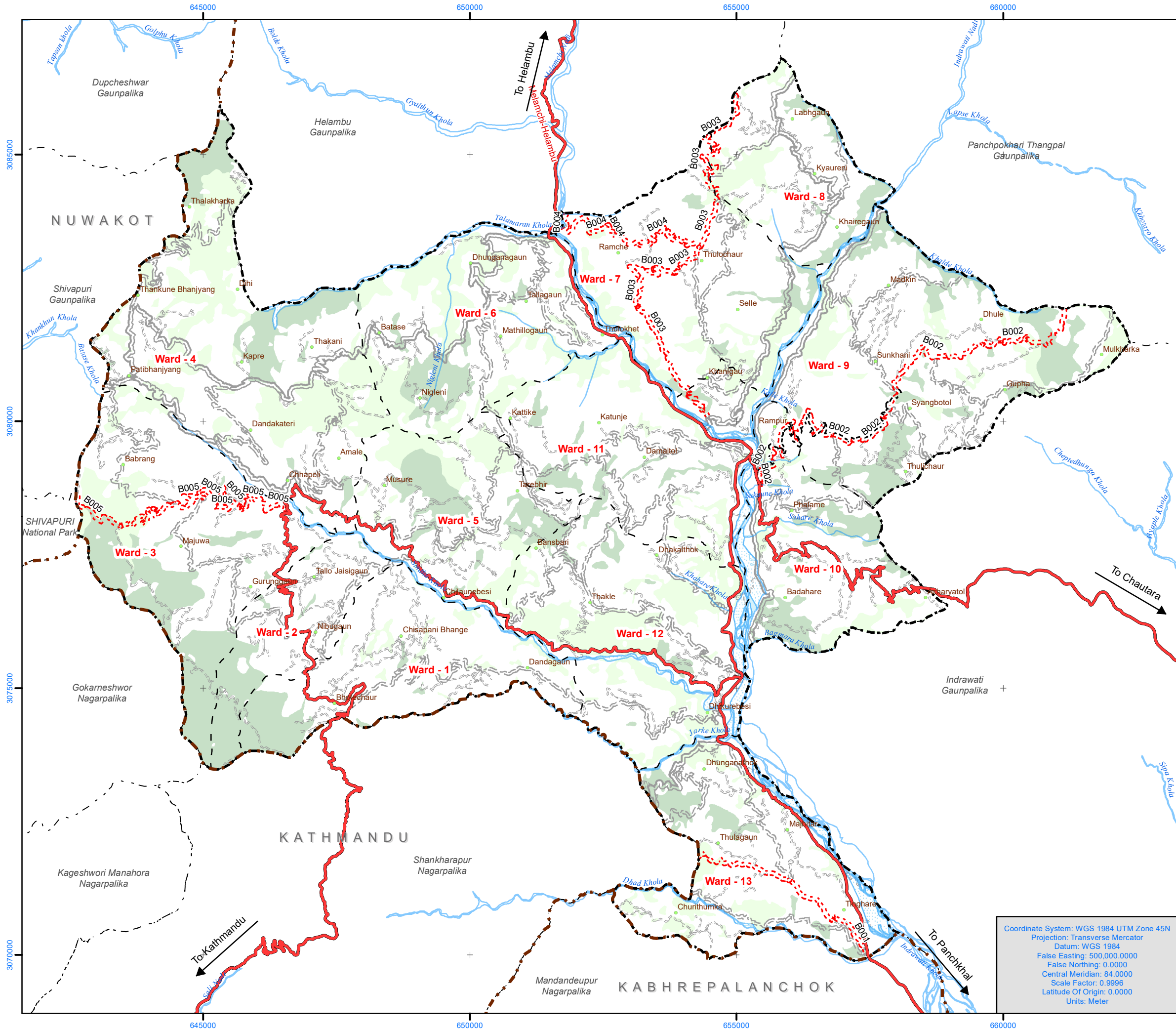
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Datum: WGS 1984
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False Northing: 0.0000
Central Meridian: 84.0000
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Units: Meter

MTPP MAP: CLASS B



(Scale = 1:70,000)

**PREPARATION OF
MUNICIPAL TRANSPORT MASTER PLAN (MTMP)
OF MELAMCHI MUNICIPALITY**

Map No. 5 (b)

Legend

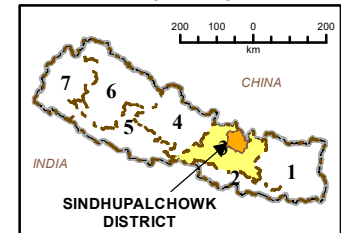
- District Boundary
- Municipality Boundary
- New Ward Boundary
- Surrounding Municipalities
- Strategic Road Network
- River Network

Municipal Class B Roads

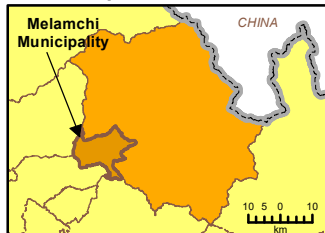
- Class, Intervention**
- B, Rehabilitation
 - B, Upgradation
 - Class A Roads
 - Class C Roads
 - Class D Roads

- Bush
- Forest
- River/Waterbody
- Riverbed

Map of Nepal



Sindhupalchowk District



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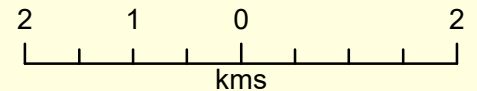
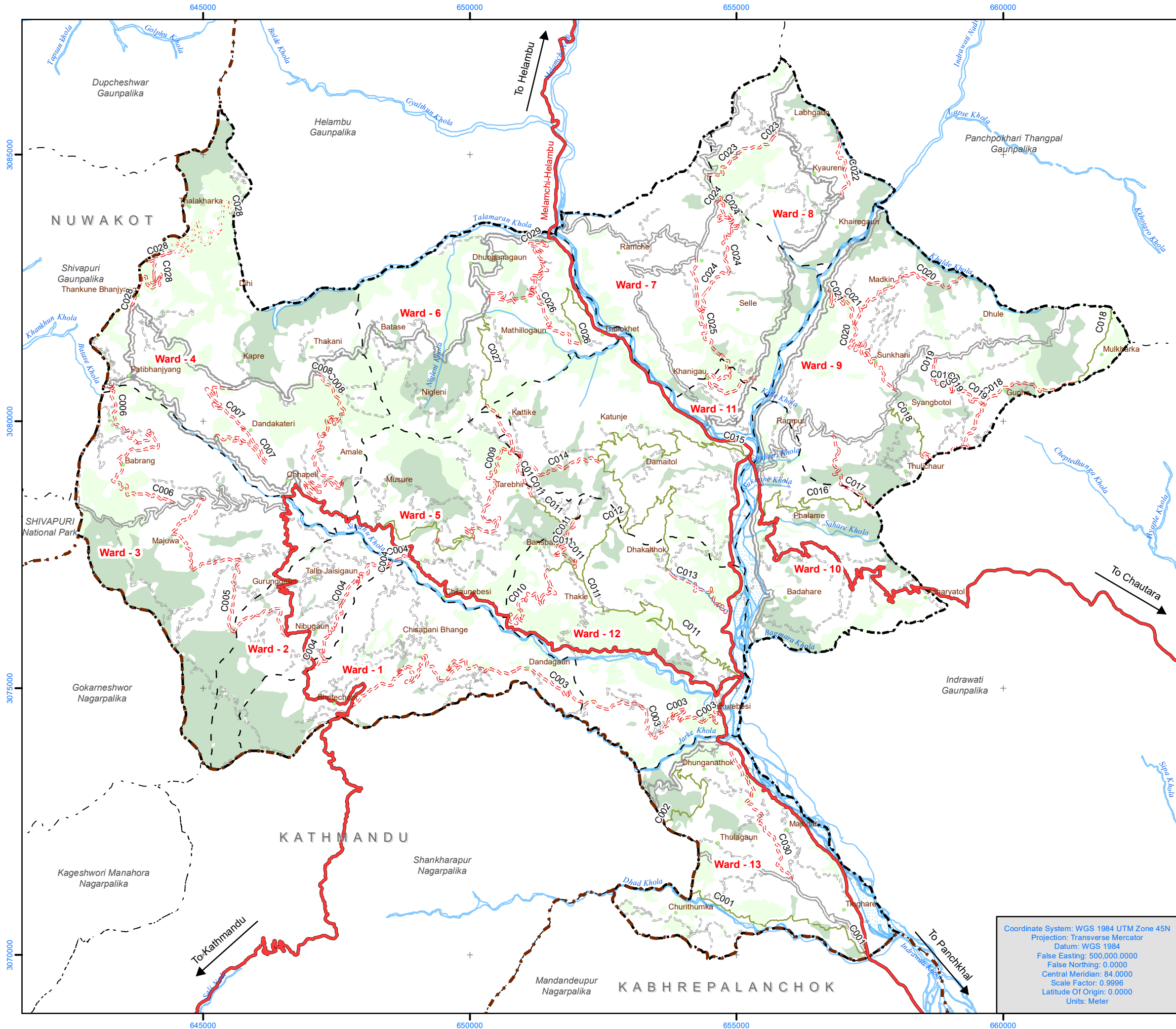
Submitted To:



Melamchi Municipality
Sindhupalchowk, Nepal

Coordinate System: WGS 1984 UTM Zone 45N
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False Northing: 0.0000
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Units: Meter

MTPP MAP: CLASS C



(Scale = 1:70,000)

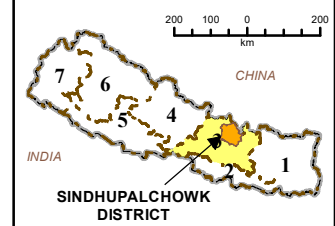
PREPARATION OF MUNICIPAL TRANSPORT MASTER PLAN (MTMP) OF MELAMCHI MUNICIPALITY

Map No. 5 (c)

Legend

- District Boundary
- Municipality Boundary
- New Ward Boundary
- Surrounding Municipalities
- Strategic Road Network
- River Network
- Municipal Class C Roads**
- Class, Intervention**
- C, New Construction
- C, Rehabilitation
- C, Upgradation
- Class A Roads
- Class B Roads
- Class D Roads
- Bush
- Forest
- River/Waterbody
- Riverbed

Map of Nepal



Sindhupalchowk District



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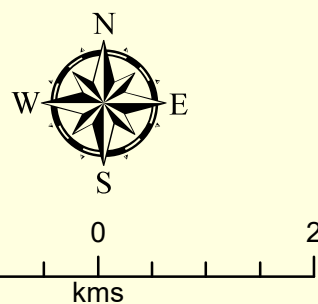
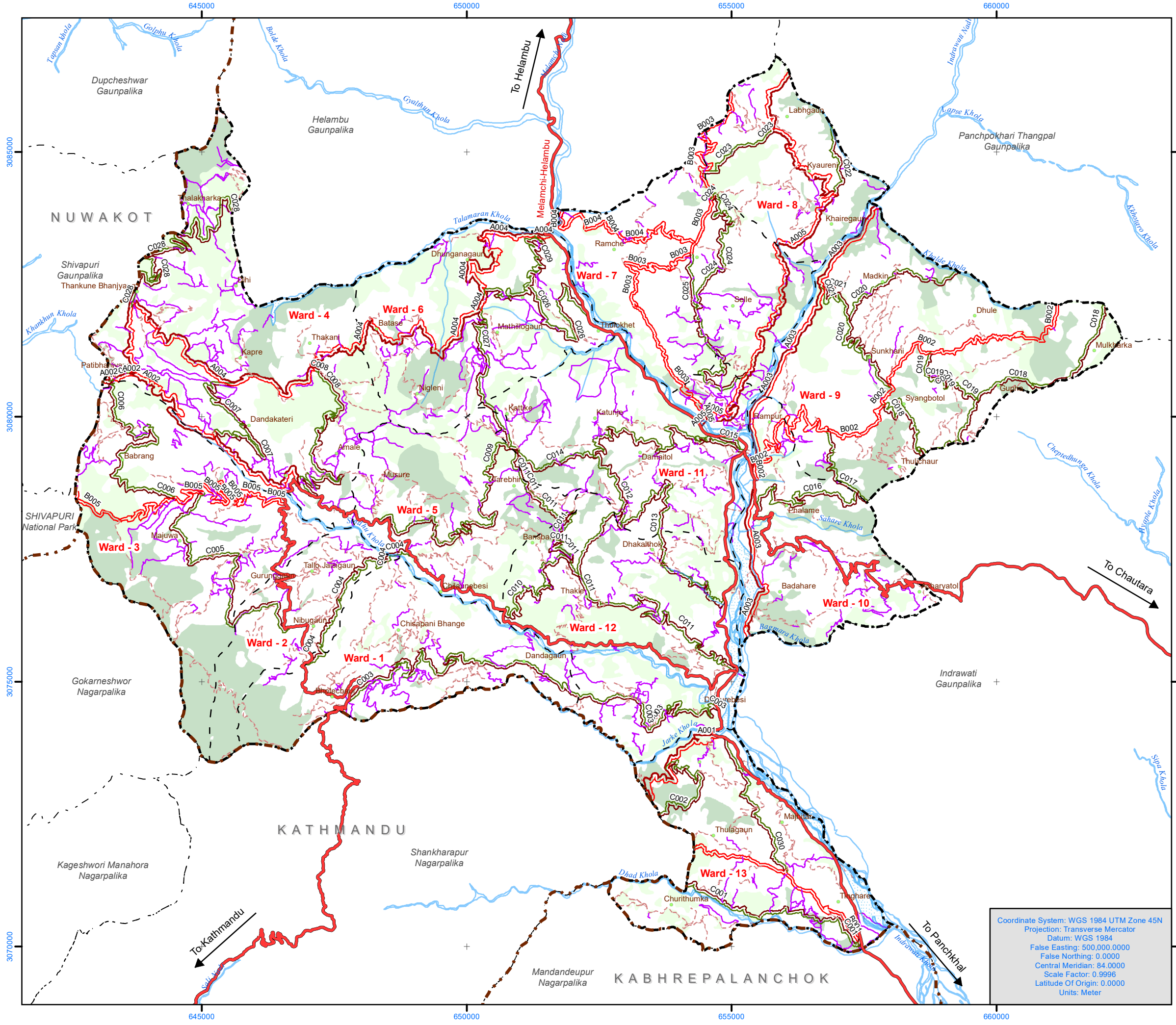
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Central Meridian: 84.0000
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Units: Meter

CONSOLIDATED MTPP MAP



(Scale = 1:70,000)

**PREPARATION OF
MUNICIPAL TRANSPORT MASTER PLAN (MTMP)
OF MELAMCHI MUNICIPALITY**

Map No. 5

Legend

- District Boundary
- Municipality Boundary
- New Ward Boundary
- Surrounding Municipalities
- Strategic Road Network
- River Network

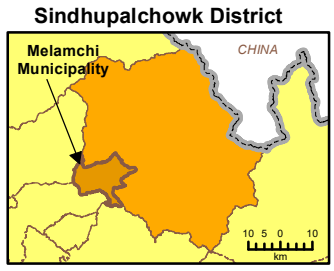
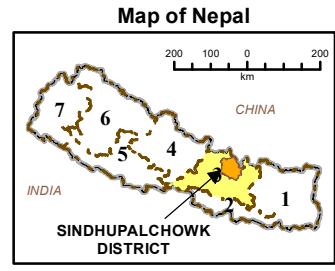
Road by Hierarchy

Class

- A
- B
- C
- D
- Foot trail

Land Use

- Bush
- Forest
- River/Waterbody
- Riverbed



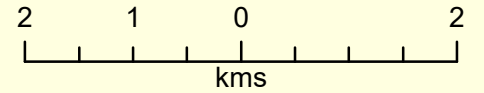
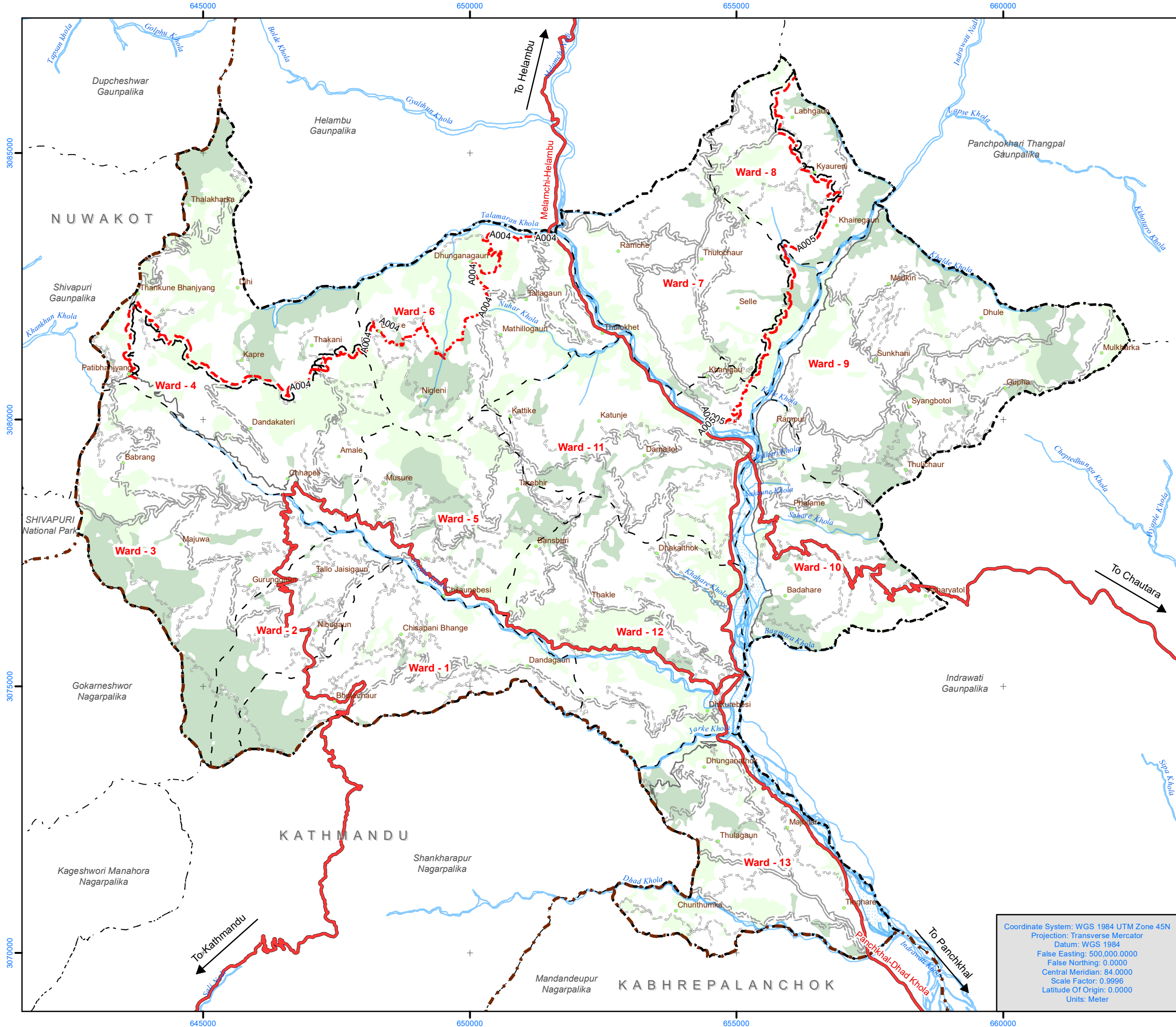
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Central Meridian: 84.0000
Scale Factor: 0.9996
Latitude Of Origin: 0.0000
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Submitted To:
Melamchi Municipality
Sindhupalchowk, Nepal

MTMP MAP: CLASS A



(Scale = 1:70,000)

**PREPARATION OF
MUNICIPAL TRANSPORT MASTER PLAN (MTMP)
OF MELAMCHI MUNICIPALITY**

Map No. 6 (a)

Legend

- District Boundary
- Municipality Boundary
- New Ward Boundary
- Surrounding Municipalities
- Strategic Road Network
- River Network

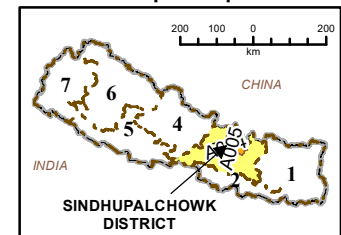
Municipal Class A Roads

Class, Intervention

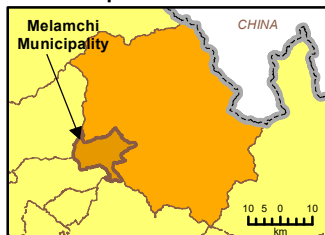
- A, Periodic Maintenance
- A, Rehabilitation
- A, Upgradation
- Class B Roads
- Class C Roads
- Class D Roads
- Other Municipal Roads

- Bush
- Forest
- River/Waterbody
- Riverbed

Map of Nepal



Sindhupalchowk District



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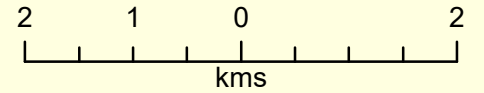
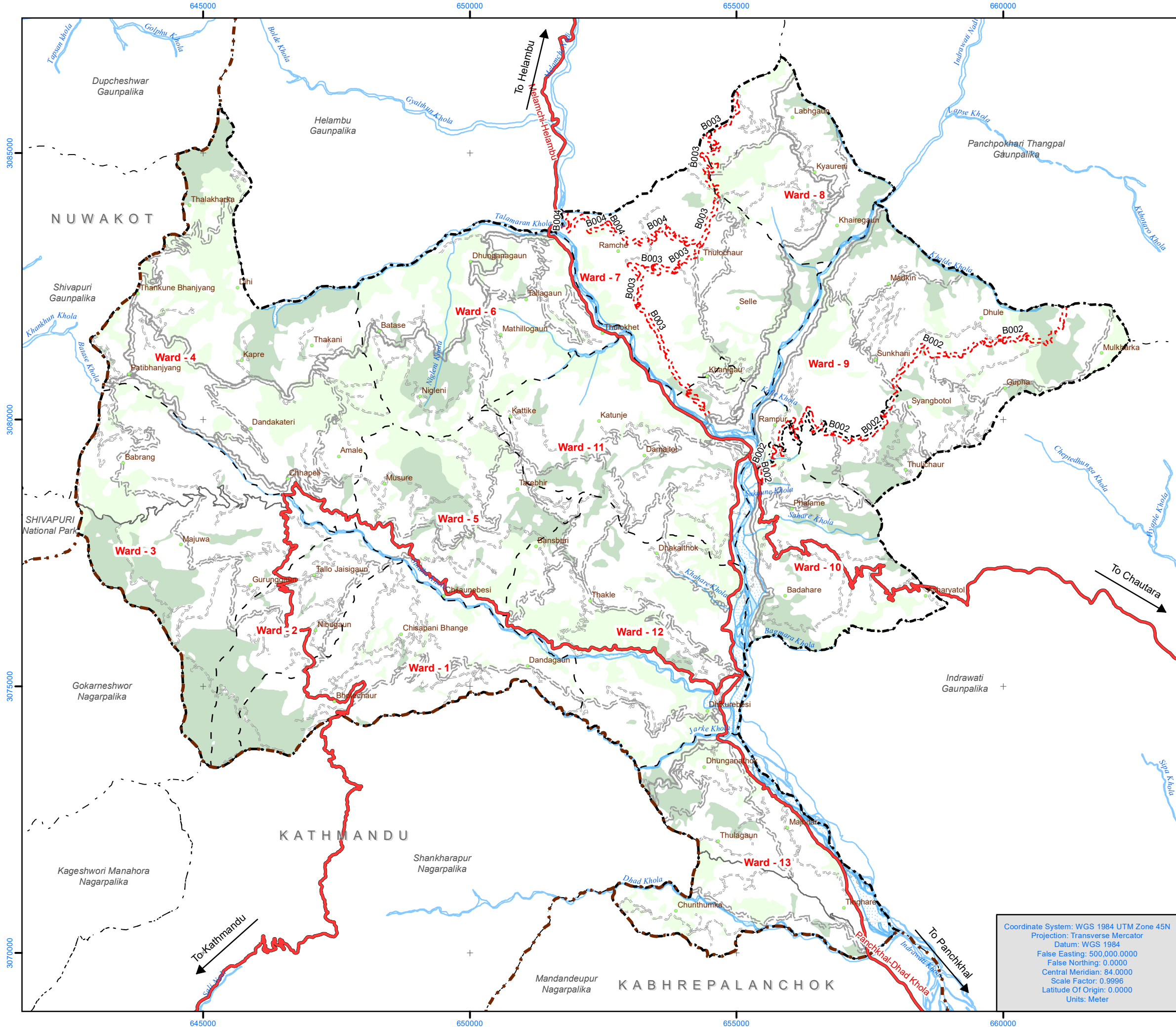
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Coordinate System: WGS 1984 UTM Zone 45N
Projection: Transverse Mercator
Datum: WGS 1984
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False Northing: 0.0000
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Latitude Of Origin: 0.0000
Units: Meter

MTMP MAP: CLASS B



(Scale = 1:70,000)

**PREPARATION OF
MUNICIPAL TRANSPORT MASTER PLAN (MTMP)
OF MELAMCHI MUNICIPALITY**

Map No. 6 (b)

Legend

- District Boundary
- Municipality Boundary
- New Ward Boundary
- Surrounding Municipalities
- Strategic Road Network
- River Network

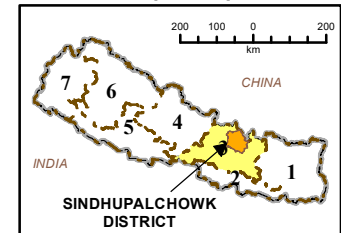
Municipal Class B Roads

Class, Intervention

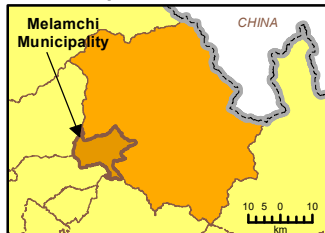
- B, Rehabilitation
- B, Upgradation
- Class A Roads
- Class C Roads
- Class D Roads
- Other Municipal Roads

- Bush
- Forest
- River/Waterbody
- Riverbed

Map of Nepal



Sindhupalchowk District



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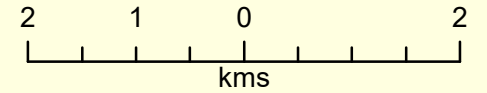
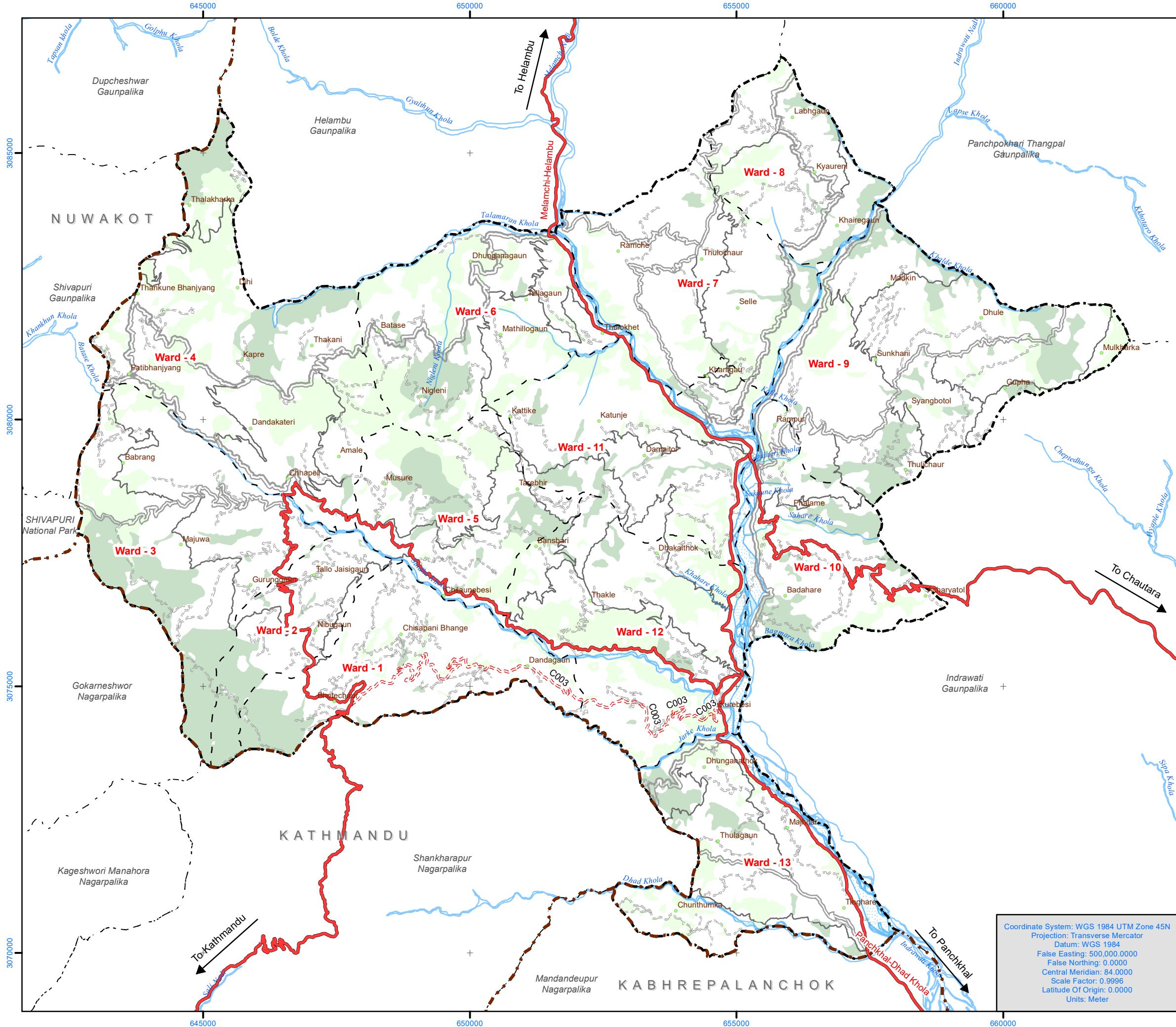
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Units: Meter

MTMP MAP: CLASS C



(Scale = 1:70,000)

**PREPARATION OF
MUNICIPAL TRANSPORT MASTER PLAN (MTMP)
OF MELAMCHI MUNICIPALITY**

Map No. 6 (c)

Legend

- District Boundary
- Municipality Boundary
- New Ward Boundary
- Surrounding Municipalities
- Strategic Road Network
- River Network

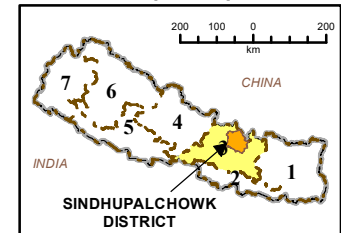
Municipal Class C Roads

Class, Intervention

- C, Upgradation
- Class A Roads
- Class B Roads
- Class D Roads
- Other Municipal Roads

- Bush
- Forest
- River/Waterbody
- Riverbed

Map of Nepal



Sindhupalchowk District



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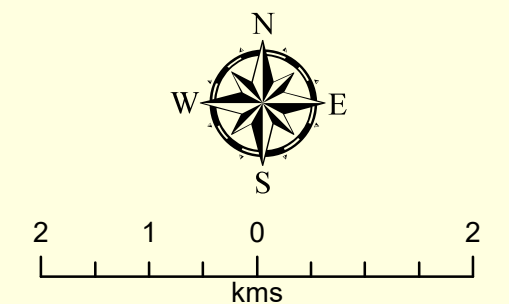
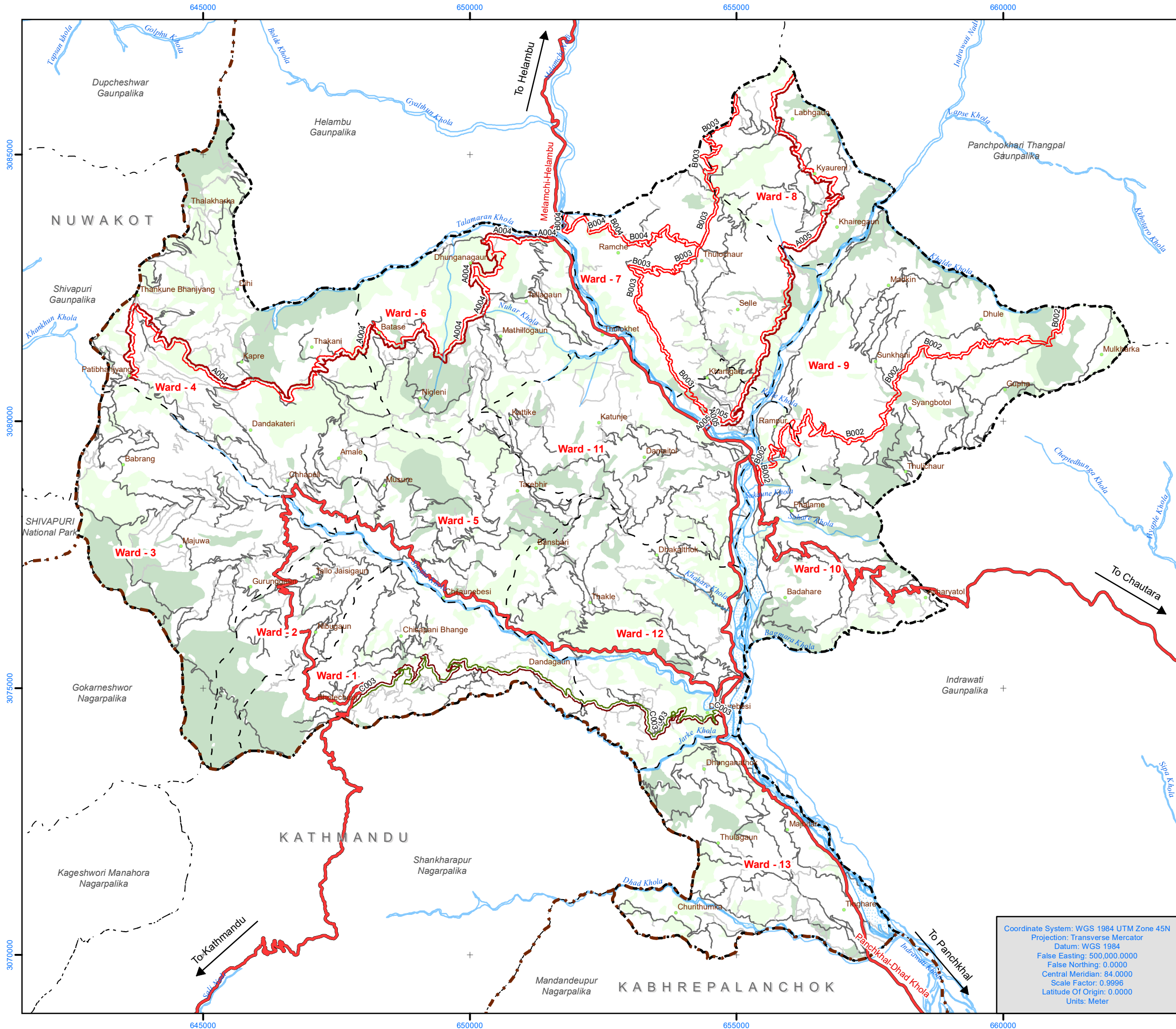
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Coordinate System: WGS 1984 UTM Zone 45N
Projection: Transverse Mercator
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False Easting: 500,000.0000
False Northing: 0.0000
Central Meridian: 84.0000
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Units: Meter

CONSOLIDATED MTMP MAP



(Scale = 1:70,000)

**PREPARATION OF
MUNICIPAL TRANSPORT MASTER PLAN (MTMP)
OF MELAMCHI MUNICIPALITY**

Map No. 6

Legend

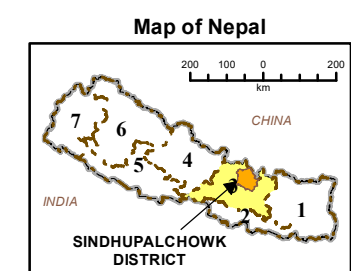
- District Boundary
- Municipality Boundary
- New Ward Boundary
- Surrounding Municipalities
- Strategic Road Network
- River Network

Road by Hierarchy

Class

- A
- B
- C
- Other Municipal Roads
- Trail Roads

- Bush
- Forest
- River/Waterbody
- Riverbed



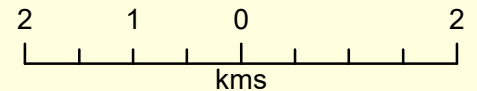
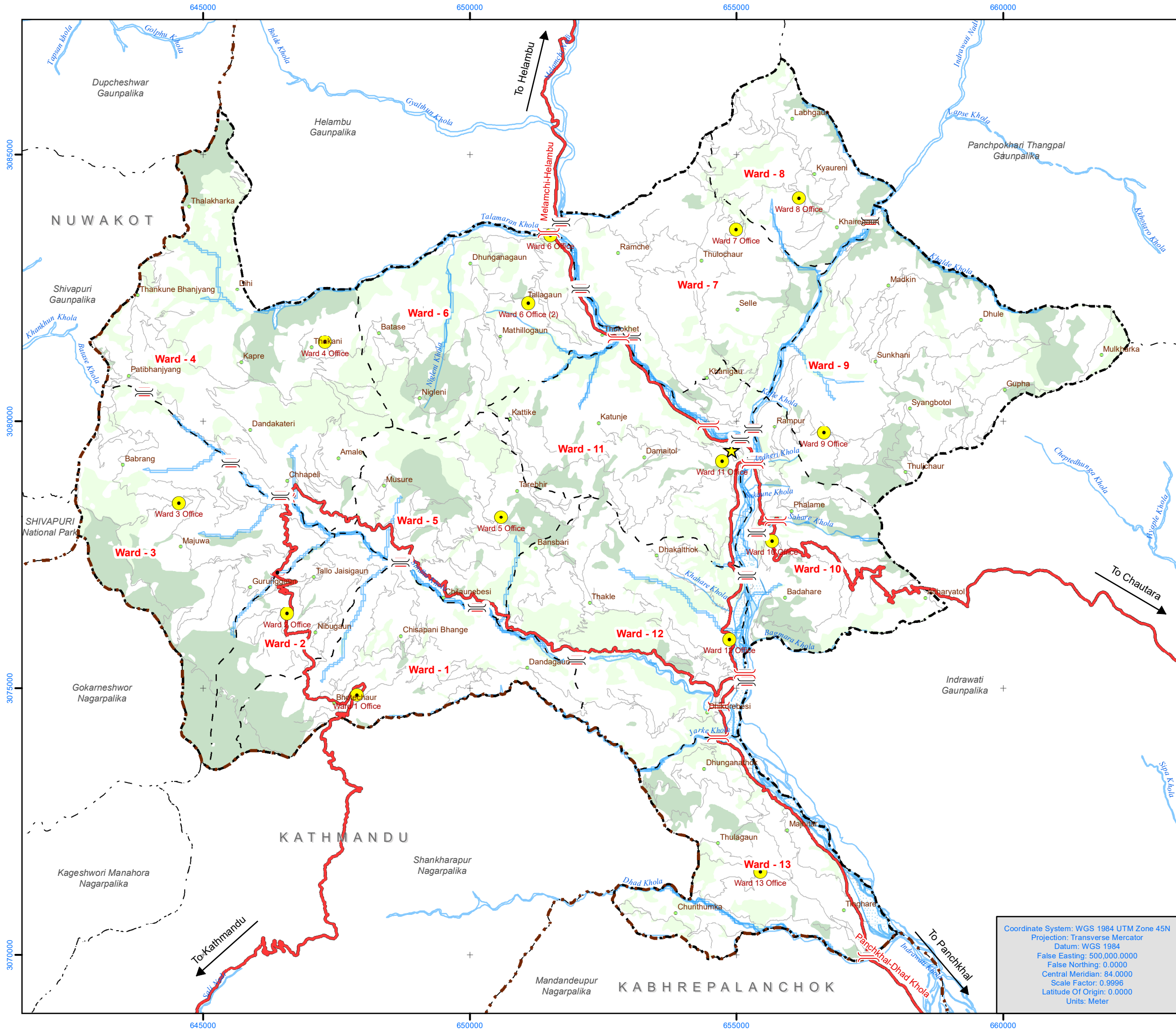
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Datum: WGS 1984
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Units: Meter

MAP SHOWING BRIDGES



(Scale = 1:70,000)

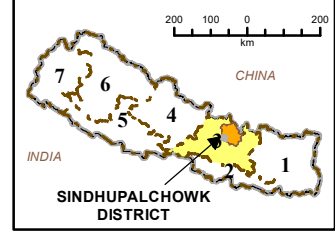
**PREPARATION OF
MUNICIPAL TRANSPORT MASTER PLAN (MTMP)
OF MELAMCHI MUNICIPALITY**

Map No. 7

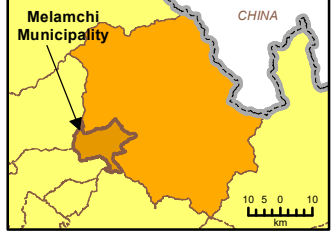
Legend

- | | |
|---------------------------------|-------------------------------|
| Cross Drainage Structure | District Boundary |
| Bridge | Municipality Boundary |
| Culvert | New Ward Boundary |
| Suspension Bridge | Surrounding Municipalities |
| Municipality Office | Strategic Road Network |
| Ward Office | Rivulets and Drainage Network |
| | River Network |
| | Municipal Roads |
| | Bush |
| | Forest |
| | River/Waterbody |
| | Riverbed |

Map of Nepal



Sindhupalchowk District



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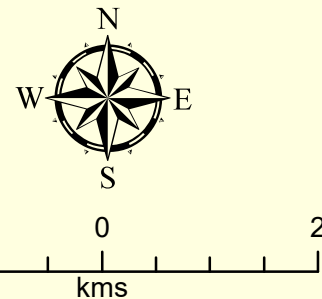
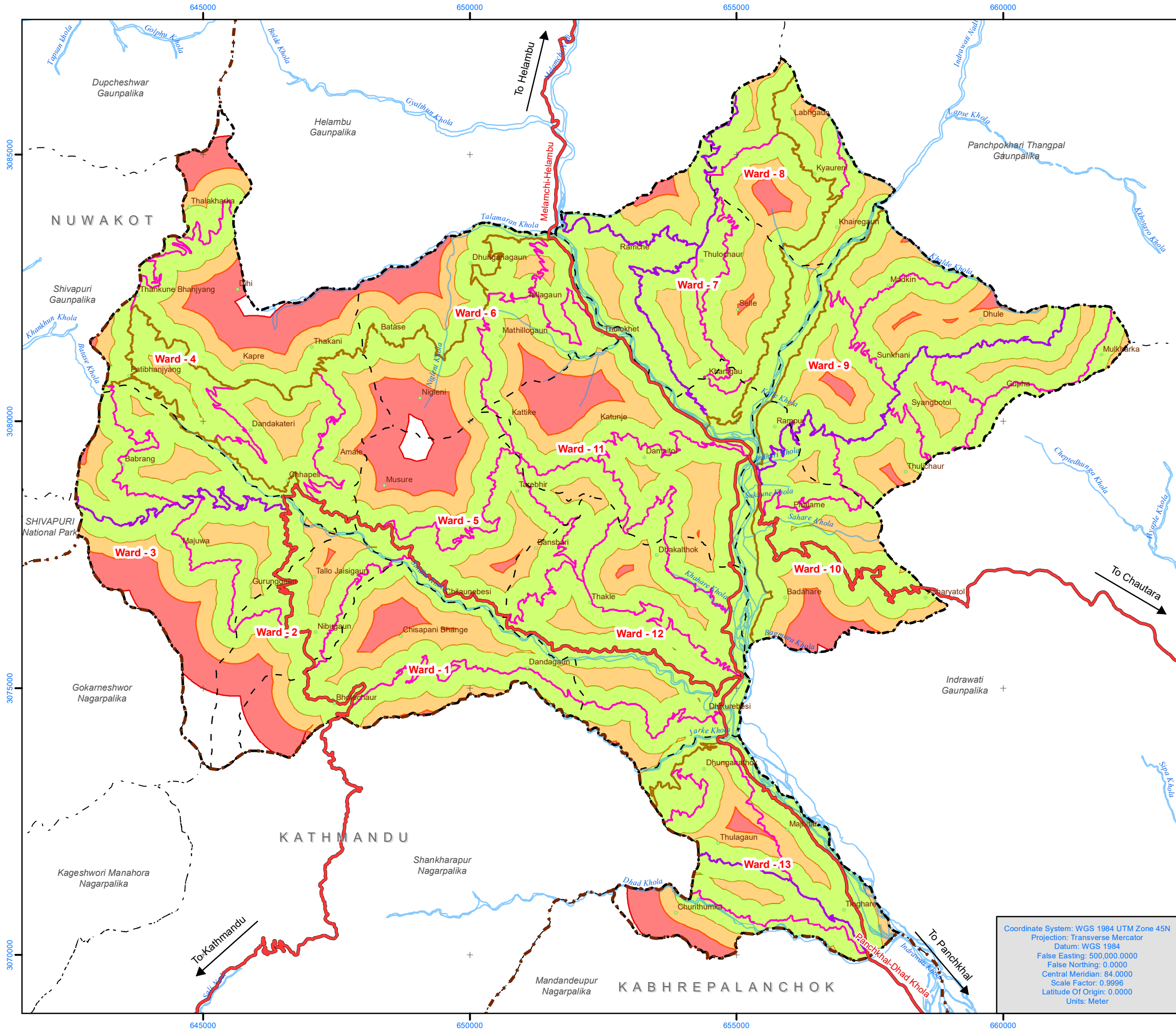
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Projection: Transverse Mercator
Datum: WGS 1984
False Easting: 500,000.0000
False Northing: 0.0000
Central Meridian: 84.0000
Scale Factor: 0.9996
Latitude Of Origin: 0.0000
Units: Meter

ROAD BUFFER ANALYSIS MAP



(Scale = 1:70,000)

**PREPARATION OF
MUNICIPAL TRANSPORT MASTER PLAN (MTMP)
OF MELAMCHI MUNICIPALITY**

Map No. 8

Legend

- District Boundary
- Municipality Boundary
- New Ward Boundary
- Surrounding Municipalities
- Strategic Road Network
- River Network

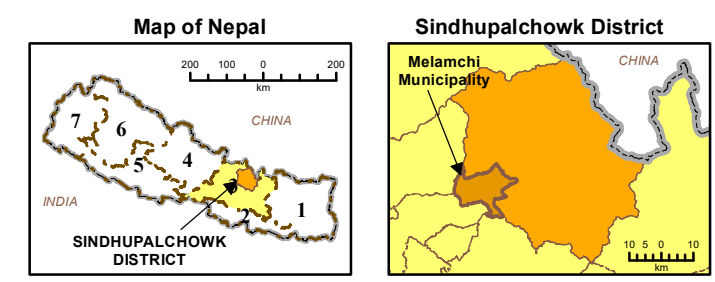
Road by Hierarchy

Municipal Roads Class

- Class A Roads
- Class B Roads
- Class C Roads

Buffer Zones

- 15 Minutes Buffer Zone
- 30 Minutes Buffer Zone
- 60 Minutes Buffer Zone

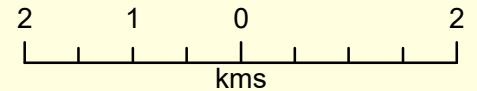
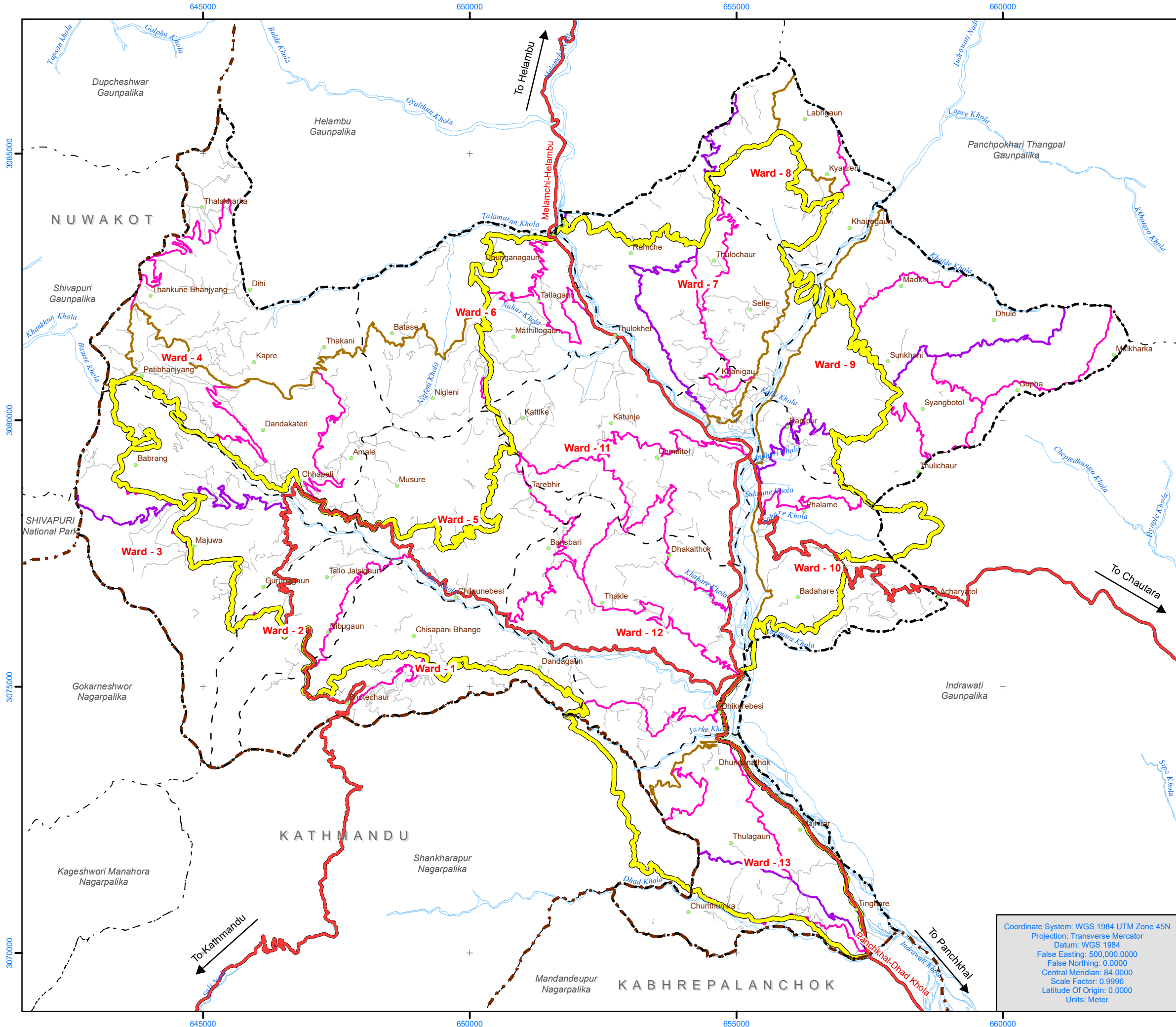


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Projection: Transverse Mercator
Datum: WGS 1984
False Easting: 500,000.0000
False Northing: 0.0000
Central Meridian: 84.0000
Scale Factor: 0.9996
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Units: Meter

RINGROAD ALIGNMENT



(Scale = 1:70,000)

**PREPARATION OF
MUNICIPAL TRANSPORT MASTER PLAN (MTMP)
OF MELAMCHI MUNICIPALITY**

Map No. 9

Legend

- District Boundary
- Municipality Boundary
- New Ward Boundary
- Surrounding Municipalities
- Strategic Road Network
- River Network
- Ringroad

Road by Hierarchy
Municipal Roads Class

- Class A Roads
- Class B Roads
- Class C Roads
- Class D Roads



Coordinate System: WGS 1984 UTM Zone 45N
Projection: Transverse Mercator
Datum: WGS 1984
False Easting: 500,000.0000
False Northing: 0.0000
Central Meridian: 84.0000
Scale Factor: 0.9996
Latitude Of Origin: 0.0000
Units: Meter

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ANNEX II: PHOTOGRAPHS



Photo 1 Road blocked because of a stuck tripper



Photo 2 Tree being cut down for road expansion



Photo 3 Road construction in front of municipality office



Photo 4 Condition of road near to municipality office



Photo 5 Sand extraction near Indrawati river



Photo 6 Condition of road



Photo 7 Sand extraction and crusher industry



Photo 8 Workshop with ward representatives

ANNEX III: DATA

Inventory Sheet 1: Road Surface Type

SN	Code	Length (in km)	Surface Type			New Construction
			Earthen	Gravelled	Metalled	
1	24M01A001	3.89	-	3.89	-	0
2	24M01A002	7.08	3.95	3.13	-	0
3	24M01A003	9.57	3.30	6.27	-	0
4	24M01A004	19.77	19.77	-	-	0
5	24M01A005	12.22	12.07	-	0.15	0
6	24M01B001	4.58	4.58	-	-	0
7	24M01B002	13.32	7.79	5.53	-	0
8	24M01B003	11.30	11.30	-	-	0
9	24M01B004	4.82	4.82	-	-	0
10	24M01B005	8.95	8.95	-	-	0
11	24M01C001	4.81	4.81	-	-	0
12	24M01C002	3.35	3.35	-	-	0
13	24M01C003	13.02	13.02	-	-	0
14	24M01C004	4.87	4.87	-	-	0
15	24M01C005	6.61	6.61	-	-	0
16	24M01C006	5.97	5.97	-	-	0
17	24M01C007	4.76	4.76	-	-	0
18	24M01C008	6.31	6.31	-	-	0
19	24M01C009	7.48	7.48	-	-	0
20	24M01C010	3.92	3.92	-	-	0
21	24M01C011	11.62	11.62	-	-	0
22	24M01C012	3.47	3.47	-	-	0
23	24M01C013	6.82	6.82	-	-	0
24	24M01C014	8.48	8.48	-	-	0
25	24M01C015	0.53	0.53	-	-	0
26	24M01C016	4.02	4.02	-	-	0
27	24M01C017	2.16	2.16	-	-	0
28	24M01C018	8.21	8.21	-	-	0
29	24M01C019	2.33	2.33	-	-	0
30	24M01C020	6.25	3.16	3.08	-	0
31	24M01C021	1.79	-	1.79	-	0
32	24M01C022	1.57	1.57	-	-	0
33	24M01C023	1.85	1.85	-	-	0
34	24M01C024	4.24	4.24	-	-	0
35	24M01C025	5.03	5.03	-	-	0
36	24M01C026	5.78	5.78	-	-	0
37	24M01C027	3.81	3.81	-	-	0
38	24M01C028	7.34	3.13	-	-	4.21
39	24M01C029	2.96	2.96	-	-	0
40	24M01C030	3.56	3.56	-	-	0
41	24M01D001	2.31	2.31	-	-	0
42	24M01D002	4.93	4.93	-	-	0
43	24M01D003	1.69	1.69	-	-	0
44	24M01D004	2.86	2.86	-	-	0
45	24M01D005	1.72	1.72	-	-	0
46	24M01D006	1.60	1.60	-	-	0
47	24M01D007	3.76	3.76	-	-	0
48	24M01D008	0.36	0.36	-	-	0
49	24M01D009	2.86	2.86	-	-	0
50	24M01D010	3.57	3.57	-	-	0

SN	Code	Length (in km)	Surface Type			New Construction
			Earthen	Gravelled	Metalled	
51	24M01D011	0.93	0.93	-	-	0
52	24M01D012	1.53	1.53	-	-	0
53	24M01D013	3.43	2.90	-	-	0.54
54	24M01D014	0.63	0.63	-	-	0
55	24M01D015	0.50	0.50	-	-	0
56	24M01D016	2.02	2.02	-	-	0
57	24M01D017	0.37	0.37	-	-	0
58	24M01D018	2.62	2.62	-	-	0
59	24M01D019	0.73	0.73	-	-	0
60	24M01D020	1.34	1.34	-	-	0
61	24M01D021	1.81	1.81	-	-	0
62	24M01D022	4.07	4.07	-	-	0
63	24M01D023	3.47	3.47	-	-	0
64	24M01D024	3.90	3.90	-	-	0
65	24M01D025	2.13	2.13	-	-	0
66	24M01D026	1.90	1.90	-	-	0
67	24M01D027	0.64	0.64	-	-	0
68	24M01D028	0.35	0.35	-	-	0
69	24M01D029	1.32	1.32	-	-	0
70	24M01D030	0.46	0.46	-	-	0
71	24M01D031	0.59	0.59	-	-	0
72	24M01D032	0.62	-	-	-	0.62
73	24M01D033	0.27	0.27	-	-	0
74	24M01D034	0.25	0.25	-	-	0
75	24M01D035	0.51	0.51	-	-	0
76	24M01D036	0.57	0.57	-	-	0
77	24M01D037	2.60	2.60	-	-	0
78	24M01D038	0.22	0.22	-	-	0
79	24M01D039	0.34	0.34	-	-	0
80	24M01D040	0.77	0.77	-	-	0
81	24M01D041	0.58	0.58	-	-	0
82	24M01D042	0.49	0.49	-	-	0
83	24M01D043	1.09	1.09	-	-	0
84	24M01D044	3.34	3.34	-	-	0
85	24M01D045	0.30	0.30	-	-	0
86	24M01D046	0.27	0.27	-	-	0
87	24M01D047	0.12	0.12	-	-	0
88	24M01D048	0.34	0.34	-	-	0
89	24M01D049	0.62	0.62	-	-	0
90	24M01D050	0.28	0.28	-	-	0
91	24M01D051	0.12	0.12	-	-	0
92	24M01D052	1.74	1.74	-	-	0
93	24M01D053	0.37	0.37	-	-	0
94	24M01D054	0.14	0.14	-	-	0
95	24M01D055	1.05	1.05	-	-	0
96	24M01D056	1.81	1.81	-	-	0
97	24M01D057	0.29	0.29	-	-	0
98	24M01D058	1.23	1.23	-	-	0
99	24M01D059	0.56	0.56	-	-	0
100	24M01D060	2.56	2.56	-	-	0
101	24M01D061	0.86	0.86	-	-	0
102	24M01D062	1.05	1.05	-	-	0

SN	Code	Length (in km)	Surface Type			New Construction
			Earthen	Gravelled	Metalled	
103	24M01D063	0.76	0.76	-	-	0
104	24M01D064	4.90	4.90	-	-	0
105	24M01D065	1.22	1.22	-	-	0
106	24M01D066	0.42	0.42	-	-	0
107	24M01D067	1.14	1.14	-	-	0
108	24M01D068	0.87	0.87	-	-	0
109	24M01D069	0.64	0.64	-	-	0
110	24M01D070	0.79	0.79	-	-	0
111	24M01D071	0.44	0.44	-	-	0
112	24M01D072	0.13	0.13	-	-	0
113	24M01D073	1.17	1.17	-	-	0
114	24M01D074	1.69	1.69	-	-	0
115	24M01D075	0.53	0.53	-	-	0
116	24M01D076	1.27	1.27	-	-	0
117	24M01D077	0.60	0.60	-	-	0
118	24M01D078	0.49	0.49	-	-	0
119	24M01D079	0.71	0.71	-	-	0
120	24M01D080	0.27	0.27	-	-	0
121	24M01D081	0.17	0.17	-	-	0
122	24M01D082	2.85	2.85	-	-	0
123	24M01D083	0.24	0.24	-	-	0
124	24M01D084	0.30	0.30	-	-	0
125	24M01D085	0.07	0.07	-	-	0
126	24M01D086	1.67	1.67	-	-	0
127	24M01D087	3.57	3.57	-	-	0
128	24M01D088	0.90	0.90	-	-	0
129	24M01D089	1.60	1.60	-	-	0
130	24M01D090	1.92	1.92	-	-	0
131	24M01D091	1.67	1.67	-	-	0
132	24M01D092	2.59	2.59	-	-	0
133	24M01D093	2.08	2.08	-	-	0
134	24M01D094	0.99	0.99	-	-	0
135	24M01D095	4.16	4.16	-	-	0
136	24M01D096	2.13	2.13	-	-	0
137	24M01D097	1.72	1.72	-	-	0
138	24M01D098	3.79	3.79	-	-	0
139	24M01D099	2.25	2.25	-	-	0
140	24M01D100	2.47	2.47	-	-	0
141	24M01D101	4.25	4.25	-	-	0
142	24M01D102	3.47	3.47	-	-	0
143	24M01D103	1.40	1.40	-	-	0
144	24M01D104	0.54	0.54	-	-	0
145	24M01D105	0.17	0.17	-	-	0
146	24M01D106	0.06	0.06	-	-	0
147	24M01D107	2.10	2.10	-	-	0
148	24M01D108	1.67	1.67	-	-	0
149	24M01D109	0.05	0.05	-	-	0
150	24M01D110	0.42	0.42	-	-	0
151	24M01D111	0.64	0.64	-	-	0
152	24M01D112	1.40	1.40	-	-	0
153	24M01D113	0.70	0.70	-	-	0
154	24M01D114	2.02	2.02	-	-	0

SN	Code	Length (in km)	Surface Type			New Construction
			Earthen	Gravelled	Metalled	
155	24M01D115	0.47	0.47	-	-	0
156	24M01D116	0.71	0.71	-	-	0
157	24M01D117	1.10	1.10	-	-	0
158	24M01D118	2.11	2.11	-	-	0
159	24M01D119	0.84	0.84	-	-	0
160	24M01D120	0.36	0.36	-	-	0
161	24M01D121	0.10	0.10	-	-	0
162	24M01D122	0.54	0.54	-	-	0
163	24M01D123	1.50	1.50	-	-	0
164	24M01D124	1.66	1.66	-	-	0
165	24M01D125	1.40	1.40	-	-	0
166	24M01D126	0.49	0.49	-	-	0
167	24M01D127	0.08	0.08	-	-	0
168	24M01D128	0.10	0.10	-	-	0
169	24M01D129	0.16	0.16	-	-	0
170	24M01D130	0.20	0.20	-	-	0
171	24M01D131	0.54	0.54	-	-	0
172	24M01D132	0.30	0.30	-	-	0
173	24M01D133	0.70	0.70	-	-	0
174	24M01D134	0.29	0.29	-	-	0
175	24M01D135	0.53	0.53	-	-	0
176	24M01D136	0.24	0.24	-	-	0
177	24M01D137	0.95	0.95	-	-	0
178	24M01D138	0.11	0.11	-	-	0
179	24M01D139	0.33	0.33	-	-	0
180	24M01D140	0.42	0.42	-	-	0
181	24M01D141	0.27	-	0.27	-	0
182	24M01D142	0.54	0.54	-	-	0
183	24M01D143	2.17	2.17	-	-	0
184	24M01D144	0.52	0.52	-	-	0
185	24M01D145	0.46	0.46	-	-	0
186	24M01D146	1.44	1.44	-	-	0
187	24M01D147	0.16	0.16	-	-	0
188	24M01D148	0.50	0.50	-	-	0
189	24M01D149	0.89	0.89	-	-	0
190	24M01D150	1.37	1.37	-	-	0
191	24M01D151	0.19	0.19	-	-	0
192	24M01D152	0.06	0.06	-	-	0
193	24M01D153	1.02	1.02	-	-	0
194	24M01D154	0.33	0.33	-	-	0
195	24M01D155	0.82	0.82	-	-	0
196	24M01D156	0.72	0.72	-	-	0
197	24M01D157	0.47	0.47	-	-	0
198	24M01D158	0.30	0.30	-	-	0
199	24M01D159	0.83	0.83	-	-	0
200	24M01D160	0.04	0.04	-	-	0
201	24M01D161	0.55	0.55	-	-	0
202	24M01D162	1.59	1.59	-	-	0
203	24M01D163	0.34	0.34	-	-	0
204	24M01D164	0.41	0.41	-	-	0
205	24M01D165	0.13	0.13	-	-	0
206	24M01D166	0.38	0.38	-	-	0

SN	Code	Length (in km)	Surface Type			New Construction
			Earthen	Gravelled	Metalled	
207	24M01D167	0.09	0.09	-	-	0
208	24M01D168	0.91	0.91	-	-	0
209	24M01D169	0.41	0.41	-	-	0
210	24M01D170	0.52	0.52	-	-	0
211	24M01D171	0.40	0.40	-	-	0
212	24M01D172	0.71	0.71	-	-	0
213	24M01D173	0.31	0.31	-	-	0
214	24M01D174	0.63	0.63	-	-	0
215	24M01D175	0.19	0.19	-	-	0
216	24M01D176	0.07	0.07	-	-	0
217	24M01D177	0.28	0.28	-	-	0
218	24M01D178	0.26	0.26	-	-	0
219	24M01D179	0.29	0.29	-	-	0
220	24M01D180	1.11	1.11	-	-	0
221	24M01D181	0.02	0.02	-	-	0
222	24M01D182	1.97	1.97	-	-	0
223	24M01D183	1.40	1.40	-	-	0
224	24M01D184	0.71	0.71	-	-	0
225	24M01D185	0.26	0.26	-	-	0
226	24M01D186	0.23	0.23	-	-	0
227	24M01D187	0.09	0.09	-	-	0
228	24M01D188	0.07	0.07	-	-	0
229	24M01D189	0.25	0.25	-	-	0
230	24M01D190	0.33	0.33	-	-	0
231	24M01D191	0.15	0.15	-	-	0
232	24M01D192	0.01	0.01	-	-	0
233	24M01D193	0.02	0.02	-	-	0
234	24M01D194	0.36	0.36	-	-	0
235	24M01D195	0.93	0.93	-	-	0
236	24M01D196	0.33	0.33	-	-	0
237	24M01D197	0.45	0.45	-	-	0
238	24M01D198	0.08	-	0.08	-	0
239	24M01D199	0.06	0.06	-	-	0
240	24M01D200	0.23	0.23	-	-	0
241	24M01D201	0.29	0.29	-	-	0
242	24M01D202	0.18	0.18	-	-	0
243	24M01D203	0.65	0.65	-	-	0
244	24M01D204	0.06	0.06	-	-	0
245	24M01D205	0.93	0.93	-	-	0
246	24M01D206	0.12	0.12	-	-	0
247	24M01D207	0.11	0.11	-	-	0
248	24M01D208	1.31	1.31	-	-	0
249	24M01D209	0.22	0.22	-	-	0
250	24M01D210	0.22	0.22	-	-	0
251	24M01D211	0.12	0.12	-	-	0
252	24M01D212	0.18	0.18	-	-	0
253	24M01D213	0.09	0.09	-	-	0
254	24M01D214	0.09	0.09	-	-	0
255	24M01D215	0.30	0.30	-	-	0
256	24M01D216	0.10	0.10	-	-	0
257	24M01D217	0.30	0.30	-	-	0
258	24M01D218	0.27	0.27	-	-	0

SN	Code	Length (in km)	Surface Type			New Construction
			Earthen	Gravelled	Metalled	
259	24M01D219	0.69	0.69	-	-	0
260	24M01D220	0.89	0.89	-	-	0
261	24M01D221	0.59	0.59	-	-	0
262	24M01D222	0.25	0.25	-	-	0
263	24M01D223	0.21	0.21	-	-	0
264	24M01D224	0.06	0.06	-	-	0
265	24M01D225	0.26	0.26	-	-	0
266	24M01D226	0.11	0.11	-	-	0
267	24M01D227	1.03	1.03	-	-	0
268	24M01D228	0.54	0.54	-	-	0
269	24M01D229	1.04	1.04	-	-	0
270	24M01D230	0.16	0.16	-	-	0
271	24M01D231	0.46	0.46	-	-	0
272	24M01D232	0.46	0.46	-	-	0
273	24M01D233	0.15	0.15	-	-	0
274	24M01D234	0.16	0.16	-	-	0
275	24M01D235	0.34	0.34	-	-	0
276	24M01D236	0.74	0.74	-	-	0
277	24M01D237	1.44	1.44	-	-	0
278	24M01D238	0.88	0.88	-	-	0
279	24M01D239	0.27	0.27	-	-	0
280	24M01D240	0.24	0.24	-	-	0
281	24M01D241	0.15	0.15	-	-	0
282	24M01D242	0.61	0.61	-	-	0
283	24M01D243	0.07	0.07	-	-	0
284	24M01D244	0.32	0.32	-	-	0
285	24M01D245	0.57	0.57	-	-	0
286	24M01D246	0.20	0.20	-	-	0
287	24M01D247	0.37	0.37	-	-	0
288	24M01D248	0.68	0.68	-	-	0
289	24M01D249	0.86	0.86	-	-	0
290	24M01D250	0.08	0.08	-	-	0
291	24M01D251	0.09	0.09	-	-	0
292	24M01D252	0.10	0.10	-	-	0
293	24M01D253	0.35	0.35	-	-	0
294	24M01D254	0.08	0.08	-	-	0
295	24M01D255	0.30	0.30	-	-	0
296	24M01D256	1.51	1.51	-	-	0
297	24M01D257	0.17	0.17	-	-	0
298	24M01D258	0.80	0.80	-	-	0
299	24M01D259	1.38	1.38	-	-	0
300	24M01D260	0.28	0.28	-	-	0
301	24M01D261	0.48	0.48	-	-	0
302	24M01D262	0.28	0.28	-	-	0
303	24M01D263	0.36	0.36	-	-	0
304	24M01D264	0.51	0.51	-	-	0
305	24M01D265	0.17	0.17	-	-	0
306	24M01D266	0.28	0.28	-	-	0
307	24M01D267	0.21	0.21	-	-	0
308	24M01D268	0.56	0.56	-	-	0
309	24M01D269	0.34	0.34	-	-	0
310	24M01D270	0.37	0.37	-	-	0

SN	Code	Length (in km)	Surface Type			New Construction
			Earthen	Gravelled	Metalled	
311	24M01D271	0.21	0.21	-	-	0
312	24M01D272	0.27	0.27	-	-	0
313	24M01D273	0.16	0.16	-	-	0
314	24M01D274	0.43	0.43	-	-	0
315	24M01D275	0.50	0.50	-	-	0
316	24M01D276	0.35	0.35	-	-	0
317	24M01D277	0.26	0.26	-	-	0
318	24M01D278	0.80	0.80	-	-	0
319	24M01D279	0.27	0.27	-	-	0
320	24M01D280	0.40	0.40	-	-	0
321	24M01D281	0.49	0.49	-	-	0
322	24M01D282	1.21	1.21	-	-	0
323	24M01D283	1.01	1.01	-	-	0
324	24M01D284	0.23	0.23	-	-	0
325	24M01D285	0.91	0.91	-	-	0
326	24M01D286	0.95	0.95	-	-	0
327	24M01D287	0.53	0.53	-	-	0
328	24M01D288	0.70	0.70	-	-	0
329	24M01D289	0.05	0.05	-	-	0
330	24M01D290	0.14	0.14	-	-	0

Inventory Sheet 2: Road Width

SN	Code	Length (in km)	Total Width (in m)			Carriageway Width (in m)
			Maximum	Minimum	Average	
1	24M01A001	3.89	4.0	4	4.00	4.00
2	24M01A002	7.08	8.0	6	7.78	7.78
3	24M01A003	9.57	8.0	4	5.84	5.84
4	24M01A004	19.77	8.0	4	4.85	4.85
5	24M01A005	12.22	8.0	3	6.03	6.03
6	24M01B001	4.58	4.0	4	4.00	4.00
7	24M01B002	13.32	8.0	4	4.43	4.43
8	24M01B003	11.30	8.0	4	5.73	5.73
9	24M01B004	4.82	5.0	5	5.00	5.00
10	24M01B005	8.95	6.0	3	4.32	4.32
11	24M01C001	4.81	4.0	3	3.04	3.04
12	24M01C002	3.35	4.0	4	4.00	4.00
13	24M01C003	13.02	6.0	4	4.56	4.56
14	24M01C004	4.87	4.0	3	3.57	3.57
15	24M01C005	6.61	6.0	4	4.68	4.68
16	24M01C006	5.97	4.0	3	3.79	3.79
17	24M01C007	4.76	4.0	4	4.00	4.00
18	24M01C008	6.31	5.0	4	4.01	4.01
19	24M01C009	7.48	5.0	3	3.77	3.77
20	24M01C010	3.92	4.0	3	3.16	3.16
21	24M01C011	11.62	6.0	4	4.56	4.56
22	24M01C012	3.47	4.0	4	4.00	4.00
23	24M01C013	6.82	5.0	4	4.63	4.63
24	24M01C014	8.48	5.0	5	5.00	5.00
25	24M01C015	0.53	3.0	3	3.00	3.00
26	24M01C016	4.02	5.0	5	5.00	5.00
27	24M01C017	2.16	4.0	4	4.00	4.00
28	24M01C018	8.21	7.0	4	5.44	5.44
29	24M01C019	2.33	4.0	3	3.63	3.63
30	24M01C020	6.25	5.0	5	5.00	5.00
31	24M01C021	1.79	5.0	5	5.00	5.00
32	24M01C022	1.57	6.0	6	6.00	6.00
33	24M01C023	1.85	8.0	8	8.00	8.00
34	24M01C024	4.24	4.0	4	4.00	4.00
35	24M01C025	5.03	8.0	8	8.00	8.00
36	24M01C026	5.78	5.0	4	4.37	4.37
37	24M01C027	3.81	4.0	3	3.70	3.70
38	24M01C028	7.34	4.0	4	1.71	1.71
39	24M01C029	2.96	4.0	4	4.00	4.00
40	24M01C030	3.56	3.0	3	3.00	3.00
41	24M01D001	2.31	5.0	3	4.84	4.84
42	24M01D002	4.93	3.0	3	3.00	3.00
43	24M01D003	1.69	5.0	3	3.74	3.74
44	24M01D004	2.86	6.0	4	4.16	4.16
45	24M01D005	1.72	3.0	3	3.00	3.00
46	24M01D006	1.60	3.0	3	3.00	3.00
47	24M01D007	3.76	3.0	3	3.00	3.00
48	24M01D008	0.36	3.0	3	3.00	3.00

SN	Code	Length (in km)	Total Width (in m)			Carriageway Width (in m)
			Maximum	Minimum	Average	
49	24M01D009	2.86	4.0	4	4.00	4.00
50	24M01D010	3.57	3.0	3	3.00	3.00
51	24M01D011	0.93	3.0	3	3.00	3.00
52	24M01D012	1.53	3.0	3	3.00	3.00
53	24M01D013	3.43	3.0	3	2.53	2.53
54	24M01D014	0.63	3.0	3	3.00	3.00
55	24M01D015	0.50	3.0	3	3.00	3.00
56	24M01D016	2.02	4.0	4	4.00	4.00
57	24M01D017	0.37	3.0	3	3.00	3.00
58	24M01D018	2.62	4.0	4	4.00	4.00
59	24M01D019	0.73	3.0	3	3.00	3.00
60	24M01D020	1.34	3.0	3	3.00	3.00
61	24M01D021	1.81	3.0	3	3.00	3.00
62	24M01D022	4.07	3.0	3	3.00	3.00
63	24M01D023	3.47	3.0	3	3.00	3.00
64	24M01D024	3.90	4.0	3	3.71	3.71
65	24M01D025	2.13	4.0	4	4.00	4.00
66	24M01D026	1.90	4.0	4	4.00	4.00
67	24M01D027	0.64	4.0	4	4.00	4.00
68	24M01D028	0.35	4.0	4	4.00	4.00
69	24M01D029	1.32	3.0	3	3.00	3.00
70	24M01D030	0.46	3.0	3	3.00	3.00
71	24M01D031	0.59	3.0	3	3.00	3.00
72	24M01D033	0.27	3.0	3	3.00	3.00
73	24M01D034	0.25	3.0	3	3.00	3.00
74	24M01D035	0.51	3.0	3	3.00	3.00
75	24M01D036	0.57	4.0	4	4.00	4.00
76	24M01D037	2.60	4.0	4	4.00	4.00
77	24M01D037	2.60	4.0	4	4.00	4.00
78	24M01D038	0.22	3.0	3	3.00	3.00
79	24M01D039	0.34	3.0	3	3.00	3.00
80	24M01D040	0.77	4.0	4	4.00	4.00
81	24M01D041	0.58	6.0	4	5.09	5.09
82	24M01D042	0.49	4.0	4	4.00	4.00
83	24M01D043	1.09	3.0	3	3.00	3.00
84	24M01D044	3.34	0	0	0	0
85	24M01D045	0.30	0	0	0	0
86	24M01D046	0.27	3.0	3	3.00	3.00
87	24M01D047	0.12	3.0	3	3.00	3.00
88	24M01D048	0.34	3.0	3	3.00	3.00
89	24M01D049	0.62	3.0	3	3.00	3.00
90	24M01D050	0.28	3.0	3	3.00	3.00
91	24M01D051	0.12	3.0	3	3.00	3.00
92	24M01D052	1.74	5.0	5	5.00	5.00
93	24M01D053	0.37	3.0	3	3.00	3.00
94	24M01D054	0.14	4.0	4	4.00	4.00
95	24M01D055	1.05	5.0	5	5.00	5.00
96	24M01D056	1.81	5.0	5	5.00	5.00
97	24M01D057	0.29	4.0	4	4.00	4.00

SN	Code	Length (in km)	Total Width (in m)			Carriageway Width (in m)
			Maximum	Minimum	Average	
98	24M01D058	1.23	6.0	4	4.73	4.73
99	24M01D059	0.56	5.0	5	5.00	5.00
100	24M01D060	2.56	4.0	4	4.00	4.00
101	24M01D061	0.86	3.0	3	3.00	3.00
102	24M01D062	1.05	3.0	3	3.00	3.00
103	24M01D063	0.76	4.0	4	4.00	4.00
104	24M01D064	4.90	5.0	4	4.12	4.12
105	24M01D065	1.22	4.0	3	3.28	3.28
106	24M01D066	0.42	3.0	3	3.00	3.00
107	24M01D067	1.14	3.0	3	3.00	3.00
108	24M01D068	0.87	4.0	4	4.00	4.00
109	24M01D069	0.64	4.0	4	4.00	4.00
110	24M01D070	0.79	3.0	3	3.00	3.00
111	24M01D071	0.44	3.0	3	3.00	3.00
112	24M01D072	0.13	3.0	3	3.00	3.00
113	24M01D073	1.17	3.0	3	3.00	3.00
114	24M01D074	1.69	3.0	3	3.00	3.00
115	24M01D075	0.53	3.0	3	3.00	3.00
116	24M01D076	1.27	4.0	4	4.00	4.00
117	24M01D077	0.60	3.0	3	3.00	3.00
118	24M01D078	0.49	3.0	3	3.00	3.00
119	24M01D079	0.71	3.0	3	3.00	3.00
120	24M01D080	0.27	3.0	3	3.00	3.00
121	24M01D081	0.17	3.0	3	3.00	3.00
122	24M01D082	2.85	4.0	3	3.30	3.30
123	24M01D083	0.24	3.0	3	3.00	3.00
124	24M01D084	0.30	4.0	4	4.00	4.00
125	24M01D085	0.07	4.0	4	4.00	4.00
126	24M01D086	1.67	4.0	4	4.00	4.00
127	24M01D087	3.57	3.0	3	3.00	3.00
128	24M01D088	0.90	3.0	3	3.00	3.00
129	24M01D089	1.60	3.0	3	3.00	3.00
130	24M01D090	1.92	4.0	4	4.00	4.00
131	24M01D091	1.67	3.0	3	3.00	3.00
132	24M01D092	2.59	3.0	3	3.00	3.00
133	24M01D093	2.08	3.0	3	3.00	3.00
134	24M01D094	0.99	6.0	6	6.00	6.00
135	24M01D095	4.16	4.0	3	3.86	3.86
136	24M01D096	2.13	4.0	3	3.56	3.56
137	24M01D097	1.72	4.0	3	3.40	3.40
138	24M01D098	3.79	5.0	5	5.00	5.00
139	24M01D099	2.25	5.0	4	4.95	4.95
140	24M01D100	2.47	5.0	5	5.00	5.00
141	24M01D101	4.25	5.0	4	4.49	4.49
142	24M01D102	3.47	4.0	4	4.00	4.00
143	24M01D103	1.40	6.0	3	5.05	5.05
144	24M01D104	0.54	3.0	3	3.00	3.00
145	24M01D105	0.17	4.0	4	4.00	4.00
146	24M01D106	0.06	4.0	4	4.00	4.00

SN	Code	Length (in km)	Total Width (in m)			Carriageway Width (in m)
			Maximum	Minimum	Average	
147	24M01D107	2.10	6.0	6	6.00	6.00
148	24M01D108	1.67	4.0	4	4.00	4.00
149	24M01D109	0.05	7.0	7	7.00	7.00
150	24M01D110	0.42	5.0	5	5.00	5.00
151	24M01D111	0.64	4.0	4	4.00	4.00
152	24M01D112	1.40	4.0	4	4.00	4.00
153	24M01D113	0.70	7.0	7	7.00	7.00
154	24M01D114	2.02	4.0	4	4.00	4.00
155	24M01D115	0.47	4.0	4	4.00	4.00
156	24M01D116	0.71	5.0	5	5.00	5.00
157	24M01D117	1.10	6.0	6	6.00	6.00
158	24M01D118	2.11	4.0	0	4.00	4.00
159	24M01D119	0.84	4.0	0	4.00	4.00
160	24M01D120	0.36	4.0	0	4.00	4.00
161	24M01D121	0.10	4.0	4	4.00	4.00
162	24M01D122	0.54	3.0	3	3.00	3.00
163	24M01D123	1.50	3.0	3	3.00	3.00
164	24M01D124	1.66	4.0	4	4.00	4.00
165	24M01D125	1.40	4.0	4	4.00	4.00
166	24M01D126	0.49	3.0	3	3.00	3.00
167	24M01D127	0.08	4.0	4	4.00	4.00
168	24M01D128	0.10	5.0	5	5.00	5.00
169	24M01D129	0.16	3.0	3	3.00	3.00
170	24M01D130	0.20	4.0	4	4.00	4.00
171	24M01D131	0.54	3.0	3	3.00	3.00
172	24M01D132	0.30	3.0	3	3.00	3.00
173	24M01D133	0.70	3.0	3	3.00	3.00
174	24M01D134	0.29	5.0	5	5.00	5.00
175	24M01D135	0.53	6.0	6	6.00	6.00
176	24M01D136	0.24	4.0	4	4.00	4.00
177	24M01D137	0.95	4.0	4	4.00	4.00
178	24M01D138	0.11	3.0	3	3.00	3.00
179	24M01D139	0.33	3.0	3	3.00	3.00
180	24M01D140	0.42	3.0	3	3.00	3.00
181	24M01D141	0.27	4.0	4	4.00	4.00
182	24M01D142	0.54	3.0	3	3.00	3.00
183	24M01D143	2.17	4.0	4	4.00	4.00
184	24M01D144	0.52	4.0	4	4.00	4.00
185	24M01D145	0.46	4.0	4	4.00	4.00
186	24M01D146	1.44	4.0	4	4.00	4.00
187	24M01D147	0.16	3.0	3	3.00	3.00
188	24M01D148	0.50	4.0	4	4.00	4.00
189	24M01D149	0.89	6.0	6	6.00	6.00
190	24M01D150	1.37	5.0	5	5.00	5.00
191	24M01D151	0.19	4.0	4	4.00	4.00
192	24M01D152	0.06	6.0	6	6.00	6.00
193	24M01D153	1.02	4.0	4	4.00	4.00
194	24M01D154	0.33	4.0	4	4.00	4.00
195	24M01D155	0.82	4.0	4	4.00	4.00

SN	Code	Length (in km)	Total Width (in m)			Carriageway Width (in m)
			Maximum	Minimum	Average	
196	24M01D156	0.72	5.0	5	5.00	5.00
197	24M01D157	0.47	3.0	3	3.00	3.00
198	24M01D158	0.30	4.0	4	4.00	4.00
199	24M01D159	0.83	3.0	3	3.00	3.00
200	24M01D160	0.04	3.0	3	3.00	3.00
201	24M01D161	0.55	4.0	4	4.00	4.00
202	24M01D162	1.59	5.0	5	5.00	5.00
203	24M01D163	0.34	3.0	3	3.00	3.00
204	24M01D164	0.41	3.0	3	3.00	3.00
205	24M01D165	0.13	3.0	3	3.00	3.00
206	24M01D166	0.38	5.0	5	5.00	5.00
207	24M01D167	0.09	3.0	3	3.00	3.00
208	24M01D168	0.91	5.0	5	5.00	5.00
209	24M01D169	0.41	3.0	3	3.00	3.00
210	24M01D170	0.52	6.0	6	6.00	6.00
211	24M01D171	0.40	4.0	4	4.00	4.00
212	24M01D172	0.71	3.0	3	3.00	3.00
213	24M01D173	0.31	6.0	6	6.00	6.00
214	24M01D174	0.63	5.0	5	5.00	5.00
215	24M01D175	0.19	3.0	3	3.00	3.00
216	24M01D176	0.07	4.0	4	4.00	4.00
217	24M01D177	0.28	4.0	4	4.00	4.00
218	24M01D178	0.26	5.0	5	5.00	5.00
219	24M01D179	0.29	3.0	3	3.00	3.00
220	24M01D180	1.11	3.0	3	3.00	3.00
221	24M01D181	0.02	4.0	4	4.00	4.00
222	24M01D182	1.97	4.0	4	4.00	4.00
223	24M01D183	1.40	4.0	4	4.00	4.00
224	24M01D184	0.71	4.0	4	4.00	4.00
225	24M01D185	0.26	4.0	4	4.00	4.00
226	24M01D186	0.23	5.0	5	5.00	5.00
227	24M01D187	0.09	4.0	4	4.00	4.00
228	24M01D188	0.07	6.0	6	6.00	6.00
229	24M01D189	0.25	4.0	4	4.00	4.00
230	24M01D190	0.33	3.0	3	3.00	3.00
231	24M01D191	0.15	3.0	3	3.00	3.00
232	24M01D192	0.01	4.0	4	4.00	4.00
233	24M01D193	0.02	5.0	5	5.00	5.00
234	24M01D194	0.36	3.0	3	3.00	3.00
235	24M01D195	0.93	3.0	3	3.00	3.00
236	24M01D196	0.33	4.0	4	4.00	4.00
237	24M01D197	0.45	3.0	3	3.00	3.00
238	24M01D198	0.08	6.0	6	6.00	6.00
239	24M01D199	0.06	3.0	3	3.00	3.00
240	24M01D200	0.23	3.0	3	3.00	3.00
241	24M01D201	0.29	3.0	3	3.00	3.00
242	24M01D202	0.18	3.0	3	3.00	3.00
243	24M01D203	0.65	4.0	4	4.00	4.00
244	24M01D204	0.06	4.0	4	4.00	4.00

SN	Code	Length (in km)	Total Width (in m)			Carriageway Width (in m)
			Maximum	Minimum	Average	
245	24M01D205	0.93	4.0	4	4.00	4.00
246	24M01D206	0.12	3.0	3	3.00	3.00
247	24M01D207	0.11	3.0	3	3.00	3.00
248	24M01D208	1.31	5.0	5	5.00	5.00
249	24M01D209	0.22	4.0	4	4.00	4.00
250	24M01D210	0.22	4.0	4	4.00	4.00
251	24M01D211	0.12	4.0	4	4.00	4.00
252	24M01D212	0.18	3.0	3	3.00	3.00
253	24M01D213	0.09	3.0	3	3.00	3.00
254	24M01D214	0.09	4.0	4	4.00	4.00
255	24M01D215	0.30	3.0	3	3.00	3.00
256	24M01D216	0.10	3.0	3	3.00	3.00
257	24M01D217	0.30	3.0	3	3.00	3.00
258	24M01D218	0.27	5.0	5	5.00	5.00
259	24M01D219	0.69	3.0	3	3.00	3.00
260	24M01D220	0.89	6.0	6	6.00	6.00
261	24M01D221	0.59	5.0	5	5.00	5.00
262	24M01D222	0.25	4.0	4	4.00	4.00
263	24M01D223	0.21	3.0	3	3.00	3.00
264	24M01D224	0.06	3.0	3	3.00	3.00
265	24M01D225	0.26	3.0	3	3.00	3.00
266	24M01D226	0.11	3.0	3	3.00	3.00
267	24M01D227	1.03	4.0	4	4.00	4.00
268	24M01D228	0.54	4.0	4	4.00	4.00
269	24M01D229	1.04	4.0	4	4.00	4.00
270	24M01D230	0.16	3.0	3	3.00	3.00
271	24M01D231	0.46	4.0	4	4.00	4.00
272	24M01D232	0.46	5.0	5	5.00	5.00
273	24M01D233	0.15	4.0	4	4.00	4.00
274	24M01D234	0.16	4.0	4	4.00	4.00
275	24M01D235	0.34	3.0	3	3.00	3.00
276	24M01D236	0.74	3.0	3	3.00	3.00
277	24M01D237	1.44	5.0	5	5.00	5.00
278	24M01D238	0.88	5.0	5	5.00	5.00
279	24M01D239	0.27	3.0	3	3.00	3.00
280	24M01D240	0.24	3.0	3	3.00	3.00
281	24M01D241	0.15	3.0	3	3.00	3.00
282	24M01D242	0.61	3.0	3	3.00	3.00
283	24M01D243	0.07	3.0	3	3.00	3.00
284	24M01D244	0.32	3.0	3	3.00	3.00
285	24M01D245	0.57	3.0	3	3.00	3.00
286	24M01D246	0.20	3.0	3	3.00	3.00
287	24M01D247	0.37	3.0	3	3.00	3.00
288	24M01D248	0.68	3.0	3	3.00	3.00
289	24M01D249	0.86	3.0	3	3.00	3.00
290	24M01D250	0.08	3.0	3	3.00	3.00
291	24M01D251	0.09	3.0	3	3.00	3.00
292	24M01D252	0.10	3.0	3	3.00	3.00
293	24M01D253	0.35	3.0	3	3.00	3.00

SN	Code	Length (in km)	Total Width (in m)			Carriageway Width (in m)
			Maximum	Minimum	Average	
294	24M01D254	0.08	3.0	3	3.00	3.00
295	24M01D255	0.30	3.0	3	3.00	3.00
296	24M01D256	1.51	6.0	6	6.00	6.00
297	24M01D257	0.17	3.0	3	3.00	3.00
298	24M01D258	0.80	4.0	4	4.00	4.00
299	24M01D259	1.38	5.0	5	5.00	5.00
300	24M01D260	0.28	4.0	4	4.00	4.00
301	24M01D261	0.48	4.0	4	4.00	4.00
302	24M01D262	0.28	3.0	3	3.00	3.00
303	24M01D263	0.36	4.0	4	4.00	4.00
304	24M01D264	0.51	3.0	3	3.00	3.00
305	24M01D265	0.17	3.0	3	3.00	3.00
306	24M01D266	0.28	4.0	4	4.00	4.00
307	24M01D267	0.21	4.0	4	4.00	4.00
308	24M01D268	0.56	4.0	4	4.00	4.00
309	24M01D269	0.34	3.0	3	3.00	3.00
310	24M01D270	0.37	3.0	3	3.00	3.00
311	24M01D271	0.21	5.0	5	5.00	5.00
312	24M01D272	0.27	5.0	5	5.00	5.00
313	24M01D273	0.16	3.0	3	3.00	3.00
314	24M01D274	0.43	4.0	4	4.00	4.00
315	24M01D275	0.50	3.0	3	3.00	3.00
316	24M01D276	0.35	5.0	5	5.00	5.00
317	24M01D277	0.26	4.0	4	4.00	4.00
318	24M01D278	0.80	3.0	3	3.00	3.00
319	24M01D279	0.27	3.0	3	3.00	3.00
320	24M01D280	0.40	3.0	3	3.00	3.00
321	24M01D281	0.49	3.0	3	3.00	3.00
322	24M01D282	1.21	4.0	4	4.00	4.00
323	24M01D283	1.01	3.0	3	3.00	3.00
324	24M01D284	0.23	4.0	4	4.00	4.00
325	24M01D285	0.91	4.0	4	4.00	4.00
326	24M01D286	0.95	6.0	6	6.00	6.00
327	24M01D287	0.53	6.0	6	6.00	6.00
328	24M01D288	0.70	6.0	6	6.00	6.00
329	24M01D289	0.05	4.0	4	4.00	4.00
330	24M01D290	0.14	4.0	4	4.00	4.00

Road List and Hierarchy

SN	Municipal Code	Road Code	Class	Road Name	Settlement Passed	Wards Passed	ROW (in m)	Length (in km)
1	24M01A001	A001	A	Phatkeshwor - Nepalthok - Kotdanda - Shankarapur Municipality	Phatkeshwor, Nepalthok, Kotdanda, Shankarapur Municipality	13	20	3.89
2	24M01A002	A002	A	Chhapeli - Salmi - Patibhanjyang	Chhapeli, Salmi, Patibhanjyang	3, 4	20	7.08
3	24M01A003	A003	A	Khalde Khola-Simle-Baghmara Corridor Road	Khalde Khola, Simle, Baghmara Corridor Road	9, 10	20	9.57
4	24M01A004	A004	A	Talamarang- Dhunga Nabeshi Mane - Bhanjyang - Batase- Okhreni Chaur - Thakani - Palchen - Thulobhanjyang - Patibhanjyang	Talamarang, Dhunga Nabeshi Mane, Bhanjyang, Batase, Okhreni Chaur, Thakani, Palchen, Thulobhanjyang, Patibhanjyang	4, 6	11	19.77
5	24M01A005	A005	A	Dobhantar - Jogimaruwa - Kerauni - Labhgaun - Kakani	Dobhantar, Jogimaruwa, Kerauni, Labhgaun, Kakani	7, 8, 11	20	12.22
6	24M01B001	B001	B	Dhad Khola Bridge - Dumri Chaur - Dhakalthok - Bhimsenthan - Thati - Shankarapur Municipality	Dhad Khola Bridge - Dumri Chaur - Dhakalthok - Bhimsenthan - Thati - Shankarapur Municipality	13	15	4.58
7	24M01B002	B002	B	Bhumesthan - Rampur - Jyamire - Golmasthan - Khadkathok - Dablyang - Nalhale - Magargaun - Patale	Bhumesthan, Rampur, Jyamire, Golmasthan, Khadkathok, Dablyang, Nalhale, Magargaun, Patale	9, 10	15	13.32

SN	Municipal Code	Road Code	Class	Road Name	Settlement Passed	Wards Passed	ROW (in m)	Length (in km)
8	24M01B003	B003	B	Danuwargaun - Swara - Sungurephant - Dharna - Sunkhani - Taprasa - Palchokghyan	Danuwargaun, Swara, Sungurephant, Dharna, Sunkhani, Taprasa, Palchokghyan	7, 8, 11	20	11.30
9	24M01B004	B004	B	Talamarang-Bhattarchap-Pokhare Road	Talamarang, Bhattarchap, Pokhare Road	7	15	4.82
10	24M01B005	B005	B	Kaule Dobhan - Danda Thok - Ward 3 Office - Shivapur Chisapani	Kaule Dobhan, Danda Thok, Shivapur Chisapani	3	15	8.95
11	24M01C001	C001	C	Dhad Khola Bridge - Pharsila - Dhakalbesi	Dhad Khola Bridge, Pharsila, Dhakalbesi	13	10	4.81
12	24M01C002	C002	C	Dhunganathok - Shankharapur Municipality Boundaries	Dhunganathok	13	10	3.35
13	24M01C003	C003	C	Dhukurebesi - Bhanjyang - Dandagaun - Prajitol - Rokatul - Bhotechaur	Dhukurebesi, Bhanjyang, Dandagaun, Prajitol, Rokatul, Bhotechaur	1, 12	10	13.02
14	24M01C004	C004	C	Khalde - Nibugaun - Sulechhap	Khalde, Nibugaun, Sulechhap	1, 2, 5	10	4.87
15	24M01C005	C005	C	Dandathok - Majuwa - Gurunggaun - Nibugaun	Dandathok, Majuwa, Gurunggaun, Nibugaun	2, 3	10	6.61
16	24M01C006	C006	C	Dahapokhari - Babrang - Dandathok	Dahapokhari, Babrang, Dandathok	3, 4	10	5.97
17	24M01C007	C007	C	Sami - Dandakateri - Palchen	Sami, Dandakateri, Palchen	4	10	4.76
18	24M01C008	C008	C	Amale - Piple - Sanumusure - Okhrenichaur	Amale, Piple, Sanumusure, Okhrenichaur	4	10	6.31
19	24M01C009	C009	C	Dhungechhap - Bhimaldanda - Sindhukot - Dhusenichaur	Dhungechhap, Bhimaldanda, Sindhukot, Dhusenichaur	5, 11	10	7.48

SN	Municipal Code	Road Code	Class	Road Name	Settlement Passed	Wards Passed	ROW (in m)	Length (in km)
20	24M01C010	C010	C	Aamle Danda - Chyan Danda	Aamle Danda, Chyan Danda	12	10	3.92
21	24M01C011	C011	C	Bahunepati - Bansbari - Thakle - Dhuseni	Bahunepati, Bansbari, Thakle, Dhuseni	5, 11, 12	10	11.62
22	24M01C012	C012	C	Chyandanda - Daduwa - Katunje	Chyandanda, Daduwa, Katunje	11, 12	10	3.47
23	24M01C013	C013	C	Dhakal Khahare - Dhakalthok - Chalisetol - Pandegaun - Daduwa	Dhakal Khahare, Dhakalthok, Chalisetol, Pandegaun, Daduwa	11, 12	10	6.82
24	24M01C014	C014	C	Melamchi - Dhunge - Katunje - Dhuseni	Melamchi, Dhunge, Katunje, Dhuseni	11	10	8.48
25	24M01C015	C015	C	Melamchi - Tar	Melamchi, Tar	11	10	0.53
26	24M01C016	C016	C	Sansare Danda - Shikharpur	Sansare Danda, Shikharpur	9, 10	10	4.02
27	24M01C017	C017	C	Shikharpur - Jyamire	Shikharpur, Jyamire	9, 10	10	2.16
28	24M01C018	C018	C	Khadkathok - Syangbotol - Chanmakhu - Gupha - Mulkharka	Khadkathok, Syangbotol, Chanmakhu, Gupha, Mulkharka	9	10	8.21
29	24M01C019	C019	C	Gupha Rajdaltol - Halhale	Gupha Rajdaltol, Halhale	9	10	2.33
30	24M01C020	C020	C	Khadkathok - Danuwargaun - Madkin - Baluwa	Khadkathok, Danuwargaun, Madkin, Baluwa	9	10	6.25
31	24M01C021	C021	C	Danuwargaun - Ratmata	Danuwargaun, Ratmata	9	10	1.79
32	24M01C022	C022	C	Bhaise- Kote Danda	Bhaise, Kote Danda	8	10	1.57
33	24M01C023	C023	C	Pokhare-Labh Gaun	Pokhare, Labh Gaun	7, 8	10	1.85
34	24M01C024	C024	C	Tallathok - Damaitol - Pokharetol	Tallathok, Damaitol, Pokharetol	7, 8	10	4.24
35	24M01C025	C025	C	Ghataretol - Hawadanda - Thulochaur	Ghataretol, Hawadanda, Thulochaur	7, 11	10	5.03
36	24M01C026	C026	C	Nepane - Acharyatol - Ward 6 Office - Majhgaun	Nepane, Acharyatol, Majhgaun	6	10	5.78
37	24M01C027	C027	C	Dhusenichaur - Mathillogaun	Dhusenichaur, Mathillogaun	5, 6, 11	10	3.81

SN	Municipal Code	Road Code	Class	Road Name	Settlement Passed	Wards Passed	ROW (in m)	Length (in km)
38	24M01C028	C028	C	Thankune Bhanjyang - Chipling	Thankune Bhanjyang, Chipling	4	10	7.34
39	24M01C029	C029	C	Tallagaun - Terse Deujagaun - Talarang	Tallagaun, Terse Deujagaun, Talarang	6	10	2.96
40	24M01C030	C030	C	Phatkeshwor - Kaphalchaur - Ghorsainitol	Phatkeshwor, Kaphalchaur, Ghorsainitol	13	10	3.56

Class D Roads

SN	Municipal Code	Road Code	Class	Wards Passed	ROW (in m)	Length (in km)
1	24M01D001	D001	D	5	6	2.31
2	24M01D002	D002	D	1, 2, 3	6	4.93
3	24M01D003	D003	D	5, 6, 11	6	1.69
4	24M01D004	D004	D	11	6	2.86
5	24M01D005	D005	D	11	11	1.72
6	24M01D006	D006	D	11	8	1.60
7	24M01D007	D007	D	11	6	3.76
8	24M01D008	D008	D	5	8	0.36
9	24M01D009	D009	D	5, 6	6	2.86
10	24M01D010	D010	D	4, 5	6	3.57
11	24M01D011	D011	D	5	11	0.93
12	24M01D012	D012	D	5	11	1.53
13	24M01D013	D013	D	2	8	3.43
14	24M01D014	D014	D	2	6	0.63
15	24M01D015	D015	D	2	6	0.50
16	24M01D016	D016	D	2, 3	8	2.02
17	24M01D017	D017	D	2	6	0.37
18	24M01D018	D018	D	2	6	2.62
19	24M01D019	D019	D	2	12	0.73
20	24M01D020	D020	D	2	6	1.34
21	24M01D021	D021	D	2	12	1.81
22	24M01D022	D022	D	3	6	4.07
23	24M01D023	D023	D	3	12	3.47
24	24M01D024	D024	D	1, 2	6	3.90
25	24M01D025	D025	D	1	6	2.13
26	24M01D026	D026	D	1	6	1.90
27	24M01D027	D027	D	1	6	0.64
28	24M01D028	D028	D	1	6	0.35
29	24M01D029	D029	D	1	6	1.32
30	24M01D030	D030	D	1	6	0.46
31	24M01D031	D031	D	1	8	0.59
32	24M01D032	D032	D	2	6	0.62
33	24M01D033	D033	D	2	6	0.27
34	24M01D034	D034	D	2	6	0.25
35	24M01D035	D035	D	2	8	0.51
36	24M01D036	D036	D	2	6	0.57
37	24M01D037	D037	D	3	6	2.60
38	24M01D038	D038	D	3	6	0.22
39	24M01D039	D039	D	3	6	0.34
40	24M01D040	D040	D	3	6	0.77
41	24M01D041	D041	D	3	6	0.58
42	24M01D042	D042	D	3	6	0.49
43	24M01D043	D043	D	3	6	1.09
44	24M01D044	D044	D	3	6	3.34
45	24M01D045	D045	D	3	6	0.30
46	24M01D046	D046	D	3	6	0.27

SN	Municipal Code	Road Code	Class	Wards Passed	ROW (in m)	Length (in km)
47	24M01D047	D047	D	3	6	0.12
48	24M01D048	D048	D	3	6	0.34
49	24M01D049	D049	D	3	6	0.62
50	24M01D050	D050	D	4	8	0.28
51	24M01D051	D051	D	4	8	0.12
52	24M01D052	D052	D	4	6	1.74
53	24M01D053	D053	D	4	6	0.37
54	24M01D054	D054	D	4	8	0.14
55	24M01D055	D055	D	4	6	1.05
56	24M01D056	D056	D	4	6	1.81
57	24M01D057	D057	D	4	6	0.29
58	24M01D058	D058	D	4	6	1.23
59	24M01D059	D059	D	4	6	0.56
60	24M01D060	D060	D	4, 6	6	2.56
61	24M01D061	D061	D	4	6	0.86
62	24M01D062	D062	D	4	6	1.05
63	24M01D063	D063	D	6	6	0.76
64	24M01D064	D064	D	6	6	4.90
65	24M01D065	D065	D	6	6	1.22
66	24M01D066	D066	D	4	6	0.42
67	24M01D067	D067	D	4	6	1.14
68	24M01D068	D068	D	4	10	0.87
69	24M01D069	D069	D	4	10	0.64
70	24M01D070	D070	D	4	6	0.79
71	24M01D071	D071	D	4	6	0.44
72	24M01D072	D072	D	4	6	0.13
73	24M01D073	D073	D	2, 3	6	1.17
74	24M01D074	D074	D	5	6	1.69
75	24M01D075	D075	D	5	6	0.53
76	24M01D076	D076	D	5	6	1.27
77	24M01D077	D077	D	5	6	0.60
78	24M01D078	D078	D	5	6	0.49
79	24M01D079	D079	D	5	6	0.71
80	24M01D080	D080	D	5	6	0.27
81	24M01D081	D081	D	5	6	0.17
82	24M01D082	D082	D	5, 12	6	2.85
83	24M01D083	D083	D	5	6	0.24
84	24M01D084	D084	D	5	6	0.30
85	24M01D085	D085	D	9	20	0.07
86	24M01D086	D086	D	13	8	1.67
87	24M01D087	D087	D	13	6	3.57
88	24M01D088	D088	D	13	6	0.90
89	24M01D089	D089	D	13	20	1.60
90	24M01D090	D090	D	13	6	1.92
91	24M01D091	D091	D	13	6	1.67
92	24M01D092	D092	D	13	6	2.59
93	24M01D093	D093	D	13	6	2.08
94	24M01D094	D094	D	12	6	0.99

SN	Municipal Code	Road Code	Class	Wards Passed	ROW (in m)	Length (in km)
95	24M01D095	D095	D	12	6	4.16
96	24M01D096	D096	D	5, 11, 12	6	2.13
97	24M01D097	D097	D	5, 11	6	1.72
98	24M01D098	D098	D	10	6	3.79
99	24M01D099	D099	D	11	6	2.25
100	24M01D100	D100	D	9, 10	6	2.47
101	24M01D101	D101	D	9	6	4.25
102	24M01D102	D102	D	9	6	3.47
103	24M01D103	D103	D	9	6	1.40
104	24M01D104	D104	D	13	6	0.54
105	24M01D105	D105	D	13	6	0.17
106	24M01D106	D106	D	3	6	0.06
107	24M01D107	D107	D	4	6	2.10
108	24M01D108	D108	D	1	6	1.67
109	24M01D109	D109	D	9	8	0.05
110	24M01D110	D110	D	9	8	0.42
111	24M01D111	D111	D	9	6	0.64
112	24M01D112	D112	D	9	8	1.40
113	24M01D113	D113	D	9	8	0.70
114	24M01D114	D114	D	12	6	2.02
115	24M01D115	D115	D	9	6	0.47
116	24M01D116	D116	D	10	6	0.71
117	24M01D117	D117	D	8	6	1.10
118	24M01D118	D118	D	7, 8	6	2.11
119	24M01D119	D119	D	7, 8	8	0.84
120	24M01D120	D120	D	7	6	0.36
121	24M01D121	D121	D	7	8	0.10
122	24M01D122	D122	D	12	8	0.54
123	24M01D123	D123	D	1	6	1.50
124	24M01D124	D124	D	9	6	1.66
125	24M01D125	D125	D	9	6	1.40
126	24M01D126	D126	D	11	6	0.49
127	24M01D127	D127	D	11	6	0.08
128	24M01D128	D128	D	11	6	0.10
129	24M01D129	D129	D	9	6	0.16
130	24M01D130	D130	D	9	6	0.20
131	24M01D131	D131	D	9	12	0.54
132	24M01D132	D132	D	1	6	0.30
133	24M01D133	D133	D	1	6	0.70
134	24M01D134	D134	D	7	6	0.29
135	24M01D135	D135	D	10	8	0.53
136	24M01D136	D136	D	10	6	0.24
137	24M01D137	D137	D	13	6	0.95
138	24M01D138	D138	D	11	6	0.11
139	24M01D139	D139	D	12	6	0.33
140	24M01D140	D140	D	12	6	0.42
141	24M01D141	D141	D	12	6	0.27
142	24M01D142	D142	D	10	6	0.54

SN	Municipal Code	Road Code	Class	Wards Passed	ROW (in m)	Length (in km)
143	24M01D143	D143	D	11, 12	6	2.17
144	24M01D144	D144	D	12	6	0.52
145	24M01D145	D145	D	10	6	0.46
146	24M01D146	D146	D	6	6	1.44
147	24M01D147	D147	D	6	6	0.16
148	24M01D148	D148	D	10, 12	6	0.50
149	24M01D149	D149	D	10	6	0.89
150	24M01D150	D150	D	10	6	1.37
151	24M01D151	D151	D	13	6	0.19
152	24M01D152	D152	D	4	6	0.06
153	24M01D153	D153	D	10	6	1.02
154	24M01D154	D154	D	10	6	0.33
155	24M01D155	D155	D	10	6	0.82
156	24M01D156	D156	D	12	6	0.72
157	24M01D157	D157	D	11	6	0.47
158	24M01D158	D158	D	11	6	0.30
159	24M01D159	D159	D	8	6	0.83
160	24M01D160	D160	D	11	6	0.04
161	24M01D161	D161	D	10	6	0.55
162	24M01D162	D162	D	8	6	1.59
163	24M01D163	D163	D	13	6	0.34
164	24M01D164	D164	D	13	6	0.41
165	24M01D165	D165	D	13	6	0.13
166	24M01D166	D166	D	10	6	0.38
167	24M01D167	D167	D	10	6	0.09
168	24M01D168	D168	D	7	6	0.91
169	24M01D169	D169	D	5, 11	6	0.41
170	24M01D170	D170	D	12	6	0.52
171	24M01D171	D171	D	9	6	0.40
172	24M01D172	D172	D	12	6	0.71
173	24M01D173	D173	D	12	6	0.31
174	24M01D174	D174	D	1, 12	6	0.63
175	24M01D175	D175	D	13	6	0.19
176	24M01D176	D176	D	13	6	0.07
177	24M01D177	D177	D	1	6	0.28
178	24M01D178	D178	D	1	6	0.26
179	24M01D179	D179	D	12	6	0.29
180	24M01D180	D180	D	6	6	1.11
181	24M01D181	D181	D	3	6	0.02
182	24M01D182	D182	D	1	6	1.97
183	24M01D183	D183	D	1	6	1.40
184	24M01D184	D184	D	8	6	0.71
185	24M01D185	D185	D	13	6	0.26
186	24M01D186	D186	D	10	6	0.23
187	24M01D187	D187	D	10	6	0.09
188	24M01D188	D188	D	11	6	0.07
189	24M01D189	D189	D	12	6	0.25
190	24M01D190	D190	D	1	6	0.33

SN	Municipal Code	Road Code	Class	Wards Passed	ROW (in m)	Length (in km)
191	24M01D191	D191	D	13	6	0.15
192	24M01D192	D192	D	4	6	0.01
193	24M01D193	D193	D	11	6	0.02
194	24M01D194	D194	D	8	6	0.36
195	24M01D195	D195	D	8	6	0.93
196	24M01D196	D196	D	10	6	0.33
197	24M01D197	D197	D	10	6	0.45
198	24M01D198	D198	D	9	6	0.08
199	24M01D199	D199	D	4	6	0.06
200	24M01D200	D200	D	4	6	0.23
201	24M01D201	D201	D	12	6	0.29
202	24M01D202	D202	D	12	6	0.18
203	24M01D203	D203	D	12	6	0.65
204	24M01D204	D204	D	1	6	0.06
205	24M01D205	D205	D	7	6	0.93
206	24M01D206	D206	D	7	6	0.12
207	24M01D207	D207	D	1	6	0.11
208	24M01D208	D208	D	10	6	1.31
209	24M01D209	D209	D	11	6	0.22
210	24M01D210	D210	D	11	6	0.22
211	24M01D211	D211	D	11	6	0.12
212	24M01D212	D212	D	11	6	0.18
213	24M01D213	D213	D	11	6	0.09
214	24M01D214	D214	D	11	6	0.09
215	24M01D215	D215	D	11	6	0.30
216	24M01D216	D216	D	13	6	0.10
217	24M01D217	D217	D	13	6	0.30
218	24M01D218	D218	D	7	6	0.27
219	24M01D219	D219	D	8	6	0.69
220	24M01D220	D220	D	7	6	0.89
221	24M01D221	D221	D	7	6	0.59
222	24M01D222	D222	D	9	6	0.25
223	24M01D223	D223	D	7	6	0.21
224	24M01D224	D224	D	8	6	0.06
225	24M01D225	D225	D	8	6	0.26
226	24M01D226	D226	D	8	6	0.11
227	24M01D227	D227	D	6	6	1.03
228	24M01D228	D228	D	6	6	0.54
229	24M01D229	D229	D	7, 11	6	1.04
230	24M01D230	D230	D	6	6	0.16
231	24M01D231	D231	D	1	6	0.46
232	24M01D232	D232	D	9	6	0.46
233	24M01D233	D233	D	7	6	0.15
234	24M01D234	D234	D	13	6	0.16
235	24M01D235	D235	D	12	6	0.34
236	24M01D236	D236	D	12	6	0.74
237	24M01D237	D237	D	9	6	1.44
238	24M01D238	D238	D	9	6	0.88

SN	Municipal Code	Road Code	Class	Wards Passed	ROW (in m)	Length (in km)
239	24M01D239	D239	D	1	6	0.27
240	24M01D240	D240	D	1	6	0.24
241	24M01D241	D241	D	1	6	0.15
242	24M01D242	D242	D	1	6	0.61
243	24M01D243	D243	D	1	6	0.07
244	24M01D244	D244	D	1	6	0.32
245	24M01D245	D245	D	1	6	0.57
246	24M01D246	D246	D	1	6	0.20
247	24M01D247	D247	D	12	6	0.37
248	24M01D248	D248	D	12	6	0.68
249	24M01D249	D249	D	12	6	0.86
250	24M01D250	D250	D	12	6	0.08
251	24M01D251	D251	D	11	6	0.09
252	24M01D252	D252	D	11	6	0.10
253	24M01D253	D253	D	11	6	0.35
254	24M01D254	D254	D	11	6	0.08
255	24M01D255	D255	D	11	6	0.30
256	24M01D256	D256	D	4	6	1.51
257	24M01D257	D257	D	5	6	0.17
258	24M01D258	D258	D	5	6	0.80
259	24M01D259	D259	D	11	6	1.38
260	24M01D260	D260	D	7	6	0.28
261	24M01D261	D261	D	7	6	0.48
262	24M01D262	D262	D	11	6	0.28
263	24M01D263	D263	D	9	6	0.36
264	24M01D264	D264	D	9	6	0.51
265	24M01D265	D265	D	9	6	0.17
266	24M01D266	D266	D	9	6	0.28
267	24M01D267	D267	D	5	6	0.21
268	24M01D268	D268	D	13	6	0.56
269	24M01D269	D269	D	9	6	0.34
270	24M01D270	D270	D	9	6	0.37
271	24M01D271	D271	D	10	6	0.21
272	24M01D272	D272	D	10	6	0.27
273	24M01D273	D273	D	10	6	0.16
274	24M01D274	D274	D	9	6	0.43
275	24M01D275	D275	D	6	6	0.50
276	24M01D276	D276	D	12	6	0.35
277	24M01D277	D277	D	12	6	0.26
278	24M01D278	D278	D	9	6	0.80
279	24M01D279	D279	D	10	6	0.27
280	24M01D280	D280	D	10	6	0.40
281	24M01D281	D281	D	10	6	0.49
282	24M01D282	D282	D	6	6	1.21
283	24M01D283	D283	D	13	6	1.01
284	24M01D284	D284	D	12	6	0.23
285	24M01D285	D285	D	8	6	0.91
286	24M01D286	D286	D	8	6	0.95

SN	Municipal Code	Road Code	Class	Wards Passed	ROW (in m)	Length (in km)
287	24M01D287	D287	D	8	6	0.53
288	24M01D288	D288	D	8	6	0.70
289	24M01D289	D289	D	5	6	0.05
290	24M01D290	D290	D	7	6	0.14

Wardwise Settlement Density of the Municipality

Ward Number	Builtup Area	Buildable Area	Road Length	Area (ha)	Population	Settlement Density	Rank by Settlement Density
1	48.01	851.62	36.47	1,058.43	4,481	5.64%	2
2	14.99	418.31	25.34	557.46	1,791	3.58%	7
3	22.83	924.02	45.55	1,453.02	3,886	2.47%	12
4	23.49	1,069.58	56.76	1,913.41	4,858	2.20%	13
5	23.54	588.93	38.96	962.00	3,026	4.00%	5
6	20.76	757.64	38.48	1,270.67	4,163	2.74%	11
7	40.87	1,004.15	32.00	1,292.33	4,897	4.07%	4
8	20.71	574.13	23.37	745.32	2,898	3.61%	6
9	47.67	1,373.01	60.73	1,890.00	6,182	3.47%	9
10	22.83	656.44	38.24	970.13	4,848	3.48%	8
11	32.70	957.08	46.89	1,275.39	6,417	3.42%	10
12	51.63	912.44	54.28	1,487.36	6,203	5.66%	1
13	44.77	831.17	47.23	1,187.03	5,164	5.39%	3
Total	414.79	10,918.51	544.29	16,062.54	58,814.00	0.50	

Wardwise Population Density of the Municipality

Ward Number	Road Length	Area (ha)	Population	Road per SqKm	Road per '000 population	Difference by Area	Difference by Population	Rank by Road Density
1	36.47	1,058.43	4,481	3.45	8.14	-0.03	-1.50	3
2	25.34	557.46	1,791	4.54	14.15	1.06	4.51	5
3	45.55	1,453.02	3,886	3.13	11.72	-0.35	2.08	11
4	56.76	1,913.41	4,858	2.97	11.68	-0.51	2.04	12
5	38.96	962.00	3,026	4.05	12.87	0.57	3.23	6
6	38.48	1,270.67	4,163	3.03	9.24	-0.45	-0.40	4
7	32.00	1,292.33	4,897	2.48	6.53	-1.00	-3.11	1
8	23.37	745.32	2,898	3.14	8.06	-0.34	-1.58	2
9	60.73	1,890.00	6,182	3.21	9.82	-0.27	0.18	13
10	38.24	970.13	4,848	3.94	7.89	0.46	-1.75	8
11	46.89	1,275.39	6,417	3.68	7.31	0.20	-2.33	7
12	54.28	1,487.36	6,203	3.65	8.75	0.17	-0.89	9
13	47.23	1,187.03	5,164	3.98	9.15	0.50	-0.49	10
Total	544.29	16,062.54	58,814	3.48	9.64			

Population and Road Length of the Municipality

Ward Number	Households	Male	Female	Total Population	Area (Ha)	Length of Road (Km)
1	939	2,269	2,212	4,481	1,058.43	36.47
2	323	920	871	1,791	557.46	25.34
3	696	1,966	1,920	3,886	1,453.02	45.55
4	904	2,431	2,427	4,858	1,913.41	56.76
5	645	1,566	1,460	3,026	962.00	38.96
6	799	2,144	2,019	4,163	1,270.67	38.48
7	1,121	2,451	2,446	4,897	1,292.33	32.00
8	704	1,427	1,471	2,898	745.32	23.37
9	1,160	3,051	3,131	6,182	1,890.00	60.73
10	1,023	2,499	2,349	4,848	970.13	38.24
11	1,278	3,212	3,205	6,417	1,275.39	46.89
12	1,205	3,141	3,062	6,203	1,487.36	54.28
13	1,035	2,619	2,545	5,164	1,187.03	47.23
Total	11,832	29,696	29,118	58,814	16,062.54	544.29

Existing Landuse Pattern of the Municipality

Ward Number	Riverbed	Cultivation	Bush	River/Water body	Built Up	Grass	Total (ha)
1	6.75	803.60	68.53	-	48.01	2.38	1,057.79
2	1.21	403.32	-	-	14.99	-	557.14
3	2.89	901.19	143.98	-	22.83	-	1,452.22
4	11.62	1,046.08	583.20	-	23.49	14.78	1,895.38
5	8.90	565.39	189.98	-	23.54	58.64	961.41
6	15.69	736.88	366.94	1.41	20.76	35.29	1,269.81
7	18.33	963.29	191.00	17.74	40.87	13.23	1,291.42
8	2.57	553.42	95.16	3.66	20.71	-	744.71
9	4.50	1,325.34	191.56	4.21	47.67	22.84	1,888.48
10	41.80	633.62	94.09	17.25	22.83	22.84	969.37
11	30.73	924.38	178.42	11.18	32.70	31.51	1,274.54
12	63.06	860.81	437.12	10.63	51.63	60.51	1,486.35
13	66.13	786.39	160.85	21.63	44.77	47.68	1,186.04
Total	274.18	10,503.72	2,700.83	87.70	414.79	309.71	16,034.63

Road with Improvement as per Demand

Municipality Road Code	Road Code	New Track	Upgrading	Rehabilitation	Periodic Maintenance	Re-Const	Bridge	Causeway	Culvert
24M01A001	A001	-	3.89	-	-	-	1.00	-	-
24M01A002	A002	-	7.08	-	-	-	-	-	-
24M01A003	A003	-	6.83	2.74	-	-	-	-	-
24M01A004	A004	-	10.69	9.08	-	-	1.00	-	-
24M01A005	A005	-	9.61	2.30	0.30	-	1.00	-	-
24M01B001	B001	-	4.58	-	-	-	-	-	-
24M01B002	B002	-	5.98	7.34	-	-	-	-	-
24M01B003	B003	-	11.30	-	-	-	-	-	-
24M01B004	B004	-	4.82	-	-	-	-	-	-
24M01B005	B005	-	8.95	-	-	-	-	-	-
24M01C001	C001	-	0.21	4.60	-	-	-	-	-
24M01C002	C002	-	-	3.35	-	-	1.00	-	-
24M01C003	C003	-	13.02	-	-	-	-	-	-
24M01C004	C004	-	4.87	-	-	-	-	-	-
24M01C005	C005	-	6.61	-	-	-	-	-	-
24M01C006	C006	-	5.97	-	-	-	-	-	-
24M01C007	C007	-	4.76	-	-	-	-	-	-
24M01C008	C008	-	6.31	-	-	-	-	-	-
24M01C009	C009	-	4.15	3.33	-	-	-	-	-
24M01C010	C010	-	3.30	0.62	-	-	-	-	-
24M01C011	C011	-	3.26	8.36	-	-	1.00	-	-
24M01C012	C012	-	-	3.47	-	-	-	-	-
24M01C013	C013	-	2.54	4.28	-	-	-	-	-
24M01C014	C014	-	2.13	6.34	-	-	-	-	-
24M01C015	C015	-	-	0.53	-	-	-	-	-
24M01C016	C016	-	-	4.02	-	-	-	-	-
24M01C017	C017	-	2.16	-	-	-	-	-	-
24M01C018	C018	-	4.05	4.16	-	-	-	-	-
24M01C019	C019	-	2.33	-	-	-	-	-	-
24M01C020	C020	-	6.25	-	-	-	-	-	-
24M01C021	C021	-	1.79	-	-	-	-	-	-
24M01C022	C022	-	1.57	-	-	-	-	-	-
24M01C023	C023	-	1.85	-	-	-	-	-	-
24M01C024	C024	-	4.24	-	-	-	-	-	-
24M01C025	C025	-	5.03	-	-	-	-	-	-
24M01C026	C026	-	3.66	2.13	-	-	-	-	-
24M01C027	C027	-	1.15	2.66	-	-	-	-	-
24M01C028	C028	4.21	3.13	-	-	-	-	-	-
24M01C029	C029	-	2.96	-	-	-	-	-	-
24M01C030	C030	-	3.56	-	-	-	-	-	-

Tentative Structural Quantity Estimates

Municipality Road Code	Road Code	Masonry Walls (m3)	Gabion Walls (m3)	Drainage (m3)	Total Road Length (Km)	Average Width (Existing in m)
24M01A001	A001	2,000.00	3,100.00	3,900.00	3.89	4.00
24M01A002	A002	3,600.00	5,700.00	7,100.00	7.08	7.80
24M01A003	A003	4,900.00	7,700.00	9,600.00	9.57	5.80
24M01A004	A004	10,100.00	15,800.00	19,800.00	19.77	4.90
24M01A005	A005	6,300.00	9,800.00	12,200.00	12.22	6.00
24M01B001	B001	1,800.00	3,700.00	4,600.00	4.58	4.00
24M01B002	B002	5,100.00	10,700.00	13,300.00	13.32	4.40
24M01B003	B003	4,300.00	9,000.00	11,300.00	11.30	5.70
24M01B004	B004	1,800.00	3,900.00	4,800.00	4.82	5.00
24M01B005	B005	3,400.00	7,200.00	9,000.00	8.95	4.30
24M01C001	C001	1,800.00	3,800.00	4,800.00	4.81	3.00
24M01C002	C002	1,300.00	2,700.00	3,400.00	3.35	4.00
24M01C003	C003	5,000.00	10,400.00	13,000.00	13.02	4.60
24M01C004	C004	1,900.00	3,900.00	4,900.00	4.87	3.60
24M01C005	C005	800.00	2,600.00	6,600.00	6.61	4.70
24M01C006	C006	800.00	2,400.00	6,000.00	5.97	3.80
24M01C007	C007	600.00	1,900.00	4,800.00	4.76	4.00
24M01C008	C008	800.00	2,500.00	6,300.00	6.31	4.00
24M01C009	C009	1,000.00	3,000.00	7,500.00	7.48	3.80
24M01C010	C010	500.00	1,600.00	3,900.00	3.92	3.20
24M01C011	C011	1,500.00	4,600.00	11,600.00	11.62	4.60
24M01C012	C012	400.00	1,400.00	3,500.00	3.47	4.00
24M01C013	C013	900.00	2,700.00	6,800.00	6.82	4.60
24M01C014	C014	1,100.00	3,400.00	8,500.00	8.48	5.00
24M01C015	C015	100.00	200.00	500.00	0.53	3.00
24M01C016	C016	500.00	1,600.00	4,000.00	4.02	5.00
24M01C017	C017	300.00	900.00	2,200.00	2.16	4.00
24M01C018	C018	-	-	-	8.21	5.40
24M01C019	C019	-	-	-	2.33	3.60
24M01C020	C020	-	-	-	6.25	5.00
24M01C021	C021	-	-	-	1.79	5.00
24M01C022	C022	-	-	-	1.57	6.00
24M01C023	C023	-	-	-	1.85	8.00
24M01C024	C024	-	-	-	4.24	4.00
24M01C025	C025	-	-	-	5.03	8.00
24M01C026	C026	-	-	-	5.78	4.40
24M01C027	C027	-	-	-	3.81	3.70
24M01C028	C028	-	-	-	7.34	1.70
24M01C029	C029	-	-	-	2.96	4.00
24M01C030	C030	-	-	-	3.56	3.00

Prioritization Criteria for Municipal Roads

Municipality Road Code	Road Code	Priority Score	Road Class	Existing Width	Population Serve	RAMS	Road Density	Settlement Density	Surface Type	Minority Group	Total Score	Rank
		10.00	10.00	10.00	20.00	10.00	10.00	10.00	10.00	10.00	100	
24M01A001	A001	(0.00)	10.00	6.25	5.00	8.00	6.25	9.17	8.00	-	52.67	28
24M01A002	A002	4.86	10.00	9.79	6.67	8.00	5.63	5.21	9.12	-	59.27	11
24M01A003	A003	4.80	10.00	7.97	11.67	8.00	6.04	6.88	8.69	-	64.04	7
24M01A004	A004	8.67	10.00	7.05	20.00	8.00	7.08	5.42	10.00	-	76.22	1
24M01A005	A005	6.11	10.00	8.16	17.50	6.00	9.03	7.64	9.95	-	74.39	2
24M01B001	B001	(0.00)	9.00	6.25	5.83	8.00	6.25	9.17	10.00	-	54.50	25
24M01B002	B002	6.63	9.00	6.65	14.17	8.00	6.04	6.88	9.17	-	66.53	4
24M01B003	B003	8.53	9.00	7.87	16.67	4.00	9.03	7.64	10.00	-	72.74	3
24M01B004	B004	5.14	9.00	7.19	7.50	8.00	10.00	8.75	10.00	-	65.58	5
24M01B005	B005	8.00	9.00	6.55	8.33	4.00	5.83	5.42	10.00	-	57.13	17
24M01C001	C001	(0.00)	8.00	5.35	5.83	6.00	6.25	9.17	10.00	-	50.60	29
24M01C002	C002	(0.00)	8.00	6.25	4.17	4.00	6.25	9.17	10.00	-	47.83	34
24M01C003	C003	4.36	8.00	6.77	14.17	4.00	7.92	9.79	10.00	-	65.01	6
24M01C004	C004	4.50	8.00	5.85	4.17	4.00	8.47	8.47	10.00	-	53.46	26
24M01C005	C005	10.00	8.00	6.89	5.83	4.00	7.08	6.46	10.00	-	58.26	14
24M01C006	C006	2.00	8.00	6.06	5.00	4.00	5.63	5.21	10.00	-	45.89	36
24M01C007	C007	6.00	8.00	6.25	4.17	4.00	5.42	5.00	10.00	-	48.83	33
24M01C008	C008	8.00	8.00	6.26	5.83	6.00	5.42	5.00	10.00	-	54.51	24
24M01C009	C009	8.75	8.00	6.03	5.83	4.00	7.71	7.29	10.00	-	57.61	15
24M01C010	C010	4.00	8.00	5.46	5.00	4.00	6.67	10.00	10.00	-	53.13	27
24M01C011	C011	6.17	8.00	6.77	11.67	4.00	7.36	8.19	10.00	-	62.16	10
24M01C012	C012	6.55	8.00	6.25	5.00	4.00	7.08	8.13	10.00	-	55.00	22
24M01C013	C013	5.00	8.00	6.84	8.33	4.00	7.08	8.13	10.00	-	57.38	16
24M01C014	C014	10.00	8.00	7.19	10.83	4.00	7.50	6.25	10.00	-	63.77	8
24M01C015	C015	(0.00)	8.00	5.31	1.67	4.00	7.50	6.25	10.00	-	42.73	39
24M01C016	C016	2.00	8.00	7.19	5.00	4.00	6.04	6.88	10.00	-	49.10	32
24M01C017	C017	(0.00)	8.00	6.25	2.50	4.00	6.04	6.88	10.00	-	43.67	38
24M01C018	C018	7.43	8.00	7.60	8.33	4.00	5.00	6.67	10.00	-	57.03	18
24M01C019	C019	3.33	8.00	5.91	2.50	4.00	5.00	6.67	10.00	-	45.41	37
24M01C020	C020	4.00	8.00	7.19	6.67	4.00	5.00	6.67	9.01	-	50.53	30
24M01C021	C021	8.00	8.00	7.19	2.50	4.00	5.00	6.67	8.00	-	49.35	31
24M01C022	C022	6.00	8.00	8.13	2.50	4.00	9.58	7.92	10.00	-	56.13	20
24M01C023	C023	2.00	8.00	10.00	2.50	4.00	9.79	8.33	10.00	-	54.63	23

Municipality Road Code	Road Code	Priority Score	Road Class	Existing Width	Population Serve	RAMS	Road Density	Settlement Density	Surface Type	Minority Group	Total Score	Rank
		10.00	10.00	10.00	20.00	10.00	10.00	10.00	10.00	10.00	100	
24M01C024	C024	10.00	8.00	6.25	6.67	4.00	9.79	8.33	10.00	-	63.04	9
24M01C025	C025	3.00	8.00	10.00	7.50	4.00	8.75	7.50	10.00	-	58.75	12
24M01C026	C026	8.67	8.00	6.59	6.67	4.00	8.75	5.83	10.00	-	58.51	13
24M01C027	C027	8.80	8.00	5.97	4.17	4.00	8.06	6.81	10.00	-	55.79	21
24M01C028	C028	0.80	8.00	4.10	6.67	4.00	5.42	5.00	4.27	-	38.25	40
24M01C029	C029	10.00	8.00	6.25	3.33	4.00	8.75	5.83	10.00	-	56.17	19
24M01C030	C030	(0.00)	8.00	5.31	4.17	4.00	6.25	9.17	10.00	-	46.90	35

Preliminary Cost Estimate Details for Municipal Roads

Cost in '000								'00,000
Municipality Road Code	Road Code	Total Road Length (Km)	General Maintenance	Recurrent Maintenance	Improvement Cost	Cross Drainage Structure	Cost of Protection Structure	Total Cost '00,000
24M01A001	A001	3.89	1,110	3,550	145,520	85,710	180,400	4,163
24M01A002	A002	7.08	2,020	6,250	179,600	-	328,400	5,163
24M01A003	A003	9.57	2,730	8,560	287,000	-	444,000	7,423
24M01A004	A004	19.77	5,650	16,940	313,080	85,710	917,290	13,387
24M01A005	A005	12.22	3,490	10,430	192,620	85,710	566,880	8,591
24M01B001	B001	4.58	980	2,940	51,660	-	134,270	1,899
24M01B002	B002	13.32	2,850	8,800	240,090	-	390,420	6,422
24M01B003	B003	11.30	2,420	7,260	127,890	-	331,270	4,689
24M01B004	B004	4.82	1,030	3,100	54,350	-	141,170	1,996
24M01B005	B005	8.95	1,920	5,760	101,160	-	262,460	3,713
24M01C001	C001	4.81	690	2,060	34,300	-	93,970	1,310
24M01C002	C002	3.35	480	1,440	23,860	42,860	65,530	1,342
24M01C003	C003	13.02	1,860	5,580	92,780	-	254,390	3,546
24M01C004	C004	4.87	700	2,090	34,670	-	95,230	1,327
24M01C005	C005	6.61	940	2,830	47,020	-	61,960	1,127
24M01C006	C006	5.97	850	2,560	42,590	-	55,910	1,019
24M01C007	C007	4.76	680	2,040	33,850	-	44,580	811
24M01C008	C008	6.31	900	2,700	44,910	-	59,100	1,076
24M01C009	C009	7.48	1,070	3,200	53,230	-	70,070	1,276
24M01C010	C010	3.92	560	1,680	27,930	-	36,780	670
24M01C011	C011	11.62	1,660	4,980	82,730	42,860	108,890	2,411
24M01C012	C012	3.47	500	1,490	24,720	-	32,520	592
24M01C013	C013	6.82	970	2,920	48,500	-	63,890	1,163
24M01C014	C014	8.48	1,210	3,630	60,470	-	79,420	1,447
24M01C015	C015	0.53	80	230	3,790	-	4,990	91
24M01C016	C016	4.02	570	1,720	28,610	-	37,660	686
24M01C017	C017	2.16	310	930	15,420	-	20,280	369
24M01C018	C018	8.21	1,170	3,520	58,300	-	-	630
24M01C019	C019	2.33	330	1,000	16,550	-	-	179
24M01C020	C020	6.25	890	2,760	77,550	-	-	812
24M01C021	C021	1.79	260	820	32,000	-	-	331

Cost in '000								'00,000
Municipality Road Code	Road Code	Total Road Length (Km)	General Maintenance	Recurrent Maintenance	Improvement Cost	Cross Drainage Structure	Cost of Protection Structure	Total Cost '00,000
24M01C022	C022	1.57	220	670	11,180	-	-	121
24M01C023	C023	1.85	260	790	13,180	-	-	142
24M01C024	C024	4.24	610	1,820	78,180	-	-	806
24M01C025	C025	5.03	720	2,160	35,740	-	-	386
24M01C026	C026	5.78	830	2,480	41,100	-	-	444
24M01C027	C027	3.81	540	1,630	27,120	-	-	293
24M01C028	C028	7.34	1,050	1,340	23,140	-	-	255
24M01C029	C029	2.96	420	1,270	21,090	-	-	228
24M01C030	C030	3.56	510	1,520	25,290	-	-	273