



(Municipal Transport Master Plan (MTMP))

Suryodaya Municipality

Municipal Transport Master Plan (MTMP)
Final Report- 2024

EXECUTIVE SUMMARY

Transportation forms a crucial component of infrastructure, shaping urban design, economic prosperity, and the overall sustainability—social, environmental, and financial—of a city. Improved road accessibility reduces isolation, enhances agricultural production and marketing, promotes public services, and facilitates technology transfer. Road construction can spark enthusiasm and bring transformative changes to urban life. However, without clear criteria and guidelines, such construction risks inefficient use of resources and wastage.

The **Municipal Transport Master Plan (MTMP)** of Suryodaya Municipality has been developed to evaluate and systematically plan the municipality's road and transport infrastructure, encompassing both urban and adjacent rural areas.

Municipal Profile

Suryodaya Municipality, located in Koshi Province of Nepal's Ilam District, was formed by merging several former Village Development Committees (VDCs): Phikal Bazar, Panchakanya, Kanyam, Pashupatinagar, Shree Antu, Samalbong, Gorkhe, and Laxmipur (excluding Ward No. 5). It is the largest municipality in Ilam by area, covering the district's central region. The municipality borders Darjeeling in the east, Ilam Municipality in the west, Rong Rural Municipality in the south, Mai Municipality in the southwest, and Maijogmai Rural Municipality in the north. Key transit points to India include Pashupatinagar, Chhabisay, and Manebhanjyang, along with minor crossings like Okayti Godamdhura. As per the 2021 census, Suryodaya Municipality has a population of 54,727.

Key Steps in Developing the MTMP

The process commenced with the establishment of the **Municipal Road Coordination Committee (MRCC)**, which guided the collection of road demand data and inventory within the municipality. The road inventory survey documented approximately 986.37 km of roads, predominantly of earthen and gravel surfaces, with a smaller portion being blacktopped.

Indicative Development Potential Plan

The MTMP identifies key growth centers and areas with potential for agro-industries, high-value cash crops, and tourism. A road hierarchy was established, categorizing roads into **Class A, B, C, and D** based on their primary functions:

- **Class A & B:** Focus on mobility and access to higher-order services.
- **Class C & D:** Emphasize local access and connectivity.

The total lengths of each category are:

- **Class A:** 158.84 km
- **Class B:** 20.19 km
- **Class C:** 259.63 km
- **Class D:** 326.85 km

Prioritization and Five-Year Implementation Plan

Roads were prioritized based on criteria such as demand, existing width, population served, surface condition, road density, settlement density, and their significance for development, tourism, agriculture, and service centers. A **five-year implementation plan** has been developed to systematically upgrade and enhance the municipality's transport infrastructure. This MTMP serves as a strategic framework for developing a sustainable, efficient, and inclusive transport network, contributing to Suryodaya Municipality's long-term growth and prosperity.

DECLARATION LETTER

We hereby declare that the study for the **Municipal Transport Master Plan (MTMP)** of Suryodaya Municipality has been conducted professionally, adhering to the guidelines provided by the Ministry of Federal Affairs and General Administration (formerly the Ministry of Federal Affairs and Local Development) and other recognized standard methodologies. To the best of our knowledge, the findings of this study are accurate and based on thorough research and analysis.

The Municipal Transport Master Plan has been prepared following standard engineering tools, norms, and practices. The visionary framework for city development has been finalized through consultations with relevant stakeholders, ensuring inclusivity and practicality.

We affirm that the MTMP is reliable, feasible, and adequate to support the overall development of the municipality's transport system. Furthermore, we accept accountability for any misleading information contained within this report pertaining to the respective areas of study.

ACKNOWLEDGEMENT

The **Municipal Transport Master Plan (MTMP)** for Suryodaya Municipality has been prepared under the contract agreement between the Office of the Municipal Executive and **K.S. Engineering Consultancy Pvt. Ltd.** This report has been developed in accordance with the **Municipality Transport Master Plan Preparation Guidelines** and the terms of reference issued by the **Ministry of Federal Affairs and Local Development, Infrastructure Development Division**.

We extend our heartfelt gratitude to **Suryodaya Municipality** for entrusting us with the responsibility of preparing this MTMP. In this regard, we express our sincere appreciation to Mayor **Mr. Ran Bahadur Rai**, Deputy Mayor **Mr. Durga Kumar Baral**, Chief Administrative Officer **Mr. Milan Bhattarai**, Head of the Planning Division **Mr. Khemraj Rai**, Internal Audit Officer **Mr. Pradip Chapagain** and **Er. Kabin Sapkota** for their unwavering support and guidance throughout the project.

We also acknowledge the valuable contributions of the **Engineers, Sub-Engineers, and all staff members** of Suryodaya Municipality, whose dedication and cooperation greatly facilitated the preparation of this report. Special thanks are due to the members of the technical committee for their constructive feedback and insightful comments, which significantly enhanced the quality of this document.

Furthermore, we are deeply grateful to the **residents, leaders, and community organizations** for their enthusiastic participation and invaluable input, which were instrumental in shaping the Municipal Transport Master Plan for Suryodaya Municipality, Ilam District.

Finally, we extend our gratitude to everyone who directly or indirectly contributed to this study. Your support and efforts have been pivotal in the successful completion of this task.

Study Team

K.S. Engineering Consultancy Pvt. Ltd.

Kathmandu, Nepal

ABBREVIATIONS

- **CBS:** Central Bureau of Statistics
- **CGI:** Corrugated Galvanized Iron
- **DPR:** Detail Project Report
- **DRCN:** District Road Core Network
- **GoN:** Government of Nepal
- **GPS:** Global Positioning System
- **HH:** Household
- **IDD:** Infrastructure Development Division
- **IDPM:** Indicative Development Potential Map
- **Km:** Kilometer
- **LSGA:** Local Self-Government Act
- **MoFALD:** Ministry of Federal Affairs and Local Development
- **MIM:** Municipality Inventory Map
- **MRCC:** Municipality Roads Coordination Committee
- **MRCN:** Municipal Road Core Network
- **MTMP:** Municipal Transport Master Plan
- **MTPP:** Municipal Transport Perspective Plan
- **NUP:** National Urban Policy
- **RCC:** Reinforced Cement Concrete
- **SM:** Suryodaya Municipality
- **SWOT:** Strength, Weakness, Opportunity, Threats (Analysis Tool)
- **TOR:** Terms of Reference
- **TMP:** Transport Master Plan
- **UC:** Users Committee
- **VDC:** Village Development Committee

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1.0 INTRODUCTION

1.1 BACKGROUND

The **Municipal Transport Master Plan (MTMP)** is defined as a systematic process of identifying, classifying, and prioritizing roads within the municipality. It encompasses the construction, upgrading, maintenance, and rehabilitation of prioritized roads based on approved criteria, along with the calculation of the financial budget. This chapter outlines the background, objectives, and scope of the planning process. MTMP preparation adopts a **bottom-up and participatory approach**, ensuring inclusivity and local relevance.

A broader perspective on urban transportation is provided in the **National Urban Strategy 2015**, emphasizing the integration of land use and transportation in urban and regional planning. Key strategies include:

- Developing hierarchically balanced urban road infrastructure.
- Promoting sustainable urban public transport.
- Preparing and implementing comprehensive transport management standards and plans.

Additionally, high-speed inter-urban transport infrastructure is prioritized in strategic regions.

The **Local Government Operation Act, 2074** mandates the formulation of local development plans based on needs-driven, bottom-up, and participatory approaches. It emphasizes investments in planned development to enhance sustainable livelihoods and improve well-being. Sustainable livelihoods depend on better access to information, markets, opportunities, health, education, and essential goods and services. Accessibility planning has been recommended as a key tool in MTMP preparation to assess the status of services and facilities.

Strategic road networks contribute to national income, while local roads drive poverty reduction. Interventions derived from accessibility planning represent the real needs and priorities of the local population. While population and land area are critical for economic development, **road density** has a multiplicative effect, and **road network connectivity** has an exponential effect on the local economy.

The **Ministry of Federal Affairs and General Administration (formerly the Ministry of Federal Affairs and Local Development)** initiated the creation of new municipalities by merging urban and semi-urban settlements, including existing Village Development Committees (VDCs).

Urbanization Challenges in Suryodaya Municipality

Migration from rural to urban areas is a global phenomenon, but in Nepal, it has resulted in rapid urbanization, particularly in large municipalities. Suryodaya Municipality faces critical challenges in urban infrastructure and service delivery. Delays in addressing these issues could severely impede efficient service delivery and infrastructure management.

As demand for infrastructure and services grows, the road sector is significantly impacted, as proper road and transport systems are foundational to all development efforts. Moreover, the transport sector is a leading contributor to greenhouse gas emissions, necessitating the development of environmentally friendly and sustainable transport systems. These systems must also be equitable and accessible to differently abled individuals, children, and the elderly, while remaining affordable for marginalized communities.

The Need for a Comprehensive Transport Plan

Suryodaya Municipality recognizes the need for a scientific and comprehensive transport plan to address the challenges of urbanization and infrastructure development. This Transport Master Plan aims to achieve:

- Efficiency, safety, and sustainability in the transport sector.

- Improved infrastructure management for the municipality.
- Planned interventions to ensure optimal resource utilization and economic growth while minimizing environmental and health impacts.

This Terms of Reference (ToR) outlines the framework for MTMP preparation, emphasizing the consultant's responsibility to develop a practical and impactful plan. The preparation of the MTMP for Suryodaya Municipality is a vital step toward planned development, ensuring a sustainable, equitable, and inclusive future for its transport infrastructure and services.

1.2 OBJECTIVES OF THE STUDY

The primary objective of the consulting services is to prepare the **Municipal Transport Master Plan (MTMP)** for Suryodaya Municipality. This plan aims to systematically identify, classify, and prioritize transport infrastructure interventions based on accessibility planning to address the real needs and priorities of the local population.

Accessibility planning is utilized as an effective tool to evaluate the existing situation of services and facilities. Interventions identified through this process reflect local demands, ensuring a participatory and bottom-up approach from the settlement level. This participatory approach fosters community ownership and active involvement in project implementation.

MTMP aligns with the **Comprehensive Town Development Plan**, and in its absence, an **intermediate visionary plan** will guide its preparation. The MTMP also ensures harmony with **DoLIDAR's Approach Manual**, enabling seamless integration with the District Transport Master Plan (DTMP) and other Municipal Transport Master Plans to form a cohesive local transport network.

Specific Objectives

The specific objectives of the study, though not limited to include:

1. **Analyze the Accessibility Situation**
 - Evaluate the current access to services and facilities across the municipality.
2. **Identify and Prioritize Interventions**
 - Based prioritization on the findings from the accessibility analysis.
3. **Prepare Indicative Developmental Potential Map (IDPM)**
 - Identify key growth areas and their potential for development.
4. **Prepare the Municipality Inventory Map (MIM)**
 - Document and map the existing road network within the municipality.
5. **Collect Demands for Transport Linkages**
 - Gather data on new or rehabilitated transport linkages required by the municipality and settlements based on the city development plan.
6. **Prepare the Perspective Plan of Transport Services and Facilities**
 - Develop a long-term vision for the municipality's transport sector.
7. **Develop Scoring Criteria**
 - Establish criteria for prioritizing transport projects and seek approval from the municipality.
8. **Prepare the Five-Year Municipal Transport Master Plan (MTMP)**
 - Formulate a detailed, actionable plan covering the MTMP period.
9. **Develop a Realistic Implementation Plan**
 - Create a physical and financial implementation plan for prioritized road projects during the MTMP period.
10. **Prepare the Municipal Transport Perspective Plan (MTPP)**
 - Provide a long-term strategic framework for transport services and infrastructure.

1.3 SCOPE OF THE SERVICES

The consultant is tasked with providing high-quality professional services to develop the **Municipal Transport Master Plan (MTMP)** for Suryodaya Municipality. The scope of services encompasses a range of activities to ensure a comprehensive and sustainable transport plan. The key tasks to be undertaken by the consultant include, but are not limited to, the following:

1. **Assist in the Formation of the Municipality Roads Coordination Committee (MRCC)**
 - Provide guidance and technical support to establish the MRCC as a governing body for road and transport-related activities within the municipality.
2. **Review of Existing MTMP and Secondary Information**
 - Conduct a thorough review of any existing MTMP and other relevant documents to gather insights and identify gaps.
3. **Accessibility Data Collection and Analysis**
 - Collect and analyze data to assess the accessibility of services and facilities across the municipality.
4. **Prepare the Indicative Municipality Development Potential Map (IDPM)**
 - Map potential development areas for agro-industries, tourism, urban expansion, and other economic activities.
5. **Prepare the Municipality Inventory Map (MIM)**
 - Document and map the urban roads, main trails, and bridges within the municipality, providing a comprehensive inventory of transport infrastructure.
6. **Collect Demands for Transport Linkages**
 - Gather demands from wards and settlements for new, upgraded, or rehabilitated transport linkages to address local priorities.
7. **Develop Scoring Criteria and Obtain Approval**
 - Establish criteria to score and prioritize transport projects and seek formal approval from the municipality.
8. **Road Classification and Nomenclature**
 - Categorize and name roads systematically, ensuring alignment with national standards and local needs.
9. **Analyze Fund Availability for Roads**
 - Evaluate current and potential funding sources to support road construction, upgrading, and maintenance.
10. **Prepare the Perspective Plan of Interventions for Services and Facilities**
 - Develop a long-term strategic plan outlining interventions needed for transport services and facilities.
11. **Preparation of the Municipal Transport Master Plan (MTMP)**
 - Formulate a comprehensive, actionable MTMP that integrates all the above tasks, ensuring it aligns with the municipality's development vision and priorities.

1.4 PLANNING APPROACH AND METHODOLOGY

The preparation of the **Municipal Transport Master Plan (MTMP)** is designed to assist in systematically planning municipal roads to achieve the stated objectives. Effective planning requires accurate and relevant data, which can only be obtained through well-chosen survey methods. This chapter outlines the methodological framework adopted for data collection, including survey methods, sampling techniques, data quality and quantity, as well as the methods for data processing, analysis, and presentation.

Participatory Bottom-Up Approach

MTMP employs a **participatory bottom-up approach**, distinguishing it from the conventional top-down methods. This approach emphasizes community involvement and ensures that the transport plan reflects the real needs and priorities of local populations.

Techno-Political Interface

The planning process integrates a **techno-political interface**, enabling active participation from:

- Representatives of political parties.
- Line agencies.
- Municipality officials.

This collaborative process ensures a comprehensive and inclusive framework for transport planning.

Role of the Municipality Road Coordination Committee (MRCC)

The **Municipality Road Coordination Committee (MRCC)** has been constituted as the authorized legislative body for overseeing and guiding the transport planning process. The MRCC facilitates coordination among stakeholders, reviews data, and provides critical inputs to the plan.

Survey and Data Collection

To ensure the MTMP is data-driven and evidence-based, the following steps are undertaken:

1. **Survey Methods**
 - Use of field surveys to assess the current condition of transport infrastructure.
 - Household surveys to understand accessibility needs and priorities.
 - GPS surveys to map road networks accurately.
2. **Sampling Techniques**
 - Stratified sampling to ensure diverse settlements, road types, and usage patterns.
 - Random sampling for specific assessments, such as traffic volume and condition surveys.
3. **Data Quality and Quantity**
 - Emphasis on collecting both qualitative and quantitative data.
 - Validation of collected data through cross-references and stakeholder reviews.

Data Processing, Analysis, and Presentation

- **Data Processing:**
 - Digitization of road inventory using GIS tools.
 - Statistical analysis to prioritize interventions based on accessibility and other criteria.
- **Data Analysis:**
 - Application of accessibility and demand analysis to identify gaps and opportunities.
- **Presentation:**
 - Use of maps, charts, and tabular formats to present findings clearly and comprehensively.

1.4.1 CONCEPTUAL FRAMEWORK

The proposed **Municipal Transport Master Plan (MTMP)** has been developed using a combination of **rational** and **participatory** methods. This integrated framework ensures that the planning process is both data-driven and inclusive, addressing technical requirements and incorporating community priorities.

Bottom-Up Approach

Unlike conventional top-down methods, the MTMP employs a **bottom-up approach**, achieved through a **techno-political interface**. This approach fosters active engagement among various stakeholders, ensuring that the plan reflects ground realities and local aspirations.

Participatory Method

The participatory method focuses on involving a diverse group of stakeholders in identifying issues and prioritizing projects. This includes:

- Representatives from the municipality.

- Line agencies and technical departments.
- Political party representatives.
- Civil society organizations.
- Community representatives and residents.

Stakeholder participation ensures that infrastructure development aligns with the needs and priorities of the community.

Rational Method

The rational method complements the participatory approach by incorporating technical analysis and expert solutions. Key elements include:

- Technical evaluation of road networks, infrastructure conditions, and accessibility gaps.
- Feasibility studies assess the practicality and cost-effectiveness of proposed interventions.
- Use of scientific tools and techniques, such as GIS mapping, traffic analysis, and accessibility modeling.

Integrated Framework

By combining participatory and rational methods, the MTMP ensures:

1. **Inclusivity:** Reflecting the voices and needs of diverse stakeholders.
2. **Technical Robustness:** Providing technically sound solutions through expert analysis.
3. **Sustainability:** Balancing social, environmental, and economic considerations.

1.4.2 GENERAL METHODOLOGY

The methodology for the preparation of the **Municipal Transport Master Plan (MTMP)** is aligned with the guidelines provided by the **Infrastructure Development Division (IDD)** and the **Ministry of Federal Affairs and Local Development (MoFALD)**. It encompasses a series of structured activities for data collection, stakeholder consultation, analysis, and plan preparation. The general methodology is outlined in the table below:

Table 1: General Methodology of Study

S. No	Description of Activities	Outcome
a	- Desk study, including literature review, study of municipal plans, city vision plans, or other relevant planning documents.	- Understanding of cross-cutting issues, planning recommendations, and preparation of field tools and checklists.
b	- Preparation of a base map based on the topographical map of the municipality.	- Preparation of a field study map, including existing land use, ward boundaries, and surrounding VDCs.
c	- Field study involving socio-economic data collection (e.g., market surveys, population information) and land use assessment.	- Identification of socio-economic characteristics of the municipality.
	- GPS tracking of existing roads and waypoints for other attributes.	- Identification of Potential Development Areas (PDA) with associated activities.
	- Inventory survey of roads for rehabilitation, upgrading, or new construction.	- Draft Municipality Inventory Map (MIM) of roads.
d	- Municipal workshops and consultations with various stakeholders, including local leaders, line agencies, people's representatives, and municipal personnel.	- Development of the City Development Vision.
		- Formation of the Municipality Road Coordination Committee (MRCC).

S. No	Description of Activities	Outcome
		- Identification of issues, problems, and prospective solutions related to roads. - Prioritization of roads for the Municipal Transport Perspective Plan (MTPP) using an approved criterion.
e	- Analysis of socio-economic data, existing land use, growth rates, regional linkages, and mobility patterns.	- Preparation of the Indicative Developmental Potential Map (IDPM). - Finalization of the Municipality Inventory Map (MIM). - Preparation of the Municipality Network Plan (MNP).

1.4.3 PLANNING PROCESS FOR MTMP PREPARATION

The planning process for the preparation of the **Municipal Transport Master Plan (MTMP)** followed a systematic six-step approach. This process was designed to ensure comprehensive planning, incorporating data collection, stakeholder participation, technical analysis, and alignment with the guidelines provided by the **Infrastructure Development Division (IDD)** and the **Ministry of Federal Affairs and Local Development (MoFALD)**.

The six major steps in the planning process are summarized below:

Steps in the Planning Process

1. Desk Study and Initial Review

- Conduct a thorough review of existing documents, including municipal plans, city vision plans, and other relevant reports.
- Identify cross-cutting issues and key planning recommendations.
- Develop field tools and checklists for subsequent data collection activities.

2. Base Mapping and Field Study Preparation

- Prepare base maps using topographical maps of the municipality.
- Include existing land use, ward boundaries, and surrounding areas in the base map.
- Plan for socio-economic data collection and GPS-based road network surveys.

3. Data Collection and Inventory Preparation

- Collect socio-economic data, including market surveys, population details, and land use information.
- Conduct GPS tracking of existing roads and waypoints.
- Perform road inventory surveys to assess the condition of roads for rehabilitation, upgrading, or new construction.

4. Stakeholder Engagement and Consultations

- Organize municipal workshops and consultations with local leaders, line agencies, municipal officials, and community representatives.
- Formulate the **Municipality Road Coordination Committee (MRCC)**.
- Identify issues, challenges, and prospective solutions related to transport infrastructure.
- Prioritize road projects using approved scoring criteria.

5. Analysis and Mapping

- Analyze socio-economic trends, land use patterns, growth rates, regional linkages, and mobility data.
- Prepare:
 - **Indicative Developmental Potential Map (IDPM).**

- Municipality Inventory Map (MIM).
- Municipality Network Plan (MNP).

6. Preparation and Finalization of the MTMP

- Develop a detailed **Municipal Transport Perspective Plan (MTPP)**.
- Create a five-year implementation plan, including prioritized road interventions and associated financial and physical resources.
- Ensure integration with regional and national transport planning frameworks for consistency and sustainability.

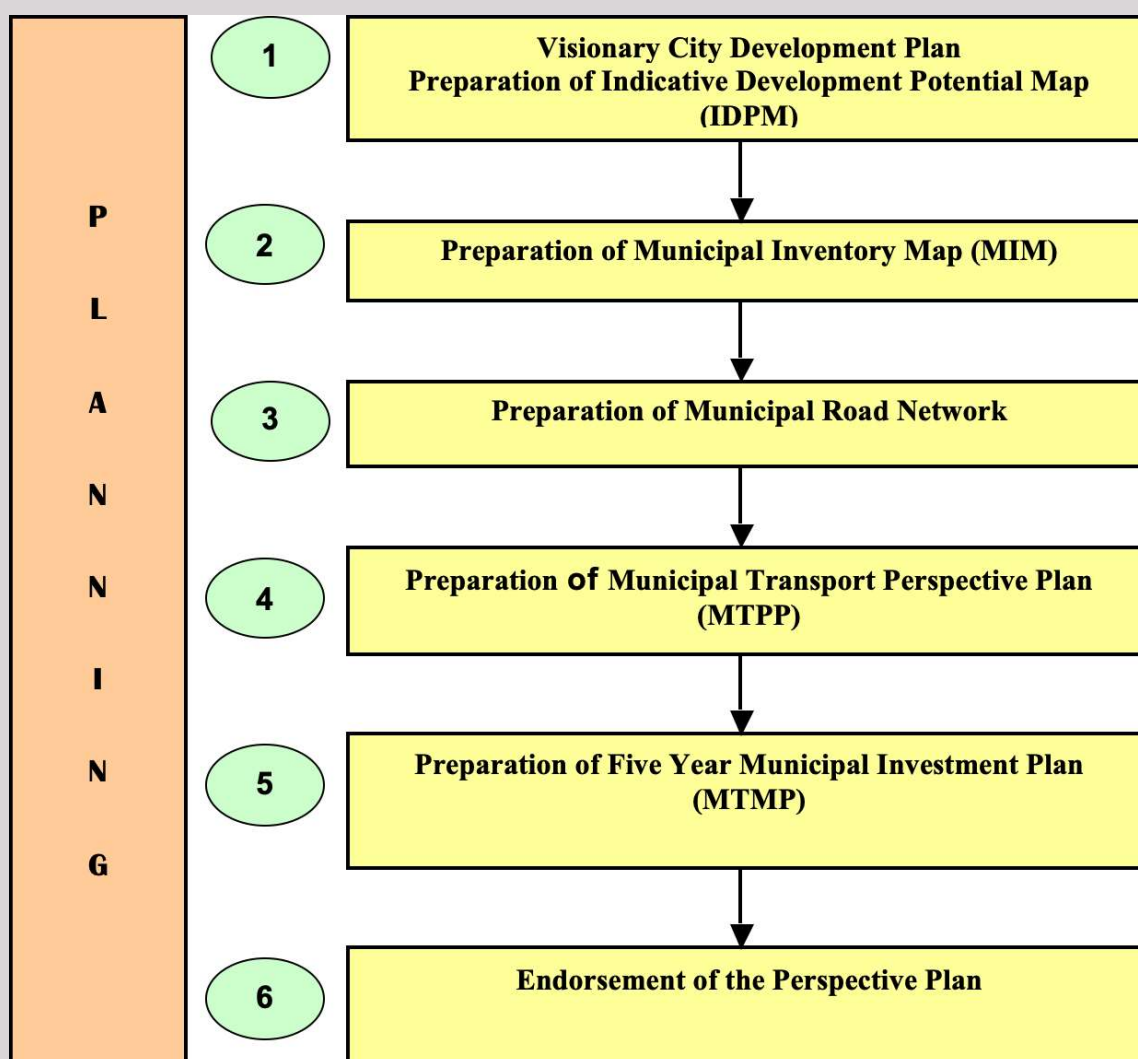


Figure 1: Planning process for MTMP, Suryodaya Municipality.

1.4.4 OVERALL METHOD FOR MTMP PREPARATION

The **overall method** for preparing the **Municipal Transport Master Plan (MTMP)** integrates a structured planning process with stakeholder feedback and technical analysis. This iterative approach ensures that the MTMP is comprehensive, participatory, and aligned with local needs and priorities.

Key Stages of the Method

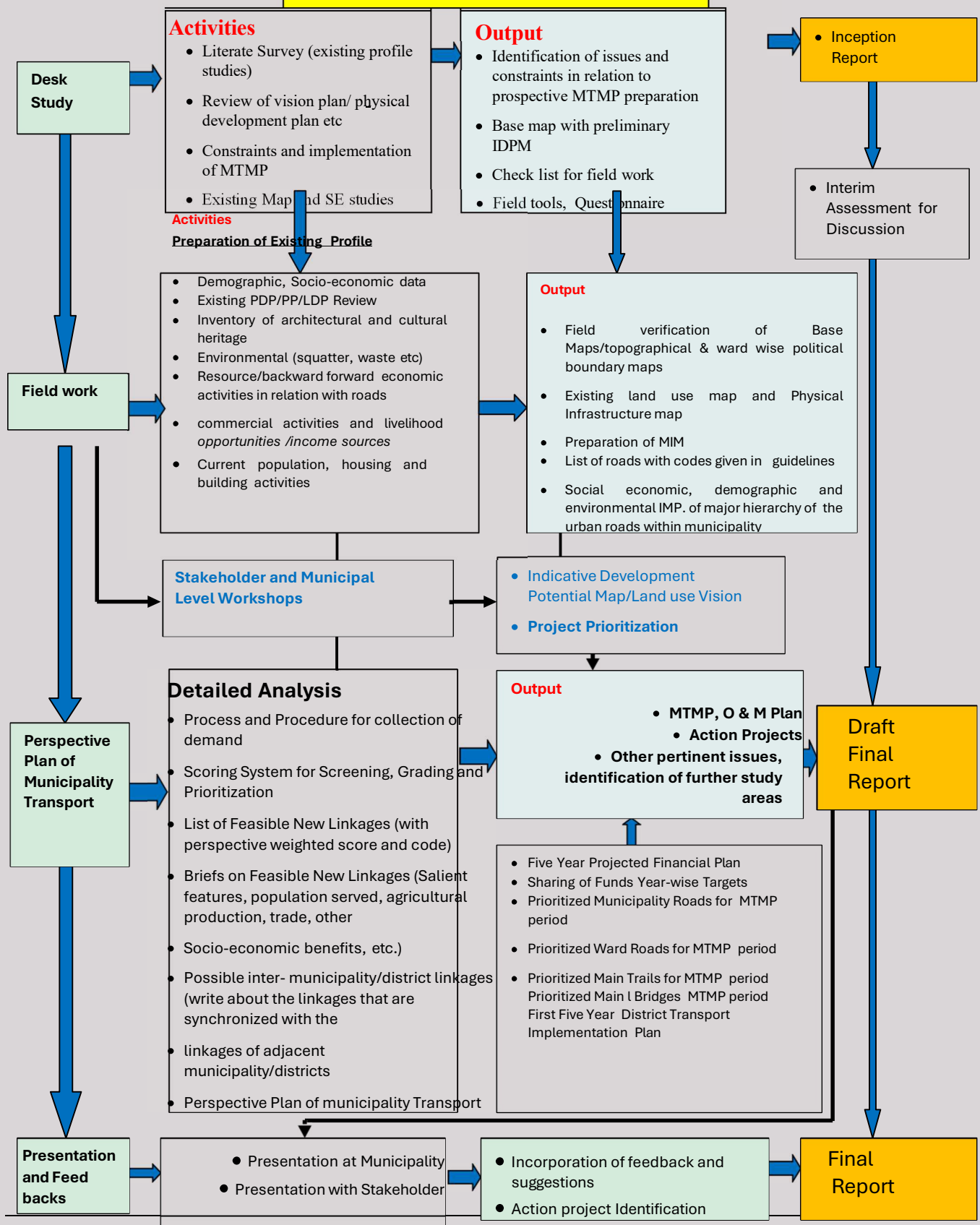
1. **Planning Framework Development**
 - Define the objectives, scope, and guiding principles for the MTMP preparation.
 - Establish the **Municipality Roads Coordination Committee (MRCC)** to oversee the process.
2. **Baseline Data Collection and Analysis**
 - Conduct a desk review of municipal documents, plans, and topographical maps.
 - Collect field data on socio-economic factors, road conditions, land use, and accessibility using GPS and surveys.
3. **Stakeholder Consultations and Feedback**
 - Engage with stakeholders, including municipal officials, political representatives, civil society, and local communities.
 - Identify challenges, prioritize projects, and gather feedback on preliminary findings.
4. **Technical Analysis and Mapping**
 - Perform technical evaluations of road networks, regional linkages, and accessibility.
 - Create **Indicative Development Potential Maps (IDPM)** and **Municipal Inventory Maps (MIM)** to visualize opportunities and gaps.
5. **Draft MTMP Preparation**
 - Develop a draft MTMP that includes:
 - Vision and goals.
 - Prioritized projects with scoring criteria.
 - Five-year implementation plans.
 - Financial and resource allocation strategies.
6. **Feedback and Suggestions**
 - Share the draft MTMP with stakeholders during workshops or meetings.
 - Incorporate suggestions and feedback from stakeholders, including local leaders, technical experts, and community representatives.
7. **Finalization and Approval**
 - Refine the MTMP based on the feedback received.
 - Present the final plan to the municipality for approval.
 - Ensure alignment with national and regional planning frameworks for integration and sustainability.

Iterative Feedback and Suggestions

Feedback is an integral part of the MTMP preparation process, ensuring the plan remains relevant and practical. The iterative approach allows for:

- Continuous improvement based on stakeholder input.
- Refinement of proposed projects and strategies.
- Enhanced community ownership and participation.

Figure 1.2 Summary of Methodology



1.4.5 SECONDARY DATA COLLECTION

Secondary data refers to information collected from existing sources, which is utilized to support the development of the **Municipal Transport Master Plan (MTMP)**. These data provide critical insights into the municipality's demographic, infrastructural, and policy landscapes, and help shape evidence-based planning.

Sources of Secondary Data

The following sources were used to gather secondary data for the MTMP preparation:

1. **District-Level Offices:**
 - Annual reports and statistics published by district-level offices provided essential information on transport infrastructure, population, and development indicators.
2. **Consultation with Stakeholders:**
 - Discussions with relevant stakeholders, such as municipal officials, line agencies, and local NGOs, offered valuable contextual and qualitative insights.
3. **Statistical and Mapping Data:**
 - **Demographic Data:** Information on population, household distribution, and socio-economic characteristics was collected from the **Central Bureau of Statistics (CBS)**.
 - **Topographical Maps:** Digitized maps obtained from the **Survey Department** were used for spatial analysis.
 - **Administrative Maps:** Maps delineating municipal boundaries and ward divisions provided a basis for area-specific analysis.
 - **Strategic Road Network Maps:** Road network maps prepared by the **Department of Roads (DoR)** were utilized to understand connectivity at regional and national levels.
4. **Planning and Policy Documents:**
 - Past plans, sectoral studies, and policy targets were reviewed to align the MTMP with existing development goals and standards.
5. **Local Organizations and Agencies:**
 - Local NGOs, line agencies, the District Coordination Committee (DCC), and the municipality provided additional data on service centers, transport infrastructure inventory, and ongoing projects.

Types of Data Collected

The secondary data included:

- Demographic information of Suryodaya Municipality.
- Maps showing service centers, existing transport infrastructure, and road networks.
- Inventories of past development plans and sectoral studies.
- Policy targets, standards, and strategic guidelines for transport planning.

Significance of Secondary Data

Secondary data played a vital role in:

- Establishing a baseline for socio-economic and infrastructure conditions.
- Providing spatial and administrative references for mapping and planning.
- Ensuring the MTMP is aligned with national standards and local development objectives.

1.4.6 PRIMARY DATA COLLECTION

Primary data collection involved gathering firsthand information about households, trip characteristics, traffic conditions, accessibility, and mobility levels across settlements. This data was essential for assessing the current state of the

municipality's transport system and prioritizing road network improvements for each ward. Specific methods were employed to ensure accuracy and reliability, focusing on road inventory and demand analysis.

Key Primary Data Collection Methods

1. Road Inventory Survey

- **Objective:** To assess the current condition and characteristics of the road network.
- **Data Collected:**
 - Road conditions (e.g., surface type, width, and maintenance status).
 - Road linkages and their connectivity.
 - Road safety status and issues requiring immediate attention.
- **Purpose:**
 - Validate and enhance the accuracy of base maps.
 - Assist in preparing the **Road Inventory Map**, including road nomenclature and coding.
 - Propose interventions such as rehabilitation, upgrading, or new construction.

2. Road Demand Survey

- **Objective:** To identify and prioritize the needs for new or improved transport infrastructure based on community inputs.
- **Methodology:**
 - Interaction sessions with elected ward representatives and local stakeholders.
 - Distribution of **demand survey forms**, where participants recorded:
 - Requirements for new road facilities.
 - Suggestions for interventions to improve existing roads, prioritized based on local needs.
- **Purpose:**
 - Capture community-driven priorities for road development.
 - Align proposed interventions with the municipality's vision and local expectations.

Significance of Primary Data Collection

- Provided accurate and up-to-date insights into the municipality's transport infrastructure and usage patterns.
- Ensured that interventions proposed in the MTMP are evidence-based and reflective of actual needs.
- Strengthened community ownership by involving local representatives in the data collection and planning process.

1.5 REVIEW OF THE PREVIOUS MTMP (PROGRESS OVER THE LAST 5 YEARS)

1.5.1 INTRODUCTION TO THE PREVIOUS PLAN

The previous Municipal Transport Master Plan (MTMP) was developed as a strategic framework to enhance the road transportation network within the municipality, recognizing its critical role in fostering socio-economic development. This plan was guided by a comprehensive study incorporating socio-economic and environmental analyses, sectoral potential assessments, and evaluations of transport accessibility across the municipality.

The plan aimed to address existing transportation challenges while laying the foundation for future road network improvements to support sustainable development. It emphasized the efficient collection, allocation, and mobilization of resources to maximize the impact of transport investments. By focusing on both the current transportation scenario and expected future accessibility needs, the MTMP provided a roadmap for improving connectivity to essential goods, services, and economic opportunities.

The MTMP also served as a tool for aligning local resources and efforts with broader development goals. It offered a rational basis for local institutions, government bodies, and donor agencies to plan and invest in road network projects effectively. The interventions proposed in the plan were designed to reflect the municipality's priorities and financial capabilities, ensuring realistic and actionable outcomes.

To ensure its relevance and effectiveness, the plan emphasized the need for periodic revisions, recommending an evaluation and update at the end of every five-year period. This iterative approach aimed to incorporate changing development potentials and adapt to emerging challenges, enabling the municipality to remain on track toward its long-term transport development objectives.

1.5.2 BASELINE AND TARGET

Baseline Scenario

During the preparation of the previous Municipal Transport Master Plan (MTMP), Suryodaya Municipality had a total road network length of **664.30 km** distributed among **259 municipal roads**, classified into Classes C and D. The road inventory showed the following distribution based on road type and surface conditions:

- **Black Topped Roads:** 76.43 km
- **Gravel/Stone-Paved Roads:** 112.08 km
- **Earthen Roads:** 587.40 km
- **New Construction:** 31.30 km

Road classification by hierarchy revealed:

- **Class C Roads:** 64 roads totaling 347.36 km (1 new track included)
- **Class D Roads:** 195 roads totaling 316.94 km (13 new tracks included)

The majority of roads were earthen and operational only in fair weather, significantly restricting year-round transportation. Many roads were poorly constructed, necessitating upgrades to all-weather standards to enhance transport accessibility and connectivity within the municipality.

Strategic roads, including national highways and feeder roads, were also considered in the baseline, with notable segments such as the **Mechi Highway (16.12 km blacktop)** and the **Ratna Kumar Bantawa Highway (10.84 km blacktop)**. The district road network included critical gravel and earthen roads connecting various localities, totaling **62.74 km**.

Targets Set in the Previous MTMP

The previous MTMP outlined specific targets to improve transportation infrastructure and connectivity:

1. **Road Construction and Upgrades:**
 - Emphasis on upgrading earthen roads to all-weather standards.
 - Construction of two ward-wise ring roads and all-weather roads to improve intra-ward and inter-ward connectivity.
 - Prioritized roads such as the **Rishimode-Mane Bhanjyang Sadak** and the **Pashupatinagar-Deurali-Bagbire-Mangalbare-Mahadevsthan Sadak**.
2. **Road Classification and Hierarchy:**
 - Establishment of a clearer classification system for municipal roads, aiming to improve **Class C and Class D roads**, while introducing a plan for **Class A and Class B roads** in future development.
3. **Budgetary Allocation:**
 - A five-year financial plan was devised with a projected cost of **NPR 592.61 million**, assuming a 10% annual budget increase.

4. **Proposed All-Weather Roads:**

- Construction of high-priority all-weather roads to ensure year-round connectivity for key growth centers and service hubs.

5. **Survey and Design Targets:**

- Comprehensive surveys and designs for prioritized roads to ensure feasibility and quality of construction.

Summary

The baseline revealed significant limitations in the road network's condition and functionality, with most roads requiring urgent upgrades. The targets set in the previous MTMP aimed to address these gaps by prioritizing road construction, upgrading infrastructure, and improving transport accessibility across the municipality. These goals provided a roadmap for achieving socio-economic development through better transportation infrastructure.

1.5.3 ACHIEVEMENTS

The implementation of the previous Municipal Transport Master Plan (MTMP) resulted in significant progress in the development, rehabilitation, and upgrading of the road network within Suryodaya Municipality. Key achievements include:

Roads Constructed, Rehabilitated, or Upgraded

1. **Strategic Roads:**

- In the previous plan, strategic roads were categorized under Class A and Class B. However, they are now reclassified as **Strategic Road Network (SRN)** and **District Road Core Network (DRCN)**.
- The **Strategic Road Network (SRN)** comprises **3 roads** with a total length of **48.20 km**, including:
 - 43.35 km of blacktop roads.
 - 2.45 km of gravel roads.
 - 2.41 km of earthen roads.
- The **District Road Core Network (DRCN)** includes **10 roads** spanning **61.51 km**, of which:
 - 10.83 km are blacktop,
 - 16.12 km are gravel, and
 - 34.56 km are earthen roads.

Local Roads:

- In the previous plan, municipal roads were predominantly classified as Class C and Class D. Following the reclassification, the local road network now includes **333 roads** distributed into Classes A, B, C, and D:
 - **Class A Roads:** 34 roads spanning **158.84 km**, including:
 - 8.79 km blacktop,
 - 58.60 km gravel, and
 - 91.46 km earthen roads.
 - **Class B Roads:** 3 roads totaling **20.19 km**, with:
 - 1.13 km blacktop,
 - 9.15 km gravel, and
 - 9.91 km earthen roads.
 - **Class C Roads:** 67 roads covering **259.63 km**, comprising:
 - 0.75 km blacktop,
 - 11.61 km gravel, and
 - 247.27 km earthen roads.

- **Class D Roads:** 216 roads spanning **326.85 km**, including:
 - 2.83 km blacktop,
 - 3.72 km gravel, and
 - 320.29 km earthen roads.

Connectivity Improvements and Milestones Achieved

- **Strategic Connectivity:** Improved connectivity along major routes, such as the **Mechi Highway** and **Ratna Kumar Bantawa Highway**, bolstering inter-district and intra-district transportation.
- **Local Accessibility:** The reclassification and expansion of the local road network, especially in Classes A and B, have enhanced access to growth centers, markets, schools, health facilities, and administrative offices.
- **Upgraded Roads:** Focus on converting earthen roads to gravel or blacktop has significantly increased the number of all-weather roads, improving year-round transport accessibility.
- **Development of Ring Roads:** Proposed ring roads, such as the **Fikkal-Jogmai Hydro Road** and **Pashupatinagar-Mangalbare-Mahadevsthan Road**, have enhanced intra-ward connectivity and facilitated mobility in urban and semi-urban areas.

Milestones in Road Classification

- Strategic and municipal roads have been systematically classified into SRN, DRCN, and Local Roads (Classes A to D). This reclassification has provided a clearer framework for planning, budgeting, and prioritization of transport infrastructure development.

Summary

The previous MTMP achieved significant improvements in the road network, with over **875.23 km** of roads constructed, rehabilitated, or upgraded. The reclassification of roads has streamlined transport planning, while the enhanced connectivity has contributed to the socio-economic development of the municipality. These achievements lay a strong foundation for future transport infrastructure development.

1.5.4 BUDGETARY TARGETS AND ACTUAL EXPENSES

The financial performance of the previous MTMP indicates both successes and challenges in budgetary allocation and expenditure. A comparison of the planned budget, allocated funds, and actual expenses reveals key insights into the execution of the plan:

Planned vs. Allocated and Utilized Budgets

Fiscal Year	Projected Budget (NPR '000)	Allocated Budget (NPR '000)	Actual Expenditure (NPR '000)	% of Expenditure vs. Allocation	% of Allocation vs. Projection	% of Expenditure vs. Projection
2075/76	97,052	150,826	103,490	68.62%	155.40%	106.63%
2076/77	106,757	203,114	116,270	57.24%	190.30%	108.91%
2077/78	117,533	274,760	175,484	63.87%	233.80%	149.31%
2078/79	129,177	318,161	149,008	46.83%	246.30%	115.35%
2079/80	142,094	315,490	105,223	33.35%	222.00%	74.05%
Total	592,613	1,262,351	649,475	51.45%	213.00%	109.60%

Key Observations

1. **Excess Allocations:** Allocated budgets consistently exceeded projections, reaching **213% of the projected budget** over five years. This indicates the availability of additional resources, possibly from other government levels or external funding sources.
2. **Underutilization of Allocated Budgets:** Actual expenditure averaged **51.45% of the allocated budget**, highlighting inefficiencies in resource utilization or challenges in project implementation.
3. **High Spending Relative to Projections:** Expenditure exceeded projections, achieving **109.60% of the projected budget**, particularly due to allocations for unplanned road projects outside the prioritized list.

Funding Sources and Challenges

- **Federal and Provincial Investments:** Significant investments in strategic roads (formerly Class A and B) were made by federal and provincial governments. However, specific data on these contributions were unavailable, limiting a comprehensive assessment.
- **Unplanned Road Investments:** Budget allocations for smaller, unplanned roads at the ward level diluted resources and affected the effectiveness of the MTMP. These roads were not included in the plan, complicating the measurement of actual achievements.
- **Ineffective Execution:** Challenges in project implementation led to underutilization of allocated budgets, especially in fiscal years 2078/79 and 2079/80, with utilization rates dropping as low as **33.35%**.

Conclusion

While the previous MTMP demonstrated the municipality's capacity to secure substantial funding beyond projections, inefficiencies in budget utilization and unplanned investments in low-priority roads hindered the plan's full effectiveness. Addressing these challenges in future MTMPs will require:

- Improved monitoring and execution strategies.
- Stricter adherence to prioritized plans.
- Comprehensive tracking of external investments, especially for strategic roads.

1.5.5 CHALLENGES FACED

The implementation of the previous MTMP faced numerous challenges, primarily due to financial, technical, and community-related factors. These challenges are summarized as follows:

Financial Challenges

- **Budget Allocation Misalignment:** Funds were not consistently allocated based on project priorities. As a result, high-priority projects often faced delays or underfunding, while resources were diverted to less critical initiatives.
- **Cost Overruns:** The need for extensive structures (e.g., bridges, culverts) increased project costs significantly, straining the budget.
- **Dependence on External Resources:** Construction materials such as gravel, sand, cement, and steel, as well as skilled manpower, had to be procured from outside the municipality, further inflating costs.

Technical Challenges

- **Limited Geographic Coverage in Estimates:** Due to the municipality's rugged terrain, initial cost estimates covered only small road segments, leading to incomplete budgeting and planning.
- **Lack of Detailed Project Reports (DPRs):** The absence of DPRs for proposed projects created uncertainties during implementation, resulting in delays and inefficiencies.

- **Maintenance Planning Deficiency:** A dedicated road maintenance plan was not prepared, leaving no clear guidelines for maintaining or repairing roads. This led to ambiguity about which roads to prioritize and how to execute maintenance effectively.

Implementation Challenges

- **Non-Compliance by Contractors:** Construction contractors frequently failed to complete projects within the specified timeline, causing delays and impacting overall progress.
- **Limited Monitoring and Supervision:** Weak enforcement of timelines and quality control during construction further hindered the timely and efficient completion of projects.

Community-Related Challenges

- **Geographic Difficulties:** The municipality's challenging topography required innovative engineering solutions and additional resources, complicating implementation.
- **Community Participation:** In some cases, there was inadequate community engagement, leading to delays in land acquisition or resistance to project execution.

Summary

The implementation of the previous MTMP revealed significant challenges that impacted the timely completion and effectiveness of planned interventions. To address these issues in future MTMPs, the following measures are recommended:

- Develop detailed DPRs before project initiation to ensure clarity and preparedness.
- Align budget allocations strictly with prioritized projects to avoid resource diversion.
- Prepare a comprehensive road maintenance plan to guide regular and emergency repairs.
- Strengthen contractor management and introduce strict penalties for delays.
- Enhance community engagement and adopt innovative solutions to overcome geographic and logistical barriers.

1.5.6 LEARNINGS

The implementation of the previous MTMP provided valuable insights and lessons that are being incorporated into the current plan to ensure improved outcomes. Key learnings include:

Importance of Participatory Planning

- **Stakeholder Engagement:** The significance of involving local communities, ward representatives, contractors, and other stakeholders in the planning and execution phases was evident. Early engagement fosters ownership, minimizes resistance, and facilitates smoother project implementation.
- **Collaborative Prioritization:** Aligning project priorities with community needs and municipal development goals is crucial for ensuring resources are directed toward impactful projects.
- **Transparent Communication:** Clear and consistent communication with stakeholders about project timelines, budgets, and expected outcomes enhances accountability and trust.

Strategies for Overcoming Technical Challenges

- **Comprehensive Project Planning:** The absence of Detailed Project Reports (DPRs) in the previous plan highlighted the need for thorough pre-project assessments, including feasibility studies and detailed cost estimates.

- **Effective Maintenance Planning:** A lack of a road maintenance plan created inefficiencies in upkeep. The current MTMP prioritizes developing a systematic maintenance strategy to ensure the longevity of roads and optimize resources.
- **Addressing Geographic Constraints:** Innovative engineering solutions tailored to the municipality's rugged terrain are essential. Incorporating topographic analysis into the planning process can help anticipate challenges and allocate resources more effectively.

Logistical Improvements

- **Resource Management:** The reliance on external resources (e.g., construction materials and skilled manpower) underscored the need to explore local alternatives or establish resource hubs within the municipality.
- **Contractor Accountability:** Strengthening contractor management, including strict adherence to contracts and imposing penalties for delays, is critical to improving project execution.

Budget Allocation and Monitoring

- **Prioritized Budgeting:** Ensuring that funds are allocated to high-priority projects and avoiding diversions to unplanned activities enhances the overall effectiveness of the plan.
- **Enhanced Monitoring:** Regular monitoring and evaluation of project progress are essential for identifying and resolving challenges promptly.

Summary

The learnings from the previous MTMP emphasize the importance of participatory planning, robust technical and logistical strategies, and efficient resource management. These insights are being integrated into the current plan to address past shortcomings and achieve more sustainable and impactful transport development outcomes.

2.0 STUDY AREA AND EXISTING INFRASTRUCTURE

Effective municipal transport planning requires a thorough understanding of the current state of transport infrastructure. This chapter provides an overview of the study area and examines the existing road network, roadside infrastructure, and related physical developments, such as urbanization and housing systems, that indirectly impact transportation.

2.1 STUDY AREA

Suryodaya Municipality, meaning "Rising Sun" in Nepali, was established in **2013** with the merger of the Village Development Committees (VDCs) of **Fikkal, Panchakanya, and Kanyam**. Following the promulgation of the **Constitution of Nepal in 2015**, additional VDCs, including **Gorkhe, Pashupatinagar, Shree Antu, Samalbong, Laxmipur, and Jogmai Wards 8 and 9**, were merged, expanding the municipality's area to **252.5 square kilometers**.

Geographical Location

Suryodaya Municipality is situated in the central part of **Ilam District** and lies in the hilly region known as the **Mahabharat Range**, characterized by its natural beauty and pleasant climate.

- **Borders:**
 - East: **Darjeeling, West Bengal, India**
 - West: **Ilam Municipality**
 - North: **Maijogmai Rural Municipality**
 - South: **Rong Rural Municipality**
 - Southwest: **Mai Municipality**
- **Transit Points with India:**
 - **Pashupatinagar**
 - **Chhabise**
 - **Manebhanjyang**

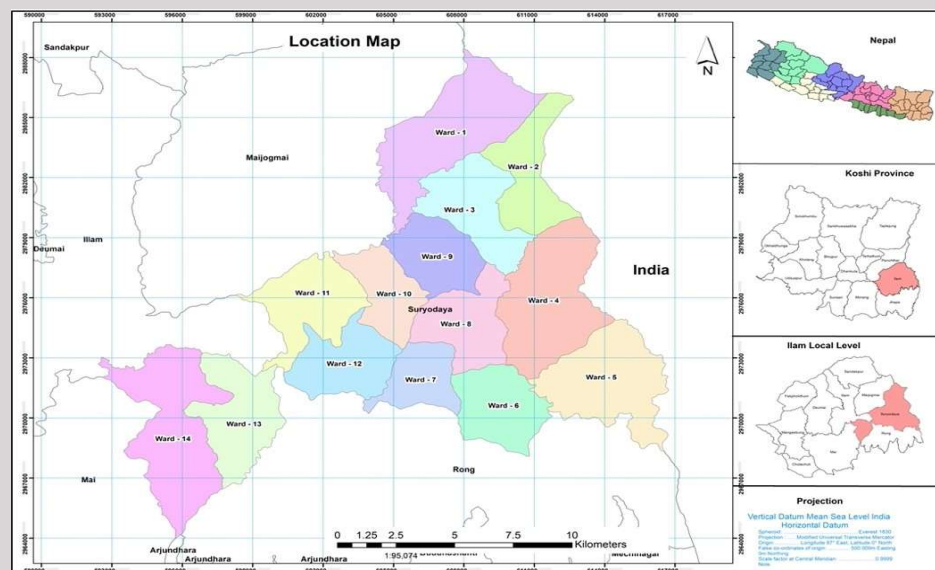


Figure 2: Location map of the Suryodaya Municipality, MTMP project area.

Demographics

- **Population:** Approximately 57,000 people.
- **Administrative Division:** Fourteen wards.
- **Voters:** Over 42,000 registered voters.
- **Literacy Rate:** High literacy levels compared to regional averages.

Key Features

- **Municipality Office:** Located in **Fikkal Bazaar**, a central hub and proximity to the famous tourist destination **Darjeeling**.
- **Economic Activities:**
 - Strong trade ties with Darjeeling.
 - Renowned for agricultural production, particularly **potatoes, milk, cardamom, chayote, ginger, broom grass, and round chilies**.

Location Map

A location map (Figure 2) illustrates the boundaries, geographic features, and transit points of Suryodaya Municipality, providing a spatial context for the **MTMP project area**.

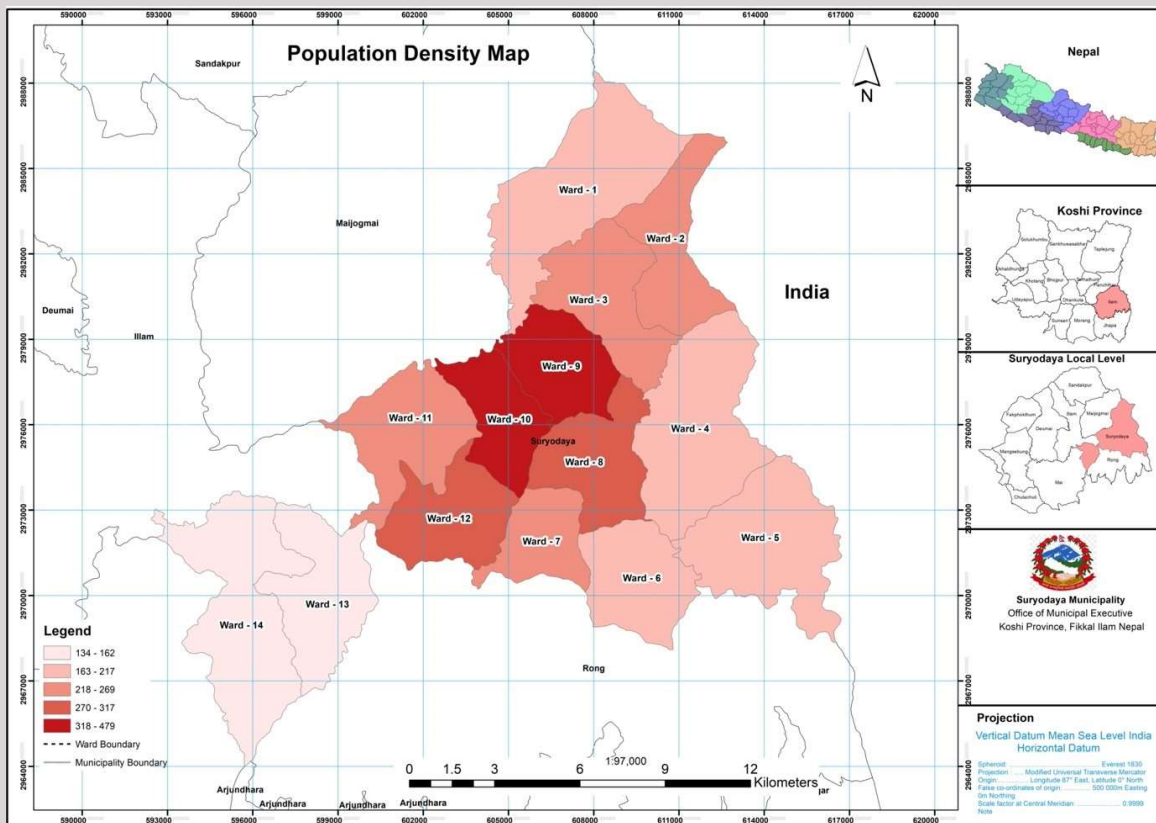


Figure 3: Population density map of the SM.

Geographical and Economic Importance

Suryodaya Municipality's strategic location and rich natural resources contribute to its economic vitality. The municipality serves as a vital trade and agricultural hub in eastern Nepal, leveraging its proximity to India and its well-established transit points.

2.2 ECONOMIC STATUS

The economic status of Suryodaya Municipality is shaped by its diverse establishments and workforce. According to the **2018 Economic Census**, the municipality has a total of **2,239 establishments** actively engaged in various economic activities. These establishments contribute significantly to the local economy by providing employment opportunities and fostering self-employment.

Workforce Engagement

- **Total Workforce: 6,560 persons** are engaged in economic activities, either as self-employed individuals or employees.
- **Gender Distribution:**
 - **Male Engagement: 3,655 persons**
 - **Female Engagement: 2,905 persons**
- **Average Workforce per Establishment:**
 - **Total: 2.93 persons per establishment**
 - **Male: 1.63 persons per establishment**
 - **Female: 1.30 persons per establishment**

Gender Ratio in Economic Activities

The **male-to-female engagement ratio** in economic activities is **1.26**, indicating that for every female engaged, approximately **1.26 males** are involved in economic activities.

Significance of Economic Activities

- **Diverse Sectors:** The economic establishments span various sectors, including agriculture, trade, services, and small industries, contributing to the municipality's overall economic vitality.
- **Gender Participation:** While male participation is higher, the significant female workforce underscores the growing inclusion of women in the local economy.

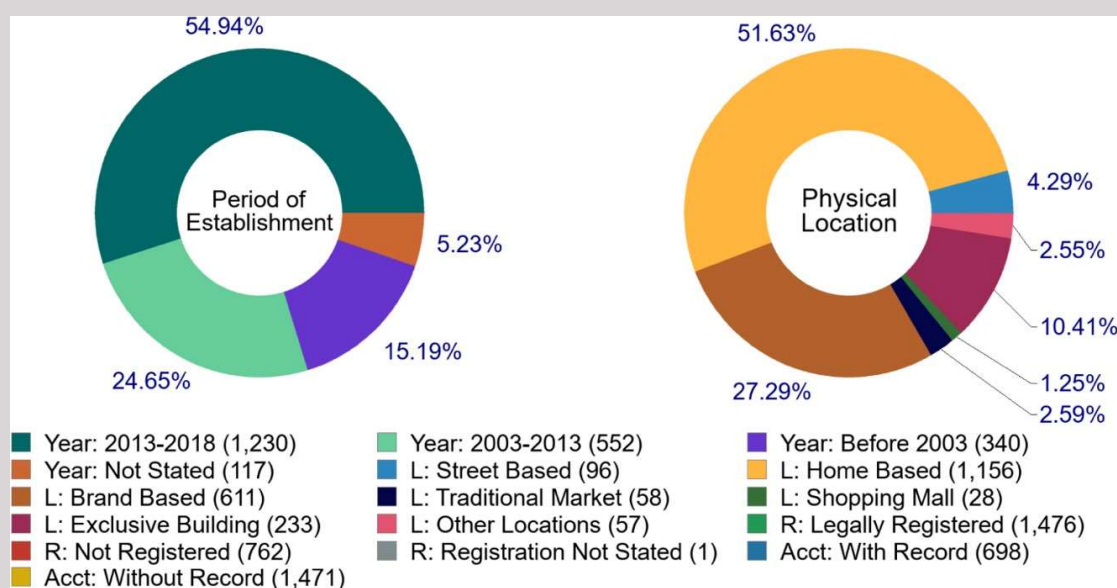


Figure 4: Status of economic establishments, Suryodaya Municipality.

Source: Nepalarchives.com

Implications for Transport Planning

The economic activity and workforce engagement in Suryodaya Municipality highlight the need for a robust and accessible transport system to support:

- Efficient movement of goods and services.
- Enhanced accessibility to workplaces.
- Improved connectivity for trade and business activities.

2.3 LITERACY AND EDUCATION

Education plays a pivotal role in the development of any municipality, influencing its socio-economic and cultural progress. In **2021**, the literacy status of **Suryodaya Municipality** reflects a strong foundation in education, though areas for improvement remain.

Literacy Status (2021)

- **Fully Literate Population: 44,086 people** were able to both read and write.
- **Partially Literate Population: 64 people** could read but not write.

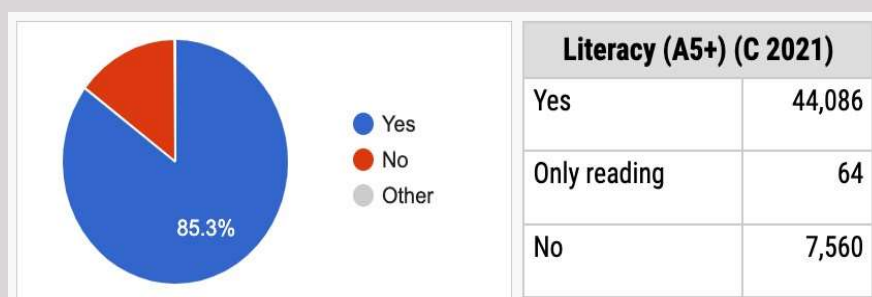


Figure 5: Literacy of the Suryodaya Municipality. Source: Citypopulation.de/nepal

Significance of Literacy

- The high literacy rate is a testament to the municipality's focus on education and accessibility to learning resources.
- Literacy enhances employability and active participation in economic, social, and civic activities.

Educational Infrastructure

While this section primarily highlights literacy statistics, it underscores the importance of robust educational infrastructure, including:

- Access to schools and colleges across all wards.
- Vocational training centers to enhance practical skills for economic activities.
- Improved transport networks to ensure accessibility to educational institutions for students and educators.

Implications for MTMP

The literacy and education profile highlights the need for improved connectivity:

- **Access to Educational Institutions:** Reliable transport infrastructure to support commuting students and teachers.
- **Promotion of Literacy Programs:** Enhanced mobility for community outreach and adult literacy programs in rural and underserved areas.

2.4 EXISTING INFRASTRUCTURE AND SERVICES

2.4.1 TRANSPORT INFRASTRUCTURE

Transportation plays a critical role in the development of various sectors, including industry, trade, communication, electricity, health, education, and more. An efficient transport system supports market expansion, employment opportunities, and optimal utilization of resources. In Suryodaya Municipality, the transport infrastructure reflects its developmental status and serves as the backbone for progress.

Existing Road Network

The total road network in Suryodaya Municipality spans **875.23 km**, comprising **109.72 km of Strategic Roads** and **765.51 km of Local Roads**, categorized based on surface type and road class as follows:

Table 2: Condition of the Road Networks

Road Type	Road Class	No of Roads	Length by Surface Type (m.)			Total Length in Meter
			Blacktop	Gravelled	Earthen	
Strategic Roads	SRN	3	43351.00	2445.00	2408.52	48204.52
	DRCN	10	10833.24	16116.36	34564.51	61514.11
Strategic Roads Total		13	54184.24	18561.36	36973.03	109718.63
Local Roads	A	34	8788.93	58595.80	91456.44	158841.17
	B	3	1133.00	9145.57	9914.88	20193.45
	C	67	752.00	11611.00	247268.10	259631.10
	D	216	2832.97	3717.71	320294.53	326845.21
Local Roads Total		320	13506.90	83070.08	668933.95	765510.93
Grand Total		333	67691.14	101631.44	705906.98	875229.56

- **Blacktop:** These roads, covering **67.69 km**, provide critical connectivity for urban and peri-urban areas.
- **Gravel:** **101.63 km** of gravel roads serve semi-urban and rural areas, connecting them to trade and service centers.
- **Unpaved/Earthen:** Most roads (**708.49 km**) are unpaved, reflecting the need for upgrades to improve accessibility and reliability.

Table 3: Blacktopped Roads in Suryodaya Municipality

Road class	Road Code	Road Name	Wards Covered	Length in Meter	
				Total	Blacktopped surface
SRN		Fikkal Shree Antu Sadak	4	15423.52	10570.00
		Fikkal Shree Antu Sadak	8	5735.85	5735.85
		Mechi highway	6,8,10,11	16307.27	16307.27
		Ratna Kumar Bantawa Highway	2,3,9	10737.88	10737.88
DRCN		F04-Jogmai marg	10	6029.47	849.47
		Barbote Mane Sadak	3	6610.39	920.00

		Barbote Naya Bajar Gupti Sadak	9	9063.77	9063.77
A	103M04A003	Arunodaya Marg	9	2551.42	1650.00
	103M04A014	Gogane Ambi Sadak	7	3584.72	823.00
	103M04A016	Gorkhe Manebhanjyang Sadak	1	12332.02	502.93
	103M04A023	Krishi Sadak	3,4	17461.11	3112.00
	103M04A028	Rampath Marg	3	3374.23	613.00
	103M04A030	Shiddhadhuni Marg	8	5188.03	2088.00
	103M04C016	F06.Krishna Buddhamarg	10	500.02	300.00
	103M04C026	Kanyam Siruwani Sadak	7	4732.75	270.00
	103M04C036	Murti Marg	11	2499.96	182.00
B	103M04B001	Suryodaya Ringroad_1	10	2139.57	533.00
	103M04B002	Suryodaya Ringroad_2	10,11	10261.16	600.00
D	103M04D002	Aaitabare Marga	11	465.63	465.63
	103M04D007	Antu Danda Marg	5	412.00	412.00
	103M04D008	Antu Danda Marg	5	1593.96	381.00
	103M04D058	F03.Fikkal Marg	10	1369.45	1369.45
	103M04D059	F03.Fikkal Marg	10	460.55	30.00
	103M04D060	F03.Fikkal Marg	10	126.56	126.56
	103M04D061	F03.Fikkal Marg	10	48.33	48.33
Grand Total				875229.56	67691.14

Source: Field Survey, 2081

This table provides detailed information on the blacktop road networks, including their names, lengths, and associated wards.

Significance of Road Infrastructure

The transport infrastructure in Suryodaya Municipality supports:

1. **Economic Development:** Facilitates movement of goods, expansion of markets, and growth of industries.
2. **Service Delivery:** Enhances access to health, education, and public services.
3. **Employment Opportunities:** Improves connectivity to workplaces and business centers.
4. **Social Integration:** Links remote areas, promoting inclusivity and community development.

Implications for the MTMP

- **Upgrading Roads:** Focus on transitioning unpaved roads to gravel or blacktop surfaces.
- **Prioritization:** Blacktop and gravel roads should be prioritized for maintenance and expansion in high-traffic and economically significant areas.
- **Long-Term Planning:** Integrate road upgrades with future urbanization and growth patterns to ensure sustainability.

Table 4: Gravel Roads in Suryodaya Municipality

Road class	Road Code	Road Name	Wards Covered	Length in Meter	
				Total	Gravelled Surface
SRN		Fikkal Shree Antu Sadak	4	15423.52	2445.00
DRCN		F04-Jogmai marg	10	6029.47	1783.00
		Google Marg	6	5945.88	5945.88
		Barbote Mane Sadak	3	6610.39	3200.00
		Bhalukhop Khutnabari	13	3087.48	3087.48
		Tinghare Jurebhanjyang Sadak	12	4266.22	2100.00
A	103M04A001	Antu Ring Road	4	1209.71	1209.71
	103M04A002	Antu Ring Road 1	4	5640.36	2590.00
	103M04A003	Arunodaya Marg	9	2551.42	901.42
	103M04A004	Bagbire Sadak	2	7219.75	5190.00
	103M04A006	Baramase Sadak 1	5	4180.36	2847.36
	103M04A008	Chhiruwa Nageswari Sadak	4	2068.08	2068.08
	103M04A009	F05.Sahid marg	10	1950.11	1121.00
	103M04A013	F08.Rong marg	10	753.40	753.40
	103M04A014	Gogane Ambi Sadak	7	3584.72	2288.00
	103M04A015	Gogane Ambi Sadak	7	6614.26	1470.00
	103M04A016	Gorkhe Manebhanjyang Sadak	1	12332.02	5036.00
	103M04A017	Guphapatal Bypass	4	1082.58	1082.58
	103M04A018	Guphapatal Sadak	4	975.83	975.83
	103M04A019	Guru Mangal Das Paryatan Marg	3	6796.93	2230.00
	103M04A020	Jimiraja Jimirani Marg	14	6413.99	4008.55
	103M04A021	Kiratmarg	11	2115.02	2115.02
	103M04A023	Krishi Sadak	3,4	17461.11	5000.00
	103M04A024	Mahendrabesi Sadak	6	7462.88	3223.85
	103M04A025	Mahendrabesi Sadak 1	6	7584.24	3000.00
	103M04A026	Malim Sadak (All weather)	12	5823.06	3000.00
	103M04A028	Rampath Marg	3	3374.23	1330.00
	103M04A029	Sayapatri Marg	13	4805.66	3460.00
	103M04A030	Shiddhadhuni Marg	8	5188.03	600.00
	103M04A031	Thapathali Marg	3	8012.19	899.00
	103M04A032	Yangthung Gumba Marg	8	4127.37	1226.00
	103M04A034	Yangthung Gumba Marg	8	3553.81	970.00
B	103M04B001	Suryodaya Ringroad_1	10	2139.57	1606.57
	103M04B002	Suryodaya Ringroad_2	10,11	10261.16	4279.00
	103M04B003	Suryodaya Ringroad_3	8,10,12,11	7792.72	3260.00
C	103M04C002	Bauddha Marg	5	3956.78	200.00
	103M04C004	Bhawani Marga	11	8119.48	622.00
	103M04C006	Biring Saurya Bhir Marg	8	3103.53	697.00

Road class	Road Code	Road Name	Wards Covered	Length in Meter	
				Total	Gravelled Surface
D	103M04C012	Dalbari Sadak	2	3308.52	500.00
	103M04C013	Damsing Lok Marg	8	2790.87	600.00
	103M04C016	F06.Krishna Buddhamarg	10	500.02	200.00
	103M04C025	Kanyam Buddha Marg	8	3726.24	1380.00
	103M04C027	Katike Marg	11	2628.07	1013.00
	103M04C042	Premejung Marg	11	1301.24	200.00
	103M04C045	Pushpalal Marg	9	2751.57	987.00
	103M04C049	Santabir Marg	2	6109.73	1500.00
	103M04C054	Shiva Marg	6	2064.53	2000.00
	103M04C058	Siddhi Marg	6	6088.64	342.00
	103M04C061	Sumnima Paruhang Marg	9	2893.91	1370.00
	103M04D011	Bagare Gaun Marg	11	3745.33	1624.00
	103M04D062	F10.Shivamarg	10	1860.58	336.00
	103M04D067	F15.Melbotemarg	10	1069.44	162.00
	103M04D110	Karfok Marg	11	1581.71	581.71
	103M04D159	Punyasmarika Marg	11	2777.00	740.00
	103M04D170	Sangam Marg 1	9	1107.02	274.00
Grand Total				875229.56	101631.44

Source: Field Survey, 2081

Table 5: Earthen Roads in Suryodaya Municipality

Road class	Road Code	Road Name	Wards Covered	Length in Meter	
				Total	Earthen Surface
SRN		Fikkal Shree Antu Sadak	4	15423.52	2408.52
		Barbate Gorkhe Sadak	3	2594.58	2594.58
		F04-Jogmai marg	10	6029.47	3397.00
		Sima Sadak	5	10047.76	10047.76
		Barbote Mane Sadak	3	6610.39	2490.39
		Bhalukhop Khudunabari Sadak	14	7587.62	7587.62
		Sima Sadak (Pashupatinagar-Manebhangyan Road)	2	6280.93	6280.93
		Tinghare Jurebhanjyang Sadak	12	4266.22	2166.22
A	103M04A002	Antu Ring Road 1	4	5640.36	3050.36
	103M04A004	Bagbire Sadak	2	7219.75	2029.75
	103M04A005	Baramase Sadak	5	3560.92	3560.92
	103M04A006	Baramase Sadak 1	5	4180.36	1333.00
	103M04A007	Chhiruwa Nageswari Sadak	4	3447.64	3447.64
	103M04A009	F05.Sahid marg	10	1950.11	829.11

Road class	Road Code	Road Name	Wards Covered	Length in Meter	
				Total	Earthen Surface
C	103M04A010	F05.Sahid marg1	10	2511.17	2511.17
	103M04A011	F08.Rong marg	12	1323.30	1323.30
	103M04A012	F08.Rong marg	12	7953.43	7953.43
	103M04A014	Gogane Ambi Sadak	7	3584.72	473.72
	103M04A015	Gogane Ambi Sadak	7	6614.26	5144.26
	103M04A016	Gorkhe Manebhanjyang Sadak	1	12332.02	6793.09
	103M04A019	Guru Mangal Das Paryatan Marg	3	6796.93	4566.93
	103M04A020	Jimiraja Jimirani Marg	14	6413.99	2405.44
	103M04A022	Kiratmarg 1	11	2056.81	2056.81
	103M04A023	Krishi Sadak	3,4	17461.11	9349.11
	103M04A024	Mahendrabesi Sadak	6	7462.88	4239.03
	103M04A025	Mahendrabesi Sadak 1	6	7584.24	4584.24
	103M04A026	Malim Sadak (All weather)	12	5823.06	2823.06
	103M04A027	Panche Chautari Marg	8	1313.97	1313.97
	103M04A028	Rampath Marg	3	3374.23	1431.23
	103M04A029	Sayapatri Marg	13	4805.66	1345.66
	103M04A030	Shiddhadhuni Marg	8	5188.03	2500.03
	103M04A031	Thapathali Marg	3	8012.19	7113.19
	103M04A032	Yangthung Gumba Marg	8	4127.37	2901.37
	103M04A033	Yangthung Gumba Marg	6,8	3792.79	3792.79
	103M04A034	Yangthung Gumba Marg	8	3553.81	2583.81
	103M04C001	Ansuvarma Marg	4	4721.87	4721.87
	103M04C002	Bauddha Marg	5	3956.78	3756.78
	103M04C003	Bhagwati Sadak	1	5555.17	5555.17
	103M04C004	Bhawani Marga	11	8119.48	7497.48
	103M04C005	Bindabasini Marg	2	5518.35	5518.35
	103M04C006	Biring Saurya Bhir Marg	8	3103.53	2406.53
	103M04C007	BOP Marg	5	2334.71	2334.71
	103M04C008	Buddha Marg	2,3,4,9	8058.61	8058.61
	103M04C009	Chhaghare Thumke Sadak	1	5508.91	5508.91
	103M04C010	Chugmang Marg	14	6613.90	6613.90
	103M04C011	Chumlung Sadak	1	4179.81	4179.81
	103M04C012	Dalbari Sadak	2	3308.52	2808.52
	103M04C013	Damsing Lok Marg	8	2790.87	2190.87
	103M04C014	Dhaap Sanischre Sadak	1	4552.33	4552.33
	103M04C015	Dharapani Sadak	12	1537.07	1537.07
	103M04C016	F06.Krishna Buddhamarg	10	500.02	0.02
	103M04C017	F06.Krishna Buddhamarg	10	3604.85	3604.85
	103M04C018	F09.Ramitemarg	10	2402.11	2402.11

Road class	Road Code	Road Name	Wards Covered	Length in Meter	
				Total	Earthen Surface
	103M04C019	F09.Ramitemarg	10	380.15	380.15
	103M04C020	f11. Yang Marga	10	3876.48	3876.48
	103M04C021	Guranse Tanting Marg	13	10933.99	10933.99
	103M04C022	Jill Sadak	3	3215.38	3215.38
	103M04C023	Jyoti Marg	13	4572.09	4572.09
	103M04C024	Kamalamai Sadak	1,2	1965.40	1965.40
	103M04C025	Kanyam Buddha Marg	8	3726.24	2346.24
	103M04C026	Kanyam Siruwani Sadak	7	4732.75	4462.75
	103M04C027	Katike Marg	11	2628.07	1615.07
	103M04C028	Katike Marg	11	6998.88	6998.88
	103M04C029	Kattyang Marg	3	2940.62	2940.62
	103M04C030	Lampadhero Marg	6	1889.70	1889.70
	103M04C031	Laptan BDr Marga	2	2491.57	2491.57
	103M04C032	Maha Laxmi Marg	8	2709.28	2709.28
	103M04C033	Manedanda Sadak	1	10424.57	10424.57
	103M04C034	Manedanda Sadak	1	1259.46	1259.46
	103M04C035	Manedanda Sadak	1	1007.91	1007.91
	103M04C036	Murti Marg	11	2499.96	2317.96
	103M04C037	Nagbhasange Gumba Sadak	2	3510.93	3510.93
	103M04C038	Pahare marg	4	3505.73	3505.73
	103M04C039	Parale Sadak	11	4858.71	4858.71
	103M04C040	Paryatan Sadak	1	4947.90	4947.90
	103M04C041	Pashupati Siddhikhola Marga	2,3	5884.57	5884.57
	103M04C042	Premejung Marg	11	1301.24	1101.24
	103M04C043	Premejung Marg	11	925.70	925.70
	103M04C044	Premejung Marg	11	3261.71	3261.71
	103M04C045	Pushpalal Marg	9	2751.57	1764.57
	103M04C046	RamJanaki Marg	6	2176.53	2176.53
	103M04C047	Sahid Marg	12	1265.56	1265.56
	103M04C048	Samalbung Antu Danda Ring Road	4,5	2442.70	2442.70
	103M04C049	Santabir Marg	2	6109.73	4609.73
	103M04C050	Santabir Marg	4	1602.92	1602.92
	103M04C051	Saurebhir Sadak	7	3692.12	3692.12
	103M04C052	Shanti Dhara Marg	5	4566.80	4566.80
	103M04C053	Shiva Marg	4,5	2335.08	2335.08
	103M04C054	Shiva Marg	6	2064.53	64.53
	103M04C055	Shivalaya Sadak	12	2221.92	2221.92
	103M04C056	Shivalaya Sadak	12	405.76	405.76
	103M04C057	Shivalaya Sadak	12	335.87	335.87

Road class	Road Code	Road Name	Wards Covered	Length in Meter	
				Total	Earthen Surface
D	103M04C058	Siddhi Marg	6	6088.64	5746.64
	103M04C059	Siddhi Marg	5	1838.64	1838.64
	103M04C060	Siddi Khola Salleri Nursery Bhanjyang	4	4443.06	4443.06
	103M04C061	Sumnima Paruhang Marg	9	2893.91	1523.91
	103M04C062	Sumnima Paruhang Marg	9	3499.60	3499.60
	103M04C063	Sundarbasti Sadak	12	4293.70	4293.70
	103M04C064	Sundarbasti Sadak	12	650.14	650.14
	103M04C065	Takpat Sima Sadak	4,5	14364.47	14364.47
	103M04C066	Thokbilung Marg	9	4777.75	4777.75
	103M04C067	Thumke Sadak	1	11994.24	11994.24
	103M04B002	Suryodaya Ringroad_2	10,11	10261.16	5382.16
	103M04B003	Suryodaya Ringroad_3	8,10,12,11	7792.72	4532.72
	103M04D001	Aadarsha Marg	8	1662.35	1662.35
	103M04D003	Aalgairi Marg	8	693.63	693.63
	103M04D004	Alaichibari Sadak	7	2063.03	2063.03
	103M04D005	Amlise Marga	12	3167.06	3167.06
	103M04D006	Antu Bypass sadak	4	1209.08	1209.08
	103M04D008	Antu Danda Marg	5	1593.96	1212.96
	103M04D009	Ashare Sadak	12	1641.27	1641.27
	103M04D010	Badare Marg	5	1303.82	1303.82
	103M04D011	Bagare Gaun Marg	11	3745.33	2121.33
	103M04D012	Bagetar Marg	14	2105.70	2105.70
	103M04D013	Baidam Gaun Sadak	1	2450.45	2450.45
	103M04D014	Baidam Gaun Sadak	1	2976.97	2976.97
	103M04D015	Banjhakri Marg	3	539.74	539.74
	103M04D016	Bardanda Sadak	11	2362.58	2362.58
	103M04D017	Bardanda Sadak	12	754.72	754.72
	103M04D018	Barpipal Marg	6	1618.67	1618.67
	103M04D019	Barpipal Sadak	7	692.58	692.58
	103M04D020	Basuni Sadak	12	1372.07	1372.07
	103M04D021	Batase Marg	14	692.70	692.70
	103M04D022	Bhadrakali Marg	14	1210.28	1210.28
	103M04D023	Bhawani Marg	4	2855.11	2855.11
	103M04D024	Birthing Sadak	7	1184.44	1184.44
	103M04D025	Birthing Sadak	7	776.43	776.43
	103M04D026	Bishnumaya Marg	14	2373.88	2373.88
	103M04D027	Bistari Sadak	12	2998.27	2998.27
	103M04D028	Bojoghari Marg	7	729.39	729.39
	103M04D029	Buddha Marg	14	832.97	832.97

Road class	Road Code	Road Name	Wards Covered	Length in Meter	
				Total	Earthen Surface
	103M04D030	Buddha Park Marg	8	2346.07	2346.07
	103M04D031	Burja Gaun Marg	5	1046.00	1046.00
	103M04D032	Chhaten Mane Sadak	12	2965.00	2965.00
	103M04D033	Chhatra Bahadur Marg	4	3156.67	3156.67
	103M04D034	Chitre Gumba Sadak	1	2657.49	2657.49
	103M04D035	Chiuribote Marga	10,12	2701.50	2701.50
	103M04D036	Coffee Marg	13	3477.09	3477.09
	103M04D037	Danfe Marg	13	781.22	781.22
	103M04D038	Darlami Gaun Marg	4,5	2198.32	2198.32
	103M04D039	Daskat Marga	5	702.15	702.15
	103M04D040	Deepshikha Marg	4	1150.29	1150.29
	103M04D041	Deurali Marg	6	1758.26	1758.26
	103M04D042	Devasthan Marg	14	339.24	339.24
	103M04D043	Dhaje Sadak	1	3356.42	3356.42
	103M04D044	Dhaje Sadak	1	2165.98	2165.98
	103M04D045	Dhakal Marg	11	783.86	783.86
	103M04D046	Dhalkalgau sadak	12	748.36	748.36
	103M04D047	Dhandha Marg	14	648.04	648.04
	103M04D048	Dhap Maijogmai Sadak	1	3324.64	3324.64
	103M04D049	Dhodemiteri Sadak	9	1845.16	1845.16
	103M04D050	Dhunibesi Marg	4	1758.99	1758.99
	103M04D051	Distillery Sadak	12	1261.78	1261.78
	103M04D052	Dolmu Marga	12	300.99	300.99
	103M04D053	Dui Mile Surke Sadak	2	883.20	883.20
	103M04D054	Dui Mile Surke Sadak	2	3140.63	3140.63
	103M04D055	Durga Bhawani Sadak	1	2143.37	2143.37
	103M04D056	Durga Bhawani Sadak	1	1137.51	1137.51
	103M04D057	Durga Bhawani Sadak	1	1318.92	1318.92
	103M04D058	F03.Fikkal Marg	10	460.55	430.55
	103M04D059	F03.Fikkal Marg	10	126.56	0.00
	103M04D060	F10.Shivamarg	10	1860.58	1524.58
	103M04D062	F10.Shivamarg	10	520.19	520.19
	103M04D063	F12.Aadarshamarg	10	585.14	585.14
	103M04D065	F13.Milan marg	10	782.78	782.78
	103M04D066	F14.Koichmarg	10	2913.00	2913.00
	103M04D067	F15.Melbotemarg	10	1069.44	907.44
	103M04D068	F16.Samabesi Marg	10	2064.31	2064.31
	103M04D069	F17.Mandir Marg	10	1256.48	1256.48
	103M04D070	F18.Gyapan Marg	10	742.17	742.17

Road class	Road Code	Road Name	Wards Covered	Length in Meter	
				Total	Earthen Surface
	103M04D071	F19.Pragati marg	10	1209.69	1209.69
	103M04D072	F21.Swamimarg	10	691.26	691.26
	103M04D073	F21.Swamimarg-1	10	257.85	257.85
	103M04D074	F21.Swamimarg-2	10,12	2367.90	2367.90
	103M04D075	F22.Pranamimarg	10	1138.25	1138.25
	103M04D076	F23.Ward marg	10	601.09	601.09
	103M04D077	F25.Ratna Marg	10	1055.86	1055.86
	103M04D078	F27.Chokhang marg	10	991.90	991.90
	103M04D079	F28.Binayak marg	10	1221.52	1221.52
	103M04D080	F31.Srijanga Marg	10	681.13	681.13
	103M04D081	F34.Dakterkhola-Baluwani Marga	10	1087.88	1087.88
	103M04D082	Fuyal Marg	13	532.54	532.54
	103M04D083	Gairigaun Marg	5	1394.51	1394.51
	103M04D084	Gajurelgaun Sadak	4	1270.20	1270.20
	103M04D085	Gardhane Sadak	12	2200.22	2200.22
	103M04D086	Gautam Marg	4,5	1695.85	1695.85
	103M04D087	Ghalegaun Sadak	4	1801.83	1801.83
	103M04D088	Ghumaune Sadak	12	1001.91	1001.91
	103M04D089	Giri Marg	5	1886.19	1886.19
	103M04D090	Glass Bridge Marg	8	600.78	600.78
	103M04D091	Gorakhdanda Marg	5	1066.46	1066.46
	103M04D092	Gumba Marg	3	2412.12	2412.12
	103M04D093	Gumba Marg	14	721.15	721.15
	103M04D094	Harit Marg	9	923.87	923.87
	103M04D095	Harit Marg 1	9	337.45	337.45
	103M04D096	Harit Marg 1	9	627.00	627.00
	103M04D097	Harit Marga	3	1222.47	1222.47
	103M04D098	Himalaya Marg	8	646.68	646.68
	103M04D099	Himali Marg	11	1953.21	1953.21
	103M04D100	Ilaka Chauki Dadak	2	706.55	706.55
	103M04D101	Jagat Bahadur Marg	4	2320.09	2320.09
	103M04D102	Jalapa Marg	13	4105.33	4105.33
	103M04D103	Jalkanya Marg	14	758.34	758.34
	103M04D104	Jaringe Marg	14	980.58	980.58
	103M04D105	Jhoda Bantawa Marg	11	236.88	236.88
	103M04D106	Jhoda Bantawa Marg	11	1265.28	1265.28
	103M04D107	Jhoda Bantawa Marg	11	820.10	820.10
	103M04D108	Kamitar Sadak	1	467.31	467.31
	103M04D109	Kamitar Sadak	1	2385.72	2385.72

Road class	Road Code	Road Name	Wards Covered	Length in Meter	
				Total	Earthen Surface
	103M04D110	Karfok Marg	11	1581.71	1000.00
	103M04D111	Kerabani Sadak	7	597.88	597.88
	103M04D112	Kerabari Nepal Gaun Marg	11	1235.69	1235.69
	103M04D113	Khadka chowk Sadak	2	3931.16	3931.16
	103M04D114	Khadka chowk Sadak	2	1126.93	1126.93
	103M04D115	Khadka Prasad Marg	8	882.46	882.46
	103M04D116	Khuilikhop Marg	14	389.84	389.84
	103M04D117	Kiwa Marga	7	3613.60	3613.60
	103M04D118	Koigaun Marg	14	3255.79	3255.79
	103M04D119	Kol Bhanjyang Sadak	8	1545.24	1545.24
	103M04D120	Laliguras Marga	6,8	1885.88	1885.88
	103M04D121	Lalikade-Tarebhir Marga	3	764.64	764.64
	103M04D122	Lama Golai Marg	6	1854.71	1854.71
	103M04D123	Laxmi Marg	13	2544.28	2544.28
	103M04D124	Lebak Marg	12	1097.74	1097.74
	103M04D125	Luichetar Marg	14	3540.17	3540.17
	103M04D126	Lumke Sadak	12	2205.77	2205.77
	103M04D127	Lumke Sadak	12	671.30	671.30
	103M04D128	Mahendrodaya Chakleti Sadak	1	4092.47	4092.47
	103M04D129	Mane Camp-Taxistand Road	10	318.57	318.57
	103M04D130	Manedanda Marga	8	1267.80	1267.80
	103M04D131	Mangal Jyoti Marg	8	1263.07	1263.07
	103M04D132	Mangal Jyoti Marg 1	8	1133.60	1133.60
	103M04D133	Mangkhim Marg	7	863.93	863.93
	103M04D134	MCom Marg	4	2654.86	2654.86
	103M04D135	Mechi Khola Marg	4	1879.89	1879.89
	103M04D136	Mechi Khola Sadak	5	1458.58	1458.58
	103M04D137	MFC Marg	9	1517.27	1517.27
	103M04D138	Miteri Marga	9	1818.39	1818.39
	103M04D139	Moktan gaun- nursery Sadak	2	1660.17	1660.17
	103M04D140	Naghi Marga	10	1720.23	1720.23
	103M04D141	Namobuddha Marga	3	988.56	988.56
	103M04D142	Namuna Marga	9	1611.37	1611.37
	103M04D143	Newa Pucha Mauladanda Sadak	3	914.93	914.93
	103M04D144	Orange Valley Marg	5	526.85	526.85
	103M04D145	Orchid Valley Marg	4	1854.12	1854.12
	103M04D146	Pabitra Marg	9	877.36	877.36
	103M04D147	Pabitra Marg	9	398.51	398.51
	103M04D148	Panchakanya Sadak	12	1931.35	1931.35

Road class	Road Code	Road Name	Wards Covered	Length in Meter	
				Total	Earthen Surface
	103M04D149	Panchasil Marg	9	1615.21	1615.21
	103M04D150	Pandam Bypass	9	1190.31	1190.31
	103M04D151	Pathivara Marg	12	2392.32	2392.32
	103M04D152	PingDanda Marga	5	1862.76	1862.76
	103M04D153	Pokhari Marga	6	271.45	271.45
	103M04D154	Pragati Marg	3	1469.40	1469.40
	103M04D155	Pragati Marg	8	915.77	915.77
	103M04D156	Pragati Marg 1	3	2526.29	2526.29
	103M04D157	Pragati Marg 1	8	2503.00	2503.00
	103M04D158	Punedanda Khalanga Marg	11	880.98	880.98
	103M04D159	Punyasmarika Marg	11	2777.00	2037.00
	103M04D160	Punyasmarika Marg	11	1968.12	1968.12
	103M04D161	RamJanaki Marg 1	6	660.90	660.90
	103M04D162	Rangalal Marg	13	992.49	992.49
	103M04D163	Red Cross Marg	8	690.31	690.31
	103M04D164	Rungsung Marg	3	3532.18	3532.18
	103M04D165	Rungsung Marga	3	1349.69	1349.69
	103M04D166	Sahid Kedar Marg	14	8142.82	8142.82
	103M04D167	Sahid Narayan Marg	14	1022.41	1022.41
	103M04D168	Sahid Narayan Marg	14	947.13	947.13
	103M04D169	Sangam Marg	9	376.76	376.76
	103M04D170	Sangam Marg 1	9	1107.02	833.02
	103M04D171	Sangam Marg 2	9	974.27	974.27
	103M04D172	Sangam Marga	9	684.18	684.18
	103M04D173	Sano Sribung Sadak	4	1910.34	1910.34
	103M04D174	Sano Sribung Sadak 1	4	605.52	605.52
	103M04D175	Satale Jarana Marg	2,3	2990.29	2990.29
	103M04D176	Seti Devi Marg	3	2141.71	2141.71
	103M04D177	Setidevi Marg	7	624.84	624.84
	103M04D178	Setidevi Marg	7	1382.04	1382.04
	103M04D179	Shahid Marg	13	5227.00	5227.00
	103M04D180	Shanti Marg	3	1559.01	1559.01
	103M04D181	Shanti Marg	6	1839.79	1839.79
	103M04D182	Shantibajar Marg	5	397.19	397.19
	103M04D183	Shikari Marg	5	1207.56	1207.56
	103M04D184	Shikhar Marg	13	914.12	914.12
	103M04D185	Shree Khola Sadak	1	2537.43	2537.43
	103M04D186	Shree Khola Sadak	1	920.12	920.12
	103M04D187	Siboshi Marg	13	323.33	323.33

Road class	Road Code	Road Name	Wards Covered	Length in Meter	
				Total	Earthen Surface
	103M04D188	Siddheshwor Marg	3	1938.07	1938.07
	103M04D189	Siddhi Marg	6	342.85	342.85
	103M04D190	Siddi Khel Maidan Marg	8	2102.29	2102.29
	103M04D191	Simpani Marga	10	1134.20	1134.20
	103M04D192	Singhadevi Marg	14	1083.12	1083.12
	103M04D193	Singhamai Marg	3	2255.77	2255.77
	103M04D194	Sudung Marg	9	751.83	751.83
	103M04D195	Sudung Marg	9	2137.97	2137.97
	103M04D196	Sugam Marg	9	1656.28	1656.28
	103M04D197	Sumnima Marg	13	1626.47	1626.47
	103M04D198	Sunmai Sadak	8	793.62	793.62
	103M04D199	Suppan Marga	12	1301.82	1301.82
	103M04D200	Swasthya Kendra Marg	9	507.00	507.00
	103M04D201	Swasthya Kendra Marg	9	793.00	793.00
	103M04D202	Sworgadwari Marg	9	2126.87	2126.87
	103M04D203	Tarebhir Marg	3	1063.80	1063.80
	103M04D204	Terse Kajeni Sadak	3	732.61	732.61
	103M04D205	Thalthale Marg	6	984.41	984.41
	103M04D206	Thalthale Marg 1	6	756.21	756.21
	103M04D207	Thapatole Sadak	2	1152.52	1152.52
	103M04D208	Thumki Gairibas Sadak	1	310.27	310.27
	103M04D209	Thumki Gairibas Sadak	1	2783.64	2783.64
	103M04D210	Tintale Marg	3	1311.88	1311.88
	103M04D211	Triveni Marg	9	2001.18	2001.18
	103M04D212	Vangtar Marg	7	2019.15	2019.15
	103M04D213	Wagle Gaun Sadak	12	461.51	461.51
	103M04D214	Ward office jane bato	8	720.35	720.35
	103M04D215	Yangre Chhulabari Rarang gaun Marg	13	2854.24	2854.24
	103M04D216	Yauddha Narayan Marg	8	2207.33	2207.33
Grand Total				875229.56	705906.98

Source: Field Survey, 2081

2.4.2 DRAINAGE, WATER SUPPLY, AND SANITATION

Proper drainage, water supply, and sanitation systems are essential components of municipal infrastructure, directly affecting public health and environmental quality. In **Suryodaya Municipality**, the existing condition of these systems reveals significant gaps and challenges that need to be addressed for sustainable urban development.

Drainage System

- **Current State:**

- The municipality primarily relies on **open drains**, which are inefficient and poorly maintained.
- **Challenges:**
 - Drains are often misused as waste dumping sites by residents.
 - Many drains are filled with debris and overgrown with weeds, obstructing the flow of water.
 - Earthen sections of the drainage system are particularly vulnerable to blockages and stagnation.
- **Lack of Infrastructure:**
 - There is no centralized **sewerage network system** for sewage collection or disposal.
 - The absence of **sewage treatment plants** exacerbates environmental pollution and health risks.
- **Impact:**
 - Poor drainage and stagnant water increase the risk of waterborne diseases.
 - Ineffective drainage contributes to flooding during heavy rainfall, damaging infrastructure and disrupting daily life.

Water Supply

- **Primary Sources:**
 - **Tube-wells/Hand-pumps:** The main source of drinking water for residents.
 - **Other Sources:**
 - Tap/piped water systems.
 - Covered and uncovered wells (kuwa).
 - Natural spouts, rivers, and streams.
- **Challenges:**
 - Many households depend on uncovered and open sources, which are prone to contamination.
 - Seasonal variations in water availability affect the reliability of natural sources.

Sanitation

- **Current Issues:**
 - The municipality lacks a **centralized sewerage system**, resulting in improper disposal of sewage.
 - **Improper Waste Management:**
 - Biodegradable and non-biodegradable waste is often improperly disposed of, leading to environmental pollution and increased risk of disease.
- **Impact:**
 - Poor sanitation contributes to morbidity and mortality, particularly from waterborne diseases such as diarrhea, cholera, and typhoid.

2.4.3 HEALTH FACILITIES

Health facilities are among the most critical services that citizens should receive from the government, as **"health is every individual's greatest wealth."** Without access to adequate healthcare, individuals cannot perform their daily tasks effectively. Recognizing the importance of health, the **Constitution of Nepal** has declared basic health facilities a **fundamental right** of every citizen.

Public Health Services

To ensure that no citizen is deprived of essential health services, the government has established:

- **Health Posts:**
 - Provide basic health services, including immunizations, maternal and child healthcare, and first aid.
 - These facilities are particularly crucial in rural areas where access to hospitals may be limited.

- **Health Centers:**
 - Offer expanded healthcare services, acting as intermediate facilities between health posts and hospitals.
- **Free Healthcare:**
 - The government has mandated free basic health services at public health posts and centers to enhance accessibility for all citizens.

Private Health Facilities

- Private hospitals and clinics play a significant role in complementing the healthcare system within Suryodaya Municipality.
- These facilities often provide specialized services and advanced medical care, filling gaps that public health institutions may not cover.
- While private healthcare is not free, it offers quicker service and access to modern equipment for those who can afford it.

Key Challenges

- **Infrastructure Gaps:** Many health posts and centers lack adequate infrastructure and resources, such as equipment, medicine, and skilled personnel.
- **Geographic Accessibility:** Remote areas may face challenges in reaching healthcare facilities, especially during emergencies.
- **Human Resources:** Shortages of trained healthcare providers, including doctors, nurses, and paramedics, limit service delivery.
- **Awareness:** Lack of awareness about available free health services can prevent citizens from accessing them.

2.4.4 ELECTRICITY

The **Nepal Electricity Authority (NEA)** provides electricity to all wards of **Suryodaya Municipality**, making it the primary source of electric energy for households and businesses. Access to electricity is a critical factor in improving living standards, enabling economic activities, and supporting other infrastructure development within the municipality.

Household Lighting Sources

According to the latest data:

- **Electricity:**
 - **11,045 households** reported using electricity as their primary source of lighting.
 - This highlights significant coverage of NEA's transmission line across the municipality.
- **Kerosene:**
 - **1,899 households** still rely on kerosene for lighting.
 - The continued use of kerosene suggests gaps in electricity access or affordability for certain areas or populations.
- **Solar Energy:**
 - **96 households** use solar energy as their source of lighting.
 - This reflects a small but important shift towards renewable energy solutions.

Key Challenges

1. **Unequal Access:** While most households are connected to the NEA grid, some areas still rely on kerosene or alternative sources due to limited access to electricity.
2. **Affordability:** For low-income households, the cost of electricity might be a barrier to switching from kerosene.
3. **Reliability:** Frequent power outages and voltage fluctuations can disrupt daily life and economic activities.

3.0 PERSPECTIVE PLANNING AND URBAN DEVELOPMENT

Perspective planning is a long-term strategic approach aimed at guiding the growth and development of **Suryodaya Municipality** in a sustainable and inclusive manner. It integrates urban development goals with transport planning, economic growth, environmental sustainability, and improved living standards. This chapter outlines the vision, priorities, and strategies for urban development in Suryodaya Municipality.

Vision for Urban Development

The vision for Suryodaya Municipality focuses on creating a livable, sustainable, and economically vibrant urban area that:

- Promotes efficient land use and planned urban growth.
- Enhances connectivity and accessibility through a robust transport network.
- Supports inclusive economic opportunities and equitable access to basic services.
- Ensures environmental sustainability and disaster resilience.

Key Objectives

The perspective plan for urban development aims to:

1. Strengthen urban infrastructure, including roads, water supply, drainage, and sanitation.
2. Promote economic activities by connecting key growth centers and trade hubs.
3. Enhance public service delivery by improving accessibility to health, education, and municipal services.
4. Facilitate sustainable urban growth through proper land use planning.
5. Integrate environmental conservation measures into urban development activities.

Strategies for Urban Development

1. **Land Use Planning**
 - 1.1 Develop a comprehensive land use plan that categorizes land for residential, commercial, industrial, agricultural, and recreational purposes.
 - 1.2 Prevent haphazard urban sprawl by enforcing zoning regulations.
2. **Transport and Connectivity**
 - 2.1 Upgrade the road network, focusing on blacktopping and maintaining key routes.
 - 2.2 Establish dedicated pedestrian zones, bike lanes, and public transportation systems to reduce traffic congestion.
 - 2.3 Develop linkages with regional transit systems and cross-border trade routes.
3. **Infrastructure Development**
 - 3.1 Expand water supply networks to ensure clean and reliable access for all residents.
 - 3.2 Construct a centralized sewage and drainage system to improve sanitation.
 - 3.3 Strengthen electricity distribution and promote renewable energy solutions like solar power.
4. **Economic Growth**
 - 4.1 Identify and invest in key economic zones, such as agricultural hubs, markets, and tourism centers.
 - 4.2 Promote entrepreneurship and small businesses by improving access to infrastructure and markets.
5. **Sustainability and Environment**
 - 5.1 Implement eco-friendly urban practices, including waste management and green building initiatives.
 - 5.2 Preserve natural resources and integrate green spaces into urban planning.
 - 5.3 Enhance disaster resilience by incorporating risk assessments into planning.
6. **Community Participation and Governance**
 - 6.1 Ensure active participation of local communities in planning and decision-making.
 - 6.2 Strengthen municipal governance by improving capacity, transparency, and accountability.

Implementation Framework

- **Short-Term Goals (1–3 Years):**
 - Address critical infrastructure gaps, such as road repairs and water supply extensions.
 - Conduct awareness programs for community engagement.
- **Medium-Term Goals (3–7 Years):**
 - Expand urban infrastructure and services based on population growth and economic demands.
 - Implement zoning regulations and promote sustainable development practices.
- **Long-Term Goals (7+ Years):**
 - Achieve integrated urban development with a focus on economic growth, sustainability, and inclusivity.
 - Position Suryodaya Municipality as a model for urban development in the region.

3.1 SETTLEMENT PATTERN

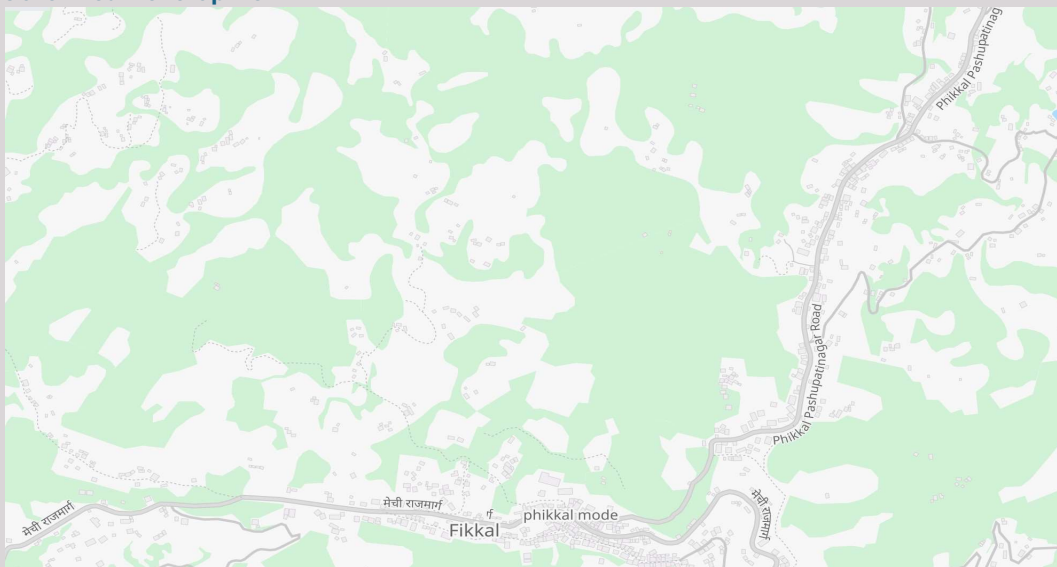
Settlement patterns represent the spatial distribution and structure of human habitation. These patterns are shaped by geographic, economic, cultural, and social factors, as well as the surrounding landscape. In **Suryodaya Municipality**, the settlement patterns demonstrate a mix of **urban and rural characteristics**, reflecting the diverse nature of the municipality's development.

Types of Settlement Patterns in Suryodaya Municipality

1. **Isolated and Scattered Settlements**
 - Predominantly observed in rural areas, these settlements are small and widely spaced.
 - Influenced by agricultural activities and terrain, such settlements are common in hilly regions where land availability and accessibility are key determinants.
2. **Linear Settlements**
 - Linear settlements are found along major roads, highways, and rivers.
 - These are shaped by transportation networks and trade routes, facilitating economic activity and connectivity.
3. **Urban Settlements**
 - Concentrating in the **core areas** of the municipality, such as **Fikkal Bazaar** and other economic hubs.
 - These areas exhibit higher population density, infrastructure development, and access to services.

Characteristics of Settlements in Suryodaya Municipality

- **Cultural Diversity:**
 - Settlements vary in cultural practices, reflecting the multi-ethnic composition of the municipality.
- **Size and Importance:**
 - Certain settlements, such as **Pashupatinagar** and **Shree Antu**, hold regional significance due to their roles in trade, tourism, and agriculture.
- **Economic Activity:**
 - Urban settlements are often the centers of commerce, while rural settlements rely on agriculture and natural resource-based livelihoods.

Figure: Core Area Development*Figure 6: Settlement pattern in the central area of Suryodaya Municipality.*

The nature of development in the **core areas** of the municipality, as depicted in **Figure 06**, highlights:

- Dense settlement patterns in urban areas.
- Linear development along key transport corridors.
- Expansion of settlements driven by economic opportunities and infrastructure availability.

Implications for Planning

Understanding settlement patterns is critical for designing and implementing effective transport and urban infrastructure:

1. **Urban Areas:**
 - Prioritize road network upgrades to handle higher traffic volumes and facilitate economic activities.
 - Plan for parking spaces, public transport systems, and pedestrian pathways.
2. **Rural Areas:**
 - Improve accessibility to isolated and scattered settlements through better connectivity and road maintenance.
 - Support agricultural supply chains with dedicated transport routes.
3. **Linear Settlements:**
 - Reinforce road infrastructure to cater to the growing population and commercial activities along transport corridors.

Future Anticipations

- As population growth and urbanization continue, the demand for **transport infrastructure** and **urban services** will increase.
- Planning must accommodate the projected traffic and population growth through **short-term, medium-term, and long-term interventions**, ensuring balanced and sustainable development across all settlement types.

3.2 SETTLEMENT DEVELOPMENT TRENDS

Suryodaya Municipality has experienced rapid growth over the past decade, largely due to migration from peripheral districts and settlements. This influx is driven by various factors, including security concerns, the pursuit of better livelihoods,

economic opportunities, and the municipality's appeal as a tourist destination. As a result, the population has increased both through natural growth and significant migration.

One of the notable impacts of this growth is the rapid conversion of fertile agricultural fields into residential areas. The pressure to accommodate a growing population has led to urban sprawl, raising concerns about sustainable land use and food security. The encroachment on agricultural land necessitates careful planning to balance development needs with the preservation of vital agricultural resources.

Factors Contributing to Urban Growth

The municipality's urban expansion is influenced by several key factors:

- **Migration for Economic Opportunities:** The promise of employment and better income prospects attracts people seeking to improve their economic status. Suryodaya's growing economy offers jobs in sectors like agriculture, trade, tourism, and services.
- **Migration for Official Purposes:** As the administrative center for the region, the municipality draws government employees and those requiring administrative services.
- **Educational Facilities:** The presence of educational institutions, ranging from primary schools to higher education centers, makes Suryodaya an attractive destination for students and families prioritizing education.
- **Health Facilities:** Access to healthcare services, including hospitals and clinics, encourages people from surrounding areas to relocate for better medical care.
- **Rural-Urban Linkages:** Improved transportation and communication networks facilitate easier movement between rural areas and the municipality, promoting urbanization.

Implications for Infrastructure Development

The rapid urban growth presents both opportunities and challenges for infrastructure development:

1. **Transportation Infrastructure:**
 - **Road Networks:** The existing roads require expansion and improvement to handle increased traffic. Upgrading unpaved roads to gravel or blacktop surfaces will enhance connectivity.
 - **Public Transportation:** Developing efficient public transit options can reduce congestion and improve mobility for residents.
2. **Water Supply and Sanitation:**
 - **Water Supply Systems:** The demand for clean and reliable water has increased, necessitating the expansion of water supply networks and the development of sustainable water sources.
 - **Sewer and Storm-Water Drainage:** Upgrading sewer systems and constructing effective storm-water drainage are critical to prevent flooding and environmental pollution.
3. **Housing and Land Use:**
 - **Urban Planning:** Implementing zoning regulations can help manage the conversion of agricultural land into residential areas, ensuring sustainable land use.
 - **Affordable Housing:** Planning for affordable housing can accommodate the growing population without undue pressure on existing resources.
4. **Social Infrastructure:**
 - **Educational Facilities:** Expanding educational institutions to meet the needs of a larger student population.
 - **Healthcare Services:** Enhancing healthcare infrastructure to provide adequate services to residents.
5. **Economic Development:**
 - **Job Creation:** Encouraging investment in diverse economic sectors can provide employment opportunities for new residents.
 - **Tourism Promotion:** Leveraging the municipality's natural beauty and cultural sites to boost tourism.

Challenges to Address

- **Pressure on Agricultural Land:** Protecting fertile agricultural areas is essential for food security and maintaining the livelihoods of those dependent on farming.
- **Environmental Sustainability:** Rapid urbanization can lead to deforestation, loss of biodiversity, and increased pollution if not managed responsibly.
- **Infrastructure Strain:** Existing infrastructure may become overburdened, leading to reduced quality of services like water supply, waste management, and transportation.
- **Social Integration:** Integrating migrants into the community is crucial to maintain social cohesion and ensure equitable access to services.

Strategies for Sustainable Urban Development

1. **Comprehensive Urban Planning:**
 - Develop a master plan that addresses land use, housing, transportation, and environmental conservation.
 - Involve community stakeholders in planning processes to ensure that development meets the needs of residents.
2. **Infrastructure Investment:**
 - Prioritize infrastructure projects that enhance capacity and efficiency, such as expanding road networks and upgrading utilities.
 - Seek funding from governmental and non-governmental sources to support large-scale infrastructure development.
3. **Environmental Conservation:**
 - Implement policies to protect green spaces and agricultural land.
 - Promote sustainable practices like rainwater harvesting, waste recycling, and the use of renewable energy sources.
4. **Economic Policies:**
 - Create incentives for businesses to invest in the municipality, fostering job creation.
 - Support small and medium enterprises through training and access to capital.
5. **Social Services Enhancement:**
 - Expand access to quality education and healthcare services.
 - Provide social programs that assist with housing, employment, and integration for new residents.
6. **Transportation Planning:**
 - Develop a multimodal transportation system that includes roads, public transit, pedestrian pathways, and cycling lanes.
 - Plan for future transportation needs based on population growth projections.

Conclusion

The settlement development trends in Suryodaya Municipality reflect a dynamic shift towards urbanization, driven by migration and the pursuit of better opportunities. While this growth brings economic and social benefits, it also poses significant challenges that require proactive planning and management.

3.3 POPULATION PROJECTION

Population projection is a critical step in the preparation of the **Municipal Transport Master Plan (MTMP)**, as it provides the foundation for planning transport infrastructure and services to meet future demands. Suryodaya Municipality, being an urbanizing area, is expected to experience changes in population density and movement, which will directly impact the need for transport infrastructure.

Purpose of Population Projection

- **Forecast Future Demand:** Higher population densities in urban areas lead to increased demand for services and facilities, necessitating the proper planning and sustainable supply of transport infrastructure.
- **Plan and Construct Infrastructure:** Accurate population projections help ensure that infrastructure is adequately planned and constructed to match future needs.

Population Characteristics

- **Current Population:** The population of Suryodaya Municipality as of 2021 is **54,727** (source: Census 2021).
- **Growth Rate:** The municipality has an **annual population growth rate of -0.38%** (source: Central Bureau of Statistics, Nepal).
- **Administrative Division:** Suryodaya Municipality is divided into **14 wards**, each with varying land area, population, and population densities.

Population Projection Calculation

The population projection for the next 5 years is based on the formula:

$$P_t = P_0 \times (1+r)^t$$

Where:

- P_t : Future population after time t .
- P_0 : Current population.
- r : Annual growth rate.
- t : Time period in years.

Parameters:

- Present Population (P_0): **54,727**
- Growth Rate (r): **-0.38%** or **-0.0038** (negative trend)
- Time Period (t): **5 years**

Calculation:

$$P_t = P_0 \times (1+r)^t$$

$$P_t = 54,727 \times (1-0.0038)^5$$

Using the values:

$$P_t = 54,727 \times (0.9962)^5$$

$$P_t \approx 54,727 \times 0.9803$$

$$P_t \approx 53,695$$

Projected Population:

The population of Suryodaya Municipality after 5 years is estimated to be **53,695**, indicating a slight decline due to the negative growth rate.

Implications for Planning

1. Declining Population Growth:

- The projected decline in population suggests that future transport infrastructure may focus on improving quality rather than expanding capacity.

2. Transport Infrastructure Needs:

- Prioritize maintenance and upgrading of existing transport networks to accommodate existing populations efficiently.
- Ensure transport systems are accessible and reliable to support economic and social activities.

3. Urban Development Strategies:

- Leverage transport infrastructure to attract migration and counteract the negative growth trend.
- Develop integrated transport solutions that enhance connectivity between urban and rural areas.

4. Ward-Level Planning:

- Use ward-specific population densities to tailor transport and infrastructure solutions to local needs.

Visual Representation

- **Figure 7:** Population development trends and related information for Suryodaya Municipality.

Name	Status	Transcription	Native	Population Census 2001-05-28	Population Census 2011-06-22	Population Census 2021-11-25
Suryodaya	Municipality	Sūryōdaya	सूर्योदय नगरपालिका	...	56,957	54,727
Suryodaya ● 54,727 Population [2021] – Census ○ 225.5 km² Area ● 242.7/km² Population Density [2021] ● -0.38% Annual Population Change [2011 → 2021]						

Figure 7: The population development of Suryodaya as well as related information.

Source: Central Bureau of Statistics Nepal (web).

- **Figure 8:** Population growth trends over the past decades, highlighting fluctuations and projections.

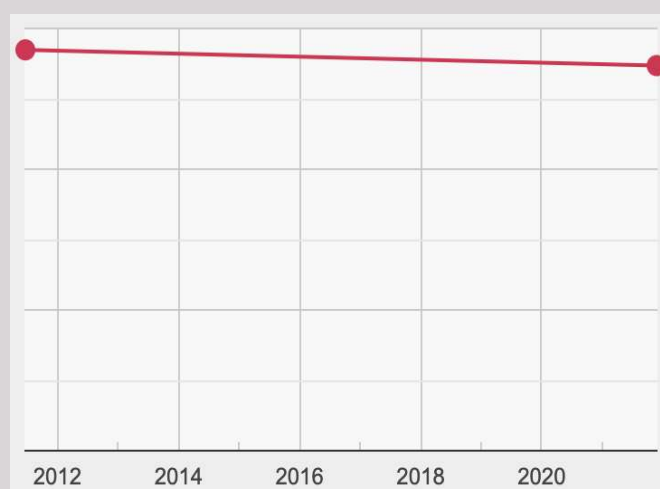


Figure 8: Population growth trends.

3.4 LEADING FACTORS OF VISIONARY CITY DEVELOPMENT

Suryodaya Municipality's urban growth is shaped by a combination of factors that drive its development and future vision. These factors include its **geographic location**, **tourism potential**, **infrastructure facilities**, and **agricultural productivity**. Each of these elements plays a vital role in defining the municipality's development trajectory.

3.4.1 GEOGRAPHIC LOCATION

The strategic geographic location of **Suryodaya Municipality** positions it as a critical hub for trade, connectivity, and tourism. Key features of its geographic setting include:

- **Proximity to India's West Bengal:**
 - The municipality shares a border with India's West Bengal in the south, facilitating cross-border trade and cultural exchange.
 - **Darjeeling**, a popular Indian tourist destination, is just **58 kilometers (36 miles)** away via road, offering opportunities for tourism and trade collaboration.
- **Ilam Range to the North:**
 - The municipality is surrounded by the scenic Ilam hills and mountains, which range from elevations of **300 meters to over 2,500 meters**.
 - This geographic diversity provides breathtaking views and attracts both domestic and international tourists.
- **Fikkal Bazaar as a Business Hub:**
 - Fikkal Bazaar serves as the economic center of **eastern Ilam**, situated on the **Mechi Highway**, a major transportation route.
 - The marketplace is a bustling hub for trade in agricultural and processed goods.
- **Trade and Economic Activities:**
 - Major trade items from the municipality include:
 - **Tea Leaves:** Sourced from local tea gardens and processed tea.
 - **Ginger:** A high-value cash crop widely cultivated in the region.
 - **Broomsticks:** A traditional product with growing market demand.
 - **Cardamom:** One of the region's most lucrative export crops.

Visual Representation

- **Figure 9:** Strategic location of Suryodaya Municipality.

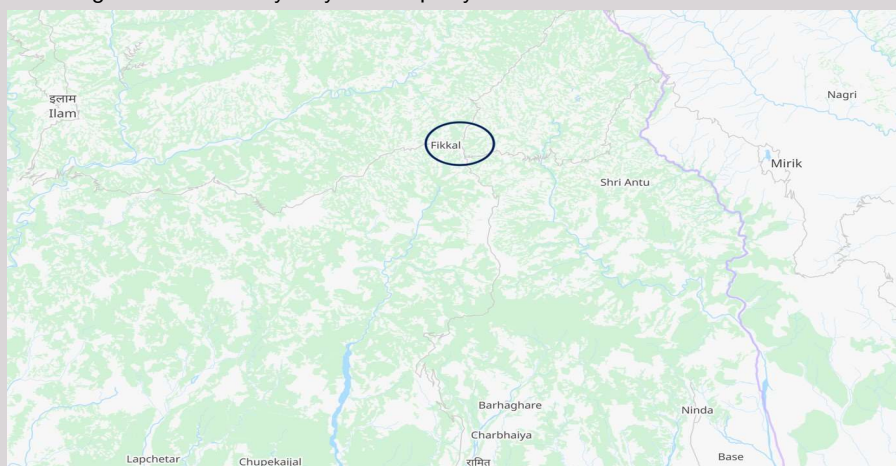


Figure 9: Strategic location of Suryodaya Municipality.

Significance of Geographic Location in Urban Growth

1. **Cross-Border Trade:**
 - The municipality's proximity to India enables seamless trade of agricultural and processed goods, boosting the local economy.
 - It fosters cultural exchange and strengthens international relations.
2. **Tourism Potential:**
 - The picturesque hills, tea estates, and proximity to Darjeeling make Suryodaya an attractive destination for tourists.
 - Tourism development offers opportunities for revenue generation and job creation.
3. **Transportation and Connectivity:**
 - The Mechi Highway enhances connectivity within Nepal and with neighboring regions, supporting commerce and mobility.
4. **Resource Utilization:**
 - The diverse topography supports a range of agricultural products, contributing to the municipality's economic base.

Opportunities for Visionary Development

To leverage its geographic advantages, Suryodaya Municipality can implement the following strategies:

- **Integrated Development Planning:**
 - Incorporate trade, tourism, and agriculture into urban planning to create a balanced and sustainable development framework.
- **Cross-Border Collaboration:**
 - Strengthen ties with West Bengal for trade, tourism, and joint infrastructure projects.
- **Tourism Infrastructure:**
 - Develop eco-tourism facilities, such as trekking routes, tea estate tours, and cultural events.
- **Agricultural Value Addition:**
 - Establish processing plants and market hubs for agricultural goods to maximize revenue from exports.

3.4.2 INFRASTRUCTURE AND SERVICES

Infrastructure and services form the foundation for sustainable development in **Suryodaya Municipality**, with transportation, education, and health facilities playing key roles in enhancing the quality of life and supporting economic growth.

Road and Transportation

Transportation acts as the **backbone of development**, facilitating connectivity, economic activities, and access to essential services.

1. **Connectivity:**
 - Suryodaya Municipality is well-connected to the **Mechi Highway**, a critical transport corridor in eastern Nepal.
 - Local roads and trails connect all wards, ensuring basic accessibility throughout the municipality.
2. **Role of Transportation:**
 - **Sectoral Development:** Transportation supports the growth of industries, trade, communication, health, education, and more.
 - **Market Expansion:** Improved road networks enhance access to markets, fostering economic opportunities.
 - **Employment Creation:** Transportation projects generate jobs and contribute to local income.
3. **Challenges:**
 - Inadequate maintenance of local roads and trails.

- Limited interconnectivity between urban and rural areas.
 - Need for upgrades to gravel and blacktop roads to handle increased traffic.
4. **Significance:**
- A robust transport system reflects the municipality's overall development and promotes equal growth across all wards.

Visual Representation

- **Figure 10: Transportation network map of the SM.**

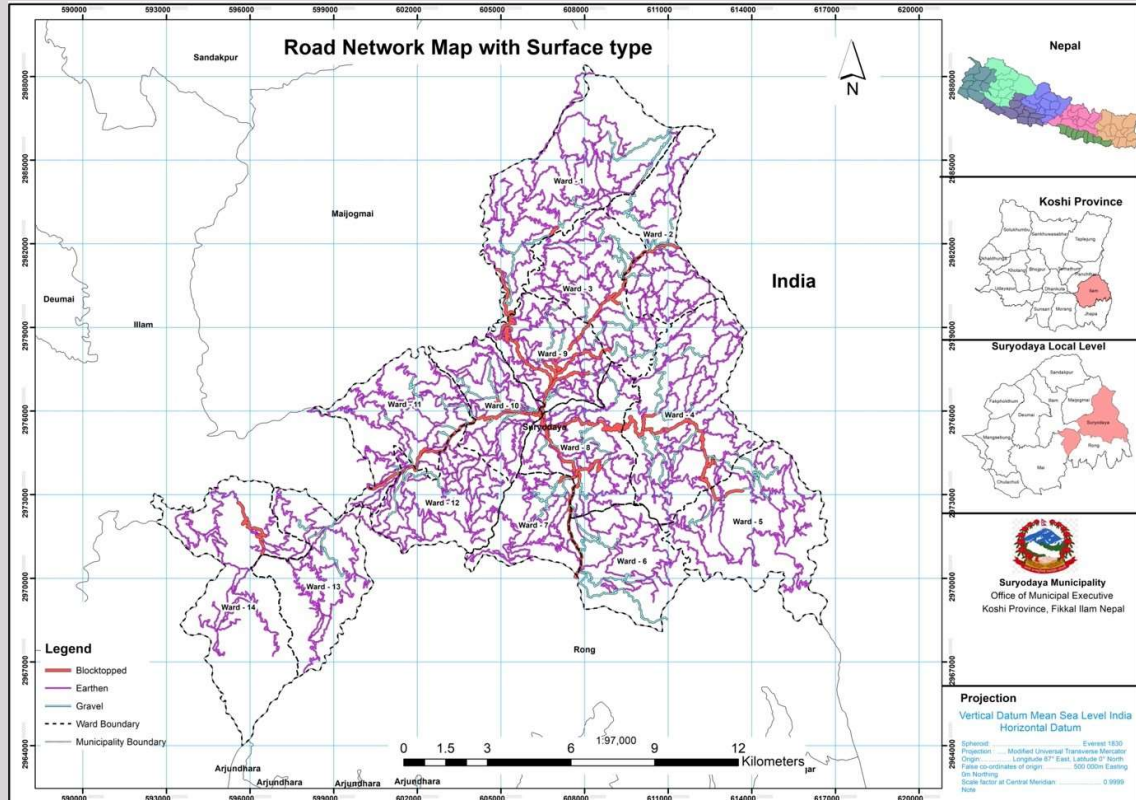


Figure 10: Transportation network map of the SM.

Educational Facilities

1. **Current Status:**
 - Suryodaya Municipality has an adequate number of schools up to the **high school level**, with institutions operated by both the **government and private sectors**.
 - Schools cater to the educational needs of local students, providing access to basic and secondary education.
2. **Higher Education:**
 - For higher education, residents often travel to cities like **Birtamod** and **Kathmandu Valley**.
 - This indicates the need for investments in higher education infrastructure within the municipality.
3. **Recommendations:**
 - Establish higher education institutions or partnerships with regional universities to reduce dependency on other cities.
 - Improve transportation links to existing educational hubs for easier access.

Health Facilities

1. **Current Status:**
 - Basic health facilities are available in the municipality, with health institutions providing essential treatment services.
 - The **Constitution of Nepal** guarantees **basic health services as a fundamental right**, ensuring every citizen's access to healthcare.
2. **Role of Health Facilities:**
 - Health services enable individuals to lead productive lives and contribute to economic and social activities.
 - The municipality's health infrastructure ensures coverage for routine and primary healthcare needs.
3. **Challenges:**
 - Limited advanced healthcare services necessitate travel to nearby cities for specialized treatment.
 - Staffing shortages and resource constraints can impact service delivery.
4. **Recommendations:**
 - Upgrade existing health facilities to include advanced treatment options.
 - Focus on recruiting and training healthcare workers to meet community needs.

Integration with Visionary Development

- **Transportation:**
 - Prioritize the expansion and upgrading of road networks to enhance interconnectivity and access to services.
- **Education:**
 - Develop partnerships to establish higher education institutions and vocational training centers within the municipality.
- **Health:**
 - Improve health infrastructure to provide comprehensive care at the local level, reducing dependency on urban centers.

3.4.3 TOURISM

Suryodaya Municipality has significant potential for tourism development, encompassing **natural**, **historical**, and **religious** attractions. Tourism offers an avenue to boost the municipality's economic growth by attracting both local and international visitors.

Tourism Categories

1. **Natural Tourism:**
 - **Kanyam Tea Garden:** A renowned attraction, the lush tea gardens provide scenic views and unique experiences for tourists.
 - **Fikkal Bazaar:** A vibrant marketplace known for its cultural and economic activities, attracting both tourists and traders.
 - **Karfook:** A picturesque location offering stunning landscapes and tranquility.
2. **Religious Tourism:**
 - The municipality hosts various **religious sites** that draw pilgrims and tourists, fostering cultural exchange and spiritual exploration.
3. **Historical Tourism:**
 - The historical significance of the municipality enhances its appeal, with areas reflecting the rich heritage and traditions of Ilam District.

Economic Impact through Tourism

- Tourism encourages local entrepreneurship, boosts income levels, and creates employment opportunities.
- Increased tourism can lead to the growth of associated industries, such as hospitality, transportation, and handicrafts.

Recommendations for Tourism Development

1. **Promote Key Destinations:**
 - Develop marketing campaigns highlighting the municipality's natural, religious, and historical attractions.
2. **Improve Infrastructure:**
 - Enhance road networks and develop amenities such as hotels, lodges, and restaurants.
3. **Preserve Cultural Heritage:**
 - Protect and maintain historical and religious sites to sustain their authenticity and appeal.
4. **Eco-Tourism Initiatives:**
 - Promote sustainable tourism practices to protect the natural environment.
5. **Organize Festivals and Events:**
 - Host cultural festivals to attract tourists and showcase the municipality's unique traditions.

3.4.4 AGRICULTURE

Agriculture plays a strategic role in the economic development of **Suryodaya Municipality**, given its abundant fertile land and the predominance of farming in the region. The sector not only ensures food security but also provides livelihoods for a significant portion of the population.

Key Features of Agriculture in Suryodaya Municipality

1. **Tea Farming:**
 - Suryodaya is a hub for tea production, contributing significantly to Nepal's tea industry.
 - **Ilam District** is the largest tea-producing region in the country, with **6,995 tea estates** and a total of **12,066 hectares of land** dedicated to tea farming.
2. **Other Agricultural Activities:**
 - The municipality also produces high-value crops like cardamom, ginger, broom grass, and vegetables.
 - Livestock farming and dairy production further diversify the agricultural economy.
3. **Economic Contributions:**
 - Agriculture forms the backbone of the municipality's economy, driving income generation and supporting rural livelihoods.
 - Surplus production facilitates trade with nearby regions and international markets, such as Darjeeling, India.

Challenges in Agriculture

- **Limited Access to Modern Technology:** Many farmers rely on traditional farming methods, limiting productivity.
- **Infrastructure Gaps:** Inadequate irrigation, transportation, and market facilities hinder agricultural growth.
- **Soil Degradation:** Continuous farming without soil management practices impacts long-term productivity.

Recommendations for Agricultural Development

1. **Modernize Farming Practices:**
 - Introduce training programs to educate farmers about advanced techniques and technology.
2. **Develop Irrigation Infrastructure:**
 - Invest in irrigation systems to ensure year-round farming.
3. **Enhance Market Access:**

- Build local marketplaces and strengthen transport links to larger markets.
- 4. **Promote Organic Farming:**
 - Encourage organic farming methods to enhance product quality and appeal to premium markets.
- 5. **Support Tea and Cash Crops:**
 - Provide subsidies and technical support for tea farmers and other high-value crop producers.

Integration of Agriculture with Visionary Development

- Align agricultural development with tourism by promoting agro-tourism initiatives, such as tea garden visits and farm stays.
- Leverage transport infrastructure improvements to facilitate the movement of goods and access to markets.
- Encourage public-private partnerships to fund innovative agricultural projects.

3.5 PROJECTION OF ROAD TRAFFIC

Transportation forecasting plays a vital role in planning future infrastructure to accommodate anticipated traffic demands. It involves estimating the number of people or vehicles expected to use a transportation facility, enabling efficient system design and operation. The projection of traffic is crucial for developing transport infrastructure, ensuring it meets the future needs of **Suryodaya Municipality**.

Key Considerations for Traffic Projection

1. **Purpose of Forecasting:**
 - **Policy Development:** Establishing benchmarks for transportation policies.
 - **Planning Studies:** Informing the scope and design of projects.
 - **System Operation:** Ensuring efficient and sustainable transport system operations.
2. **Factors Influencing Traffic Demand:**
 - **Demographic Changes:** Population size, age distribution, and migration trends.
 - **Economic Growth:** Employment opportunities and industrial activities.
 - **Land Use Patterns:** Conversion of agricultural land to residential or commercial areas.
 - **Transportation Network:** Availability and condition of road infrastructure.
 - **Travel Costs:** Fuel prices, public transport fares, and vehicle ownership costs.
3. **Design Implications:**
 - Forecasts determine the **number of lanes, road widths**, and associated facilities to accommodate future traffic volumes.
 - Proper forecasting ensures roads are neither underutilized nor overwhelmed, optimizing investments.
4. **Development Trends:**
 - **Economic Growth:** Increased trade, tourism, and urbanization will elevate traffic demands.
 - **Planned Development:** Integrated land use and transport planning will shape future traffic patterns.

Recommendations for Traffic Planning

1. **Comprehensive Traffic Surveys:**
 - Conduct origin-destination studies, traffic counts, and travel behavior analyses to establish baseline data.
2. **Incorporate Growth Factors:**
 - Use projected population, economic, and land-use data to anticipate traffic growth.
3. **Prioritize Critical Corridors:**
 - Focus on upgrading key roads and intersections that experience or are likely to experience high traffic volumes.
4. **Adopt Multi-Modal Solutions:**
 - Promote public transportation, cycling lanes, and pedestrian pathways to reduce vehicular congestion.

3.6 INDICATIVE DEVELOPMENT POTENTIAL (IDP)

Indicative Development Potential (IDP) provides an overview of the current and future economic, social, and service hubs within Suryodaya Municipality. It identifies areas with significant potential for growth and development, serving as a foundation for network planning.

Components of Indicative Development Potential

1. **Key Growth Centers:**
 - **Market Centers:** Areas with high economic activity, such as bazaars and trade hubs.
 - **Service Centers:** Locations housing essential services like hospitals, schools, and government service centers.
2. **High-Value Cash Crops:**
 - Areas suitable for cultivating crops like tea, cardamom, ginger, and broom grass, which drive local economic growth.
3. **Tourism Potential:**
 - Sites such as **Kanyam Tea Garden**, **Fikkal Bazaar**, and **Shree Antu** that attract tourists and can be further developed for eco-tourism.
4. **Social and Cultural Assets:**
 - Historic and religious sites, such as temples and cultural landmarks, with potential for preservation and tourism promotion.

Ranking of Market and Service Centers

The IDP ranks markets and service centers based on:

- **Economic Activity:** Trade volumes and market size.
- **Service Availability:** Access to health, education, and administrative facilities.
- **Connectivity:** Proximity to major roads and transport networks.

Role of IDP in Transport Planning

- **Targeted Infrastructure Development:** Prioritize road and transport investments to connect high-potential areas effectively.
- **Balanced Growth:** Ensure even development across all wards by identifying underserved regions.
- **Sustainability:** Focus on integrating agriculture, tourism, and service hubs into the transport network without compromising environmental or social balance.

4.0 MUNICIPALITY INVENTORY MAP OF ROAD NETWORK

The **Municipal Road Inventory Map (MRIM)** has been prepared as part of the transport planning process, providing a comprehensive overview of the road network within Suryodaya Municipality. This map is based on a detailed **ward-wise road survey** and serves as a critical tool for understanding and managing the municipality's road infrastructure.

Preparation of the Road Inventory Map

1. Survey Methodology:

- Data collection was conducted using municipal road inventory forms, which recorded information from **nodal points** along each road.
- The survey gathered details on:
 - **Road Type:** Identifying blacktop, gravel, or unpaved roads.
 - **Surface Condition:** Assessing the quality and usability of the road.
 - **Road Width:** Measuring the width to evaluate capacity.
 - **Drainage Structures:** Identifying drainage systems and their functionality.
 - **Road Condition:** Documenting maintenance needs.
 - **Linkages:** Analyzing the connections established by the road.

2. GIS Integration:

- The collected data was digitized using **Geographic Information System (GIS)** technology to create the **Municipal Road Inventory Map (MRIM)**.

4.1 ROAD HIERARCHY

The **road hierarchy** within Suryodaya Municipality classifies roads based on their functional roles, ensuring that infrastructure is designed and managed to meet transportation and land-use requirements effectively.

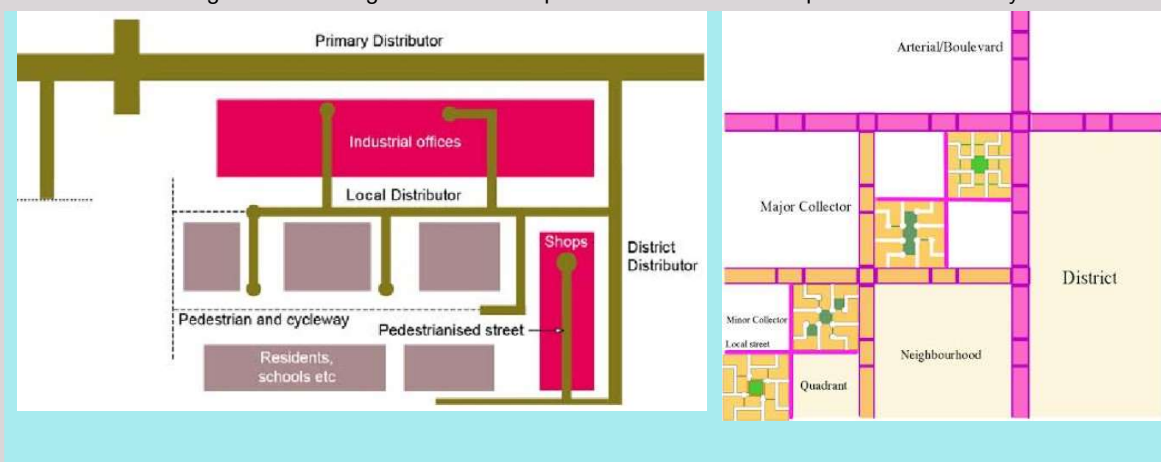


Figure 11: Urban road hierarchy (left), and Road network hierarchy (right).

Purpose of a Road Hierarchy

- **Functional Provisions:** Distinguish roads based on their role in **passenger** and **goods movement**.
- **Land-Use Access:** Facilitate access through pedestrian footpaths, bicycle tracks, bus routes, and vehicle routes.
- **Traffic Management:** Cater to through-traffic while minimizing conflicts with local land uses.

Key Principles of Road Hierarchy

1. Functional Classification:

Roads are categorized based on technical standards and their role in the transport network:

- **Highways:** Serve long-distance, high-speed travel.
- **Arterial Roads:** Facilitate major traffic flows within and between urban areas.
- **Collector Roads:** Connect local roads to arterial roads, balancing access and mobility.
- **Local Roads:** Provide direct access to residential and commercial areas.

2. Design Specifications:

- Hierarchical distinctions are based on design parameters such as:
 - **Number of Through Lanes:** Determines traffic capacity.
 - **Design Speed:** Reflects the intended traffic flow.
 - **Intersection Spacing:** Controls traffic movement and safety.
 - **Driveway Access:** Limits access points to maintain efficiency.

3. Connection Guidelines:

- Direct connections are limited to roads of similar or adjacent levels in the hierarchy:
 - **Arterial to Arterial** or **Collector to Arterial** connections are encouraged.
 - Connections like **Local Road to Highway** should be avoided to prevent congestion.

4. Traffic Management Benefits:

- Concentrates long-distance traffic on specific routes in **less sensitive areas**.
- Protects areas where **local land use** and activities are incompatible with heavy traffic.
- Enhances the overall efficiency and performance of the road network.

Impact of a Well-Designed Road Hierarchy

- **Improved Efficiency:** Ensures optimal traffic flow and minimizes congestion.
- **Land-Use Compatibility:** Preserves residential and sensitive areas by directing traffic to appropriate routes.
- **Enhanced Safety:** Reduces accidents by designing roads for their intended purpose.
- **Economic Benefits:** Supports commercial activities by improving connectivity and accessibility.

Recommendations

1. Upgrade Roads Based on Hierarchy:

- Focus on upgrading **arterial and collector roads** to handle higher traffic volumes.

2. Maintain Connectivity:

- Ensure strategic connections between road types to optimize traffic flow.

3. Integrate with Land Use Planning:

- Align road hierarchy with zoning regulations to ensure compatibility between transportation and land-use activities.

4. Periodic Review:

- Regularly update the road hierarchy and inventory to reflect changes in traffic patterns and land use.

4.1.1 FORMULATION OF ROAD HIERARCHY

The roads under the jurisdiction of Suryodaya Municipality are categorized as **urban roads**, and their classification is based on **functional hierarchy**. This hierarchy ensures that each road type is planned, designed, and maintained to fulfill its specific function within the broader network. The municipality's road network consists of **National Highways, Feeder Roads, District Roads**, and **Urban Roads**, classified into four categories: **Class A, Class B, Class C, and Class D**.

Purpose of Road Hierarchy

1. **Guides Urban Planning:** Provides a framework for developing a coherent and efficient road network.
2. **Enhances Urban Design:** Promotes accessibility, connectivity, efficiency, safety, and amenity for users and adjacent land uses.
3. **Preserves Land Use Compatibility:** Identifies treatments like barriers, buffers, and landscaping to minimize traffic impacts on nearby areas.
4. **Accommodates All Users:** Ensures roads are planned and constructed to serve pedestrians, cyclists, vehicles, and public transport.

Conceptualization of Municipal Road Network

The municipal road network is organized into:

1. **Arterial Roads:** Serve as primary routes for high-capacity and long-distance travel.
2. **Sub-Arterial Roads:** Provide secondary connections between arterial roads and local roads.
3. **Collector Roads:** Facilitate movement between local roads and arterial roads.
4. **Local Roads:** Offer direct access to residential and commercial properties.

Road Width Standards for Urban Areas

The **Planning Norms and Standards 2015 (GoN, DUDBC)** recommend road widths for different city types and classifications.

Table 6: Road Widths for Urban Areas

City Type	Population Criteria	Expressway	Arterial	Sub-Arterial	Collector	Local
Sub City	10,000–40,000	-	-	30m	20m	10m
City	40,000–100,000	-	50m	30m	20m	10m
Sub Metro City	100,000–300,000	50m	30m	20m	10m	10m

The road network design for Suryodaya Municipality is aligned with these standards, ensuring proper functionality and usability.

Municipal Road Classification in Suryodaya Municipality

The road classification, **Right of Way (RoW)**, and **setback requirements** are provided as follows:

Table 7: Classification of Municipal Roads

Road Type	Road Class	Right of Way (RoW)	Setback
Main Collector Road	Class A	7m	3m
Other Collector Road	Class B	7m	3m
Tole Road	Class C	6m	2m
Other Road	Class D	6m	1.5m

Design Standards and Guidelines

The standards applied for urban roads in Nepal include:

- **Nepal Road Standard (NRS 2070)**
- **Nepal Rural Road Standard (NRRS 2071)**
- **Nepal Urban Road Standard 2068 (Final)**

These documents emphasize the inclusion of footpaths and appropriate **Right of Way (RoW)** to ensure safe and efficient transport infrastructure.

Recommendations for Implementation

1. **Adopt Hierarchy-Based Design:** Ensure that road designs align with the specific functional class to optimize performance and usability.

2. **Incorporate Non-Motorized Transport:** Develop footpaths, cycle lanes, and pedestrian-friendly spaces in line with urban standards.
3. **Enforce Setbacks:** Maintain setbacks to prevent encroachment and ensure future scalability of road infrastructure.
4. **Regular Monitoring:** Update the road inventory map periodically to reflect changes in traffic patterns and urban development.

Visual Representation

- **Figure 12:** Road Inventory Map of the Suryodaya Municipality

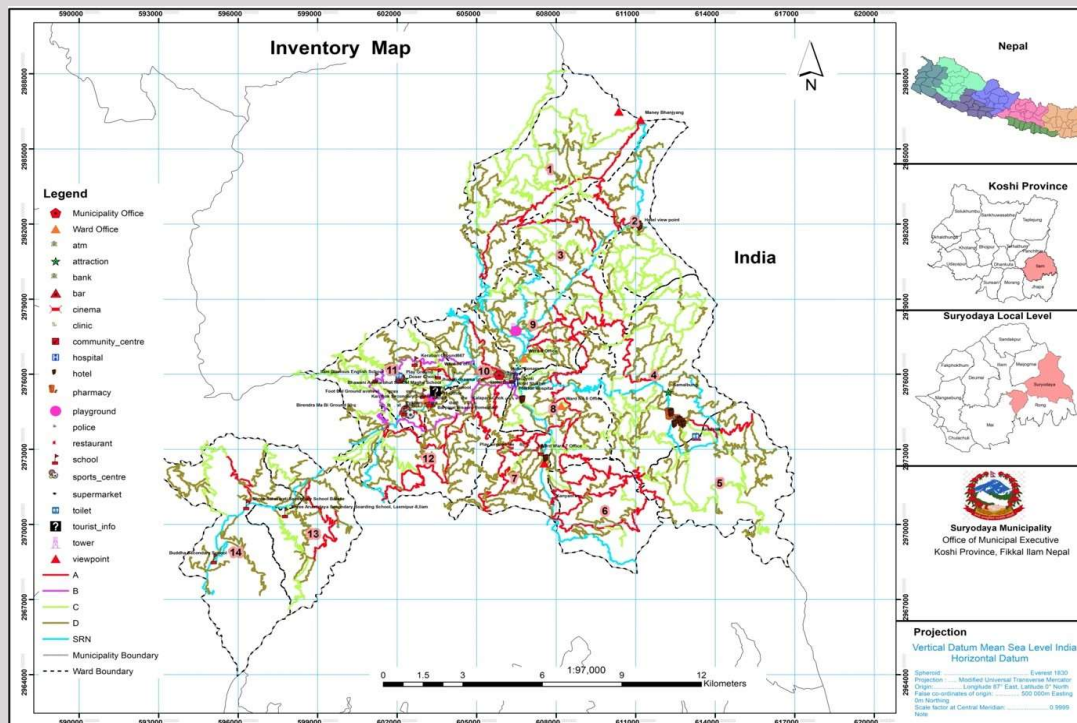


Figure 12: Road Inventory Map of the Suryodaya Municipality

4.2 HIGH HIERARCHICAL ROAD NETWORK

The **High Hierarchical Road Network** in Suryodaya Municipality consists of roads classified by their importance and the areas they serve. This network is broadly categorized into the **Strategic Road Network (SRN)** and the **District Road Core Network (DRCN)**. These roads play a critical role in ensuring regional connectivity and facilitating economic and social development.

4.2.1 STRATEGIC ROAD NETWORK (SRN)

The **Strategic Road Network** comprises the **National Highways (NH)** and **Feeder Roads** within Suryodaya Municipality. These roads are vital for long-distance travel and regional connectivity.

Key Features of SRN in Suryodaya Municipality

- **Total Length:** The SRN in Suryodaya Municipality spans **48.21 km**.
- **Components:**
 - **National Highway:** The Mechi Highway serves as a major transportation corridor.

- **Feeder Roads:** Includes important connectors such as the Ratna Kumar Bantawa Highway and the Chipitar-Siddhikhola-Shreeantu-Santibazar Road.

Table 8: List of NH & Feeder Roads within the Municipality

Road Name & Classification	Total Length in Meter	Surface Type & length (m.)			Road Code
		Blacktopped	Graveled	Earthen	
NH	16307.27	16307.27	0.00	0.00	
Mechi highway	16307.27	16307.27	0.00	0.00	
Feeder Road	31897.26	27043.73	2445.00	2408.53	
Fikkal Shree Antu Sadak	21159.38	16305.85	2445.00	2408.53	
Ratna Kumar Bantawa Highway	10737.88	10737.88	0.00	0.00	
Total	48204.52	43351.00	2445.00	2408.52	

Visual Representation

- **Figure 13: National Highway Road Network Map of the Suryodaya Municipality**

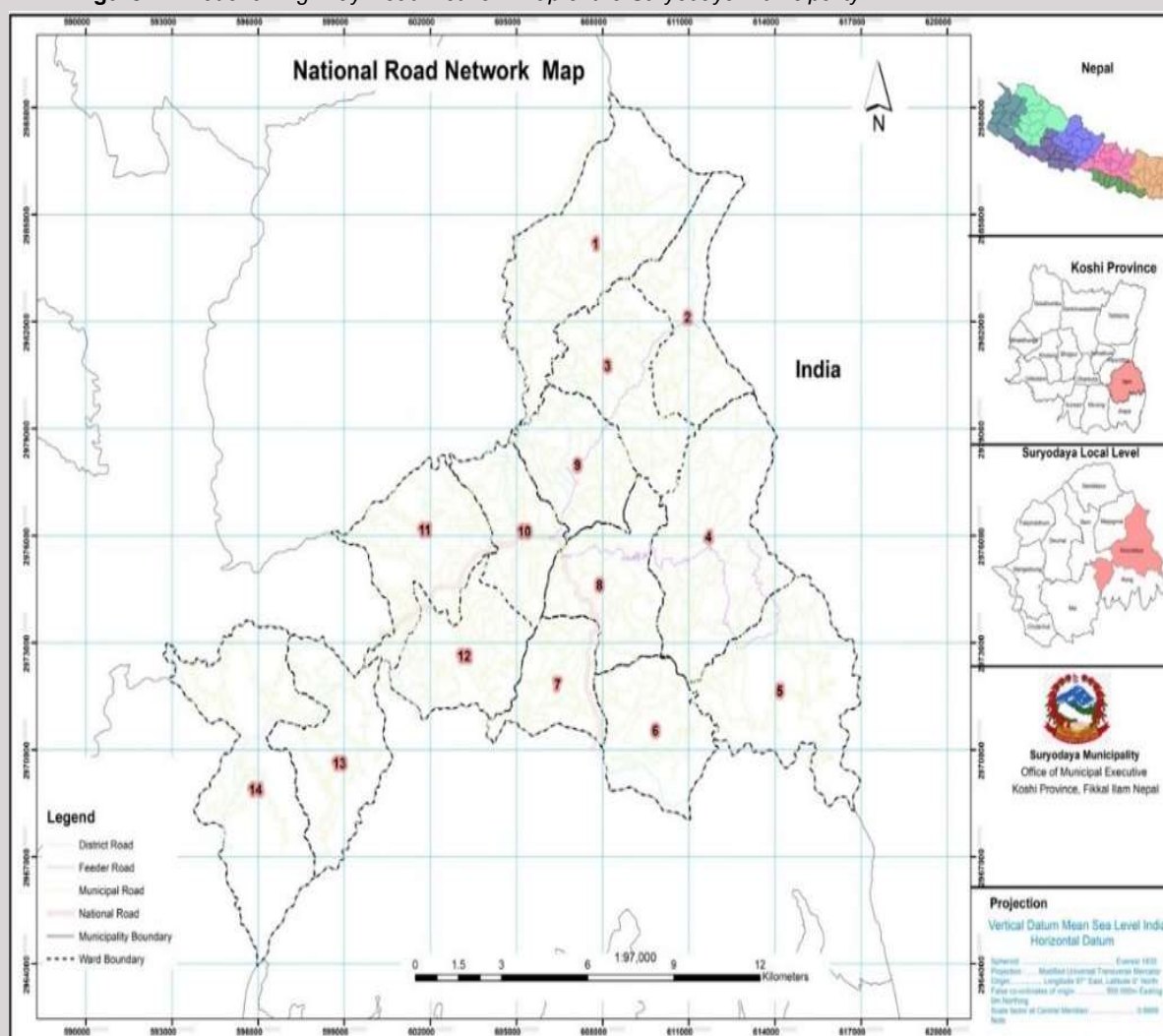
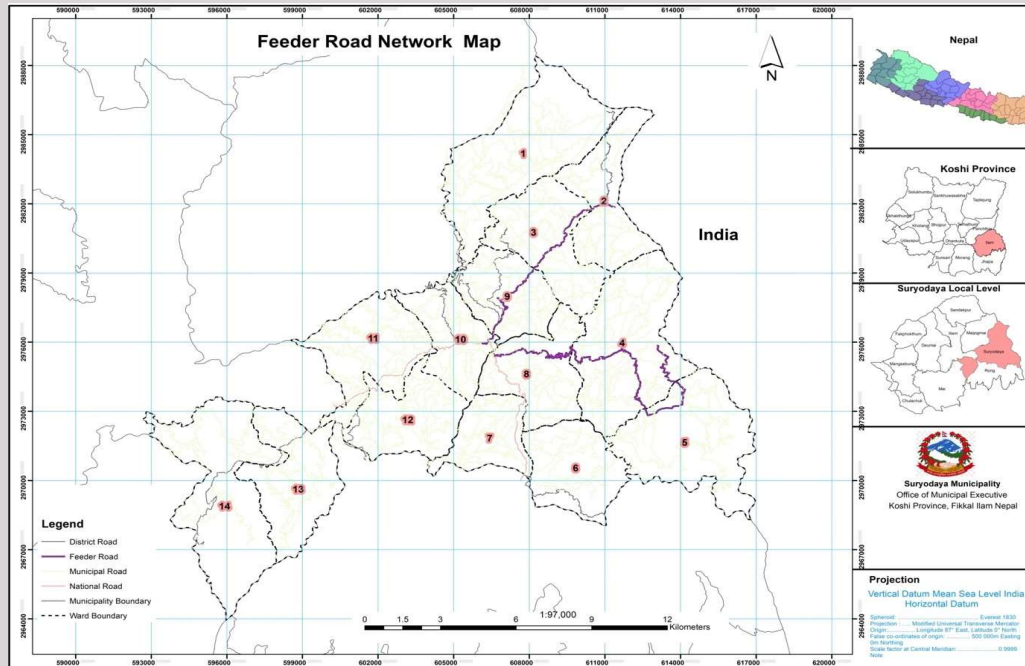
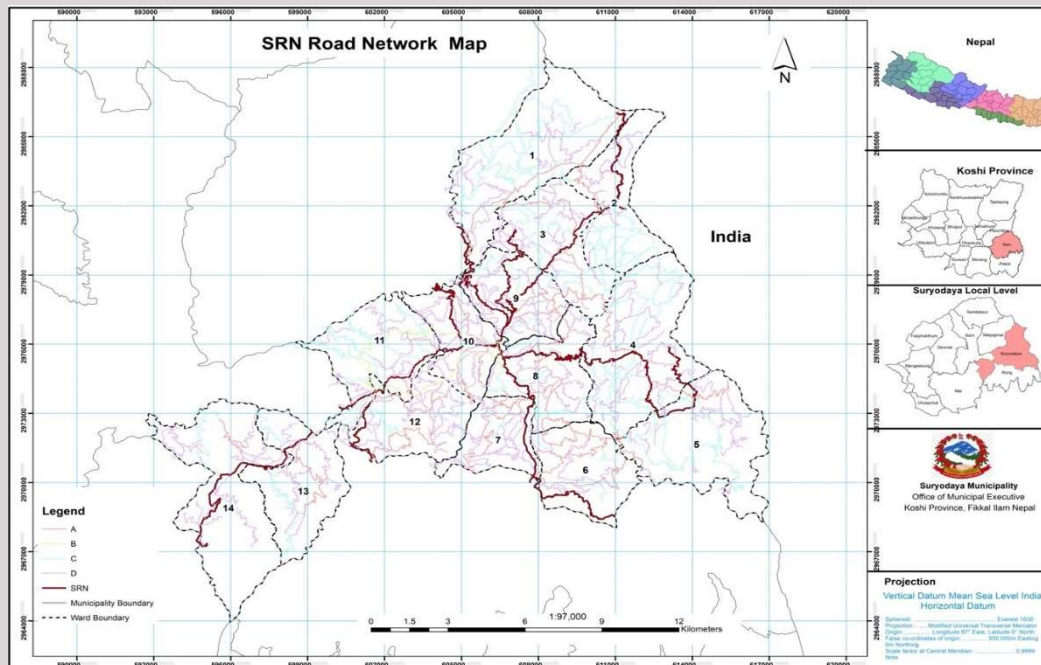


Figure 13: National Highway Road Network Map of the Suryodaya Municipality.

Figure 14: Feeder Road Network Map of the Suryodaya Municipality.*Figure 14: Feeder Road Network Map of the Suryodaya Municipality.*

- **Figure 15:** Strategic Road Network Map of the Suryodaya Municipality.

*Figure 15: Strategic Road Network Map of the Suryodaya Municipality.*

4.2.2 DISTRICT ROAD CORE NETWORK (DRCN)

The **District Road Core Network** connects various wards within Suryodaya Municipality and provides intra-municipality access. These roads are identified in the **District Transport Master Plan (DTMP)** prepared by the Department of Local Infrastructure (DoLI).

Key Features of DRCN in Suryodaya Municipality

- **Total Length:** The DRCN roads in the municipality span **61.51 km**.
- **Coverage:** Ten roads pass through various wards, connecting local communities to the strategic road network and essential services.
- **List of DRCN Roads:**

Table 9: List of DRCN Roads within the Municipality

Road Code	Road Name	Total Length in Meter	Wards Covered	Surface Type & length (m.)			Remarks
				Blacktopped	Graveled	Earthen	
	Barbate Gorkhe Sadak	2594.58	3	0.00	0.00	2594.58	
	Barbote Mane Sadak	6610.39	3	920.00	3200.00	2490.39	
	Barbote Naya Bajar Gupti Sadak	9063.77	9	9063.77		0.00	
	Bhalukhop Khutnabari	3087.48	13		3087.48	0.00	
	Bhalukhop Khutnabari	7587.62	14	0.00		7587.62	
	F04-Jogmai marg	6029.47	10	849.47	1783.00	3397.00	
	Google Marg	5945.88	6	0.00	5945.88	0.00	
	Sima Sadak	10047.76	5			10047.76	
	Sima Sadak (Pashupatinagar- Manebhangyan)	6280.93	2			6280.93	
	Tinghare Jurebhanjyang Sadak	4266.22	12		2100.00	2166.22	
	Total	61514.11		10833.24	16116.36	34564.51	

- **Route:**

Road Name	Route
Mehelbote Gorkhe Sadak:	- From Mehelbote (Guru Mangal Das Marg) to Lamogolai (Seti Devi Marg) and onwards to Gorkhe.
Barbote Mane Sadak:	- Barbote (Mane)- Pandam- Jil to Mehelbote
Barbote Naya Bajar Gupti Sadak:	- Barbote- Mayu Khola- Gupti- Nayabazar
Bhalukhop Khutnabari:	- Bhalukhop- Laxmipur-Khudunabari
F04-Jogmai marga	- Fikkal Bazar (Fensong Gumba) – Pencil Chowak- Jogmai Khola
Google Marga:	- From Mechi Highway (Harkate Bazaar) via Uttare Marg and Thalthale Marg to Google Point (connects Rong-6).
Sima Sadak:	1. From Samalbung Mavi to BOP Marg - Gairigaun Marg - Shanti Dhara Marg - Takpat Seema Road to Sungtung Mechi Khola. 2. Pashupatinagar Bazar to Manebhangyan
Tinghare Jurebhanjyang Sadak:	- Tinghare to Shantipur (Rong)

Visual Representation

Figure 16: District Road Core Network Map of the Suryodaya Municipality

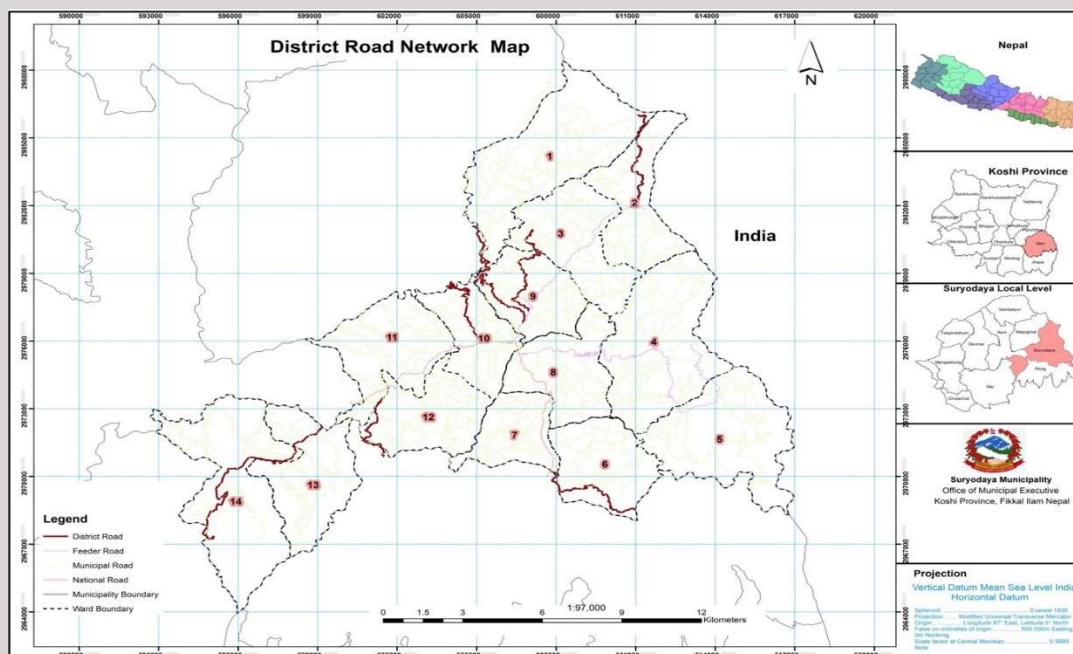


Figure 16: District Road Core Network Map of the Suryodaya Municipality

Key Observations and Recommendations

1. **Strategic Road Network (SRN):**
 - **Importance:** The Mechi Highway and feeder roads form the backbone of regional connectivity.
 - **Maintenance and Expansion:** Focus on maintaining these roads and expanding capacity where necessary to accommodate future growth.
2. **District Road Core Network (DRCN):**
 - **Local Connectivity:** Provides critical links between wards and connects them to the SRN.
 - **Upgrading Priorities:** Upgrade unpaved roads to gravel or blacktop surfaces to improve accessibility and reliability.
3. **Integration of Road Networks:**
 - Ensure seamless integration between SRN and DRCN to facilitate smooth traffic flow.
 - Develop multi-modal connections, including pedestrian and cycling infrastructure, for comprehensive accessibility.
4. **Periodic Assessment:**
 - Regularly update road inventories and condition surveys to prioritize investments and improvements.

4.3 MUNICIPAL ROADS

Municipal roads in **Suryodaya Municipality** serve diverse functions, ranging from providing access to facilitating mobility. For effective and efficient transportation planning, roads are categorized into **four levels of hierarchy: Class A, B, C, and D**. Each class has specific roles and design standards to meet the municipality's transportation needs.

Comparison of Road Hierarchy

Table 10: Comparison of Various Hierarchy of Roads

Criteria	Class A	Class B	Class C	Class D
Purpose	Mobility	Mobility and controlled access	Access and mobility	Access
Function	Through and long-distance movement	Connect Class A and C, alternative routes	Connects higher-order roads	Connects local trips to higher roads
	High network coverage	Supports through movement of traffic	Provides access to property	Direct access to property
	Segregated NMT facilities & bus laybys	Segregated NMT facilities & bus laybys	Segregated NMT facilities	Local NMT movement
Maintenance Responsibility	Municipality	Municipality	Municipality & Community	Community
Design Speed (km/h)	30–40	30–40	30	20
Minimum RoW (m)	7	7	6	6
Setback Distance (m)	3	3	2	1.5
Access Control	Applicable based on locality	Not applicable	Not applicable	Not applicable

4.3.1 CLASS A ROADS

Class A roads are the **primary transport corridors** within the municipality, designed to handle higher traffic volumes and provide critical linkages. These roads connect:

- **Major Settlements:** Linking populous areas within the municipality.
- **Market Areas:** Supporting trade and commerce.
- **Tourist Destinations:** Providing access to key attractions.
- **SRN Linkages:** Ensuring connectivity to strategic road networks.

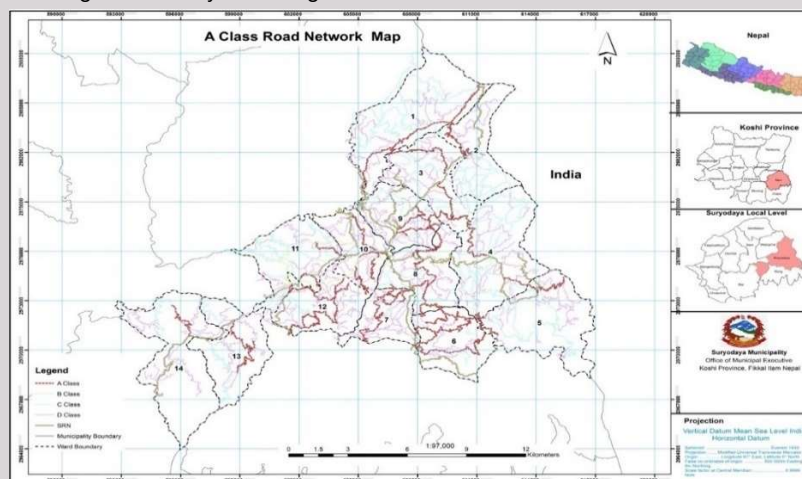


Figure 17: Proposed A class road network of the municipality.

Key Features of Class A Roads

- **Purpose:** High-quality mobility and connectivity.
- **Function:** Facilitates through-traffic and connects major areas within the municipality.
- **All-Weather Roads:** Designed for year-round accessibility.
- **Design Standards:**
 - **Design Speed:** 30–40 km/h.
 - **Right of Way (RoW):** Minimum 7 meters.
 - **Setback Distance:** 3 meters.
 - **Access Control:** May be applicable based on locality.

Proposed Class A Road Network

Based on technical study and community participation, the **Class A Road** network, comprising a total of **34** roads, spans a combined length of **158.84 km**.

Table 11: List of Class A Roads

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktop	Gravelled	Earthen		
103M04A001	Antu Ring Road	1209.71	0.00	1209.71	0.00	sabik Satdobato Road - Thakur Chowk - Fikkal-Sri Antu Road via Baral Bhajyang.	4
103M04A002	Antu Ring Road 1	5640.36	0.00	2590.00	3050.36	Ganesh Himal Karki Danda Road - Ganesh Himal to MCom Marg, Sankate Road, and other connections to resorts.	4
103M04A003	Arunodaya Marg	2551.42	1650.00	901.42	0.00	From Ratna Kumar Bantawa Marg (Barbote Shiva Mandir) via Swargadwari Marg, Sugam Marg, Sangam Marg, and Harit Marg to Ward 8 Kajeni.	9
103M04A004	Bagbire Sadak	7219.75	0.00	5190.00	2029.75	(blank)	2
103M04A005	Baramase Sadak	3560.92	0.00	0.00	3560.92	From Fikkal-Sri Antu Road (Dhruba Dewan) to Giri Marg 1 (PingDanda Marg) - Badare Marg - Mechi Khola.	5
103M04A006	Baramase Sadak 1	4180.36	0.00	2847.36	1333.00	From Gole Danda to Takpat Seema Road (Narayan Chalaigai) via Gorakhdanda Marg and Bajra Gaun Marg.	5
103M04A007	Chhiruwa Nageswari Sadak	3447.64	0.00	0.00	3447.64	Krishi Sadak (Chhiruwa) - sabik Chhiruwa-Seti Nageswari Falgunand Road to Customs Line.	4
103M04A008	Chhiruwa Nageswari Sadak	2068.08	0.00	2068.08	0.00	Krishi Sadak (Chhiruwa) - sabik Chhiruwa-Seti Nageswari Falgunand Road to Customs Line.	4
103M04A009	F05.Sahid marg	1950.11	0.00	1121.00	829.11	From Suryodaya Ring Road 2 (Kattel Dhara) via Chokhang Marg and Sahid Som Bahadur Marg to Sakela Thaan.	10
103M04A010	F05.Sahid marg1	2511.17	0.00	0.00	2511.17	From Suryodaya Ring Road 2 (Kattel Dhara) via Chokhang Marg and Sahid Som Bahadur Marg to Sakela Thaan.	10
103M04A011	F08.Rong marg	1323.30	0.00	0.00	1323.30	From Suryodaya Ring Road 3 (Barpipal Chowk) via Panchakanya Sadak, Malim Sadak, and Gole Khola to Tinghare Jurebhanjyang Sadak.	12

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktop	Gravelled	Earthen		
103M04A012	F08.Rong marg	7953.43	0.00	0.00	7953.43	From Suryodaya Ring Road 3 (Barpipal Chowk) via Panchakanya Sadak, Malim Sadak, and Gole Khola to Tinghare Jurebhanjyang Sadak.	12
103M04A013	F08.Rong marg	753.40	0.00	753.40	0.00	From Mechi Highway (Taxi Stand) via Fensong Gumba and Mehelbote Marg to Ring Road 3.	10
103M04A014	Gogane Ambi Sadak	3584.72	823.00	2288.00	473.72	From Mechi Highway (Paltang) via Birthing Center Road, Pragati Milk Institution, Ghale Dhara Chowk to Saurebhir Sadak.	7
103M04A015	Gogane Ambi Sadak	6614.26	0.00	1470.00	5144.26	Gogane ambi Sadak (dugda sasthan)- ghale dhara- Biring khola	7
103M04A016	Gorkhe Manebhanjyang Sadak	12332.02	502.93	5036.00	6793.09	Rishimod to Gorkhe.	1
103M04A017	Guphapatal Bypass	1082.58	0.00	1082.58	0.00	From Santabir Marg to Guphapatal Road (Sherpa Dhara - Pratap Gaun).	4
103M04A018	Guphapatal Sadak	975.83	0.00	975.83	0.00	Krishi Sadak (Customs Line) to Guphapatal Viewpoint.	4
103M04A019	Guru Mangal Das Paryatan Marg	6796.93	0.00	2230.00	4566.93	From Rungsung Chowk to Gorkhe Bazaar.	3
103M04A020	Jimiraja Jimirani Marg	6413.99	0.00	4008.55	2405.44	From Bhalukhop Khudunabari Road (Batase) via Jimikhanda, Bhuteni to Godak Ghattata Road.	14
103M04A021	Kiratmarg	2115.02	0.00	2115.02	0.00	From Mechi Highway (New Chowk) via Kirat Marg and Punyasmarika Marg to Suryodaya Ring Road 2 (Kerabari School).	11
103M04A022	Kiratmarg 1	2056.81	0.00	0.00	2056.81	From Suryodaya Ring Road 2 (Kerabari School) to ward 10 boundry	11
103M04A023	Krishi Sadak	17461.11	3112.00	5000.00	9349.11	From Barbotey Mane Road via Shubh Marg, Sudung Gaun Marg, and Siddhikhola Sallery Nursery to Antu Ring Road.	3,4
103M04A024	Mahendrabesi Sadak	7462.88	0.00	3223.85	4239.03	From Mechi Highway (Kanyam Inn) via Gumba Marg 1, Shiva Marg, Siddhi Marg, Lampadhero Marg, Ram Janaki Marg to Siddhi Khola.	6
103M04A025	Mahendrabesi Sadak 1	7584.24	0.00	3000.00	4584.24	From Mechi Highway (Harkate Bazaar) via Thalthale Marg, Shanti Marg, and Deurali Marg to Siddhi Khola.	6

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktop	Gravelled	Earthen		
103M04A026	Malim Sadak (All weather)	5823.06	0.00	3000.00	2823.06	From Tinghare Jurebhanjyang Sadak (Chuchhedhunga) via Basuni Marg, Bistari Marg, Siddha Devi Sadak, Rong Sadak to Ward 10 Yang Marg.	12
103M04A027	Panche Chautari Marg	1313.97	0.00	0.00	1313.97	From Kanyam Buddha Marg via Hurhure Tea Producers to Juntara Marg.	8
103M04A028	Rampath Marg	3374.23	613.00	1330.00	1431.23	From Buddha Park via Krishi Sadak to Terse.	3
103M04A029	Sayapatri Marg	4805.66	0.00	3460.00	1345.66	From Bhalukhop Khudunabari Road (Sukepokhari) via Shikhar Marg, Rangalal Marg, and Coffee Marg to Pipal Danda.	13
103M04A030	Shiddhadhuni Marg	5188.03	2088.00	600.00	2500.03	From Mechi Highway (Paltang) via Red Cross Marg 1, Sunmai Sadak, Ward Office Road to Siddhi Khola (Ward 4).	8
103M04A031	Thapathali Marg	8012.19	0.00	899.00	7113.19	From Thapathali Lake, Rungsung, Mehelbote via Manglabare Sadak to Chautara (Ratnakumar Wanatwa Marg) and onwards to Gairigau Manglabare.	3
103M04A032	Yangthung Gumba Marg	4127.37	0.00	1226.00	2901.37	From Arunoday Marg (Sundar Gairi) via Adarsha Marg to Kol Bhanjyang Road and Fikkal Sri Antu Road.	8
103M04A033	Yangthung Gumba Marg	3792.79	0.00	0.00	3792.79	From Shiddhadhuni Marg (Lamsal Golai) via Sunmai Road and Dabbu Gaun to Yangthung Gumba.	6,8
103M04A034	Yangthung Gumba Marg	3553.81	0.00	970.00	2583.81	From Fikkal Sri Antu Road (Ghising Golai) via Nepal Danda Road to Sunmai Road.	8
Grand Total		158841.17	8788.93	58595.80	91456.44		

Recommendations for Class A Roads

- Priority Maintenance and Upgrades:**
 - Ensure all Class A roads meet all-weather standards and are well-maintained.
- Enhanced Safety Measures:**
 - Include segregated **Non-Motorized Transport (NMT)** facilities and well-designed intersections.
- Traffic Management:**
 - Implement controlled access where necessary to manage high traffic volumes.
- Integration with Other Networks:**
 - Strengthen connectivity between Class A roads and SRN/DRCN networks to facilitate smooth traffic flow.

Figures

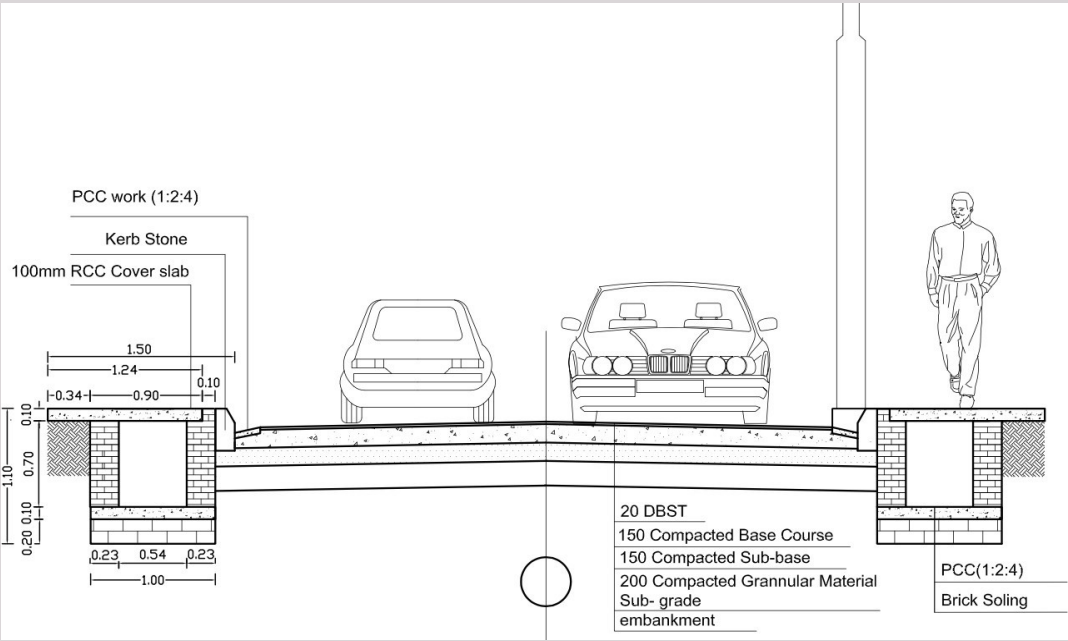


Figure 18: Recommended cross section for Class A roads.



Figure 19: Recommended perspective view of cross section for Class A roads.

4.3.2 CLASS B ROADS

Class B roads serve as critical connectors between the **major road network (Class A)**, **other roads of similar hierarchy**, and **growth centers**. These roads prioritize **mobility** and provide essential linkages for interconnectivity. They also play a pivotal role in supporting the municipality's **Indicative Development Potential (IDP)** by enhancing access and integration with higher-order roads.

Key Features of Class B Roads

1. **Purpose:**
 - Facilitate mobility between Class A and Class C roads.
 - Provide connectivity to major growth centers within the municipality.
2. **Design Standards:**
 - **Right of Way (RoW):** Minimum 7 meters.
 - **Setback Distance:** 3 meters.
 - Equipped with **Non-Motorized Travel (NMT)** facilities to accommodate pedestrians and cyclists.
3. **Proposed Class B Roads:**
 - A total of **20.20 km** of Class B roads, comprising **3** roads, have been identified through technical studies and participatory planning.

Figures

- **Figure 20:** Proposed Class B Road Network of the municipality.

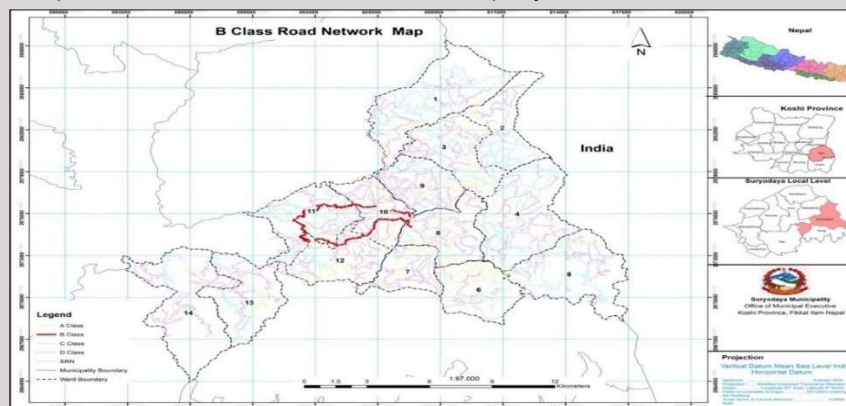


Figure 20: Proposed B class road network of the municipality.

- **Figure 21:** Perspective view of the recommended cross-section for Class B roads, illustrating the inclusion of **NMT facilities** and optimized lane design.



Figure 21: Perspective view of Recommended cross section for Class B roads.

List of Class B Roads

Table 12: List of Class B Roads

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktop	Gravelled	Earthen		
103M04B001	Suryodaya Ringroad_1	2139.57	533.00	1606.57	0.00	From Mechi Highway (Sunrise/Dawa Golai) to Ratna Kumar Bantawa Road, Samabesi Marg, Krishna Buddha Marg, and Jogmai Marg (Ward Office 10).	10
103M04B002	Suryodaya Ringroad_2	10261.16	600.00	4279.00	5382.16	From Jogmai Marg (Sahid Chowk) via Pranami Marg, Sahid Marg, Chokhang Marg, Premjung Marg to Tinghare Junction.	10,11
103M04B003	Suryodaya Ringroad_3	7792.72	0.00	3260.00	4532.72	From Mechi Highway (Shanti Golai) via Distillery Road, Rong Road, Nagi Road, and Rong Marg to Buddha Park Road.	8,10, 12,11
Grand Total		20193.45	1133.00	9145.57	9914.88		

Recommendations for Class B Roads

1. **Enhanced Infrastructure:** Ensure these roads have proper **pavement structures**, **NMT facilities**, and signage for safe and efficient mobility.
2. **Prioritized Connectivity:** Focus on connecting major growth centers and key destinations to Class A roads.
3. **Safety and Accessibility:** Incorporate features like segregated pedestrian pathways, cycling lanes, and adequate lighting to enhance safety and usability.
4. **Regular Maintenance:** Allocate resources for periodic maintenance to sustain road quality and serviceability.

Significance of Class B Roads

Class B roads act as a vital intermediary within the municipal road network, ensuring that mobility and access requirements are balanced across different functional levels. They are integral to achieving the goals outlined in the **Indicative Development Potential (IDP)** framework and supporting economic growth and urban connectivity.

4.3.3 CLASS C ROADS

Class C roads are the **third hierarchy** in the municipal road network and primarily serve the function of **access**, with limited mobility. These roads are essential for connecting **Class D roads** to higher-order roads and ensuring access to residential areas, private properties, small industrial zones, and public spaces.

Key Features of Class C Roads

1. **Purpose:**
 - Provide access to **Class D roads** and higher-order roads.
 - Facilitate connections to **agricultural roads, mini-market centers, and agro-based production centers.**
2. **Functionality:**
 - Support **small/light vehicular movement** for low-intensity traffic.
 - Primarily serve **residential streets** and access to private properties.
3. **Design Standards:**
 - **Right of Way (RoW):** Minimum 6 meters.
 - **Setback Distance:** 2 meters.
4. **Proposed Class C Roads:**
 - A total of **67 Class C roads**, spanning **259.63 km**, have been identified based on:
 - **Technical Studies.**
 - **On-Site Feasibility Assessments.**
 - **Bottom-Up Participatory Approach.**

Figures

- **Figure 22:** Proposed C Class Road Network of the Municipality.

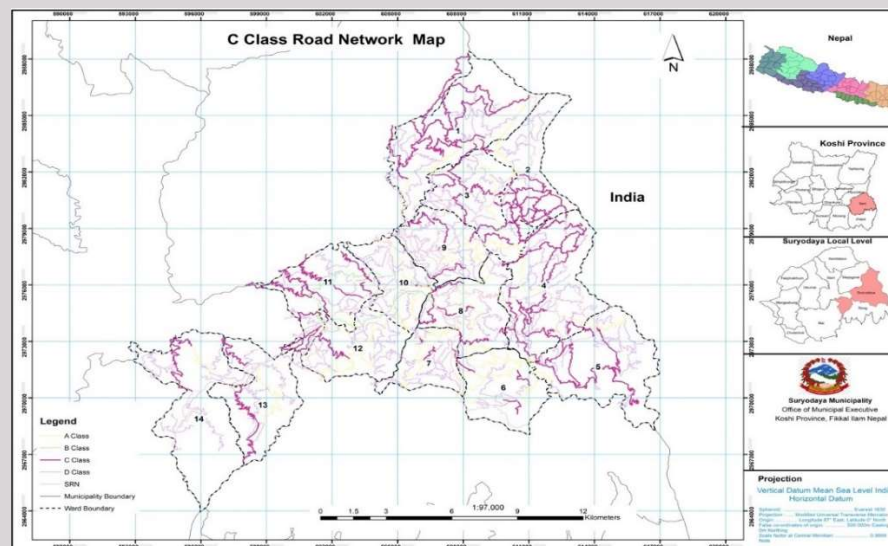


Figure 22: Proposed C class road network of the Municipality

Table 13: List of Class C Roads

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktop	Gravelled	Earthen		
103M04C001	Ansuvarma Marg	4721.87	0.00	0.00	4721.87	Agriculture Road - Chhatra Bahadur Marg - Siddhi Valley Road - Ansuvarma School - Siddhi Khola Bridge (Ward 8 Adarsha Marg).	4
103M04C002	Bauddha Marg	3956.78	0.00	200.00	3756.78	From Fikkal-Sri Antu Road (Ghale Chautara) to Gorakhdanda Marg - Takpat Seema Road (Khare).	5
103M04C003	Bhagwati Sadak	5555.17	0.00	0.00	5555.17	Kamregau to Bhagwati A.V. to Thumke (starting from Gorkhe Manebhanjyang Sadak).	1
103M04C004	Bhawani Marga	8119.48	0.00	622.00	7497.48	From Mechi Highway (Kalapani) via Dhakal Marg, Kerabari Nepal Gaun Marg, Maghe School, and Thumke Marg to Parale Marg, reaching Joga Mai Khola.	11
103M04C005	Bindabasini Marg	5518.35	0.00	0.00	5518.35	From Sindhimai Road - Rampath - Satatale Waterfall Road - Siddikhola Road - Brindabasini Road - Salley Nissane to Ward 4.	2
103M04C006	Biring Saurya Bhir Marg	3103.53	0.00	697.00	2406.53	From Saurya Bhir Marg via Mechi Highway (Cheese Factory) to Biring Khola.	8
103M04C007	BOP Marg	2334.71	0.00	0.00	2334.71	From Health Post - Seema Road - Ruk Bahadur Golai - Shiv Mandir - Khatri Gaun - BOP - Badare Marg.	5
103M04C008	Buddha Marg	8058.61			8058.61	Starting from Ward No. 9 Krishi Sadak, passing through Ban Jhankri Gufa Marg, Singhamai Marg, Rampath, Saat Tale Jharana Marg, Siddhikhola Road, Bindyabasini Marg, Dahalbari Road, Vindyabasini Marg, and ending at Salleri Nisaane in Ward No. 4.	2,3,4,9
103M04C009	Chhaghare Thumke Sadak	5508.91	0.00	0.00	5508.91	Chhaghare to Thumke to Jogmai.	1
103M04C010	Chugmang Marg	6613.90	0.00	0.00	6613.90	From Bhalukhop Khudunabari Road (Katusay) via Chungmang and Bhuteni to Jimiraja Jimirani Marg.	14
103M04C011	Chumlung Sadak	4179.81	0.00	0.00	4179.81	Machhapokhari to Jogmai.	1
103M04C012	Dalbari Sadak	3308.52	0.00	500.00	2808.52	From Santabir Marg via Mahendra A.V. - Arthitar Shiva Temple to Brindabasini Road.	2
103M04C013	Damsing Lok Marg	2790.87	0.00	600.00	2190.87	From Mechi Highway (Panorama Hotel) via Trishakti Pathibhara Tea Industry, Nepal Danda Road, and Red Cross Marg.	8
103M04C014	Dhaap Sanischre Sadak	4552.33	0.00	0.00	4552.33	Dhaap to Shanischare (Dhaap-Lapchagau-Jogmai).	1
103M04C015	Dharapani Sadak	1537.07	0.00	0.00	1537.07	From Murti Marg (Baghegaira) via Tribhuwan AV School to Murti Marg (Kabrawote).	12

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktop	Gravelled	Earthen		
103M04C016	F06.Krishna Buddhamarg	500.02	300.00	200.00	0.02	From Mechi Highway (Municipality Gate) via Sundar Marg, Ring Road 1, Gyapan Marg, Samabesi Marg, Pragati Marg to Jogmai Road.	10
103M04C017	F06.Krishna Buddhamarg	3604.85	0.00	0.00	3604.85	From Mechi Highway (Municipality Gate) via Sundar Marg, Ring Road 1, Gyapan Marg, Samabesi Marg, Pragati Marg to Jogmai Road.	10
103M04C018	F09.Ramitemarg	2402.11	0.00	0.00	2402.11	From Old Fikkal Road (Mindra Kumari Shrestha's House) to Ring Road 3 and onwards to Buddha Park Road.	10
103M04C019	F09.Ramitemarg	380.15	0.00	0.00	380.15	From Old Fikkal Road (Mindra Kumari Shrestha's House) to Ring Road 3 and onwards to Buddha Park Road.	10
103M04C020	f11. Yang Marga	3876.48	0.00	0.00	3876.48	From Suryodaya Ring Road 3 (Rame Khola) via Adarsha Marg to Adarsha A.V. Yang and Biring Cooperative Building.	10
103M04C021	Guranse Tantiing Marg	10933.99	0.00	0.00	10933.99	From Bhalukhop Khudunabari Road (Bhutane Chowk) via Sallaghari, Devisthan, and Khani Bhanjyang to Tantiing Khola.	13
103M04C022	Jill Sadak	3215.38	0.00	0.00	3215.38	From Mehelbote (Barbate Gorkhe Sadak) via Manipuri Marg to Pavitra Marg in Ward 9.	3
103M04C023	Jyoti Marg	4572.09	0.00	0.00	4572.09	From Laxmi Marg (Sukepokhari Barko Rukh) via Bishnumaya Marg, Andheri Marg to Karfok Khola.	13
103M04C024	Kamalamai Sadak	1965.40			1965.40	(blank)	1,2
103M04C025	Kanyam Buddha Marg	3726.24	0.00	1380.00	2346.24	From Mechi Highway (Panche Chautari) via Juntara Marg and Siddhadhuni Marg to Kanyam Buddha Marg.	8
103M04C026	Kanyam Siruwani Sadak	4732.75	270.00	0.00	4462.75	From Mechi Highway (Kanyam Hurhure Bhanjyang) via Krishnasram Mavi, Ward Office, Jamuna Danda, Setidevi Marg to Gogane Ambi Sadak.	7
103M04C027	Katike Marg	2628.07	0.00	1013.00	1615.07	From Suryodaya Ring Road 2 (Tinghare First Golai) via Himali Marg and Lakshminarayan Mandir to Joga Mai Khola.	11
103M04C028	Katike Marg	6998.88	0.00	0.00	6998.88	From Suryodaya Ring Road 2 (Tinghare First Golai) via Himali Marg and Lakshminarayan Mandir to Joga Mai Khola.	11
103M04C029	Kattayang Marg	2940.62	0.00	0.00	2940.62	From Singhamai Tole to Kattebung Sadak.	3
103M04C030	Lampadhero Marg	1889.70	0.00	0.00	1889.70	From Mechi Highway (Harkate) to Lampadhero (Mahendrabesi Ring Road 1).	6

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktop	Gravelled	Earthen		
103M04C031	Laptan BDr Marga	2491.57	0.00	0.00	2491.57	From Pashupatinagar Chowk to Santabir Marg along the Char Mile Road.	2
103M04C032	Maha Laxmi Marg	2709.28	0.00	0.00	2709.28	From Surya Ring Road (Dawa Golai) via Mahalaxmi Tole and Kathet Gaun to Shanti Marg and Himalaya Marg.	8
103M04C033	Manedanda Sadak	10424.57	0.00	0.00	10424.57	Mane Bhanjyang - Chhaghare Thumke - Chitre Gumba - Shree Khola - Mahendrodaya Chakleti - Bhagwati - Thulo Bangin (Manedanda) to Jogmai Shanischare.	1
103M04C034	Manedanda Sadak	1259.46	0.00	0.00	1259.46	Mane Bhanjyang - Chhaghare Thumke - Chitre Gumba - Shree Khola - Mahendrodaya Chakleti - Bhagwati - Thulo Bangin (Manedanda) to Jogmai Shanischare.	1
103M04C035	Manedanda Sadak	1007.91	0.00	0.00	1007.91	Mane Bhanjyang - Chhaghare Thumke - Chitre Gumba - Shree Khola - Mahendrodaya Chakleti - Bhagwati - Thulo Bangin (Manedanda) to Jogmai Shanischare.	1
103M04C036	Murti Marg	2499.96	182.00	0.00	2317.96	From Suryodaya Ring Road 2 (Basu Rai) via Tenjiba Tole to Murti Chowk.	11
103M04C037	Nagbhasange Gumba Sadak	3510.93	0.00	0.00	3510.93	(blank)	2
103M04C038	Pahare marg	3505.73	0.00	0.00	3505.73	Former Chhiruwa-Ghimire Gaun Road - Tirtha Ghimire - Khatiwada Gaun - Pokhrel Gaun to MCom Marg.	4
103M04C039	Parale Sadak	4858.71	0.00	0.00	4858.71	From Suryodaya Ring Road 2 (Tara Rice Mill) via Lakshminarayan Marg and Parale to Joga Mai Khola.	11
103M04C040	Paryatan Sadak	4947.90	0.00	0.00	4947.90	Gorkhe Bazar to Bangin to Ekata Chowk.	1
103M04C041	Pashupati Siddhikhola Marga	5884.57			5884.57	From Siddhikhola to Pashupatinagar connecting various settlements along the route.	2,3
103M04C042	Premejung Marg	1301.24	0.00	200.00	1101.24	From Mechi Highway (Kalapani) via Kirat Marg, Jasman Marg, and Suryodaya Ring Road 2 to Joga Mai Khola.	11
103M04C043	Premejung Marg	925.70	0.00	0.00	925.70	From Mechi Highway (Kalapani) via Kirat Marg, Jasman Marg, and Suryodaya Ring Road 2 to Joga Mai Khola.	11
103M04C044	Premejung Marg	3261.71	0.00	0.00	3261.71	From Mechi Highway (Kalapani) via Kirat Marg, Jasman Marg, and Suryodaya Ring Road 2 to Joga Mai Khola.	11

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktop	Gravelled	Earthen		
103M04C045	Pushpalal Marg	2751.57	0.00	987.00	1764.57	From Ratna Kumar Bantawa Marg (Milk Chilling Center) via Swargadwari Marg and Sugam Marg to Prem Dhungana's house.	9
103M04C046	RamJanaki Marg	2176.53	0.00	0.00	2176.53	From Mahendrabesi Ring Road 1 (Fajigaun) via Kanchanjanga Tole to Shanti Marg.	6
103M04C047	Sahid Marg	1265.56	0.00	0.00	1265.56	From Tinghare Jurebhanjyang Sadak (Mahadhara) via Milan Tole and Pathivara Marg to Chuchhedhunga Sundarbasti Sadak.	12
103M04C048	Samalbung Antu Danda Ring Road	2442.70			2442.70	From Fikkal Shri Antu Road (Bhajyang) via Antu Danda Marg and Orchid Valley Marg to Fikkal Shri Antu Road (Lama Golai).	4,5
103M04C049	Santabir Marg	6109.73	0.00	1500.00	4609.73	From Bouddha Gumba through Hile Nisane to Chiruwa and Mechi Ma.V.	2
103M04C050	Santabir Marg	1602.92	0.00	0.00	1602.92	Bouddha Gumba through Hile Nisane to Chiruwa and Mechi Mavi.	4
103M04C051	Saurebhir Sadak	3692.12	0.00		3692.12	From Saure Pakhah via Barpipal Tole Development Committee, Birthing Road to Gogane Ambi Sadak.	7
103M04C052	Shanti Dhara Marg	4566.80	0.00	0.00	4566.80	From Seema Sadak (Rabi Golai) to Badare Marg - Mechi Khola Road - Orange Valley Marg.	5
103M04C053	Shiva Marg	2335.08			2335.08	(blank)	4,5
103M04C054	Shiva Marg	2064.53	0.00	2000.00	64.53	From Mechi Highway (Hurmure Bhanjyang) via Gumba Marg and Nursing Tea Factory to Gyawa Chowk.	6
103M04C055	Shivalaya Sadak	2221.92	0.00	0.00	2221.92	From Murti Marg (Dugdha Sansthan) via Amilise Marg to Shivalaya Mandir and Dharapani.	12
103M04C056	Shivalaya Sadak	405.76	0.00	0.00	405.76	From Murti Marg (Dugdha Sansthan) via Amilise Marg to Shivalaya Mandir and Dharapani.	12
103M04C057	Shivalaya Sadak	335.87	0.00	0.00	335.87	From Murti Marg (Dugdha Sansthan) via Amilise Marg to Shivalaya Mandir and Dharapani.	12
103M04C058	Siddhi Marg	6088.64	0.00	342.00	5746.64	From Mahendrabesi Ring Road (Gyawa Chowk) via Ward Office and Lama Golai Marg to Siddhi Khola.	6
103M04C059	Siddhi Marg	1838.64	0.00	0.00	1838.64	From Mahendra Besi Sadak to Siddi Khola via Kerabari.	5
103M04C060	Siddi Khola Salleri Nursery Bhanjyang	4443.06	0.00	0.00	4443.06	Agriculture Road (Ward 3 and 4 Boundary) to Chhatra Bahadur Marg via Mahendra AV School.	4
103M04C061	Sumnima Paruhang Marg	2893.91	0.00	1370.00	1523.91	(blank)	9

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktop	Gravelled	Earthen		
103M04C062	Sumnima Paruhang Marg	3499.60	0.00	0.00	3499.60	From Ratna Kumar Bantawa Marg (Kaji Phatak) via Dhyalo Tole to Barbote Mane Road, Sugdal Gaun, and Naya Bazar Road.	9
103M04C063	Sundarbasti Sadak	4293.70	0.00	0.00	4293.70	From Malim Sadak (Chuchhedhunga) via Sahid Marg to Sundarbasti Playground and Rong Sadak.	12
103M04C064	Sundarbasti Sadak	650.14	0.00	0.00	650.14	From Malim Sadak (Chuchhedhunga) via Sahid Marg to Sundarbasti Playground and Rong Sadak.	12
103M04C065	Takpat Sima Sadak	14364.47			14364.47	From Fikkal Shri Antu Road via Rong Road, Gajurel Gaun Marg, and various village connections to Ward 5 Boundary Road.	4,5
103M04C066	Thokbilung Marg	4777.75	0.00	0.00	4777.75	From Ratna Kumar Bantawa Marg (Barbote Sangam Chowk) to Lapcha Gaun, Ramphok Road, and Fikkal Gupti Naya Bazar Road.	9
103M04C067	Thumke Sadak	11994.24	0.00	0.00	11994.24	Smriti Phatak to Lamidhura.	1
Grand Total		259631.10	752.00	11611.00	247268.10		

Recommendations for Class C Roads

- Focus on Accessibility:**
 - Prioritize maintenance and upgrades to ensure year-round access, especially in agricultural areas.
- Safety and Standards:**
 - Ensure proper **pavement** and **lighting** to enhance safety and usability.
 - Implement traffic-calming measures in residential areas to reduce accidents.
- Integration with Agricultural Development:**
 - Support agro-based production by maintaining smooth connections to mini-market centers.
- Environmental Considerations:**
 - Use eco-friendly materials and design techniques to minimize the environmental impact.

Significance of Class C Roads

Class C roads play a pivotal role in linking **local communities** to municipal and district-level transport networks. By ensuring connectivity to agricultural and small-scale industrial zones, these roads directly contribute to the economic and social development of **Suryodaya Municipality**.

4.3.4 CLASS D ROADS

Class D roads are minor roads that primarily provide **access to public properties** and smaller areas that do not qualify for higher classifications. These roads serve the needs of local communities and are crucial for ensuring connectivity at the grassroots level.

Key Features of Class D Roads

1. **Purpose:**
 - Provide **access to public properties** and areas with lower traffic volumes.
 - Support local connectivity for small-scale movement.
2. **Classification:**
 - Roads that meet the **minimum criteria** set by the municipality but do not fall into Class A, B, or C categories are classified as Class D roads.
 - These roads are flexible in design, with specifications determined locally and approved by the **Municipal Roads Coordination Committee (MRCC)**.
3. **Community Participation:**
 - The construction and maintenance of these roads rely heavily on **community-level participation**.
 - **Cost Sharing:** Municipality-community cost sharing ranges from **40%-60%** to **60%-40%**, depending on municipal policies.
4. **Design Standards:**
 - **Right of Way (RoW):** Minimum 6 meters.
 - **Setback Distance:** Determined locally with MRCC approval.
5. **Proposed Class D Roads:**
 - A total of **326.85 km**, comprising **216 roads**, has been approved based on:
 - Technical studies.
 - On-site feasibility.
 - Bottom-up participatory approaches.

Figures

- **Figure 23:** Proposed D Class Road Network of the Municipality.

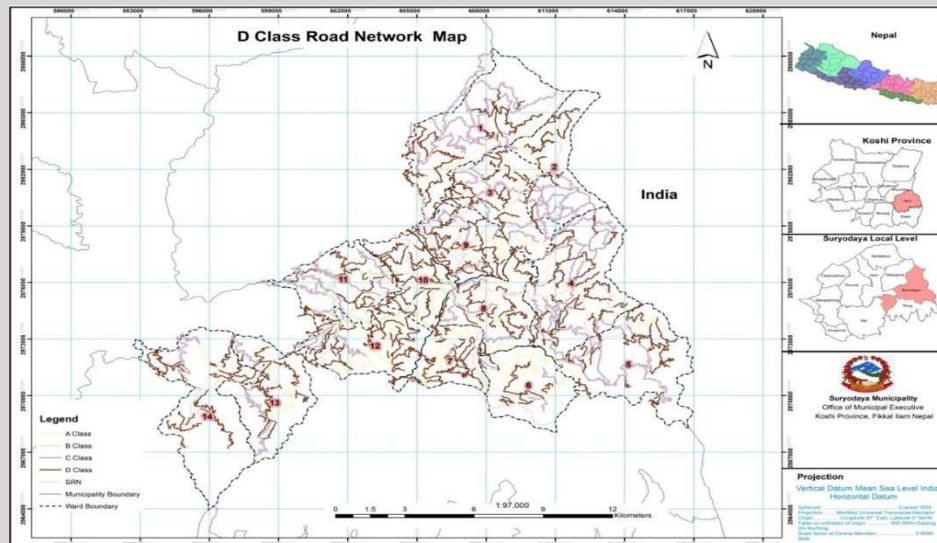


Figure 23: Proposed D class road network of the Municipality

Table 14: List of Class D Roads

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktopped	Graveled	Earthen		
103M04D001	Aadarsha Marg	1662.35			1662.35	From Thangthung Gumba Marg (Kajeni) via Adarsha Tole to Kajeni Marg, Kolbhanjyang, Siddhi Khola, and Anshuvarma Marg (Ward 4).	8
103M04D002	Aaitabare Marga	465.63	465.63	0.00	0.00	From Mechi Highway (Armed Police Check Post) via Aaitabare Police Station and Old Market to Mechi Highway.	11
103M04D003	Aalgairi Marg	693.63			693.63	From Fikkal Sri Antu Road (Aahal Gairi) via Dhungel Gaun to Mahalaxmi Marg and Thangthung Gumba Marg.	8
103M04D004	Alaichibari Sadak	2063.03			2063.03	From Gogane Ambi Sadak (Ambi Playground) to Alaichibari (Ambi Khola).	7
103M04D005	Amlise Marga	3167.06			3167.06	From Shivalaya Marg (Chautara) via Thulo Dhara and Shivalaya Sadak 2 to Khundruke and Ward 13 Sumnima Marg.	12
103M04D006	Antu Bypass sadak	1209.08			1209.08	Fikkal-Sri Antu Road (Uttare) - Janak Mavi - Antu Pokhari - Fikkal-Sri Antu Road Gate No. 1.	4
103M04D007	Antu Danda Marg	412.00	412.00		0.00	From Bhanjyang to Ratomate Road.	5
103M04D008	Antu Danda Marg	1593.96	381.00		1212.96	From Bhanjyang to Ratomate Road.	5
103M04D009	Ashare Sadak	1641.27			1641.27	From Rong Sadak (Chauvandi Chowk) via Ashare to Biring Khola.	12
103M04D010	Badare Marg	1303.82			1303.82	From Shanti Dhara Marg to Baramase Road (Dilli Golai - BOP - Badare - Janam Jugal).	5
103M04D011	Bagare Gaun Marg	3745.33	0.00	1624.00	2121.33	From Suryodaya Ring Road 2 (Tara Golai) via Thumke Marg, Bagare Gaun, Ramite Dhunga, and Nepal Khet to Joga Mai Khola.	11
103M04D012	Bagetar Marg	2105.70			2105.70	From Dangsarang Luichetar Marg (Dangsarang) to Bagetar connecting Lumbech Micro Municipality at Chisapani.	14
103M04D013	Baidam Gaun Sadak	2450.45			2450.45	Ward Office to Chumlung.	1
103M04D014	Baidam Gaun Sadak	2976.97			2976.97	Ward Office to Chumlung.	1
103M04D015	Banjhakri Marg	539.74			539.74	From Buddha Marg (Namche Khola) to Singhamai Marg.	3
103M04D016	Bardanda Sadak	2362.58	0.00	0.00	2362.58	(blank)	11

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktopped	Graveled	Earthen		
103M04D017	Bardanda Sadak	754.72			754.72	From Panchakanya Sadak (Snow View School) via Bardanda to Malim Sadak and Bistari Gaun.	12
103M04D018	Barpipal Marg	1618.67			1618.67	From Mahendrabesi Ring Road 1 (Gadtola Golai) via Niraula Tole to Mahendrabesi Ring Road 1 (Dhakai Tole).	6
103M04D019	Barpipal Sadak	692.58			692.58	From Saurebhir Sadak (Tea Depot) to Dataram's House.	7
103M04D020	Basuni Sadak	1372.07			1372.07	From Malim Sadak via Buddha Rai's and Suresh Shrestha's homes.	12
103M04D021	Batase Marg	692.70			692.70	From Jimiraja Jimirani Marg (Health Post) via Singhdevi Marg to Batase Village.	14
103M04D022	Bhadrakali Marg	1210.28			1210.28	From Dangsarang Luichetar Marg (Dangsarang) to Chugmang Marg (Banpala Golai).	14
103M04D023	Bhawani Marg	2855.11			2855.11	Ganesh Himal Karki Danda Road - MCom Marg to Janak Mavi.	4
103M04D024	Birthing Sadak	1184.44			1184.44	(blank)	7
103M04D025	Birthing Sadak	776.43			776.43	(blank)	7
103M04D026	Bishnumaya Marg	2373.88			2373.88	From Singhdevi Marg (Fuyal Gaun) to Jyoti Marg (Ward 13).	14
103M04D027	Bistari Sadak	2998.27			2998.27	From Panchakanya Sadak (Simte Danda) via Gole Gaun to Malim Sadak (Ramesh Rai).	12
103M04D028	Bojoghari Marg	729.39			729.39	From Kanyam Ambi Sadak (Bojoghari) to Vangtar Marg (Gumpti Khola).	7
103M04D029	Buddha Marg	832.97			832.97	From Bhalukhop Khudunabari Road (Rana Golai) via Buddha School to Bhalukhop Khudunabari Road (Horizon Bardu Tea Factory).	14
103M04D030	Buddha Park Marg	2346.07			2346.07	From Fikkal Ring Road (Prakash Shrestha's House) to Biring.	8
103M04D031	Burja Gaun Marg	1046.00			1046.00	From Baramase Sadak 1 (Gorakha AV) to Bomjan Gaun - Burja Gaun.	5
103M04D032	Chhaten Mane Sadak	2965.00			2965.00	From Rong Sadak (above Malim Health Center) via Fattitar, Manegaun, and Rasiya Gaun to Ward 7 Worthing Sadak.	12

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktopped	Graveled	Earthen		
103M04D033	Chhatra Bahadur Marg	3156.67			3156.67	Chandra Bahadur Marg - Siddhi Valley Road - Nursery Bhanjyang (via Narsing Golai).	4
103M04D034	Chitre Gumba Sadak	2657.49			2657.49	Mahadevsthan to Chitre (Tharigaun-Khatrigaun-Chhaghare).	1
103M04D035	Chiuribote Marga	2701.50			2701.50	From Rong Sadak via Dumping Site to Ward 10 Yang Marg.	10,12
103M04D036	Coffee Marg	3477.09			3477.09	From Jalapa Marg (Kathare Gaun) via Malbase, Pipal Danda, Chokti, and Sanikhola to Yangre Chhulabari Rarang Gaun Road (Rarang Gaun).	13
103M04D037	Danfe Marg	781.22			781.22	From Laxmi Marg (Laxmipur Tole) via Acharya Gaun, Dahale Pakha, and Subedi Gaun to Bhalukhop Khudunabari Road (Uttare Playground, Ward 14).	13
103M04D038	Darlami Gaun Marg	2198.32			2198.32	From Antu Danda Marg (Khadka Cottage) via Paradise Resort and Darlami Gaun to Fikkal Shri Antu Road (Ghane Chautara).	4,5
103M04D039	Daskat Marga	702.15			702.15	From Gairigaun Marg (Rabin's House) to Puchar Gaun.	5
103M04D040	Deepshikha Marg	1150.29			1150.29	Former Antu Alternate Road - Deepshikha Chowk (Fikkal-Sri Antu Road) to Girigaun (Pahare Marg).	4
103M04D041	Deurali Marg	1758.26			1758.26	From Mahendrabesi Ring Road 1 (Targaun) via Old Boarding School to Fangfung Khola.	6
103M04D042	Devisthan Marg	339.24			339.24	From Bhadrakali Marg (Devisthan Golai) to Chungmang Marg (Sriman Golai).	14
103M04D043	Dhaje Sadak	3356.42			3356.42	Mudhe to Thulo Dhaje to Makarjung (extended to Ward Office).	1
103M04D044	Dhaje Sadak	2165.98			2165.98	Mudhe to Thulo Dhaje to Makarjung (extended to Ward Office).	1
103M04D045	Dhakal Marg	783.86	0.00	0.00	783.86	From Himali Marg (Dhakal Golai) via Namsaling Sisne Marg (Seto Chautara).	11
103M04D046	Dhakalgau sadak	748.36			748.36	From Suryodaya Ring Road 3 via Dhakal Gaun and Ghale Gaun to Shree Krishna Dairy Cooperative and Bardanda Sadak.	12

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktopped	Graveled	Earthen		
103M04D047	Dhandha Marg	648.04			648.04	From Bhalukhop Khudunabari Road (Dhandha Golai) to Sahid Kedar Marg (Kagune Tail).	14
103M04D048	Dhap Maijogmai Sadak	3324.64			3324.64	Dhap to Maijogmai.	1
103M04D049	Dhodemiteri Sadak	1845.16	0.00	0.00	1845.16	From Barbote Naya Bazar Gupti Road (Devi Khola) via Thokbilung Marg to Samaveshi Marg F16 (Ramphok Khola).	9
103M04D050	Dhunibesi Marg	1758.99			1758.99	Tari (Takpat Seema Road) - Dunge Himal Tea-Tamakheni Road - Siddhi Khola (Ward 8 Siddhiduni Road).	4
103M04D051	Distillery Sadak	1261.78			1261.78	From Mechi Highway (Aaitabare Ashok Chowk) via Aaitabare Tea Factory to Samridhi Tole and Suryodaya Ring Road 3.	12
103M04D052	Dolmu Marga	300.99			300.99	From Suryodaya Ring Road 3 (Netra Pokharel) to Panchakanya Sadak (Prem Prasad Koirala).	12
103M04D053	Dui Mile Surke Sadak	883.20			883.20	Bagbire Alubari Kartike to Surke Dui Mile Border Road.	2
103M04D054	Dui Mile Surke Sadak	3140.63			3140.63	Bagbire Alubari Kartike to Surke Dui Mile Border Road.	2
103M04D055	Durga Bhawani Sadak	2143.37			2143.37	Chanchale-Durga Bhawani-Manedanda + Pandegaun to Dhoka Khola.	1
103M04D056	Durga Bhawani Sadak	1137.51			1137.51	Chanchale-Durga Bhawani-Manedanda + Pandegaun to Dhoka Khola.	1
103M04D057	Durga Bhawani Sadak	1318.92			1318.92	Chanchale-Durga Bhawani-Manedanda + Pandegaun to Dhoka Khola.	1
103M04D058	F03.Fikkal Marg	1369.45	1369.45	0.00	0.00	From Old Fikkal Bazaar via Ramite Road to Fikkal Secondary School, Police Station, Chhipitar, Gumba, and Mechi Highway (Jiyana Hotel).	10
103M04D059	F03.Fikkal Marg	460.55	30.00	0.00	430.55	From Old Fikkal Bazaar via Ramite Road to Fikkal Secondary School, Police Station, Chhipitar, Gumba, and Mechi Highway (Jiyana Hotel).	10
103M04D060	F03.Fikkal Marg	126.56	126.56	0.00	0.00	From Old Fikkal Bazaar via Ramite Road to Fikkal Secondary School, Police Station,	10

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktopped	Graveled	Earthen		
						Chhipitar, Gumba, and Mechi Highway (Jiyana Hotel).	
103M04D061	F03.Fikkal Marg	48.33	48.33	0.00	0.00	From Old Fikkal Bazaar via Ramite Road to Fikkal Secondary School, Police Station, Chhipitar, Gumba, and Mechi Highway (Jiyana Hotel).	10
103M04D062	F10.Shivamarg	1860.58	0.00	336.00	1524.58	From Mechi Highway (Shiv Mandir, Dr. Khola) via Swami Marg 2 to Suryodaya Ring Road 3.	10
103M04D063	F10.Shivamarg	520.19	0.00	0.00	520.19	From Mechi Highway (Shiv Mandir, Dr. Khola) via Swami Marg 2 to Suryodaya Ring Road 3.	10
103M04D064	F12.Aadarshamarg	585.14	0.00	0.00	585.14	From Yang Marg via Govinda Parajuli's House to Bhujel Gaun and Adarsha Tole.	10
103M04D065	F13.Milan marg	782.78	0.00	0.00	782.78	From Suryodaya Ring Road 3 (Rame Khola) to Mehelbote.	10
103M04D066	F14.Koichmarg	2913.00	0.00	0.00	2913.00	From Suryodaya Ring Road 3 (between Milan Marg and Ramite Marg) to F11 Yang Marg.	10
103M04D067	F15.Melbotemarg	1069.44	0.00	162.00	907.44	From Rong Marg (Panchakanya School) to Ramite Marg.	10
103M04D068	F16.Samabesi Marg	2064.31	0.00	0.00	2064.31	From Suryodaya Ring Road 1 (City Hall Chowk) via Ramphok Marg to Krishna Buddha Marg.	10
103M04D069	F17.Mandir Marg	1256.48	0.00	0.00	1256.48	From Jogmai Marg (Krishna Mandir) via National A.V. School to Pragati Marg.	10
103M04D070	F18.Gyapan Marg	742.17	0.00	0.00	742.17	From Mandir Marg to Gopal Kattel Factory (Kattel Gaun) and Krishna Buddha Marg.	10
103M04D071	F19.Pragati marg	1209.69	0.00	0.00	1209.69	From Mandir Marg (Khopa Center) to Krishna Buddha Marg.	10
103M04D072	F21.Swamimarg	691.26	0.00	0.00	691.26	From Mechi Highway (Kalapani) via Swami Park to Alamash Heaven Farm, Swami Kuti, Karpok Khola Bridge, and Nagi Road.	10
103M04D073	F21.Swamimarg-1	257.85	0.00	0.00	257.85	From Shiv Marg (Resting Spot) via Swami Marg to Prakash Ghale's House Golai.	10
103M04D074	F21.Swamimarg-2	2367.90			2367.90	From Swami Marg via Swami Kuti and Karpok Khola Bridge to Nagi Road.	10,12

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktopped	Graveled	Earthen		
103M04D075	F22.Pranamimarg	1138.25	0.00	0.00	1138.25	From Suryodaya Ring Road 2 (Surabhi Chowk) via Pranami Chowk to Kirat Marg near New Chowk.	10
103M04D076	F23.Ward marg	601.09	0.00	0.00	601.09	From Simpani Marg (Playground) to Proposed Ward Office via Jogmai Road (Sahid Chowk).	10
103M04D077	F25.Ratna Marg	1055.86	0.00	0.00	1055.86	From Sahid Marg (Ratna Chowk) via Taring Marg to Sahid Marg (Rarahang Golai).	10
103M04D078	F27.Chokhang marg	991.90	0.00	0.00	991.90	From Sahid Marg (Milan Tole Playground) to Pramejung Marg.	10
103M04D079	F28.Binayak marg	1221.52	0.00	0.00	1221.52	From Ratna Kumar Bantawa Marg (Ganesh Mandir) to Nag Sthan via Thokbilung Marg.	10
103M04D080	F31.Srijanga Marg	681.13	0.00	0.00	681.13	From Mechi Highway via Srijanga Statue (Gymkhana) to Municipality Gate.	10
103M04D081	F34.Dakterkhola-Baluwani Marga	1087.88	0.00	0.00	1087.88	From Swami Marg (Swami Park) via Vishal Park and Chobato to Suryodaya Ring Road 3.	10
103M04D082	Fuyal Marg	532.54			532.54	(blank)	13
103M04D083	Gairigaun Marg	1394.51			1394.51	From Fikkal-Sri Antu Road (Manedanda) to Rabin's House - Seema Road (Pakhe Golai).	5
103M04D084	Gajurelgaun Sadak	1270.20			1270.20	Takpat Seema Road to Siddhi Khola (Ward 6), connecting former roads of Takpat-Tari-Mahendra Besi.	4
103M04D085	Gardhane Sadak	2200.22			2200.22	From Rong Sadak (Lewak Chowk) via Khare Khola to Rong Sadak (Hukum Rai).	12
103M04D086	Gautam Marg	1695.85			1695.85	From Antu Ring Road via Karphok to Baramase Road.	4,5
103M04D087	Ghalegaun Sadak	1801.83			1801.83	Antu Ring Road to Ghalegaun via Siddhi Khola (Ghale Bridge, Ward 8).	4
103M04D088	Ghumaune Sadak	1001.91			1001.91	From Malim Sadak (Tirtha Acharya's house) via Ravin Rai to Malim Playground and Rong Sadak.	12
103M04D089	Giri Marg	1886.19			1886.19	From Fikkal-Sri Antu Road (Giri Chowk) - PingDanda - Chhipitar - Mechi Khola.	5
103M04D090	Glass Bridge Marg	600.78			600.78	From Shanti Chowk (Hotel Panorama) to Glass Bridge.	8

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktopped	Graveled	Earthen		
103M04D091	Gorakhdanda Marg	1066.46			1066.46	From Baramase Sadak (Bhadra Golai) to Udaney Playground - Buddha Marg (Devasthan).	5
103M04D092	Gumba Marg	2412.12			2412.12	From Dipen Karki's residence to Mai Khola.	3
103M04D093	Gumba Marg	721.15			721.15	From Bhalukhop Khudunabari Road (Saireni) via Gumba to Bhalukhop Khudunabari Road (Gumba Chowk).	14
103M04D094	Harit Marg	923.87	0.00	0.00	923.87	From Ratna Kumar Bantawa Marg (Holy Angel Boarding School, Sundarpani) via Sudung to Arunodaya Marg.	9
103M04D095	Harit Marg 1	337.45	0.00	0.00	337.45	(blank)	9
103M04D096	Harit Marg 1	627.00	0.00	0.00	627.00	From Arunodaya Marg (Homnath's House) via Gramin Tea Factory to Harit Marg and Tamang Gaun (Kajeni Road).	9
103M04D097	Harit Marga	1222.47			1222.47	From Ful Danda in Ward 9 to Mechi Marg (Terse Road 1).	3
103M04D098	Himalaya Marg	646.68			646.68	From Fikkal Sri Antu Road via Bhupendra Kattel's Factory to Mahalaxmi Marg.	8
103M04D099	Himali Marg	1953.21	0.00	0.00	1953.21	From Purnedanda Khalanga Marg to Dhakal Marg, Hali Forest, and Katike Marg.	11
103M04D100	Ilaka Chauki Dadak	706.55			706.55	From Ilaka Police Office to Char Mile Road.	2
103M04D101	Jagat Bahadur Marg	2320.09			2320.09	Former Antu Alternative Road - Fikkal-Sri Antu Road (Uttare Chowk) to Mechi Khola (Small Sribung Road).	4
103M04D102	Jalapa Marg	4105.33			4105.33	From Bhalukhop Khudunabari Road (Sukepokhari Health Center) via Tallo Khundruke and Coffee Marg to Rong Junction.	13
103M04D103	Jalkanya Marg	758.34			758.34	From Bhalukhop Khudunabari Road (Sukepokhari Health Center) via Tallo Khundruke and Coffee Marg to Rong Junction.	14
103M04D104	Jaringe Marg	980.58			980.58	From Jimiraja Jimirani Marg (Health Post) to Jaringe Village.	14

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktopped	Graveled	Earthen		
103M04D105	Jhoda Bantawa Marg	236.88	0.00	0.00	236.88	From Mechi Highway (Balkrishna Khatriwada) via Jhoda, Bantawa, and Punyasmari Marg to Suryodaya Ring Road 2.	11
103M04D106	Jhoda Bantawa Marg	1265.28	0.00	0.00	1265.28	From Mechi Highway (Balkrishna Khatriwada) via Jhoda, Bantawa, and Punyasmari Marg to Suryodaya Ring Road 2.	11
103M04D107	Jhoda Bantawa Marg	820.10	0.00	0.00	820.10	From Mechi Highway (Balkrishna Khatriwada) via Jhoda, Bantawa, and Punyasmari Marg to Suryodaya Ring Road 2.	11
103M04D108	Kamitar Sadak	467.31			467.31	(blank)	1
103M04D109	Kamitar Sadak	2385.72			2385.72	(blank)	1
103M04D110	Karfok Marg	1581.71	0.00	581.71	1000.00	From Mechi Highway (Karfok Peace Land School) via Purnedanda Khalanga Marg to Dipurunge.	11
103M04D111	Kerabani Sadak	597.88			597.88	From Sarwani Sadak (Ambitar) to Kerabani.	7
103M04D112	Kerabari Nepal Gaun Marg	1235.69	0.00	0.00	1235.69	From Namsaling Sisne Road (Yoganidhi Bhattarai) via Nepal Gaun to Kirat Marg.	11
103M04D113	Khadka chowk Sadak	3931.16			3931.16	(blank)	2
103M04D114	Khadka chowk Sadak	1126.93			1126.93	(blank)	2
103M04D115	Khadka Prasad Marg	882.46			882.46	From Thangthung Marg 1 to Ward Office via Khadka Prasad, Pudashaini, and Pipal Fedi.	8
103M04D116	Khuilikhop Marg	389.84			389.84	From Chungmang Marg (Chungmang Hill) to Micro Municipality via Mai Municipality.	14
103M04D117	Kiwa Marga	3613.60			3613.60	From Mechi Highway (Hotel Jhapa Harkate) via Mirmire Road, Vangtar Marg, and Kanyam Ambi Sadak (Chiuri Golai).	7
103M04D118	Koigaun Marg	3255.79			3255.79	From Khulipakha via Bhalukhop Khudunabari Road (Dokan Danda) to Simle.	14
103M04D119	Kol Bhanjyang Sadak	1545.24			1545.24	From Thangthung Gumba Marg (Kol Bhanjyang) to Siddhi Khola (connecting to Ward 4 Ghale Gaun Sadak).	8
103M04D120	Laliguras Marga	1885.88			1885.88	From Kanyam Buddha Marg (Bhoolbhule) via Juntara to Ward 6 Gumba Marg.	6,8

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktopped	Graveled	Earthen		
103M04D121	Lalikade-Tarebhir Marga	764.64			764.64	From Lalikande (Thapathali Marg) to Tarebhir Marg.	3
103M04D122	Lama Golai Marg	1854.71			1854.71	From Mahendrabesi Ring Road (Fajigaun) via Lama Golai and Bal Bikash AV to Kanchanjanga Tole (Siddhi Marg).	6
103M04D123	Laxmi Marg	2544.28			2544.28	From Bhalukhop Khudunabari Road (Sukepokhari) via Ritthabote and Danfe Marg to Karfok Khola (Godak Narayan Chowk).	13
103M04D124	Lebak Marg	1097.74			1097.74	From Pathivara Marg (Chautari Danda) to Rong Sadak (Lewak).	12
103M04D125	Luichetar Marg	3540.17			3540.17	From Chungmang Marg (Roshan Golai) via Dangsarang, Luichetar, Khulitar to Godak Kaushila Chowk.	14
103M04D126	Lumke Sadak	2205.77			2205.77	From Rong Sadak (School Danda Golai) via Lumke Tole to Dumping Site and Chhuribote Sadak.	12
103M04D127	Lumke Sadak	671.30			671.30	From Rong Sadak (School Danda Golai) via Lumke Tole to Dumping Site and Chhuribote Sadak.	12
103M04D128	Mahendrodya Chakleti Sadak	4092.47			4092.47	Pipalgairi to Devitar.	1
103M04D129	Mane Camp-Taxistand Road	318.57	0.00	0.00	318.57	From Mechi Highway (Fikkal Mane) to Rong Marg (Taxi Stand).	10
103M04D130	Manedanda Marga	1267.80			1267.80	From Mechi Highway (Gogane Ambi Sadak) to Glass Bridge Marg.	8
103M04D131	Mangal Jyoti Marg	1263.07			1263.07	From Fikkal Sri Antu Road (Mangal Jyoti Pratishthan) via Ghanashyam Paudel to Gajendra Karki Tea Factory.	8
103M04D132	Mangal Jyoti Marg 1	1133.60			1133.60	(blank)	8
103M04D133	Mangkhim Marg	863.93			863.93	From Gogane Ambi Sadak (Pragati Chowk) via Saurebhir Sadak (Barpipal Golai) to Mangkhin.	7
103M04D134	MCom Marg	2654.86			2654.86	Antu Pokhari Bypass - Shiv Temple - Agni Marg - Bhawani Marg to Antu Ring Road 1.	4
103M04D135	Mechi Khola Marg	1879.89			1879.89	Former Chhiruwa-Ghimire Gaun Road to Mechi Khola.	4

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktopped	Graveled	Earthen		
103M04D136	Mechi Khola Sadak	1458.58			1458.58	From Baramase Sadak - Paudel Bari - Sazhabate - Asam Khola - Church Gaun to Mechi Khola.	5
103M04D137	MFC Marg	1517.27	0.00	0.00	1517.27	From Ratna Kumar Bantawa Marg (Sundarpani) via MFC Ground, Yalmo Gaun to Dhyalo Tole (Sumnima Paruhang Marg).	9
103M04D138	Miteri Marga	1818.39	0.00	0.00	1818.39	From Sumnima Paruhang Marg (Sugdai Gaun) to Ward 3 connecting Jil Road.	9
103M04D139	Moktan gaun- nursery Sadak	1660.17			1660.17	From Shristi Nursery (Ratnakumar Road, Ward 3) to Moktan Gaun via Pashupatinagar Road, Siddikhola Road, and Santabir Marg.	2
103M04D140	Naghi Marga	1720.23	0.00	0.00	1720.23	From Mechi Highway (Karpok Mavi Gate) via Swami Marg to Ring Road 3 (Aathghare).	10
103M04D141	Namobuddha Marga	988.56			988.56	From Smriti Tole (Gumba Marg) to Thapathali Marg.	3
103M04D142	Namuna Marga	1611.37	0.00	0.00	1611.37	From Sumnima Paruhang Marg via Sampang Road (Chalakman Chowk, Dilpali Chowk).	9
103M04D143	Newa Pucha Mauladanda Sadak	914.93			914.93	From Chautari Hotel (Ratnakumar Marg) to Guru Mangal Das Sadak (Mauladanda).	3
103M04D144	Orange Valley Marg	526.85			526.85	From Shanti Dhara Marg (Rabi Golai) to Orange Valley Playground - Binay's House - Bareli Gaun.	5
103M04D145	Orchid Valley Marg	1854.12			1854.12	Ratamate (Shiv Marg) to Samalbung Antu Danda Ring Road - Fikkal-Sri Antu Road.	4
103M04D146	Pabitra Marg	877.36	0.00	0.00	877.36	(blank)	9
103M04D147	Pabitra Marg	398.51	0.00	0.00	398.51	From Sumnima Paruhang Marg 1 (Sugdai Gaun) via Rukman Chowk to Ward 3 Jil Road.	9
103M04D148	Panchakanya Sadak	1931.35			1931.35	From Suryodaya Ring Road 3 via Bistari Sadak, Siddha Devi Sadak, Rong Sadak to Malim Sadak.	12
103M04D149	Panchasil Marg	1615.21	0.00	0.00	1615.21	From Barbote Mane Road (Chandra Ground) to Sampang Marg 1 (Ajambare Club Building).	9
103M04D150	Pandam Bypass	1190.31	0.00	0.00	1190.31	Located within Sudung Marg.	9
103M04D151	Pathivara Marg	2392.32			2392.32	From Sahid Marg (Pathivara AV School) via Lewak Marg to Tinghare Jurebhanjyang Sadak.	12

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktopped	Graveled	Earthen		
103M04D152	PingDanda Marga	1862.76			1862.76	From Chhipitar Marg (PingDanda) to Baramase Sadak.	5
103M04D153	Pokhari Marga	271.45			271.45	From Pokhari via Dahal Tole to Deurali Marg and Mahendrabesi Ring Road 1.	6
103M04D154	Pragati Marg	1469.40			1469.40	From Bhimjyoti to Pragati Tole.	3
103M04D155	Pragati Marg	915.77			915.77	From Fikkal Sri Antu Road (Ghale Golai) to Fikkal Sri Antu Road (Malum Rathibari).	8
103M04D156	Pragati Marg 1	2526.29			2526.29	From Jhil School (Thapathali Marg) to Barbate-Mane Sadak, Jhil Sadak, and connecting to Sumni Paruhang 3 (Ward 9).	3
103M04D157	Pragati Marg 1	2503.00			2503.00	From Fikkal Sri Antu Road (Ghimire Gaun) via Siddhi Gaun, Thangthung Marg (Barpipal Danda) to Siddhadhuni Marg.	8
103M04D158	Punedanda Khalanga Marg	880.98	0.00	0.00	880.98	From Old Aaitabare Market (Trikona Chowk) via Himali Gaun Road and Khalanga to Mechi Highway (Panchakanya Mandir).	11
103M04D159	Punyasmarika Marg	2777.00	0.00	740.00	2037.00	From Mechi Highway (Punyasmarika) via Jhoda Bantawa Marg, Srijana Tole, and Fyaure Chowk to Thari Chowk and Asare Khola.	11
103M04D160	Punyasmarika Marg	1968.12	0.00	0.00	1968.12	From Mechi Highway (Punyasmarika) via Jhoda Bantawa Marg, Srijana Tole, and Fyaure Chowk to Thari Chowk and Asare Khola.	11
103M04D161	RamJanaki Marg 1	660.90			660.90	From Mahendrabesi Ring Road 1 (Hiran's House) to RamJanaki Marg (Narad Subedi's House).	6
103M04D162	Rangalal Marg	992.49			992.49	From Bhalukhop Khudunabari Road (Milk Center) to Sayapatri Marg (Dr. Gaun).	13
103M04D163	Red Cross Marg	690.31			690.31	From Mechi Highway (Nigam Hotel, Paltang) via Red Cross Building, Ilam Tea Garden English School to Damsing Lok Marg.	8
103M04D164	Rungsung Marg	3532.18			3532.18	From Thapathali Marg via Bhujel Tole to Rungsung Khola/Panchamrit Agricultural Cooperative and Acharya's residence (including the ring road).	3

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktopped	Graveled	Earthen		
103M04D165	Rungsung Marga	1349.69			1349.69	From Thapathali Marg via Bhujel Tole to Rungsung Khola/Panchamrit Agricultural Cooperative and Acharya's residence (including the ring road).	3
103M04D166	Sahid Kedar Marg	8142.82			8142.82	From Bhalukhop Khudunabari Road (Katuwal Bhanjyang) via Bardu, Basnet Gaun, Kagune to Rong Ga Pa and Khudunabari.	14
103M04D167	Sahid Narayan Marg	1022.41			1022.41	From Bishnumaya Marg (Fuyal Gaun) to Danfe Marg (Acharya Gaun).	14
103M04D168	Sahid Narayan Marg	947.13			947.13	From Bishnumaya Marg (Fuyal Gaun) to Danfe Marg (Acharya Gaun).	14
103M04D169	Sangam Marg	376.76	0.00	0.00	376.76	From Swargadwari Marg (Vipasana Center) to Pushpalal Marg (Sangam Tole).	9
103M04D170	Sangam Marg 1	1107.02	0.00	274.00	833.02	From Pushpalal Marg to Bishnujyoti School.	9
103M04D171	Sangam Marg 2	974.27	0.00	0.00	974.27	From Arunodaya Marg to Bishnujyoti School via Swargadwari Marg.	9
103M04D172	Sangam Marga	684.18	0.00	0.00	684.18	(blank)	9
103M04D173	Sano Sribung Sadak	1910.34			1910.34	Jagat Bahadur Marg (Fikkal-Sri Antu Road) to Sano Sribung BOP.	4
103M04D174	Sano Sribung Sadak 1	605.52			605.52	Fikkal-Sri Antu Road (Sano Sribung) to Mechi Khola.	4
103M04D175	Satale Jarana Marg	2990.29			2990.29	(blank)	2,3
103M04D176	Seti Devi Marg	2141.71			2141.71	From Jimeru Chowk (Thapathali Marg) via Barbate Gorkhe Road to Dhaje Dobhan.	3
103M04D177	Setidevi Marg	624.84			624.84	From Gogane Ambi Sadak (Jukepani) via Jamuna Danda to Kanyam Ambi Sadak and Jamuna Danda to Gajendra Tea Factory.	7
103M04D178	Setidevi Marg	1382.04			1382.04	From Gogane Ambi Sadak (Jukepani) via Jamuna Danda to Kanyam Ambi Sadak and Jamuna Danda to Gajendra Tea Factory.	7
103M04D179	Shahid Marg	5227.00			5227.00	(blank)	13
103M04D180	Shanti Marg	1559.01			1559.01	From Tinkhutte Hiti Gairi to Dandale Gahiro (Rampath).	3

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktopped	Graveled	Earthen		
103M04D181	Shanti Marg	1839.79			1839.79	From Mahendrabesi Ring Road 1 (Targaun) via RamJanaki Marg to Mahendrabesi Ring Road 1 (Suvedi Gaun).	6
103M04D182	Shantibajar Marg	397.19			397.19	Road within the Shantibazar area.	5
103M04D183	Shikari Marg	1207.56			1207.56	From Baramase Sadak (Rambang Golai) to Takpat Seema Road via Gairigaun and Shikari Gaun.	5
103M04D184	Shikhar Marg	914.12			914.12	From Bhalukhop Khudunabari Road (Bikram Chemjong) via Ward Office and Chiyabari Gaun to Sayapatri Marg (Sukepokhari).	13
103M04D185	Shree Khola Sadak	2537.43			2537.43	Manglabare to Shree Khola to Thumke.	1
103M04D186	Shree Khola Sadak	920.12			920.12	Manglabare to Shree Khola to Thumke.	1
103M04D187	Siboshi Marg	323.33			323.33	From Bhalukhop Khudunabari Road (Uttare Playground) to Guranse Tanting Marg (Devisthan).	13
103M04D188	Siddheshwor Marg	1938.07			1938.07	From Bhimjyoti to Pragati Tole.	3
103M04D189	Siddhi Marg	342.85			342.85	From Mahendrabesi Ring Road (Gyawa Chowk) via Ward Office and Lama Golai Marg to Siddhi Khola.	6
103M04D190	Siddi Khel Maidan Marg	2102.29			2102.29	From Yuddha Narayan Marg (Siddheshwar Shiv Mandir) to Siddhi Khola.	8
103M04D191	Simpani Marga	1134.20	0.00	0.00	1134.20	From Mechi Highway (Simpani) via Simpani Playground to Pranami Marg (Pranami Chowk).	10
103M04D192	Singhadevi Marg	1083.12			1083.12	From Jimiraja Jimirani Marg (Bajra Golai) via Fuyal Gaun to Dhungana Chowk (Batase Marg).	14
103M04D193	Singhamai Marg	2255.77			2255.77	From Tinkhutte Hiti Gairi via Majhgaun to Agriculture Road.	3
103M04D194	Sudung Marg	751.83	0.00	0.00	751.83	From Ratna Kumar Bantawa Marg (Sundar Marg) via Agriculture Road to Eden Valley Ground.	9
103M04D195	Sudung Marg	2137.97	0.00	0.00	2137.97	(blank)	9

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktopped	Graveled	Earthen		
103M04D196	Sugam Marg	1656.28	0.00	0.00	1656.28	From Arunodaya Marg (Siddheshwar Tea Factory) via Gairigaun Playground to Swargadwari Marg.	9
103M04D197	Sumnima Marg	1626.47			1626.47	From Bhalukhop Khudunabari Road (Sukepokhari Bhanjyang) via Mathillo Khundruke to Sunpa 12 Amlise Road.	13
103M04D198	Sunmai Sadak	793.62			793.62	From Siddhadhuni Marg via Sunmai Factory and Thangthung Gumba Marg 2 to Paragliding.	8
103M04D199	Suppan Marga	1301.82			1301.82	From Mechi Highway (Malim Chowk) via Acharya Danda to Suryodaya Ring Road.	12
103M04D200	Swasthya Kendra Marg	507.00	0.00	0.00	507.00	kaji fatak to chandra ground	9
103M04D201	Swasthya Kendra Marg	793.00	0.00	0.00	793.00	kaji fatak (Norlong tea factory to barbore mane sadak (rabin rai)	9
103M04D202	Sworgadwari Marg	2126.87	0.00	0.00	2126.87	From Arunodaya Marg (Cold Store) via Sangam Marg 1 to Pushpalal Marg.	9
103M04D203	Tarebhir Marg	1063.80			1063.80	From Jhil School (Harit Marg) to Tarebhir (Barbate-Mane Sadak).	3
103M04D204	Terse Kajeni Sadak	732.61			732.61	From Rampath (Terse 1) to Kajeni and Anshu Verma Marg in Ward 4.	3
103M04D205	Thalthale Marg	984.41			984.41	From Google Marg via Thalthale Pokhari and Saraswati AV to Ghime Village and Mahendrabesi 1 Road (Targaun).	6
103M04D206	Thalthale Marg 1	756.21			756.21	From Google Marg via Thalthale Pokhari and Saraswati AV to Ghime Village and Mahendrabesi 1 Road (Targaun).	6
103M04D207	Thapatole Sadak	1152.52			1152.52	(blank)	2
103M04D208	Thumki Gairibas Sadak	310.27			310.27	Mayung Ghat to Thumke to Gairibas.	1
103M04D209	Thumki Gairibas Sadak	2783.64			2783.64	Mayung Ghat to Thumke to Gairibas.	1
103M04D210	Tintale Marg	1311.88			1311.88	From Tinkhutte (Acharyatole) to Rungsung Waterfall Road.	3
103M04D211	Triveni Marg	2001.18	0.00	0.00	2001.18	From Arunodaya Marg via Bishnu Prasad and Vivek Parajuli's houses to Triveni Ghat.	9

Road Code	Road name	Length in Meter	Surface Type & length (m.)			Route	Wards covered
			Blacktopped	Graveled	Earthen		
103M04D212	Vangtar Marg	2019.15			2019.15	From Mechi Highway (Kanyam Tea Testing) via Setidevi Marg, Bojoghari Marg to Kiwa Marg (Gupti).	7
103M04D213	Wagle Gaun Sadak	461.51			461.51	From Rong Sadak (School Danda) to Wagle Gaun.	12
103M04D214	Ward office jane bato	720.35			720.35	From Siddhadhuni Marg (Siddhi School) to Damsing Lok Marg (Surya Organic Tea Factory).	8
103M04D215	Yangre Chhulabari Rarang gaun Marg	2854.24			2854.24	From Coffee Marg (Rarang Gaun) via Chhulabari to Yangre Junction.	13
103M04D216	Yauddha Narayan Marg	2207.33			2207.33	From Thangthung Gumba Marg (Siddhi Gaun) to Siddheshwar Shiv Mandir, Siddhi Khel Maidan Road, and Bar Danda.	8
Grand Total		326845.21	2832.97	3717.71	320294.53		

Recommendations for Class D Roads

1. **Encourage Local Participation:** Promote community involvement in the planning, construction, and maintenance phases to foster ownership and sustainability.
2. **Tailored Design:** Adapt road cross-sections to local needs while ensuring safety and usability for all road users.
3. **Resource Allocation:** Ensure cost-sharing agreements are feasible for both the municipality and local communities.
4. **Periodic Maintenance:** Establish a system for regular maintenance to prevent degradation, especially in areas prone to weather-related damage.

Significance of Class D Roads

Class D roads are indispensable for ensuring **grassroots connectivity** and supporting the daily activities of local communities. They complement higher-class roads by providing last-mile access, fostering social inclusion, and enabling localized economic activities.

4.4 RIGHT OF WAY (ROW) FOR ROADS OF DIFFERENT CLASSES

The **Right of Way (RoW)** is a crucial design element that determines the width of land allocated for road infrastructure, including the carriageway, footpaths, drainage, and utilities. In **Suryodaya Municipality**, the RoW standards are based on guidelines from the **DTMP/MTMP**, **Nepal Road Standards (NRS 2070)**, and the **Fundamental Guidelines for Settlement Development, Urban Planning, and Building Construction-2072 BS (2015 AD)**. These standards ensure uniformity and functionality of roads across various classifications.

Guidelines for RoW and Setback Distances

1. **DTMP/MTMP Guidelines:**
 - **National Highways (NH):** Minimum RoW of **30.0 meters**.
 - **Feeder Roads (FR):** Minimum RoW of **30.0 meters**.
 - **District Roads (DRCN):** Minimum RoW of **20.0 meters**.
 - **Setback Distance:** For roads with a RoW ≥ 20.0 meters, the setback distance is **6.0 meters** on either side.
2. **Nepal Road Standards (NRS 2070):**
 - Specifies setback distances for **curved sections**, ensuring adequate sight distance.
3. **Fundamental Guidelines for Settlement Development (2072 BS):**
 - Minimum setback distance for urban roads: **1.5 meters** on either side.
 - Minimum RoW for urban roads: **6.0 meters** (i.e., 3.0 meters on either side of the centerline).

However, according to Fundamental Guidelines for Settlement Development, Urban Planning and Building Construction-2072 (2015 AD), the minimum setback distance for urban roads is 1.5 m on either side. Again, the minimum of Row of roads has set as 6.0 m. i.e. 3.0 m on either side from the centerline. A portion of this guideline has been presented in Figure 24.

Figure:

१४.३१ अब निर्माण हुने सडकको कुनै पनि बाटोको न्यूनतम चौडाई ६ मी. हुनु पर्नेछ र नापी तथा मालपोत कार्यालयहरूलाई सोही बमिजिमले सेस्ता, नक्सा तथा अभिलेखहरूमा बाटो कायम गरी यस व्यवस्थाको कार्यन्वयन गर्न लेखि पठाउनु पर्नेछ। । यस्ता बाटोमा भवन निर्माण स्वीकृत दिँदा केन्द्रबाट कम्तिमा ३ मीटर सडकको क्षेत्राधिकार (RoW) र सडक क्षेत्राधिकार सिमाबाट १.५ मीटर सेट ब्याक छाडेर मात्र निर्माण स्वीकृति दिनु पर्नेछ। तर हिमाली/पहाडी जिल्लाका उपत्यका (valley) एवं समथल भू-भाग देखि बाहेकका भिरालो क्षेत्रमा प्राविधिकरूपमा उक्त ६ मिटर चौडाई कायम गर्न सम्भव नभएमा प्राविधिकको प्रतिवेदनको आधारमा सम्बन्धित स्थानीय निकायको परिषद्को निर्णयबाट ४ मिटरमा नघट्ने गरी निर्धारण गर्न सक्नेछ।
१४.३६ नगरपालिका क्षेत्रमा सडक सम्बन्धी ऐन लगायत प्रचलित कानूनले तोकेमा सोही अनुसार र सो नभएमा नगर यातायात गुरुयोजनाले निर्धारण गरे अनुरूप सेटब्याक कायम हुनेछ। तर नगरपालिकाले यस्तो सेटब्याक सडक किनारबाट १.५ मिटर भन्दा कम हुने गरी निर्धारण गर्ने छैन।
१४.३८ नयाँ बाटोको घुम्ति वा मोडको न्यूनतम अर्धव्यास बाटोको चौडाई भन्दा २०% ले बढी चौडा भएको हुनु पर्नेछ।

Figure 24: Norms: Urban planning and building construction (Suryodaya Municipality)

Source: Fundamental guidelines for settlement development, Urban planning and building construction-2072 BS.

Urban Road Classes and Features

Table 15: Urban Road Class and Features

Road Classes	Descriptions	Minimum RoW (Meters)	Minimum Setback Distance (Meters)
NH	National Highways	As prescribed	As prescribed
FR	Feeder Roads	As prescribed	As prescribed
DRCN	District Roads	As prescribed	As prescribed
A Class	Main Collector Roads	7	3
B Class	Other Collector Roads	7	3
C Class	Main Tole Roads	6	2
D Class	Other Tole Roads	6	1.5

Key Considerations for RoW and Setback

1. **Applicability of Standards:**
 - National and feeder roads follow higher RoW standards to accommodate long-distance and high-traffic flows.
 - Local roads (Class A–D) have narrower RoW, focusing on access and mobility.
2. **Setback Adjustment:**
 - While the **6.0-meter setback** is mandatory for roads with RoW ≥ 20.0 meters, urban roads with narrower RoW have proportionate setbacks based on their function and classification.
3. **Curved Sections:**
 - Setbacks in curved sections are adjusted to provide adequate sight distance as per **NRS 2070**.

Recommendations

1. **Uniform Implementation:** Ensure all roads comply with the prescribed RoW and setback standards during design, construction, and maintenance.
2. **Regular Updates:** Update RoW and setback requirements based on future growth patterns and traffic demands.
3. **Community Awareness:** Conduct awareness campaigns to educate residents about setback compliance to prevent encroachments and maintain clear road boundaries.
4. **Monitoring and Enforcement:** Strengthen municipal monitoring mechanisms to ensure adherence to RoW and setback guidelines.

5.0 PERSPECTIVE PLAN OF MUNICIPALITY TRANSPORT NETWORK

The **Municipality Transport Perspective Plan** is a visionary framework designed to improve **transport linkages** and **accessibility** for goods and services across **Suryodaya Municipality**. As road transportation is the primary medium of mobility, this plan emphasizes sustainable improvement of the road network to meet the demands of the population effectively.

Scope and Rationale

- **Water Transportation:** Infeasible due to the lack of navigable rivers or waterways in the municipality.
- **Railways:** While not currently available, the feasibility of rail transport cannot be ruled out for future development.
- **Road Transportation:** The most viable and immediate solution, requiring sustainable enhancements to the existing network.

Prioritization of Road Network Development

This chapter focuses on prioritizing **municipal roads** for necessary interventions over the coming years to:

- Improve connectivity.
- Enhance accessibility to goods and services.
- Support the mobility needs of the population.

Factors Influencing Mobility Patterns

According to Todd Litman (2003), the following factors influence people's mobility patterns:

1. **Density:**
 - Higher population and job density in specific areas increase demand for **walking, cycling, and public transit**.
2. **Land Use Mix:**
 - Integration of activities like shops, schools, and residences reduces travel distances, encouraging non-motorized transportation.
3. **Non-Motorized Conditions:**
 - The existence and quality of **walking and cycling infrastructure** significantly impact accessibility for non-drivers.
4. **Network Connectivity:**
 - Well-connected roads and pathways enable **direct and efficient travel** across geographic areas.

Measuring Transportation System Performance

Transportation system performance can be assessed using various methods, with a focus on:

- **Traffic Flow:** Measures vehicular movement but offers limited insights into broader transportation challenges.
- **Mobility:** Tracks people's travel behavior, expanding the scope to include **transit, ridesharing, and non-motorized modes**.
- **Accessibility:** The goal of transportation, incorporating **land use, mobility, and alternative solutions** such as improving **local walkability** or enhancing **land use mix**.

5.1 COLLECTING DEMANDS FROM WARDS

Ward-level meetings serve as the primary mechanism for gathering transport-related demands at the local level. This ensures a **bottom-up planning approach** that reflects community needs.

Process of Demand Collection

1. **Meetings and Information Sharing:**
 - Meetings are held at the ward or ward cluster level to discuss the goals of the MTMP and provide demand forms for road development.
2. **Demand Form Distribution and Submission:**
 - Each ward receives forms to document road demands, which are collected after a set submission period.

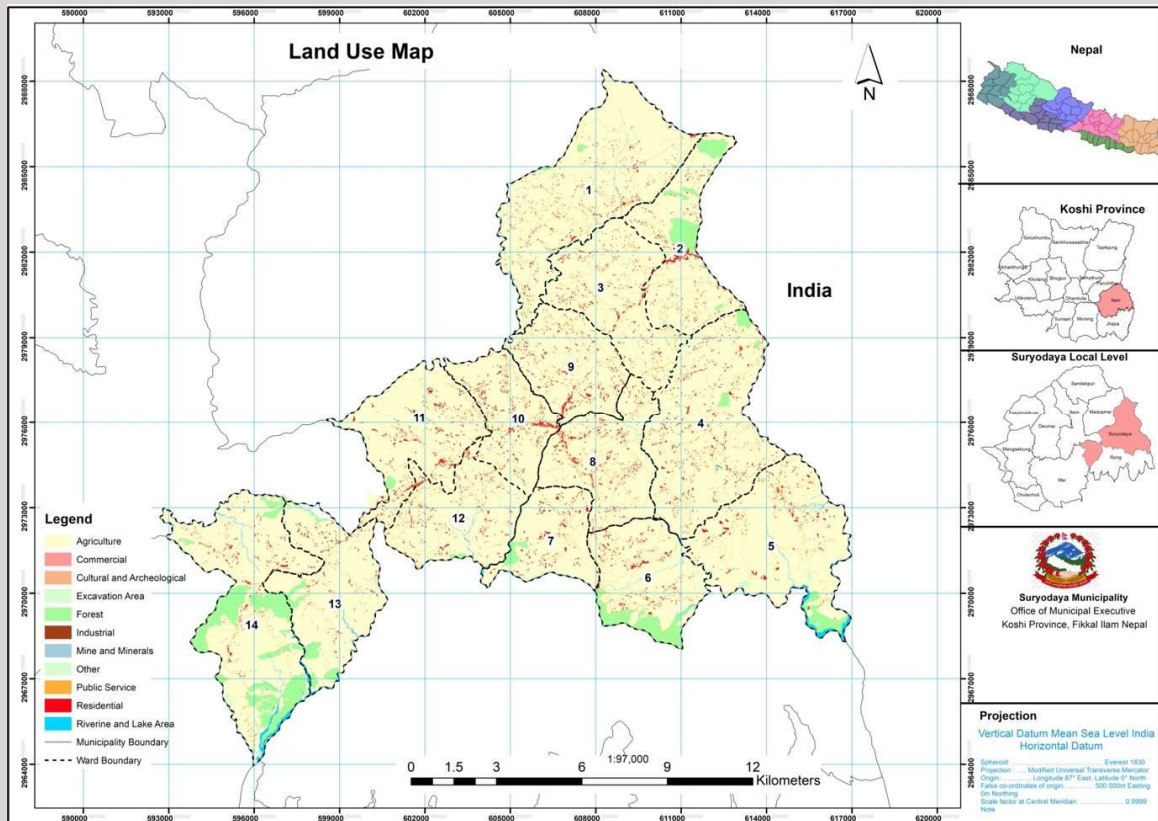


Figure 25: Land use map of the Municipality.

5.1.1 DATA ANALYSIS AND FIELD VERIFICATION OF ROADS

1. **Data Analysis:**
 - Accessibility conditions are analyzed based on population, settlements, and major road linkages.
 - Road demands from each ward are categorized and prioritized.
2. **Field Verification:**
 - All requested roads from demand forms are physically verified by the study team to ensure feasibility and accuracy.

Recommendations

1. **Enhanced Planning and Engagement:** Strengthen ward-level engagement to ensure accurate and inclusive demand collection.
2. **Data-Driven Decisions:** Use accessibility analysis to identify high-priority areas for road development.
3. **Sustainable Solutions:** Focus on improving **walkability**, **cycling infrastructure**, and **land use integration** to reduce dependency on motorized transport.
4. **Periodic Monitoring:** Continuously monitor road network performance and adapt plans based on population and mobility changes.

5.2 SCORING SYSTEM AND PRIORITIZATION

The scoring system and prioritization framework in the **Municipal Transport Master Plan (MTMP)** is a structured approach to allocate resources effectively, ensuring that interventions align with municipal priorities and community needs. Given the municipality's limited funds, this system is designed to rationalize investments in **new construction**, **maintenance**, and **rehabilitation** of road linkages.

Proposed Road Prioritization Criteria

The prioritization criteria, as formulated and approved by the **Municipal Road Coordination Committee (MRCC)**, emphasize accessibility, mobility, and alignment with strategic objectives.

Table 16: Proposed Road Prioritization Criteria

S. N.	Criteria	Scoring Unit	Score
1	Link providing service to large settlement areas	Population served/km	20
2	Link providing existing services	Each facility is given 25% weightage	20
3	Link to other road networks	-	20
4	Road Surface	-	10
5	Demand priority from wards	-	20
6	Existing width	Meter	5
7	Link to potential future development sites	High, Medium, Low	5
Total			100

5.2.1 POPULATION SERVED

This criterion assesses the significance of a road based on the number of people it serves. Roads that cater to larger populations are prioritized, as they fulfill a greater demand for accessibility and connectivity. By evaluating population density and road length, this factor ensures that resources are allocated to areas where the impact on residents' mobility and access to services is maximized.

- **Objective:** Prioritize roads serving the largest populations.
- **Scoring Method:** Roads serving more people receive higher scores, calculated as **population per km of road length**.
- **Weight:** 20% of the total score.

5.2.2 LINK PROVIDING EXISTING SERVICES

The importance of a road is heightened when it connects to essential services such as markets, tourist destinations, industrial hubs, or other critical facilities. This criterion recognizes the economic, social, and cultural value of such linkages. Roads

serving multiple facility types receive higher scores, emphasizing their role in fostering community development and accessibility.

- **Objective:** Recognize roads linking to markets, tourist sites, industries, and essential services.
- **Scoring Method:** Each type of facility (e.g., market, tourist point) is assigned **25% of the total score**.
- **Weight:** 20% of the total score.

5.2.3 LINK TO OTHER ROAD NETWORKS

Connectivity with higher-class roads is crucial for efficient mobility and integration with regional and national transport systems. This criterion evaluates roads based on their connections to national highways, feeder roads, district roads, and neighboring municipalities. Higher connectivity scores reflect the strategic importance of these roads in supporting broader transport networks.

- **Objective:** Emphasize connections to higher-class roads.
- **Scoring Method:**
 - Link to **National Highway**: Full score (20 points).
 - Link to **Feeder Road**: 80% of the score.
 - Link to **District Road**: 60% of the score.
 - Link to neighboring districts or municipalities: 40%.
 - All other roads: 0.
- **Weight:** 20% of the total score.

5.2.4 ROAD SURFACE

The condition and type of a road's surface significantly influence its usability and maintenance needs. This criterion prioritizes upgrading roads with poor surface conditions, such as earthen roads, to improve accessibility and safety. Roads with better surface types, such as gravel or bituminous, are assigned progressively lower scores to balance development across the network.

- **Objective:** Prioritize road upgrades based on surface type.
- **Scoring Method:**
 - **Earthen Road**: Full score (10 points).
 - **Gravel Road**: 80%.
 - **Bituminous/Metaled Road**: 60%.
- For roads with mixed surfaces, a **weighted average score** is applied.
- **Weight:** 10% of the total score.

5.2.5 DEMAND PRIORITY FROM WARDS

This criterion integrates ward-level needs and priorities into the decision-making process. By assigning scores based on priority rankings from individual wards, it ensures that road interventions align with local expectations. The averaging mechanism for roads with varied rankings ensures fair representation of ward demands.

- **Objective:** Reflect ward-level priorities in decision-making.
- **Scoring Method:**
 - **First Priority**: Full score (20 points).
 - **Second Priority**: 80%.
 - **Third Priority**: 60%.
 - **Fourth Priority**: 40%.

- **Fifth Priority:** 20%.
- All others: 10%.
- Roads receiving varying priorities from different wards are scored based on their **average priority**.
- **Weight:** 20% of the total score.

5.2.6 EXISTING WIDTH OF ROAD

The existing width of a road is an indicator of its importance and potential for accommodating traffic. Wider roads are prioritized as they often serve larger volumes of traffic and support higher connectivity. To ensure proposed roads are also considered, a minimum score is assigned to them, fostering balanced development.

- **Objective:** Wider roads are deemed more important.
- **Scoring Method:**
 - Existing roads receive scores proportional to their width.
 - **Proposed roads** are assigned **25% of the total score** to ensure they are not excluded from prioritization.
- **Weight:** 5% of the total score.

5.2.7 LINK TO POTENTIAL FUTURE DEVELOPMENT SITES

This criterion focuses on roads that serve key growth areas such as industrial zones, waste management sites, and recreational centers. By linking infrastructure development with potential economic and social growth, it aligns road prioritization with the municipality's long-term development goals. The population served per kilometer is used as a metric to quantify this impact.

- **Objective:** Prioritize roads serving identified growth centers, waste management sites, sports centers, etc.
- **Scoring Method:** Population served per km is used as the scoring unit.
- **Weight:** 5% of the total score.

Recommendations for Implementation

1. **Transparency:** Publish prioritization results to ensure public understanding and support.
2. **Field Verification:** Cross-check data with field surveys to validate prioritization outcomes.
3. **Regular Updates:** Revise the scoring system periodically to reflect changes in population, development priorities, and land use patterns.
4. **Integrated Planning:** Align road prioritization with broader municipal development plans and budgets.

5.3 PRIORITIZED ROAD NETWORK

The **prioritized road network** is designed to align road development with the **budget constraints**, **importance of roads**, and the **prioritization criteria** established earlier. Using these criteria, all roads have been evaluated and prioritized, forming the foundation for the **Municipal Transport Master Plan (MTMP)**.

Table 17: Prioritized Major A Class Municipal Road Network

Road Code	Road Name	Length in Meter	Wards Covered	Score					
				Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	Criteria 6
103M04A001	Antu Ring Road	1209.71	4	15	15	14	7	10	4
103M04A002	Antu Ring Road 1	5640.36	4	15	15	14	7	17	4
103M04A003	Arunodaya Marg	2551.42	9	15	15	16	7	10	4
103M04A004	Bagbire Sadak	7219.75	2	15	15	16	7	15	4
103M04A005	Baramase Sadak	3560.92	5	15	15	16	7	20	4
103M04A006	Baramase Sadak 1	4180.36	5	15	15	14	7	15	4
103M04A007	Chhiruwa Nageswari Sadak	3447.64	4	15	15	14	7	17	4
103M04A008	Chhiruwa Nageswari Sadak	2068.08	4	15	15	14	7	17	4
103M04A009	F05.Sahid marg	1950.11	10	14	14	12	7	15	4
103M04A010	F05.Sahid marg1	2511.17	10	14	14	12	7	18	4
103M04A011	F08.Rong marg	1323.30	12	15	15	16	7	18	4
103M04A012	F08.Rong marg	7953.43	12	15	15	16	7	18	4
103M04A013	F08.Rong marg	753.40	10	15	15	16	7	15	4
103M04A014	Gogane Ambi Sadak	3584.72	7	15	15	14	8	18	4
103M04A015	Gogane Ambi Sadak	6614.26	7	15	15	14	8	18	4
103M04A016	Gorkhe Manebhanjyang Sadak	12332.02	1	15	15	16	7	15	4
103M04A017	Guphapatal Bypass	1082.58	4	15	15	14	7	17	4
103M04A018	Guphapatal Sadak	975.83	4	15	15	14	7	17	4
103M04A019	Guru Mangal Das Paryatan Marg	6796.93	3	15	15	16	7	20	4
103M04A020	Jimiraja Jimirani Marg	6413.99	14	15	15	16	7	15	4
103M04A021	Kiratmarg	2115.02	11	15	15	15	7	15	4
103M04A022	Kiratmarg 1	2056.81	11	15	15	15	7	15	4
103M04A023	Krishi Sadak	17461.11	3,4	15	15	16	7	15	3
103M04A024	Mahendrabesi Sadak	7462.88	6	15	15	16	7	20	4
103M04A025	Mahendrabesi Sadak 1	7584.24	6	15	15	16	7	20	4
103M04A026	Malim Sadak (All weather)	5823.06	12	15	15	16	7	18	4

Road Code	Road Name	Length in Meter	Wards Covered	Score							Total Score
				Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	Criteria 6	Criteria 7	
103M04A027	Panche Chautari Marg	1313.97	8	14	14	16	7	20	4	4	79
103M04A028	Rampath Marg	3374.23	3	15	15	16	7	20	3	3	79
103M04A029	Sayapatri Marg	4805.66	13	15	15	14	7	18	4	4	77
103M04A030	Shiddhadhuni Marg	5188.03	8	14	14	12	7	18	4	4	73
103M04A031	Thapathali Marg	8012.19	3	15	15	14	7	17	4	4	76
103M04A032	Yangthung Gumba Marg	4127.37	8	15	15	16	7	20	4	4	81
103M04A033	Yangthung Gumba Marg	3792.79	6,8	14	14	16	7	20	4	4	79
103M04A034	Yangthung Gumba Marg	3553.81	8	15	15	16	7	15	4	4	76
Grand Total		158841.17									2602

Prioritization Overview

1. Scoring System:

- Scores were assigned to each road based on the **7 prioritization criteria**, such as **population served**, **existing services**, and **road surface type**.
- Scores from each criterion were summed to determine the overall priority of the road.

2. Budget Allocation:

- Roads with higher total scores are prioritized for interventions within the municipality's available budget.

3. Proposed Interventions:

- **High-Scoring Roads:** Prioritized for immediate construction, maintenance, or rehabilitation.
- **Lower-Scoring Roads:** Scheduled for later phases, based on funding availability.

Implementation Recommendations

- Phase-Wise Development:** Execute Road interventions in phases, starting with the **highest-priority roads**.
- Budget Allocation:** Allocate resources proportionally to ensure progress across all road classes (A, B, C, D).
- Monitoring and Evaluation:** Regularly monitor progress and evaluate the impact of road interventions to refine future prioritization.
- Public Involvement:** Engage local communities in the decision-making process to ensure alignment with residents' needs.

6.0 MUNICIPAL TRANSPORT MASTER PLAN (MTMP)

The **Municipal Transport Master Plan (MTMP)** provides a strategic framework for improving and sustaining Suryodaya Municipality's road network. This chapter outlines the perspective plan, implementation strategies, and budget expenditure plan to achieve the municipality's transport development goals.

6.1 PLAN OF MUNICIPAL ROAD NETWORK

The **perspective plan** for the municipal road network includes a phased approach to developing and maintaining roads across all classes (A, B, C, and D). The plan emphasizes maintaining accessibility, enhancing mobility, and implementing the formulated road hierarchy.

Short-Term (0–5 Years)

1. **Focus Areas:**
 - **Maintenance of Existing Access Roads:** Ensure all-weather usability for Class C and D roads.
 - **Development of Collector Roads:** Upgrade Class A and B roads to improve connectivity to key centers.
 - **New Road Linkages:** Construct new roads to provide basic access to underserved settlements.
2. **Policy and Enforcement:**
 - Implement the formulated road hierarchy through municipal policies and enforcement of bylaws.
 - Develop complementary plans for **land use** and **city development** within two years.
3. **Revisions and Updates:**
 - Revise the MTMP and perspective plan in the third year to integrate new developments and lessons learned.

Medium-Term (6–10 Years)

1. **Implementation:**
 - Develop higher hierarchy roads (Class A and B) in stages by clearing the required **Right of Way (RoW)** and facilitating necessary infrastructure.
2. **Completion of Class C Roads:**
 - Focus on completing the construction of Class C roads to enhance residential and agricultural access.
3. **Infrastructure Strategies:**
 - Finalize and implement strategies for sustainable road network development, including environmental and social considerations.

Long-Term (11–20 Years)

1. **Upgrading Higher Hierarchy Roads:**
 - Gradually upgrade Class A and B roads based on traffic growth and mobility demands.
 - Develop these corridors to support the municipality's emerging economy.
2. **Integrated Land Development:**
 - Coordinate land management with the clearance of RoW for higher-class roads.
3. **Road Corridor Development Projects:**
 - Introduce projects for land acquisition to facilitate road expansion and future urban development.

Implementation Strategies

1. **Phased Development:** Prioritize interventions based on the **prioritization criteria** established in earlier chapters.

2. **Stakeholder Coordination:** Engage local communities, wards, and private entities to support road development initiatives.
3. **Capacity Building:** Train municipal staff and contractors in sustainable road construction and maintenance practices.
4. **Monitoring and Evaluation:** Establish a system for tracking progress and evaluating the impact of road interventions.
5. **Funding:** Secure funding through municipal budgets, government grants, and potential public-private partnerships (PPPs).

Budget and Expenditure Plan

1. **Short-Term Budget Allocation:** Allocate most funds to maintain existing roads and construct new access roads.
2. **Medium-Term Budget Allocation:** Focus funds on upgrading Class C roads and initiating the development of Class A and B roads.
3. **Long-Term Budget Allocation:** Prioritize upgrading higher-class roads and acquiring land for RoW clearance and road corridor projects.

6.2 FINANCIAL INSTITUTIONS AND CAPITAL INVESTMENT PLAN

A sustainable and strategic **capital investment plan** is critical for implementing the **Municipal Transport Master Plan (MTMP)** of Suryodaya Municipality. The plan aligns financial resources, institutional responsibilities, and community participation to ensure comprehensive and sustainable road network development.

Key Components of the Investment Plan

1. **Annual Budget Planning:**
 - Review the **Municipal Annual Budget Book** to assess revenue sources and expenditure plans related to road infrastructure.
 - Allocate resources for road construction, upgrading, and maintenance, ensuring a balance between short-term needs and long-term goals.
2. **Grassroots Participation:**
 - Involve **local communities** in construction and maintenance activities to foster ownership and reduce costs.
 - Activities for community participation:
 - Plantation along roadsides.
 - Cleaning and maintaining road areas.
 - Assisting in minor construction and repair works.
3. **Institutional Collaboration:**
 - Coordinate with **district and division line agencies**, such as the **Department of Roads (DoR)** and the **Department of Local Infrastructure (DoLI)**, for funding and technical support.
 - Seek investments for roads extending beyond municipal boundaries to neighboring districts and local levels.
4. **Focus Areas for Investment:**
 - **Construction of New Roads:** Address areas lacking access or connectivity.
 - **Upgrading Roads:** Improve Class C and D roads to all-weather standards and enhance Class A and B roads for mobility.
 - **Maintenance and Rehabilitation:** Ensure the durability and safety of existing infrastructure.
 - **Road Corridor Development:** Acquire land for clearing Right of Way (RoW) for higher-class roads.

Role of Financial Institutions

Financial institutions play a critical role in funding road development projects. Key roles include:

1. **Municipality:**
 - Develops and implements frameworks, policies, and strategies for road network development.
 - Allocates a **major share of the municipal budget** for road maintenance and construction.
2. **District and Division Agencies:**
 - Invest in roads of regional importance, including those linking the municipality to neighboring districts or markets.
3. **Public-Private Partnerships (PPPs):**
 - Encourage private sector investment in major projects such as road corridors and highways.
 - Explore funding mechanisms like **Build-Operate-Transfer (BOT)** or long-term lease agreements.
4. **Donor Agencies and NGOs:**
 - Seek grants or concessional loans for projects focused on sustainability, rural accessibility, or climate resilience.

Capital Investment Priorities

1. **Immediate Priorities (0–5 Years):**
 - Focus on basic accessibility improvements.
 - Allocate funds for maintenance of existing access roads (Class C and D).
 - Construct new road linkages to underserved areas.
2. **Medium-Term Priorities (6–10 Years):**
 - Upgrade Class C and B roads to meet municipal standards.
 - Clear RoW and initiate corridor development projects.
3. **Long-Term Priorities (11–20 Years):**
 - Expand and enhance Class A roads for future traffic demands.
 - Invest in road corridor projects that connect with regional and national networks.

Recommendations for Effective Investment

1. **Community-Centric Development:** Maximize local participation in labor-intensive activities to reduce costs and build community ownership.
2. **Strategic Allocation:** Prioritize roads that serve critical markets, service centers, and growth areas based on the **prioritization criteria**.
3. **Monitoring and Reporting:** Implement a transparent monitoring system to track progress and fund utilization.
4. **Emergency Funds:** Allocate contingency funds for unforeseen maintenance or repair needs due to natural disasters.

6.3 FIVE-YEAR BUDGET SPENDING

The **five-year budget spending plan** for Suryodaya Municipality prioritizes road construction, upgrading, and maintenance based on **MTMP guidelines** and local needs. The financial plan incorporates a **realistic growth rate of 10% per year**, aligning municipal resources with long-term transport infrastructure goals.

Key Budgeting Principles

1. **Annual Budget Allocation:**
 - The **base budget** for fiscal year 2080/81 is **16 crores** (160,000,000 NPR).
 - A **10% annual increment** is assumed to accommodate capacity enhancement.
2. **Funding Distribution:**
 - **70% for Construction and Upgrading.**

- **30% for Maintenance.**
- 3. **Class-Wise Budget Allocation:**
 - **Class A Roads:** 40% of the construction budget.
 - **Class B Roads:** 30% of the construction budget.
 - **Class C Roads:** 20% of the construction budget.
 - **Class D Roads:** 10% of the construction budget.
- 4. **Deficit Management:**
 - Unfinished projects from one year are prioritized in the next fiscal year.
 - The municipality may seek **grants or assistance** from central or district-level agencies or reallocate funds from lower-priority headings.

Five-Year Budget Allocation Table

Table 18: Budget Allocation for Upgrading and Maintenance

Year/Description	2081/82	2082/83	2083/84	2084/85	2085/86	Total (NPR)
Budget	176,000,000.00	193,600,000.00	212,960,000.00	234,256,000.00	257,681,600.00	1,074,497,600.00
Class A Roads (40%)	61,600,000.00	67,760,000.00	74,536,000.00	81,989,600.00	90,188,560.00	376,074,160.00
Class B Roads (30%)	24,640,000.00	40,656,000.00	44,721,600.00	49,193,760.00	54,113,136.00	213,324,496.00
Class C Roads (20%)	24,640,000.00	27,104,000.00	29,814,400.00	32,795,840.00	36,075,424.00	150,429,664.00
Class D Roads (10%)	12,320,000.00	13,552,000.00	14,907,200.00	16,397,920.00	18,037,712.00	75,214,832.00
Construction & Upgrading (70%)	123,200,000.00	135,520,000.00	149,072,000.00	163,979,200.00	180,377,120.00	752,148,320.00
Maintenance (30%)	52,800,000.00	58,080,000.00	63,888,000.00	70,276,800.00	77,304,480.00	322,349,280.00

Expenditure Breakdown

1. **Class A Roads:**
 - Allocated the highest share (40%) for **key transport corridors** and high-traffic roads.
2. **Class B Roads:**
 - Allocated 30% to improve connectivity between urban and semi-urban areas.
3. **Class C and D Roads:**
 - Class C (20%): Focus on improving access to **residential and agricultural areas**.
 - Class D (10%): Minor roads to provide **last-mile connectivity**.
4. **Maintenance:**
 - **30% of allocation** ensures existing infrastructure remains operational and safe.

Although, MoFALD has set guidelines for the distribution of budget, it was adjusted by making discussion with local authorities based on local condition and requirement of Municipality. Suryodaya Municipality has decided to invest the 70% in construction and 30% in Maintenance of road for next 5 fiscal year. The construction sector Budget shall be invested with 40% in A- Class, 30% in B-class, 20% in C-class, 10% in D-class.

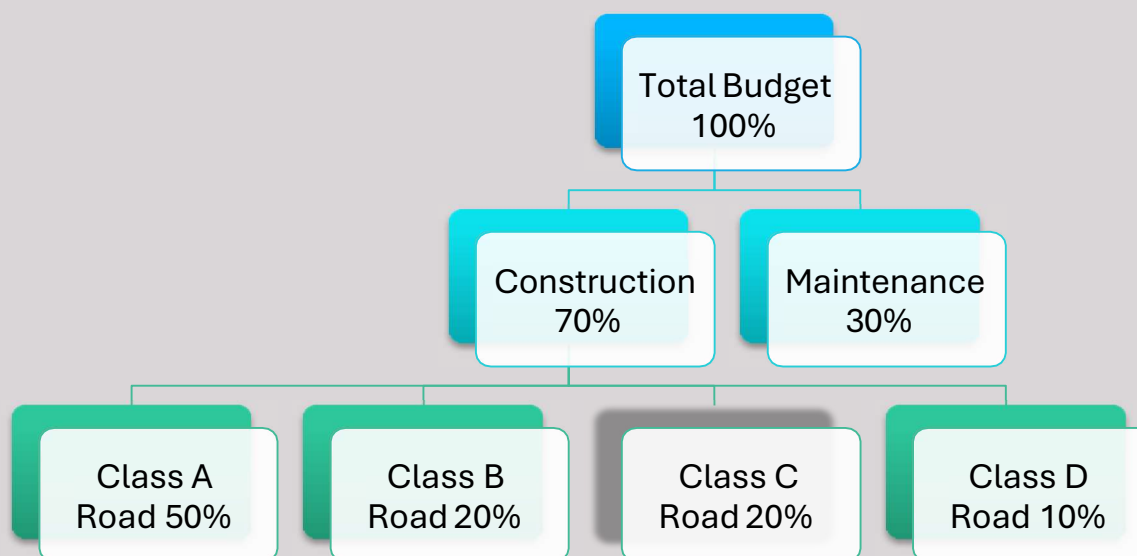


Figure 26: Expenditure breakdown (for Suryodaya Municipality) based on MTMP Guidelines.

Recommendations for Effective Budget Utilization

1. **Monitoring and Accountability:** Implement a **tracking system** to monitor the progress of projects and ensure transparency in fund utilization.
2. **Phased Development:** Prioritize roads that serve critical economic or social functions.
3. **Contingency Planning:** Set aside funds for unforeseen expenses or emergency repairs.
4. **Community Involvement:** Engage local communities in road maintenance activities to reduce costs and enhance ownership.

6.4 FIVE-YEAR IMPLEMENTATION PLAN

The **five-year implementation plan** of the **Municipal Transport Master Plan (MTMP)** aims to systematically upgrade and expand the municipal road network while adhering to the budget and prioritization criteria. The plan ensures efficient allocation of resources and incorporates phased interventions to achieve both short-term and long-term transport goals.

Implementation Strategy

1. **Single-Level Intervention:**
 - Each road will receive a single intervention in its first phase (e.g., upgrading an earthen road to gravel).
 - Additional interventions (e.g., upgrading gravel roads to bituminous roads) will only be initiated if the budget allows.
2. **Priority for Class C and D Roads:**
 - Focus on **Class C and D roads** in the short run, upgrading them to **7-meter-wide and 5-meter-wide roads** respectively.
3. **Phased Development:**
 - Stages of road development are based on current land use, roadside development constraints, and long-term needs.
4. **Policy Formulation:**
 - Establish road hierarchies, geometric standards, and bylaws to guide future development.
 - Enforce land acquisition policies to ensure the gradual clearing of the **Right of Way (RoW)**.

Table 19: Class of Roads and Actions for Five Years

Class of Road	Width (7-Meter)	Width (6-Meter)	Actions
A Class	Yes	No	Blacktop and Upgradation
B Class	Yes	No	Blacktop and Upgradation
C Class	No	Yes	Blacktop/Gravel and Upgradation
D Class	No	Yes	Gravel/Blacktop and Upgradation

Stages of Road Development

Stage 1: Policy and Planning

- Formulate road hierarchy and define geometric and physical characteristics.
- Implement road bylaws to ensure the proper use of space and user discipline.
- Develop policies for:
 - **Land acquisition** and compensation.
 - Construction methods for roads and roadside infrastructure.
 - Enforcement of road discipline and user rights.

Stage 2: Clearing Right of Way (RoW)

- Gradually clear the RoW to facilitate the construction of integrated infrastructure.
- Ensure public awareness and enforcement of policies to prevent encroachments.

Stage 3: Construction and Upgrading

1. **Class C and D Roads:**
 - Upgrade to **gravel or blacktop roads** to improve basic accessibility.
2. **Class A and B Roads:**
 - Begin with **Class C-level standards** (e.g., double-lane carriageways with pedestrian and cycle tracks).
 - Gradually upgraded to meet **Class A and B standards**.

Stage 4: Integrated Development

- Develop pedestrian pathways, cycle tracks, and green belts along road edges to restrict encroachment.
- Incorporate sustainable infrastructure to support long-term urban growth.

Key Recommendations

1. **Integrated Planning:** Coordinate road development with urban planning, land use, and zoning policies.
2. **Community Engagement:** Involve residents and stakeholders in clearing RoW and maintaining roads.
3. **Monitoring and Feedback:** Continuously monitor the progress of interventions and gather feedback for improvement.
4. **Focus on Sustainability:** Include **non-motorized transport infrastructure** (e.g., pedestrian and cycle tracks) to promote sustainable mobility.

Visualization and Long-Term Planning

- Develop **visual stages** for the gradual expansion and improvement of roads.
- Link lower hierarchy roads to higher hierarchy roads based on demand and usage patterns.
- Introduce **green infrastructure** and ensure **multi-modal connectivity** to accommodate future growth.

This phased and strategic implementation plan ensures that **Suryodaya Municipality** achieves its transport goals while aligning with urban development and sustainability objectives.

Execution Timeline for Municipal Transport Master Plan (MTMP)

The following table outlines the key milestones for the execution of the MTMP, ensuring effective tracking and management of project implementation. The timeline considers the phased nature of road construction and long-term planning, with a review scheduled every 5 years to evaluate progress and set the next phase of the plan. The timeline also reflects the perspective plan and prioritization criteria for different road classes and budget allocations:

Table 20: Purposed Execution Timeline for Municipal Transport Master Plan

Phase	Key Activities and Milestones	Timeline	Responsible Entity	Remarks
Phase 1: Short-Term (0-5 Years)				
Maintenance of Access Roads	Upgrade Class C and D roads to ensure all-weather usability.	Year 1–5	Municipality (Road maintenance Committee)	Allocated 30% of the budget for maintenance.
Development of Collector Roads	Upgrade Class A and B roads to improve connectivity to key centers.	Year 1–5	Municipality (Infrastructure Development Section)	Allocated 70% of the budget for construction.
New Road Linkages	Construct new roads to provide basic access to underserved settlements.	Year 1–5	Municipality	Focus on equitable access.
Policy Implementation	Enforce road hierarchy and land use policies.	Year 1–2	Municipality and Local Wards	Ensure adherence to bylaws.
Plan Revision	Revise MTMP based on progress and emerging needs.	Year 3	MTEC	Include new lessons and priorities.
Phase 2: Medium-Term (6-10 Years)				
Development of Higher Hierarchy Roads	Upgrade Class A and B roads with necessary infrastructure.	Year 6–10	Contractors and Municipality	Clear RoW and facilitate urban connectivity.
Completion of Class C Roads	Finalize construction of Class C roads to support residential access.	Year 6–10	Contractors & User's committees	Emphasize connectivity for agriculture.
Sustainable Infrastructure Strategies	Implement strategies to integrate environmental considerations.	Year 8–10	Municipality and Partners	Enhance long-term resilience.
Phase 3: Long-Term (11-20 Years)				
Gradual Upgrade of Class A and B Roads	Upgrade based on traffic growth and mobility demands.	Year 11–20	Municipality and Contractors	Focus on economic growth corridors.
Integrated Land Development	Coordinate road construction with land use planning.	Year 11–20	Municipality and Urban Planners	Prevent encroachments and enhance utility.
Road Corridor Development Projects	Facilitate land acquisition and infrastructure for future growth.	Year 15–20	Municipality and PPP Partners	Enable urban expansion.
Phase 4: Review and Adaptation				
Mid-Term and End-of-Phase Reviews	Conduct evaluations and update the MTMP.	Every 5 Years	MTEC and External Reviewers	Align with evolving municipal needs.
Public Reporting	Share progress and gather feedback from the community.	Every 5 Years	Municipality	Enhance transparency and accountability.

Notes:

- Phased Approach:** Recognizes the long-term nature of road construction, with iterations every 5 years.
- Budget Adjustments:** Allocations have been adjusted in discussion with local authorities to address local conditions and requirements.
- Community Engagement:** Ongoing public consultations ensure alignment with local needs and enhance project ownership.
- Monitoring and Evaluation:** Establish robust systems for tracking progress and fund utilization.

7.0 CONCLUSION AND RECOMMENDATION

7.1 CONCLUSION

The **Municipal Transport Master Plan (MTMP)** for Suryodaya Municipality is the first comprehensive roadmap for the development and management of the municipality's transport infrastructure. Through detailed surveys, stakeholder consultations, and technical analysis, the plan has identified the status of roads and the required interventions. Key highlights include:

1. **Road Inventory and Status:**
 - Most roads are narrow and require **upgrading and maintenance**.
 - Accessibility has improved for many settlements, but **mobility remains limited** due to the absence of reliable public transport services.
2. **Transport Infrastructure:**
 - The study emphasizes the introduction of **public transport**, such as city buses, to enhance mobility and accelerate development.
3. **Road Hierarchy:**
 - A clear road hierarchy has been established, detailing the functions, characteristics, and cross-sections of various road classes.
4. **Active Road Users:**
 - The plan includes provisions for **pedestrian facilities** and **bicycle tracks** to address the needs of active road users and support sustainable urban growth.
5. **Sustainability:**
 - The municipality has a unique opportunity to implement user-friendly and sustainable road infrastructure, avoiding issues seen in unplanned urban areas.
6. **Policy and Framework Development:**
 - The municipality needs to establish a robust framework for **policy enforcement**, **capacity building**, and phased road development.
7. **Periodic Review:**
 - The MTMP should be revised and integrated with other municipal plans, with a **mid-period review** in the third year and a complete update every five years.

7.2 RECOMMENDATIONS

To ensure the effective implementation of the MTMP and support sustainable transport development, the following recommendations are proposed:

1. Public Transport Introduction

- Introduce **city buses** to operate within the municipality to meet growing transport demand and enhance mobility before a structured system is economically viable.

2. Sustainable Urban Development

- Develop a **settlement hierarchy** to segregate:
 - **Residential areas** from commercial, business, and industrial zones.
 - **Market centers** into primary, secondary, and tertiary categories.

3. Green Belt and Open Spaces

- Establish **green belts** along urban roads to:

- Enhance pedestrian safety.
- Separate motorized and non-motorized traffic.
- Improve urban aesthetics and reduce pollution.

4. Integrated Infrastructure Planning

- Coordinate road construction with:
 - **Electricity, drainage, and water supply** systems.
 - Minimize damage to existing infrastructure and avoid redundant investments.

5. Land Acquisition and Development

- Implement **land pooling** methods for acquiring land required for road development.
- Synchronize land acquisition with road development phases.

6. Phased Road Development

- Develop roads in a phased manner based on their hierarchy and corresponding demand.
- Ensure **pedestrian pathways, cycle tracks, and green belts** are incorporated from the outset to prevent encroachments.

7. Parking Management

- Address growing private vehicle ownership by:
 - Developing **parking facilities** in business and market centers.
 - Involving the **private sector** in managing parking spaces.

8. Comprehensive Planning

- Correlate the MTMP with:
 - A **proposed land use plan**.
 - A **comprehensive city development plan** to enhance effectiveness.

9. Environmentally Friendly Construction

- Adopt the **Labor-based Environmentally Friendly and Participatory (LEP) Approach**:
 - Use the **Green Roads construction method** to minimize environmental impact.

10. Mid-Period Review and Scoring Criteria

- Conduct a **mid-period review** to ensure alignment with:
 - Future policies on land use and urban development.
 - Evolving needs and priorities of the municipality.

Final Note:

The successful implementation of the MTMP requires **political will, community engagement, and institutional collaboration**. By adopting these recommendations, Suryodaya Municipality can create a **sustainable, accessible, and efficient transport network** that supports long-term urban growth and improves the quality of life for its residents.

REFERENCES

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ANNEXURE

1. PHOTOGRAPHY

- **Photographic Evidence:**
 - Images captured during field surveys, stakeholder meetings, and road condition assessments.
 - Document significant infrastructure, including existing roads, road construction sites, and public facilities.

2. FIELD MINUTES

- **Details of Field Activities:**
 - Summarize interactions with ward representatives, community members, and stakeholders.
 - Include the outcomes of demand collection sessions, workshops, and public consultations.
 - Highlight key issues raised and actions planned during each engagement.

3. MAPS

- **A Class Network Map:**
 - Displays the road network classified as Class A.
- **B Class Network Map:**
 - Highlights the road network under Class B.
- **C Class Network Map:**
 - Shows the road network classified as Class C.
- **D Class Network Map:**
 - Maps the road network categorized as Class D.
- **District Road Network Map:**
 - Illustrates the road connectivity within the district.
- **Feeder Road Network Map:**
 - Highlights the feeder roads connecting various settlements and services.
- **Inventory Map:**
 - A comprehensive map showcasing the municipality's entire road inventory.
- **Municipal Road Network Map:**
 - Focuses on the municipality's overall road network.
- **National Road Network Map:**
 - Displays the national-level road connectivity, including highways.
- **Road Network Map:**
 - Provides an overview of all road types and their layout across the municipality.
- **SRN Road Network Map:**
 - Highlights the Strategic Road Network, including national highways and district-level roads.

1. PHOTOGRAPHY

- **Photographic Evidence:**
 - Images captured during field surveys, stakeholder meetings, and road condition assessments.
 - Document significant infrastructure, including existing roads, road construction sites, and public facilities.
-

1. PHOTOGRAPHY











Final-Draft Presentation



2. FIELD MINUTES

- **Details of Field Activities:**
 - Summarize interactions with ward representatives, community members, and stakeholders.
 - Include the outcomes of demand collection sessions, workshops, and public consultations.
 - Highlight key issues raised and actions planned during each engagement.
-

1. FIELD MINUTES

नाम निति २०८१/०१/२० गते विहिवारका दिन यस सूर्योदय नगरपालिका वडा नं २ का वडा अध्यक्ष श्री डिक बहादुर पम्जनको अध्यक्षता तथा वडा समितिका सम्पूर्ण सदस्यहरुको तथा सरकारीवालाहरुको उपस्थितिमा MTMP पुनरावलोकनको कार्यतालिका अनुसार छलफल तथा विवरण संकलन कार्यक्रम सम्पन्न भयो।

उपस्थिति:

क्र.सं.	नाम/थर	पद	हस्ताक्षर
१	डिकु वा पम्जन	वडा अध्यक्ष	
२	शक्ति शिवा	नगरपालिका सदस्य	
३	गणेश कुमार खड्का	वडा सदस्य	
४	विपेश आचार्य	इन्जिनियर	
५	प्रदिप चापागाई	आलेख अधिकारी	
६	सुरेश पलामा	JIS Expert	
७	सविता खड्का	Overseer	
८	चन्द्र कुमार खड्का	निर्वाहमात्र पदा अ.	
९	हेम वा खड्का	समाजिक नेपथ्य	
१०	जि. आर खड्का	अध्यक्ष नेपथ्य	
११	दिमाल मास्के	समाजसेवी	
१२	मिलन पौडेल	११	
१३	कुता कुडुवाल	अध्यक्ष गेल विभाग	
१४	गोपाल डाँडा	११ ११ ११	
१५	अश्वत कुमार आर्जुन	११ ११ ११	
१६	राजेन्द्र शिवा	११ ११ ११	
१७	विमल खड्का	स्या नीति	
१८	विमल तामाङ	११	
१९	विपेश विमले	११	
२०	कुता तामाङ	११	
२१	प्रेम वा डाँडा	११	
२२	हेम वा खड्का	११ ११ ११	

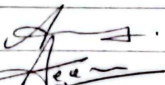
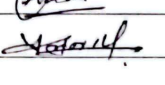
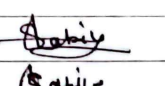
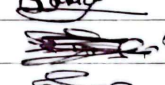
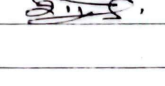
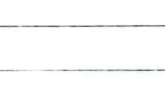
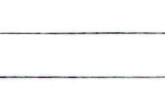
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सूर्योदय नगरपालिका वडा नं. १०३ को वडा अदालत भनी
लोक बहादुर प्रधानको अध्यक्षता तथा वडा समितिमा
सम्पूर्ण सदस्यहरूको तथा सरोकारवालाहरूको उपस्थितिमा
MTMP पुनरावलोकनको कार्यतालिका अनुसार छलफल
तथा विवरण सेकलन कार्यक्रम सम्पन्न भयो।

उपस्थिति :

क्र.सं.	नाम / घर	पद	हस्ताक्षर
१	बाबु वा प्रधान	अध्यक्ष	सूर्योदय/१/२२
२	लक्ष्मी शर्मा	कार्यालयीन सदस्य	ले
३	बहादुर प्रधान	वडा सदस्य	ले
४	अमला शर्मा	" "	अध्यक्ष
५	अमला शर्मा	अतिथि सदस्य	अध्यक्ष
६	फिरोज लामा	टोलवि.सं. सदस्य	अध्यक्ष
७	राहुल पौडेल	नवजागरणीयता (सचिव)	अध्यक्ष
८	नारायण पौडेल	नम्रुला टोल	अध्यक्ष
९	रविशंकर राई	नम्रुला टोल	अध्यक्ष
१०	पुष्पक लामा	नम्रुला टोल	अध्यक्ष
११	विजय लाल खतिवडा	गनपुर टोल	अध्यक्ष
१२	सुन्दर राई	कालीदेवी टोल	अध्यक्ष
१३	सुन्दरी चौधरी	प्रियाशाल टोल	अध्यक्ष
१४	दिलीप राय	प्रियाशाल टोल	अध्यक्ष
१५	अमल लामा	नम्रुला टोल	अध्यक्ष
१६	अमल लामा	गनपुर टोल	अध्यक्ष
१७	अमल लामा	" "	अध्यक्ष
१८	रविशंकर राई	कालीदेवी	अध्यक्ष
१९	अमल लामा	सि.क.अ.	अध्यक्ष
२०	दिल कुमारी लामा	नगराधिकारि	अध्यक्ष
२१	सविन ठकाल	Sub-En	अध्यक्ष
२२	सुरेश पलायन	GIS Expert	अध्यक्ष

भाषा मिति २०८१/०१/२४ गते सोमवारका दिन राधा
सूर्योदय नगरपालिका वडा नं २ का वडा अध्यक्ष श्री शरण राईको
अध्यक्षता तथा वडा समितिमा सम्पूर्ण सदस्यहरूको
तथा सरोकारवालाहरूको उपस्थितिमा MTMP पुनरावलोकनको
कार्यतालिका अनुसार छलफल तथा विवरण संकलन
कार्यक्रम सम्पन्न भयो।

उपस्थिति

क्र.सं	नाम	पद	हस्ताक्षर
१.	शरण राई	अध्यक्ष	
२.	जीवन कामत ह्यापाने	वडा सदस्य	
३.	पुष्प प्रसाद पौडेल	वडा सदस्य	
४.	कृष्ण खत्री	वडा सदस्य	
५.	सालनथ पौडेल	वडा सदस्य	
६.	सुरेन्द्र बल्लभ	Sub Engineer	
७.	सविन बजाल	Sub Engineer	
८.	सुरेन्द्र बल्लभ	GIS Expert	
९.	शिवराज शिग्रिरे	स्थानीय	

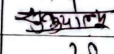
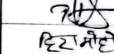
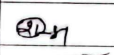
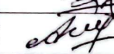
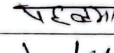
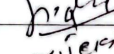
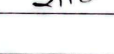
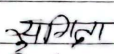
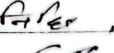
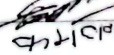
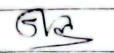
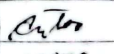
आप्त मिति २०८१/०१/२८ ईते बुधवारको दिन यस
 नुवाकोट नगरपालिका वडा नं. ०६ का वडा अध्यक्ष श्री
 शिवकुमार वस्नेतको अध्यक्षतामा तथा वडा समितिमा
 सह-पुर्ण सदस्यहरूको तथा सर्वोत्तमवालाहरूको
 उपस्थितिमा MTMP पुनरावलोकनको कार्यतालिका
 अनुसार हलमाल तथा विवरण संकलन कार्यका
 समापन भयो।

उपस्थिति

क्र.सं	नाम	पद	हस्ताक्षर
१	शिवकुमार वस्नेत	अध्यक्ष	
२	सुभा विश्वकर्मा	सह-य	
३	सुरेश (ज्या.भा.वि.डा.प.)	वडा सदस्य	
४	प्रेम लाल ग्याङ्गु	वडा सदस्य	
५	पद्मा भोवेली	वडा सदस्य	
६	सविन ठकाल	Sub-Engineer	
७	शर्मिला थापा	सा.सदस्यकर्ता	
८	सुरेश बलाय	GIS Expert	
९			
१०			

આજ નિર્ણય 20/02/03 થી લેવાયેલા ફિત યસ
 યુગે કય નિર્ણય લેવાયેલા વડા નં. 05 ના વડા અદ્યક્ષ
 શ્રી દેવેન્દ્ર શર્માનો અદ્યક્ષતા તથા સરોજાવાલાશર્માનો
 ઉપસ્થિતિના MTMP પુનરાવલનનો નિર્ણય લેવા
 કરવામાં આવેલ તથા વિવરન સહીકરતા નિર્ણય
 અમલમાં આવેલ.

ઉપસ્થિતિ :

ક્ર.સ.	નામ	પદ	હસ્તાક્ષર
1.	દેવેન્દ્ર શર્મા	અધ્યક્ષ	
2.	રામેન્દ્ર રાઈ	સંચાલક	
3.	સુભાષ રાઈ	વડા સદસ્ય	
4.	વિમલ રાઈ	વડા સદસ્ય	
5.	હિરા ભાઈ રાઈ	વડા સદસ્ય	
6.	મહેશભાઈ રાઈ	વડા સદસ્ય	
7.	મહેશભાઈ રાઈ	વડા સદસ્ય	
8.	મહેશભાઈ રાઈ	વડા સદસ્ય	
9.	મહેશભાઈ રાઈ	વડા સદસ્ય	
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11.	મહેશભાઈ રાઈ	વડા સદસ્ય	
12.	મહેશભાઈ રાઈ	વડા સદસ્ય	
13.	મહેશભાઈ રાઈ	વડા સદસ્ય	
14.	મહેશભાઈ રાઈ	વડા સદસ્ય	
15.	મહેશભાઈ રાઈ	વડા સદસ્ય	
16.	મહેશભાઈ રાઈ	વડા સદસ્ય	
17.	મહેશભાઈ રાઈ	વડા સદસ્ય	
18.	મહેશભાઈ રાઈ	વડા સદસ્ય	
19.	મહેશભાઈ રાઈ	વડા સદસ્ય	

23	शिवलेश्वरी बार्ड	नमूना	9842211520	
24	प्रबलु बार्ड	एमएल	9801540865	
25	सग अमर उमान	सुदुका	9805955260	Amr
26	तेज बार्ड सुदुका	1	9842672490	Amr
27	आशीष बार्ड	आदर्श	9890299552	Amr
28	एनप्रणाम फौजिन	11	500003299	Amr
29	मनोज्ञ बार्ड	नमूना	9860264667	Amr
30	उद्देशक अमर उमान, सुदुका	-	-	Amr
31	सुरज दहल	आदर्श	9896520882	Amr
32	सुबिन बालन	सुब-रि	9817057480	Amr
33	प्रदेश बालन	GIS Expert		Amr

मानव शक्ति 2009/10/12 को विकसित करने के लिए
नगरपालिका वडा नं. १ का वडा अध्यक्ष श्री राजकुमार
लिम्बुको अध्यक्षता तथा सदस्यता के तहत कार्यवाही के लिए
MTMP पुनरावलोकन कार्यवाही के लिए कार्यवाही के लिए
तथा विवरण के अनुसार कार्यवाही के लिए कार्यवाही के लिए।

सूचिका:

क्र.सं.	नाम	पद / सेवा	संकेत
१	राज कुमार लिम्बु	अध्यक्ष	
२	उद्योगिक शक्ति	सुलेखिता देवी	46/1
३	श्याम लहादु तिरिगा	अध्यक्ष, ग्राहक	
४	श्याम लहादु तिरिगा	अध्यक्ष, सेवा-शक्ति	
५	जीन पंगमा	सहायक/सेवा-शक्ति	अध्यक्ष
६	दिनामा/शक्ति	सहायक/सेवा-शक्ति	अध्यक्ष
७	श्याम लहादु तिरिगा	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
८	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
९	सविता सुब्बा	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
१०	हक १०० तामा	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
११	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
१२	लिमा/शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
१३	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
१४	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
१५	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
१६	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
१७	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
१८	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
१९	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
२०	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
२१	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
२२	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
२३	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
२४	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
२५	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
२६	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
२७	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
२८	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
२९	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
३०	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
३१	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष
३२	अध्यक्ष, सेवा-शक्ति	अध्यक्ष, सेवा-शक्ति	अध्यक्ष

આજ તારીખ ૨૦૮૧/૦૨/૦૬ થી સોનવાડાના દિન થયે
મુખ્ય નગરપાલિકા વહા નં. ૧૧ ના વડા અધ્યક્ષ ત્રિ
અન્તોષ રાઈનો અધ્યક્ષતા તથા સ્વયંસેવાપાલિકાઓ
કમિટિના MTMPનો કાર્યતાલીકા અનુસાર ફલફલ
તથા વિવિધ સંબંધિત કાર્યક્રમ સમરત થયો।

ઉપસ્થિત :

ક્રમ	નામ	પદ	સહી
૧	અન્તોષ રાઈ	વડા અધ્યક્ષ	
૨	સુનીલકુમાર (અધિકારી)	શ્રી અધ્યક્ષ - મુન્તલ	
૩	પ્રેમકુમાર શિલક	વોળ અધ્યક્ષ સમાવેશી	
૪	કિશોર કાફ	સમાવેશી ટોલ	
૫	રમેશ કુમાર રાઈ	સમાવેશી ટોલ કુતલી	
૬	સમીર રાઈ	સમાવેશી ટોલ	
૭	મણિ કુમાર અધ્યક્ષ	મવાની ટોલ મોદુ	
૮	દિવેશ કુમાર રાઈ	મુન્તલ ટોલ મુન્તલ	
૯	મણિ રાજભોજા	ભગાવા ટોલ	
૧૦	વિકા પ્રમોદ કુમાર	આદતકાર	
૧૧	કમિલા મોલા	પરચકર	
૧૨	ભવિન રાઈ	મુન્ત ૧૩ ૧૧	
૧૩	વિક્રમ રાઈ	ત્રિધર ટોલ	
૧૪	આરિષ્ટ રાઈ	મજાકાકાર ટોલ	
૧૫	વિવેક રાઈ		
૧૬	અન્તોષ મોન્કા	પંચકલ ટોલ	
૧૭	મોક્ષનાથ (અધિકારી)	સપ્તપત્રી ટોલ	
૧૮	કુવેર મોળા સ્વતંત્ર	મુખ્યકારી ટોલ	
૧૯	દિલીપ રાજ આદિકાર	સપ્તપત્રી ટોલ	
૨૦	રશ્મિ આદિકાર	સોલેલા ટોલ	
૨૧	અમિત મુન્તલ	સુબ. ઇન્જિનિયર	
૨૨	કમલ સ્વતંત્ર	મજાકાકાર ટોલ	
૨૩	સંજય રાઈ	(સંવાલિ ત્રિવેની ટોલ)	
૨૪	ધુવરજા કુમાર	મવુરકલ ટોલ	
૨૫	કુશળ રાઈ	મુજલા ટોલ	
૨૬	અમિત રામજી આદિકાર	આદતકાર ૧/૧ GIS Expert	

माना गित 2021/09/05 को बुधवार का दिन था
 सुर्योदय नगरपालिका वडा नं. १२ का वडा अध्यक्ष श्री
 डोलेन्द्र शर्मा को अध्यक्षता तथा सहकारवालाहरूको
 उपस्थितिमा MTMP को कार्यान्वयन अनुसूची अनुसार हस्तक्षेप
 तथा विवरण सहकलन कार्यक्रम सम्पन्न भयो ।

उपस्थिति :

क्र.सं.	नाम	पद	हस्ताक्षर
१	डोलेन्द्र शर्मा	अध्यक्ष	डा. शर्मा
२	गिरी राज प्रधान	स्थानीय	गिरी राज
३	पंकज फडाल	स्थानीय	पंकज फडाल
४	दलबहादुर वाग्रा	"	दल
५	दीपेश राई	"	दीपेश
६	श्रीम क. घर्त	"	श्रीम
७	गुरु सिंह राई	"	गुरु
८	अमर प्रधान	सेतीदेवी तेल	अमर
९	गंगा धर प्रधान	"	गंगा
१०	धनकुमार प्रधान	"	धन कुमार
११	सुनिल माया राई	सेतीदेवी तेल	सुनिल
१२	श्रीम क. लाम्छे	सेतीदेवी तेल	श्रीम
१३	अविश्व राई	मिलन तेल	अविश्व
१४	रिजु क. लाम्छे	चौविन्दी तेल	रिजु
१५	सुवास लाम्छे	" "	सुवास
१६	धनसिंह राई	आमिल तेल	धनसिंह
१७	रमेश गुरुङ	स्थानीय	रमेश
१८	दिनेश राई	त्रिवेणी तेल	दिनेश
१९	सुषमा राई	सचिव	सुषमा
२०	प्रमिला राई	त्रिवेणी तेल	प्रमिला
२१	सुशीला राई	मानपुरडाडा तेल	सुशीला
२२	सुशीला राई	मानपुरडाडा तेल	सुशीला
२३	सुशीला राई	मानपुरडाडा तेल	सुशीला
२४	सुशीला राई	मानपुरडाडा तेल	सुशीला
२५	सुशीला राई	मानपुरडाडा तेल	सुशीला
२६	सुशीला राई	मानपुरडाडा तेल	सुशीला

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भाज नि 2019/02/19 गते शुक्रवारका दिन यस
सुयोदय नगरपालिका वडा नं. १३ का वडा अध्यक्ष
श्री हेमराज आचार्यको अध्यक्षता तथा सहकारवालाहरूको
अध्यक्षता MTMP को कार्यतालिका अनुसार हलफार्म
तथा विवरण संवलन कार्यको सम्पन्न भयो।
उपस्थित:

क्र.सं.	नाम	पद	हस्ताक्षर
१	हेमराज आचार्य	अध्यक्ष	
२	फजल फुसाई पौडेल	वडा सदस्य	फजल
३	इन्द्र बहादुर राई	वडा सदस्य	इन्द्र
४	नर बहादुर राई	स्वामिनी	नर
५	तिलक प्र. राई	टोल संयोजक	तिलक
६	राजकुमार खत्री	वडा सदस्य	राजकुमार
७	विष्णु खत्री	होमार्थ	विष्णु
८	कमल प्र. कुँडेल	"	कमल
९	बिता परिवार	वडा सदस्य	बिता
१०	योगेश्वर खत्री	टोल संयोजक	योगेश्वर
११	कुलसा पौडेल	टोल संयोजक	कुलसा
१२	मन्मथ पौडेल	सदस्य	मन्मथ
१३	राम राई	उपस्थित अपस्थित	राम
१४	सुबिन खत्री	Sub-Engineer	सुबिन
१५	प्रेम खत्री	GIS Expert	प्रेम
१६			
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माना जाते 2029/02/12 को आइतवार का दिन यस
सुर्योदय नगरपालिका वडा नं. १४ का वडा अध्यक्ष
श्री बल बहादुर समाल नगरको अध्यक्षता तथा
कार्यकारवाहीको उपस्थितिमा छलफल तथा विवरण
सैनतन कार्यक्रम सम्पन्न भयो।

उपस्थित :

क्रम	नाम	पद	हस्ताक्षर
१	बल बहादुर समाल	अध्यक्ष	बल बहादुर
२	डॉ. अरुण शिरोडा	स्थानिय	अरुण शिरोडा
३	हर्षि लाल तिमसीना	रेल संयोजक	हर्षि लाल
४	निष्क ज्ञान आचार्य	वडा सदस्य	निष्क ज्ञान
५	राम प्रसाद रिजाल	रेल वि. सचिव	राम प्रसाद
६	कृष्ण प्रसाद डुवाल	रेल वि. सचिव	कृष्ण प्रसाद
७	इन्द्र व. सिमाली	स्थानिय	इन्द्र व.
८	योगना लुइटेन	आ.स.	योगना
९	मुकुटा वडा	वडा सदस्य	मुकुटा
१०	सविन डुवाल	Sub-Engineer	सविन
११	सुरेश बलम	GIS-Expert	सुरेश
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3. MAPS

1. **A Class Network Map:**
 - Displays the road network classified as Class A.
2. **B Class Network Map:**
 - Highlights the road network under Class B.
3. **C Class Network Map:**
 - Shows the road network classified as Class C.
4. **D Class Network Map:**
 - Maps the road network categorized as Class D.
5. **District Road Network Map:**
 - Illustrates the road connectivity within the district.
6. **Feeder Road Network Map:**
 - Highlights the feeder roads connecting various settlements and services.
7. **Inventory Map:**
 - A comprehensive map showcasing the municipality's entire road inventory.
8. **Municipal Road Network Map:**
 - Focuses on the municipality's overall road network.
9. **National Road Network Map:**
 - Displays the national-level road connectivity, including highways.
10. **Road Network Map:**
 - Provides an overview of all road types and their layout across the municipality.
11. **SRN Road Network Map:**
 - Highlights the Strategic Road Network, including national highways and district-level roads.

1. MAPS

