



## FOREWORD

## **ACKNOWLEDGEMENT**

Final report on the Preparation of District Transport Master Plan (DTMP) of Kapilvastu District has been prepared under the contract agreement between RAP-3 and SIDeF, Kathmandu.

The consultant has prepared this report after extensive documentary consultation/ field work, DRCN road inventory study and interaction with line agency of the district.

We would like to extend our heartfelt gratitude to the District Development Committee (DDC) Kapilvastu for providing cooperation to carry out this task.

SIDeF would like to express our gratitude to Mr.Ram Prasad Pandey, Local Development Officer, Er. Shiva Man Shrestha, DTO Chief and all the DDC and DTO staffs for their valuable suggestions and co-operation for the preparation of this report.

We also extend our sincere thanks to the representatives of political parties for their active and valuable participation in the process of DTMP preparation. We are grateful to all the local people and leaders who have rendered their valuable accompany to our team during execution of the works.

Thank goes to our team of Er. Chuda Mani Ghimire, Team Leader, Er. Raghunath Rimal, Engineer and GIS expert who continuously worked to finalize the DTMP.

ER. Hare Ram Shrestha

Project Director  
On behalf of  
SIDeF

## EXECUTIVE SUMMARY

Kapilvastu district is located in Lumbini Zone of Western Development Region of Nepal. It Boarders with Rupandehi district to the east, India to the West, Arghakhachi to the North, Dang to the northwest and India to the south. The district consist of 77 VDCs and one municipality till 2070 BS. Topographic location of Kapilvastu district is 83°75' E to 83°14' E east and 27°25' N to 27°84' N. Total area of Kapilvastu district is 1738 Km<sup>2</sup>. Elevation above mean sea level ranges from 93 m. (min.) to 1491m. (max.). The average maximum temperature is 43°C and the minimum temperature is 5°C. At present the district is divided in to the 77 VDCs, one municipality and 15 Ilaka for the administrative purpose and 5 electoral constituencies.

Main sources of occupations and livelihood of the district population are agriculture, livestock, business, small to medium industries, tourism industry and trading etc. The total population size is 571936. Population density is 329 per sq. km. Average household size is 6.26 persons. Kapilvastu district has multi ethnicity and the composition: majorities are Brahmin, Magar, Chhetri , Dalit, Tharu, Thakuri. Major languages spoken in Kapilvastu district are: Nepali, Hindi, Tharu, and their local language.

Kapilvastu district headquarter is Taulihawa which is connected to East- West Highway by Jitpur- Taulihawa road and Butwal-Bhairahawa- Lumbini- Taulihawa road.

Total lengths of road in Kapilvastu district is 1254.3 km among them 222.97 km is SRN.

The total length of DRCN road is 374.5 Km which is approved by Kapilvastu DTICC meeting in 24 Baisakh, 2071, given in **Annex 5**. Where 26.55 Km is Blacktop, 308.49 Km is gravel and left 39.45 Km is earthen. The table ES1 below presents overall picture of road inventory of Kapilvastu district.

**Table ES1.**

| Road Class                 | Total length    | Black Top     | Gravel        | Earthen       |
|----------------------------|-----------------|---------------|---------------|---------------|
| Strategic road network     | 222.97          | 139.97        | 54.00         | 29.00         |
| Urban roads                | 123.00          | 27.00         | 50.00         | 46.00         |
| District road core network | 374.50          | 26.55         | 308.49        | 39.45         |
| Village roads              | 533.83          | 0.42          | 286.08        | 247.33        |
| <b>Total</b>               | <b>1,254.29</b> | <b>193.95</b> | <b>698.57</b> | <b>361.77</b> |

The total estimated cost for conservation, improvement and new construction for selected DRCN road is Rs 1,580,748,000. The cost for conservation is Rs 1,113,351,000, cost for improvement is Rs 460,996,000 and that for new construction is Rs 6,400,000. Table ES2 below shows summary of the costs for improvement and new construction.

**Table ES2.**

| Improvement type        | Requirement      | Cost (NPR)         |
|-------------------------|------------------|--------------------|
| Bridges                 | 570 M            | 399,000,000        |
| Slab culverts           | 56 M             | 8,960,000          |
| Causeways               | 0 M              | -                  |
| Hume pipes              | 20 Units         | 300,000            |
| Masonry retaining walls | 0 m <sup>3</sup> | -                  |
| Gabion retaining walls  | 0 m <sup>3</sup> | -                  |
| Lined drains            | 0 M              | -                  |
| Widening                | 0 M              | -                  |
| Rehabilitation          | 4.5 Km           | 5,400,000          |
| Gravelling              | 39.45 Km         | 47,336,394         |
| Blacktopping            | 0 Km             | -                  |
| New construction        | 2.00 Km          | 6,400,000          |
| <b>Total</b>            |                  | <b>467,396,394</b> |

For 5-years planning (2071/072 to 2075/076) the total estimated budget is Rs 1,948,198,000.00. As per the DDC's decision 80% of the total road sector budget has to be taken for DRCN roads planning, which comes to be Rs 1,558,558,400. Whereas the total estimated cost required for DRCN road is Rs 1,580,748,000. This clearly shows that probable budget allocation is not sufficient for all interventions. Hence, budget allocation for five years planning is done based on the ranking priority as conservation, improvement and new construction. Budget has been allocated as table **6.2.1(AUTO)**.

For 5-years DTMP, the total budget allocated for conservation is Rs 1,161,318,000 and Rs 397,240,000 for improvement, Due to insufficient budget, no budget planning has been done for new construction of the selected DRCN.

At the end of five year period, the percentage changes of road condition will be seen. The fair weather road length is reduced from 11% to 0%, all weather gravel road is improved from 82% to 92% and remained are unchanged. All VDC are accessed by road at the start and at the end of DTMP

## **ABBREVIATIONS**

|         |   |
|---------|---|
| ARMP    | Annual Road Maintenance Plan  |
| CC      | Cement Concrete   |
| DDC     | District Development Committee                                      |
| DOLIDAR | Department of Local Infrastructure Development and Agriculture Road |
| DOR     | Department of Road  |
| DRCN    | District Road Core Network  |
| DTICC   | District Transport Infrastructure Coordination Committee            |
| DTMP    | District Transport Master Plan                                      |
| DTO     | District Technical Office   |
| DTPP    | District Transport Perspective Plan                                 |
| GIS     | Geographical Information system                                     |
| GON     | Government of Nepal   |
| GPS     | Global Positioning System   |
| LGCDP   | Local Governance and Community Development Programme                |
| MoFALD  | Ministry of Federal Affairs and Local Development                   |
| SWAp    | Sector Wide Approach  |
| VDC     | Village Development Committee                                       |
| VPD     | Vehicle per Day   |

## **Contents**

|  |            |
|--|------------|
| <b>Foreword.....</b>                                       | <b>i</b>   |
| <b>ACKNOWLEDGEMENT .....</b>                               | <b>ii</b>  |
| <b>Executive summary .....</b>                             | <b>iii</b> |
| <b>Abbreviations.....</b>                                  | <b>v</b>   |
| <b>1. Introduction .....</b>                               | <b>1</b>   |
| <b>2. District road core network (DRCN).....</b>           | <b>2</b>   |
| 2.1 National Highways and Feeder Road.....                 | 2          |
| 2.2 District Road Core Network.....                        | 3          |
| 2.3 Village roads .....                                    | 3          |
| <b>3. District Transport Perspective Plan (DTPP) .....</b> | <b>6</b>   |
| 3.1 Conservation.....                                      | 6          |
| 3.2 Improvement.....                                       | 7          |
| 3.3 New construction.....                                  | 12         |
| 3.4 District Transport Perspective Plan .....              | 12         |
| <b>4. Cost estimation.....</b>                             | <b>15</b>  |
| 4.1 Conservation.....                                      | 15         |
| 4.2 Improvement.....                                       | 17         |
| 4.3 New construction.....                                  | 18         |
| 4.4 DTPP costs .....                                       | 19         |
| <b>5. Ranking.....</b>                                     | <b>20</b>  |
| 5.1 Conservation.....                                      | 20         |
| 5.2 Improvement.....                                       | 21         |
| 5.3 New construction.....                                  | 21         |
| <b>6. District Transport Master Plan (DTMP) .....</b>      | <b>22</b>  |
| 6.1 Five Year Projected Financial resources .....          | 22         |
| 6.2 Budget allocation.....                                 | 22         |
| 6.3 DTMP outputs .....                                     | 24         |
| 6.4 DTMP outcome .....                                     | 24         |
| <b>Annex 1 Traffic data.....</b>                           | <b>26</b>  |
| <b>Annex 2 Population data .....</b>                       | <b>27</b>  |
| <b>Annex 3 Location of proposed Interventions .....</b>    | <b>33</b>  |
| <b>Annex 4 Overall INVENTORY .....</b>                     | <b>34</b>  |
| <b>Annex 5 MINUTE OF MEETINGS.....</b>                     | <b>38</b>  |

## TABLES

|                    |   |           |
|--------------------|---|-----------|
| Table 2.1.1        | Total road length (km) .....  | 2         |
| <b>Table 2.1.1</b> | <b>National Highways and Feeder Roads (km)</b> .....                        | <b>2</b>  |
| Table 2.2.1        | Total road length (km) .....  | 3         |
| Table 2.3.2        | District road core network (km).....  | 1         |
| Table 3.1.1        | Conservation requirements.....  | 6         |
| Table 3.2.1        | Sections of the district road core network requiring rehabilitation .....   | 7         |
| Table 3.2.2        | Sections of the district road core network requiring gravelling .....       | 7         |
| Table 3.2.3        | Required cross drainage structures .....                                    | 8         |
| Table 3.2.4        | Required protective structures.....   | 9         |
| Table 3.2.5        | Sections of the district road core network requiring widening.....          | 10        |
| Table 3.2.6        | Sections of the district road core network requiring blacktopping.....      | 11        |
| Table 3.3.1        | Sections of the district road core network requiring new construction ..... | 12        |
| Table 3.4.1        | District Transport Perspective Plan.....                                    | 13        |
| Table 4.1.1        | Standard unit costs for conservation.....                                   | 15        |
| Table 4.1.2        | Estimated conservation costs for the first year (NPR '000) .....            | 16        |
| Table 4.2.1        | Standard unit costs for improvement activities.....                         | 17        |
| Table 4.2.2        | Cost estimate for improvement measures (NPR '000) .....                     | 17        |
| Table 4.3.1        | Standard unit costs for new construction .....                              | 18        |
| Table 4.3.2        | Cost estimate for new construction (NPR '000) .....                         | 18        |
| Table 4.4.1        | DTPP costs (NPR '000).....  | 19        |
| Table 5.1.1        | Ranking of conservation works (NPR '000) .....                              | 20        |
| Table 5.2.1        | Ranking of improvement works (NPR '000) .....                               | 21        |
| Table 5.3.1        | Ranking of new construction works (NPR '000) .....                          | 21        |
| Table 6.1.1        | Estimated funding levels (roads) for next five years (in NPR '000) .....    | 22        |
| <b>Table 6.2.1</b> | <b>DTMP investment plan</b> .....   | <b>23</b> |
| Table 6.3.1        | DTMP output .....   | 24        |
| Table 6.4.1        | Standard of DRCN roads.....   | 24        |
| Table 6.4.2        | Population with access to road network.....                                 | 24        |

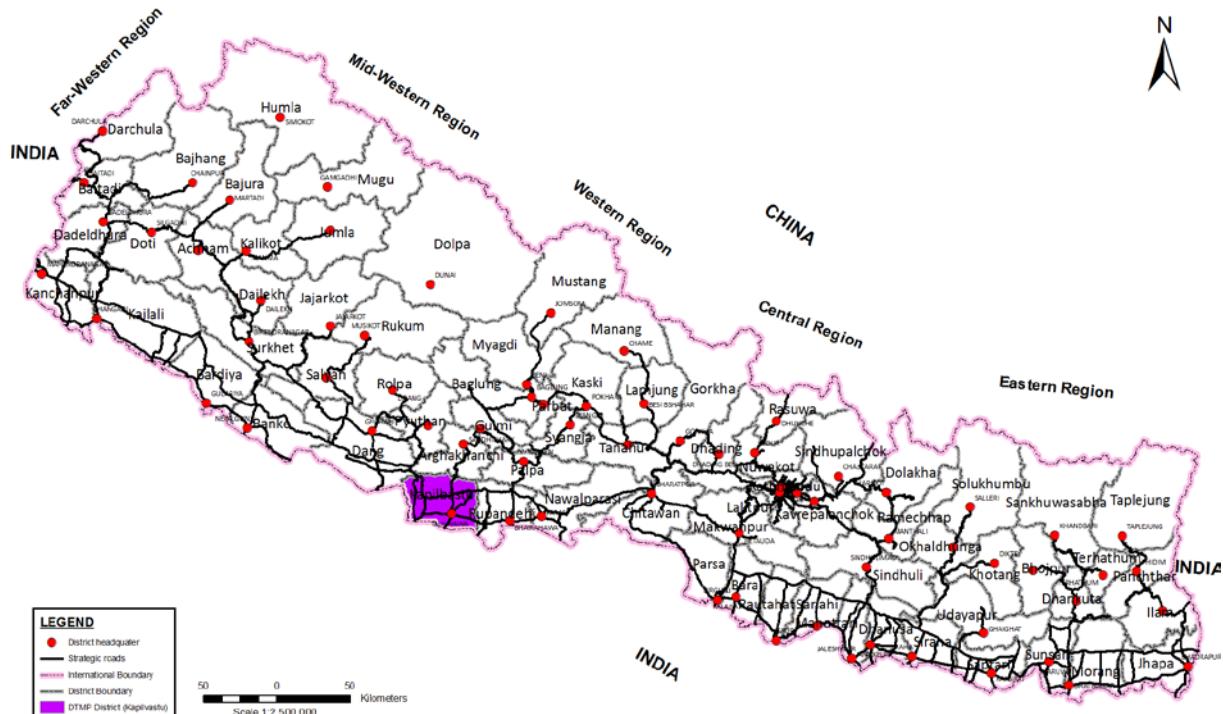
## FIGURES

|          |   |    |
|----------|---|----|
| Figure 1 | Location of the Kapilvastu district .....       | 1  |
| Figure 2 | Total Road Inventory .....                      | 4  |
| Figure 3 | District Road Core Network (DRCN) .....         | 5  |
| Figure 4 | District Transport Perspective Plan (DTPP)..... | 14 |
| Figure 5 | District road sector budget allocation .....    | 22 |
| Figure 6 | District Transport Master Plan (DTMP).....      | 25 |

# 1. INTRODUCTION

Kapilvastu district is located in Lumbini Zone of Western Development Region of Nepal. It Boarders with Rupandehi district to the east, India to the West, Arghakhachi to the North, Dang to the northwest and India to the south. The district, consist of 77 VDCs and one municipality till 2070 BS. Topographic location of Kapilvastu district is 83°75' E to 83°14' E east and 27°25' N to 27°84' N. Total area of Kapilvastu district is 1738 Km<sup>2</sup>. Elevation above mean sea level ranges from 93 m. (min.) to 1491m. (max.). The average maximum temperature is 43°C and the minimum temperature is 5°C. At present the district is divided in to the 77 VDCs, one municipality and 15 Ilaka for the administrative purpose and 5 electoral constituencies.

Figure 1 Location of the Kapilvastu district



Main sources of occupations and livelihood of the district population are agriculture, livestock, business, small to medium industries, tourism industry and trading etc. The total population size is 571936. Population density is 329 per sq. km. Average household size is 6.26 persons. Kapilvastu district has multi ethnicity and the composition: majorities are Brahmin, Magar, Chhetri, Dalit, Tharu, Thakuri. Major languages spoken in Kapilvastu district are: Nepali, Hindi, Tharu, and their local language.

Kapilvastu district headquarter is Taulihawa which is connected to East- West Highway by Jitpur- Taulihawa road and Butwal- Bhairahawa- Lumbini- Taulihawa road.

## 2. DISTRICT ROAD CORE NETWORK (DRCN)

In the course of DTMP preparation, the entire road inventory existing in the district has been taken from the previous DTMP report. A minimum network of rural roads that provides access to all VDC headquarters linking directly with district headquarter or to the SRN roads are identified to form the district road core network (DRCN). In the process of selecting DRCN, some DRCN roads are extended beyond the VDC headquarters and some roads are added to provide access to agriculturally potential areas as well as tourism potential areas as DDC members insisted to incorporate some extra roads in DRCN even if the VDC is already linked with DRCN.

The total length of SRN road is 222.97 km and rural road except municipal road is 908.32 km among which 374.5 is DRCN which was approved by DTICC meeting of Kapilvastu district held on 2071/01/24 given in **Annex 5..**

**Table 2.1.1 Total road length (km)**

| Road Class      | Total length    | Black Top     | Gravel        | Earthen       |
|-----------------|-----------------|---------------|---------------|---------------|
| Strategic roads | 222.97          | 139.97        | 54.00         | 29.00         |
| Urban roads     | 123.00          | 27.00         | 50.00         | 46.00         |
| Rural roads     | 908.32          | 26.98         | 594.57        | 286.77        |
| <b>Total</b>    | <b>1,254.29</b> | <b>193.95</b> | <b>698.57</b> | <b>361.77</b> |

### 2.1 NATIONAL HIGHWAYS AND FEEDER ROAD

The total length of existing SRN road within Kapilvastu district is 222.97 km, where 139.97 km is blacktop, 54 km is gravel standard and 29 Km is earthen. The main highway and feeder road are listed below

**Table 2.1.1 National Highways and Feeder Roads (km)**

| Code         | Name of Road   | Total Length  | Black Top     | Gravel       | Earthen      |
|--------------|--|---------------|---------------|--------------|--------------|
| H01          | Kothi River-Jitpur                                       | <b>4.92</b>   | 4.92          |              |              |
| H01          | Jitpur- Gorusinge  | <b>14.60</b>  | 14.60         |              |              |
| H01          | Gorusinge-Chanauta                                       | <b>19.27</b>  | 19.27         |              |              |
| H01          | Chanauta- Dhan khola                                     | <b>22.05</b>  | 22.05         |              |              |
| F010         | Jitpur-Taulihawa Municipality Border                     | <b>18.00</b>  | 9.50          |              | 8.50         |
| F010         | Taulihawa Municipality Border- Bank Chauraha             | <b>4.53</b>   | 4.53          |              |              |
| F010         | Bank Chauraha- Taulihawa Municipality Boundry            | <b>3.02</b>   | 3.02          |              |              |
| F010         | Taulihawa Municipality Boundry- Khunuwa                  | <b>7.84</b>   | 7.84          |              |              |
| F011         | Taulihawa- Gorusinge                                     | <b>14.00</b>  | 3.00          |              | 11.00        |
| F011         | Gorusinge-Patharkot                                      | <b>11.01</b>  | 11.01         |              |              |
| F011         | Patharkot- Kapilvastu district border                    | <b>1.33</b>   | 1.33          |              |              |
| F012         | Chanauta-Bahadurgunj                                     | <b>12.02</b>  | 12.02         |              |              |
| F012         | Bahadurgunj- Krishnanagar                                | <b>8.04</b>   | 8.04          |              |              |
| F045         | Kothi bridge- Taulihawa municipality boundry             | <b>17.14</b>  | 17.14         |              |              |
| F045         | Taulihawa municipality boundry- Taulihawa                | <b>1.70</b>   | 1.70          |              |              |
| F137         | Pipara(MRM)- Pakadi(F04502)                              | <b>19.56</b>  |               | 8.00         | 11.56        |
| F137         | Pakadi(F04502)- Chakarchauda(IB)                         | <b>7.44</b>   |               |              | 7.44         |
| F200         | Khairendrapur(MRM)- Shitalpur-Bilmi                      | -             | -             | -            | -            |
| H17          | Taulihawa-Bahadurgunj (Postal)                           | <b>21.00</b>  |               | 21.00        |              |
| H17          | Krishnanagar- Chirai Naka(Chootabhagawanpur) (Postal)    | <b>15.50</b>  |               | 5.50         | 10.00        |
| H17          | Chirai Naka(Chootabhagawanpur)- Dhan Khola(MRM) (POSTAL) | -             |               | -            | -            |
|              | Imiliya- maharajgunj- Hardauna                           | -             |               |              |              |
| <b>Total</b> |  | <b>222.97</b> | <b>139.97</b> | <b>54.00</b> | <b>29.00</b> |

*Source: DoR*

## 2.2 DISTRICT ROAD CORE NETWORK

The inventory map developed using GIS software in the previous DTMP has been used for the identification of DRCN based on the criteria set out by DTMP Guidelines; Firstly DRCN was selected in consultation with DTO engineers and the technicians. Second meeting of DTICC was called by DDC Kailali on 24 Baisakh, 2071 BS for approval of DRCN. Some of the roads were extended and some of the roads were added in the proposed DRCN list as per the suggestions of political parties present in the meeting of DTICC. Finally the DRCN was approved by DTICC with some additions. The Approved List of the DRCN road is shown in the table below containing 35 nos. of road.

The total length of approved DRCN road is 376.5 Km, among which existing road length is 374.5 Km and new construction road is 2Km. Among the whole length of DRCN 26.55 Km is blacktop, 308.49 Km is gravel and 39.45 Km is earthen.

**Table 2.2.1 Total road length (km)**

| Road Class                        | Total length    | Black Top     | Gravel        | Earthen       |
|-----------------------------------|-----------------|---------------|---------------|---------------|
| <b>Strategic road network</b>     | <b>222.97</b>   | <b>139.97</b> | <b>54.00</b>  | <b>29.00</b>  |
| Highways                          | 222.97          | 139.97        | 54.00         | 29.00         |
| Feeder roads                      | -               |               |               |               |
| <b>Urban roads</b>                | <b>123.00</b>   | <b>27.00</b>  | <b>50.00</b>  | <b>46.00</b>  |
| Taulihawa Municipality            | 123.00          | 27.00         | 50.00         | 46.00         |
| <b>District road core network</b> | <b>374.50</b>   | <b>26.55</b>  | <b>308.49</b> | <b>39.45</b>  |
| <b>Village roads</b>              | <b>533.83</b>   | <b>0.42</b>   | <b>286.08</b> | <b>247.33</b> |
| <b>Total</b>                      | <b>1,254.29</b> | <b>193.95</b> | <b>698.57</b> | <b>361.77</b> |

*Source: DoR and Municipality*

**Table 2.3.2 District road core network (km)**

| Code    | Name of Road   | Total Length | Black Top | Gravel | Earthen | All weather | Fair weather | New construction | Name of Settlements   |
|---------|--|--------------|-----------|--------|---------|-------------|--------------|------------------|---|
| 50DR001 | Krishna Nagar- Srishihawa- Gugauli - Shivagadhi Road                     | 24.69        | -         | 22.92  | 1.77    | 22.92       | 1.77         | -                | Bhagwanpur, Shivagadhi, Loharauli, Khurhuriya, Patuwa, Taktapur, Ganeshpur, Krishna Nagar |
| 50DR002 | Chandrauta- Balapur- Sundaridanda Road                                   | 5.90         | -         | 5.90   | -       | 5.90        | -            | -                | Chandrauta, Balapur, Hallanagar, Sundaridanda   |
| 50DR003 | Dharam Nagar (Birpur)- Majhigauwa-Bishnupur- Mijhuniya-Padariya Road     | 8.50         | -         | 7.02   | 1.48    | 7.02        | 1.48         | -                | Dharam Nagar, Majhigauwa, Bishnupur, Mijhuniya, Padariya                                  |
| 50DR004 | Rudrapur- Jagdishpur RTO Road  | 7.88         | -         | 7.88   | -       | 7.88        | -            | -                | Jagadishpur, Motinagar, Rudrapur  |
| 50DR005 | Jawabhari- Nibihawa- Patwar- Pathardaiya- Ganeshpur Road                 | 9.91         | 1.23      | 8.68   | -       | 9.91        | -            | -                | Jawabhari, Nibihawa, Patwar, Pathardaiya, Ganeshpur                                       |
| 50DR006 | RTO Saunahawa- Bahadurgunj Road  | 6.09         | 0.34      | 5.75   | -       | 6.09        | -            | -                | Saunaha, Bijayanagar, Bahadurgunj   |
| 50DR007 | Khairendrapur- Maharajgunj Road  | 11.00        | 0.25      | 10.76  | -       | 11.00       | -            | -                | Maharajgunj, Chamarsathiya, Katihawa, Thuniya, Basantapur, Khairendrapur                  |
| 50DR008 | Badaegaun- Manpur- Thuniya Road  | 6.01         | -         | 4.89   | 1.11    | 4.89        | 1.11         | -                | Thuniya, Manpur, Badegaun   |
| 50DR009 | Karma- jigna- Lalpur- Thuniya Road                                       | 14.83        | -         | 5.21   | 9.62    | 5.21        | 9.62         | -                | Karma, Bishanpur, Jigna, Lalpur   |
| 50DR010 | Rudrapur- Lalpur- Sisawa-Chamarsathiya- Maharajgunj                      | 9.52         | -         | 6.64   | 2.88    | 6.64        | 2.88         | -                | Rudrapur, Lalpur, Sisawa, Chamarsathiya, Maharajgunj                                      |
| 50DR011 | Rajpur- Aurahawa- Bhanpur- Badhani Border Road                           | 6.12         | -         | 6.12   | -       | 6.12        | -            | -                | Rajpur, Aurahawa, Bhanpur, Badhani Border   |
| 50DR012 | Buddi- Rangai- Taku- Bakatpur Road                                       | 9.08         | -         | 9.08   | -       | 9.08        | -            | -                | Buddi, Rangai, Taku, Bakatpur   |
| 50DR013 | Hardasadiwa- Mahuwa- Magurgad Road                                       | 9.11         | -         | 7.62   | 1.49    | 7.62        | 1.49         | -                | Hardasadiwa, Simrana, Mahuwa, Magurgad  |
| 50DR014 | Bijgauri-Shankarpur-Aurahawa Road  | 4.99         | -         | 4.99   | -       | 4.99        | -            | -                | Bijgauri, Chauhatta, Aurahama   |
| 50DR015 | Tikkar- Buddi- Bijgauri- Hulaki Sadak Road                               | 21.52        | 11.42     | 10.09  | -       | 21.52       | -            | -                | Tikkar, Buddi, Bijgauri   |
| 50DR016 | Piparahawa-Sauraha-Baskhor-Shihokhor- Sultanwapur-Kopawa- Marjadpur Road | 12.23        | 0.50      | 7.05   | 4.68    | 7.55        | 4.68         | -                | Piparahawa, Baskhor, Shihokhor, Marjadpur   |
| 50DR017 | Sonawarsi- Loharauli- Pokharabhitawa- Shrirampur- Sihokhor- Kholiya Road | 9.27         | -         | 7.63   | 1.64    | 7.63        | 1.64         | -                | Sonawarsi, Loharauli, Pokharabhitawa, Shrirampur, Sihokhor, Kholiya                       |
| 50DR018 | Simrahawa - Basantapur- Amalonaha- Rangapur -purnihawa Road              | 9.37         | -         | 9.37   | -       | 9.37        | -            | -                | Simrahawa, Basantapur, Amalonaha, Rangapur, Purnihawa                                     |
| 50DR019 | Bargadawa- Bhawapur- Titirkhi- Road                                      | 10.97        | 5.44      | 5.53   | -       | 10.97       | -            | -                | Bargadawa, Bhawapur, Titirkhi   |

|              |   |               |              |               |              |               |              |             |   |
|--------------|---|---------------|--------------|---------------|--------------|---------------|--------------|-------------|---|
| 50DR020      | Harnampur- Bhadehar- Basantapur- Dangari - Gotihawa Road  | 8.52          | -            | 5.97          | 2.55         | 5.97          | 2.55         | 2.00        | Harnampur, Bhadehar, Basantapur, Dangari, Gotihawa      |
| 50DR021      | Gaura Bhansar- Sishaniya-Kuwagaun- Dohani Road            | 8.06          | -            | 8.06          | -            | 8.06          | -            | -           | Gaura Bhansar, Sishaniya, Kuwagaun, Dohani              |
| 50DR022      | Dohani- Bankasiya- Baluhawa- Baluhi- Gauraha Road         | 4.47          | -            | 4.47          | -            | 4.47          | -            | -           | Dohani, Bankasiya, Baluhawa, Baluhi, Gauraha            |
| 50DR023      | Chakarchauda- Dohani- Pachehara Road                      | 10.14         | 1.00         | 6.14          | 3.00         | 7.14          | 3.00         | -           | Dohani, Sishama, Chakadchauda                           |
| 50DR024      | Barrohiya- Pachehara Road                                 | 8.41          | -            | 8.41          | -            | 8.41          | -            | -           | Pachehara, Simrauli, Barrohiya                          |
| 50DR025      | Barrohiya-Jayanagara Road (Purano Hulaki)                 | 11.49         | -            | 11.49         | -            | 11.49         | -            | -           | Barrohiya, Pakadi, Baskhor, Bituhawa, Hatihawa          |
| 50DR026      | Laxmanghat-Jagidishpur-Tilaurakot (Paryatakiya Road)      | 15.24         | -            | 15.24         | -            | 15.24         | -            | -           | Laxmanghat,Kushma, Jagidishpur, Tilaurakot              |
| 50DR027      | Mainihawa-Pachehara Road                                  | 10.08         | -            | 10.08         | -            | 10.08         | -            | -           | Pakadi, dhamauli, Dehara Pachehara                      |
| 50DR028      | Jhanda-Bagain- Motipur- Dohote Road                       | 14.40         | 2.77         | 11.64         | -            | 14.40         | -            | -           | Jhanda, Bangain, Motipur, Arghakhachi Sima              |
| 50DR029      | Jahadi- Bikuli- Bungchi Road                              | 12.04         | 2.53         | 9.52          | -            | 12.04         | -            | -           | Jahadi, Bikuli, Bungchi                                 |
| 50DR030      | Bedauli-Mainaharawa-Dewapur- Hathausa- Patna- Kothi Road  | 12.57         | -            | 3.34          | 9.23         | 3.34          | 9.23         | -           | Bedauli, Mainaharawa, Dewapur, Hathausa, Rupandehi Sima |
| 50DR031      | Chappar gaun- Gansahawa- Dhodekol- Mormi- Jinuwa Road     | 2.85          | 0.65         | 2.20          | -            | 2.85          | -            | -           | Chappar gaun, Gansahawa, Dhodekol, Mormi, Jinuwa        |
| 50DR032      | Bodgaun- Mormi- Bardahawa- Dohate Road                    | 6.99          | 0.44         | 6.55          | -            | 6.99          | -            | -           | Bodgaun, Mormi, Bardahawa,Arghakhachi Sima              |
| 50DR033      | Laxmanghat- Gajehada-Balapur- bankatti (Bolbam Dham) Road | 9.74          | -            | 9.74          | -            | 9.74          | -            | -           | Laxmanghat, Gajehada, Balapur, bankatti                 |
| 50DR034      | Sibalawa-Labani- MRM Road                                 | 31.46         | -            | 31.46         | -            | 31.46         | -            | -           | Hatihawa, Labani, Bhagawanpur, Dharampur, Bhabpur       |
| 50DR035      | Odari-Patna-Kothi nadi Road                               | 11.07         | -            | 11.07         | -            | 11.07         | -            | -           | Odari, Patna, Rupandehi Sima (Kothi nadi)               |
| <b>Total</b> |   | <b>374.50</b> | <b>26.55</b> | <b>308.49</b> | <b>39.45</b> | <b>335.05</b> | <b>39.45</b> | <b>2.00</b> |   |

## **2.3 VILLAGE ROADS**

After the identification of DRCN roads, all other roads that do not belong to the SRN road, DRCN roads and urban roads are classified as village roads and fall under the responsibility of the VDCs. The planning for these roads is not included in the DTMP, as they are not the responsibility of the district development committee. The management of these roads will be the responsibility of the VDC and any planned interventions will be included in the annual work programme of the VDCs. Funding for these interventions will come from VDC grant, community contributions and the additional funding (20% as decided by DTICC meeting) made available from DDC through rural roads project. VDCs will be responsible for emergency and routine/recurrent maintenance of these roads.

**Figure 2 Total Road Inventory**

**Figure 3      District Road Core Network (DRCN)**

### **3. DISTRICT TRANSPORT PERSPECTIVE PLAN (DTPP)**

The District Transport Perspective Plan is simply the list of all the identified interventions that are necessary to bring the roads to a maintainable all-weather standard and keep them there, as well as the construction of any new roads considered necessary to complete the DRCN. As such it is the summation of the interventions identified which are required to improve the road to the proper standard, as well as the conservation requirements to keep the roads at all-weather standard

#### **3.1 CONSERVATION**

The need for conservation applies to the entire DRCN in existence, for as far as it is in maintainable condition and does not require rehabilitation first. A table is prepared to show the length of DRCN roads that require conservation, differentiating between emergency, routine, recurrent and periodic maintenance. For all conservation types the full length (in km) of the DRCN roads in maintainable standard is entered into Table 3.1.1. Even though the roads will only require emergency and periodic maintenance in some of the years, for DTMP planning purposes an average requirement and cost are applied to the entire network. The specific roads to receive emergency and periodic maintenance each year are determined in the ARMP which are commonly prepared by DTO of the district.

**Table 3.1.1 Conservation requirements**

| <b>Code</b>  | <b>Emergency maintenance (km)</b> | <b>Routine maintenance (km)</b> | <b>Recurrent maintenance (km)</b> | <b>Periodic maintenance (km)</b> |
|--------------|-----------------------------------|---------------------------------|-----------------------------------|----------------------------------|
| 50DR001      | 24.69                             | 24.69                           | 24.69                             | 24.69                            |
| 50DR002      | 5.90                              | 5.90                            | 5.90                              | 5.90                             |
| 50DR003      | 8.50                              | 8.50                            | 8.50                              | 8.50                             |
| 50DR004      | 7.88                              | 7.88                            | 7.88                              | 7.88                             |
| 50DR005      | 9.91                              | 9.91                            | 9.91                              | 9.91                             |
| 50DR006      | 6.09                              | 6.09                            | 6.09                              | 6.09                             |
| 50DR007      | 11.00                             | 11.00                           | 11.00                             | 11.00                            |
| 50DR008      | 6.01                              | 6.01                            | 6.01                              | 6.01                             |
| 50DR009      | 14.83                             | 14.83                           | 14.83                             | 14.83                            |
| 50DR010      | 9.52                              | 9.52                            | 9.52                              | 9.52                             |
| 50DR011      | 6.12                              | 6.12                            | 6.12                              | 6.12                             |
| 50DR012      | 9.08                              | 9.08                            | 9.08                              | 9.08                             |
| 50DR013      | 9.11                              | 9.11                            | 9.11                              | 9.11                             |
| 50DR014      | 4.99                              | 4.99                            | 4.99                              | 4.99                             |
| 50DR015      | 21.52                             | 21.52                           | 21.52                             | 21.52                            |
| 50DR016      | 12.24                             | 12.24                           | 12.24                             | 12.24                            |
| 50DR017      | 9.27                              | 9.27                            | 9.27                              | 9.27                             |
| 50DR018      | 9.37                              | 9.37                            | 9.37                              | 9.37                             |
| 50DR019      | 10.97                             | 10.97                           | 10.97                             | 10.97                            |
| 50DR020      | 8.52                              | 8.52                            | 8.52                              | 8.52                             |
| 50DR021      | 8.06                              | 8.06                            | 8.06                              | 8.06                             |
| 50DR022      | 4.47                              | 4.47                            | 4.47                              | 4.47                             |
| 50DR023      | 10.14                             | 10.14                           | 10.14                             | 10.14                            |
| 50DR024      | 8.41                              | 8.41                            | 8.41                              | 8.41                             |
| 50DR025      | 11.49                             | 11.49                           | 11.49                             | 11.49                            |
| 50DR026      | 15.24                             | 15.24                           | 15.24                             | 15.24                            |
| 50DR027      | 10.08                             | 10.08                           | 10.08                             | 10.08                            |
| 50DR028      | 14.40                             | 14.40                           | 14.40                             | 14.40                            |
| 50DR029      | 12.04                             | 12.04                           | 12.04                             | 12.04                            |
| 50DR030      | 12.57                             | 12.57                           | 12.57                             | 12.57                            |
| 50DR031      | 2.85                              | 2.85                            | 2.85                              | 2.85                             |
| 50DR032      | 6.99                              | 6.99                            | 6.99                              | 6.99                             |
| 50DR033      | 9.74                              | 9.74                            | 9.74                              | 9.74                             |
| 50DR034      | 31.46                             | 31.46                           | 31.46                             | 31.46                            |
| 50DR035      | 11.07                             | 11.07                           | 11.07                             | 11.07                            |
| <b>Total</b> | <b>374.50</b>                     | <b>374.50</b>                   | <b>374.50</b>                     | <b>374.50</b>                    |

## 3.2 IMPROVEMENT

For the road improvements, separate tables are prepared to show the required interventions for rehabilitation, gravelling (upgrading to gravel standard), cross drainage, protective structures, widening and blacktopping. For this purpose, the Tables 3.2.1, 3.2.2, 3.2.3, 3.2.4, 3.2.5 and 3.2.6 are prepared.

### 3.2.1 REHABILITATION

Rehabilitation and upgrading refer to the existing road network where the roads are found to be in poor condition, to require technical improvement (curves, gradients, etc) or to require an improved road surface. During field survey the rehabilitation works to be carried out.

**Table 3.2.1 Sections of the district road core network requiring rehabilitation**

| Code         | Name of Road  | Total length (km) | Rehabilitation (km) |
|--------------|---|-------------------|---------------------|
| 50DR001      | Krishna Nagar- Srishihawa- Gugauli - Shivagadhi Road                    | 24.69             | 1.50                |
| 50DR003      | Dharam Nagar (Birpur)- Majhigauwa-Bishnupur- Mijhuniya-Padariya Road    | 8.50              | 2.00                |
| 50DR010      | Rudrapur- Lalpur- Sisawa-Chamarsathiya- Maharajgunj                     | 9.52              | 0.50                |
| 50DR017      | Sonawarsi- Loharauli- Pokharabhitawa- Shrirampur- Sihokhor-Khoriya Road | 9.27              | 0.50                |
| <b>Total</b> |   |                   | <b>4.50</b>         |

### 3.2.2 GRAVELLING

To improve the surface condition of the existing earthen roads considered in DRCN, 39.45 km will have to be converted into gravel standard to maintain as all weather condition.

**Table 3.2.2 Sections of the district road core network requiring gravelling**

| Code         | Name of Road   | Total length (km) | Gravelling (km) |
|--------------|--|-------------------|-----------------|
| 50DR001      | Krishna Nagar- Srishihawa- Gugauli - Shivagadhi Road                     | 24.69             | 1.77            |
| 50DR003      | Dharam Nagar (Birpur)- Majhigauwa-Bishnupur- Mijhuniya-Padariya Road     | 8.50              | 1.48            |
| 50DR008      | Badaegaun- Manpur- Thuniya Road  | 6.01              | 1.11            |
| 50DR009      | Karma- jigna- Lalpur- Thuniya Road                                       | 14.83             | 9.62            |
| 50DR012      | Buddi- Rangai- Taku- Bakatpur Road                                       | 9.08              | -               |
| 50DR013      | Hardasadiwa- Mahuwa- Magurgad Road                                       | 9.11              | 1.49            |
| 50DR016      | Piparahawa-Sauraha-Baskhor-Shihokhor- Sultanwapur-Kopawa- Marjadpur Road | 12.24             | 4.68            |
| 50DR017      | Sonawarsi- Loharauli- Pokharabhitawa- Shrirampur- Sihokhor- Khoriya Road | 9.27              | 1.64            |
| 50DR020      | Harnampur- Bhadehar- Basantapur- Dangari -Gotihawa Road                  | 8.52              | 2.55            |
| 50DR023      | Chakarchauda- Dohani- Pachehara Road                                     | 10.14             | 3.00            |
| 50DR030      | Bedauli-Mainaharawa-Dewapur- Hathausa- Patna- Kothi Road                 | 12.57             | 9.23            |
| <b>Total</b> |  |                   | <b>39.45</b>    |

### 3.2.3 CROSS DRAINAGE

To maintain the road in all weather condition, the required cross drainage structures are listed during the DRCN survey. The required cross drainage structure is shown in table below.

**Table 3.2.3 Required cross drainage structures**

| Code         | Name of Road   | Bridge (m) | Slab culvert (m) | CC Cause way (m) | Stone Cause way (m) | Pipe culvert (units) |
|--------------|--|------------|------------------|------------------|---------------------|----------------------|
| 50DR003      | Dharam Nagar (Birpur)- Majhigauwa-Bishnupur-Mijhuniya-Padariya Road      | 80         |                  |                  |                     |                      |
| 50DR005      | Jawabhari- Nibihawa- Patwar- Pathardaiya- Ganeshpur Road                 | 120        |                  |                  |                     |                      |
| 50DR006      | RTO Saunahawa- Bahadurgunj Road  | 100        | 2                |                  |                     |                      |
| 50DR009      | Karma- jigna- Lalpur- Thuniya Road                                       | 30         | 4                |                  |                     | 1                    |
| 50DR010      | Rudrapur- Lalpur- Sisawa-Chamarsathiya- Maharajgunj                      |            | 12               |                  |                     | 1                    |
| 50DR011      | Rajpur- Aurahawa- Bhanpur- Badhani Border Road                           |            |                  |                  |                     | 1                    |
| 50DR017      | Sonawarsi- Loharauli- Pokharabhitawa- Shrirampur- Sihokhor- Khoriya Road | 18         |                  |                  |                     | 3                    |
| 50DR020      | Harnampur- Bhadehar- Basantapur- Dangari -Gotihawa Road                  |            |                  |                  |                     | 3                    |
| 50DR023      | Chakarchauda- Dohani- Pachehara Road                                     |            |                  |                  |                     | 7                    |
| 50DR024      | Barrohiya- Pachehara Road  |            |                  |                  |                     |                      |
| 50DR025      | Barrohiya-Jayanagara Road (Purano Hulaki)                                | 30         | 2                |                  |                     | 1                    |
| 50DR027      | Mainihawa-Pachehara Road   |            |                  |                  |                     | 1                    |
| 50DR028      | Jhanda-Bangain- Motipur- Dohote Road                                     | 130        |                  |                  |                     |                      |
| 50DR030      | Bedauli-Mainaharawa-Dewapur- Hathausa- Patna- Kothi Road                 |            | 28               |                  |                     | 2                    |
| 50DR032      | Bodgaun- Mormi- Bardahawa- Dohate Road                                   | 62         |                  |                  |                     |                      |
| 50DR033      | Laxmanghat- Gajehada-Balapur- bankatti (Bolbam Dham) Road                |            | 8                |                  |                     |                      |
| <b>Total</b> |  | <b>570</b> | <b>56</b>        | -                | -                   | <b>20</b>            |

### 3.2.4 PROTECTIVE STRUCTURES

To maintain the road in all weather condition, the required protective structures are listed during the DRCN survey. The required protective structure is shown in table below.

**Table 3.2.4 Required protective structures**

| Code         | Name of Road   | Masonry walls (m3) | Gabion walls (m3) | Lined drain (m) |
|--------------|--|--------------------|-------------------|-----------------|
| 50DR001      | Krishna Nagar- Srishihawa- Gugauli - Shivagadhi Road                     |                    |                   |                 |
| 50DR002      | Chandrauta- Balapur- Sundaridanda Road                                   |                    |                   |                 |
| 50DR003      | Dharam Nagar (Birpur)- Majhigauwa-Bishnupur- Mijhuniya-Padariya Road     |                    |                   |                 |
| 50DR004      | Rudrapur- Jagdishpur RTO Road  |                    |                   |                 |
| 50DR005      | Jawabhari- Nibihawa- Patwar- Pathardaiya- Ganeshpur Road                 |                    |                   |                 |
| 50DR006      | RTO Saunahawa- Bahadurgunj Road  |                    |                   |                 |
| 50DR007      | Khairendrapur- Maharajgunj Road  |                    |                   |                 |
| 50DR008      | Badaegaun- Manpur- Thuniya Road  |                    |                   |                 |
| 50DR009      | Karma- jigna- Lalpur- Thuniya Road                                       |                    |                   |                 |
| 50DR010      | Rudrapur- Lalpur- Sisawa-Chamarsathiya- Maharajgunj                      |                    |                   |                 |
| 50DR011      | Rajpur- Aurahawa- Bhanpur- Badhani Border Road                           |                    |                   |                 |
| 50DR012      | Buddi- Rangai- Taku- Bakatpur Road                                       |                    |                   |                 |
| 50DR013      | Hardasadiwa- Mahuwa- Magurgad Road                                       |                    |                   |                 |
| 50DR014      | Bijgauri-Shankarpur-Aurahawa Road  |                    |                   |                 |
| 50DR015      | Tikkar- Buddi- Bijgauri- Hulaki Sadak Road                               |                    |                   |                 |
| 50DR016      | Piparahawa-Sauraha-Baskhor-Shihokhor- Sultanwapur-Kopawa- Marjadpur Road |                    |                   |                 |
| 50DR017      | Sonawarsi- Loharauli- Pokharabhitawa- Shrirampur- Sihokhor- Khoriya Road |                    |                   |                 |
| 50DR018      | Simrahawa - Basantapur- Amalonaha- Rangapur -purnihawa Road              |                    |                   |                 |
| 50DR019      | Bargadawa- Bhawapur- Titirkhi- Road                                      |                    |                   |                 |
| 50DR020      | Harnampur- Bhadehar- Basantapur- Dangari -Gotihawa Road                  |                    |                   |                 |
| 50DR021      | Gaura Bhansar- Sishaniya-Kuwagaun- Dohani Road                           |                    |                   |                 |
| 50DR022      | Dohani- Bankasiya- Baluhawa- Baluhi- Gauraha Road                        |                    |                   |                 |
| 50DR023      | Chakarchauda- Dohani- Pachehara Road                                     |                    |                   |                 |
| 50DR024      | Barrohiya- Pachehara Road  |                    |                   |                 |
| 50DR025      | Barrohiya-Jayanagara Road (Purano Hulaki)                                |                    |                   |                 |
| 50DR026      | Laxmanghat-Jagidishpur-Tilaurakot (Paryatakiya Road)                     |                    |                   |                 |
| 50DR027      | Mainihawa-Pachehara Road   |                    |                   |                 |
| 50DR028      | Jhanda-Bangain- Motipur- Dohote Road                                     |                    |                   |                 |
| 50DR029      | Jahadi- Bikuli- Bungchi Road   |                    |                   |                 |
| 50DR030      | Bedauli-Mainaharawa-Dewapur- Hathausa- Patna- Kothi Road                 |                    |                   |                 |
| 50DR031      | Chappar gaun- Gansahawa- Dhodekol- Mormi- Jinuwa Road                    |                    |                   |                 |
| 50DR032      | Bodgaun- Mormi- Bardahawa- Dohate Road                                   |                    |                   |                 |
| 50DR033      | Laxmanghat- Gajehada-Balapur- bankatti (Bolbam Dham) Road                |                    |                   |                 |
| 50DR034      | Sibalawa-Labani- MRM Road  |                    |                   |                 |
| 50DR035      | Odari-Patna-Kothi nadi Road  |                    |                   |                 |
| <b>Total</b> |  | -                  | -                 | -               |

### 3.2.5 WIDENING

To maintain the road in all weather condition, the required widening based on the basis of VPD greater than 100 of each DRCN roads are listed during the DRCN survey. The required widening lengths to overcome the necking of the roads are shown in table below

**Table 3.2.5 Sections of the district road core network requiring widening**

| Code         | Name of Road   | Total length (km) | VPD   | Widening (m) |
|--------------|--|-------------------|-------|--------------|
| 50DR001      | Krishna Nagar- Srishihawa- Gugauli - Shivagadhi Road                     | 24.69             | 26.00 |              |
| 50DR002      | Chandrauta- Balapur- Sundaridanda Road                                   | 5.90              | 8.00  |              |
| 50DR003      | Dharam Nagar (Birpur)- Majhigauwa-Bishnupur- Mijhuniya-Padariya Road     | 8.50              | 6.00  |              |
| 50DR004      | Rudrapur- Jagdishpur RTO Road  | 7.88              | 16.00 |              |
| 50DR005      | Jawabhari- Nibihawa- Patwar- Pathardaiya- Ganeshpur Road                 | 9.91              | 18.00 |              |
| 50DR006      | RTO Saunahawa- Bahadurgunj Road  | 6.09              | 32.00 |              |
| 50DR007      | Khairendrapur- Maharajgunj Road  | 11.00             | 14.00 |              |
| 50DR008      | Badaegaun- Manpur- Thuniya Road  | 6.01              | 20.00 |              |
| 50DR009      | Karma- jigna- Lalpur- Thuniya Road                                       | 14.83             | 24.00 |              |
| 50DR010      | Rudrapur- Lalpur- Sisawa-Chamarsathiya- Maharajgunj                      | 9.52              | 16.00 |              |
| 50DR011      | Rajpur- Aurahawa- Bhanpur- Badhani Border Road                           | 6.12              | 16.00 |              |
| 50DR012      | Buddi- Rangai- Taku- Bakatpur Road                                       | 9.08              | 22.00 |              |
| 50DR013      | Hardasadiwa- Mahuwa- Magurgad Road                                       | 9.11              | 14.00 |              |
| 50DR014      | Bijgauri-Shankarpur-Aurahawa Road  | 4.99              | 26.00 |              |
| 50DR015      | Tikkar- Buddi- Bijgauri- Hulaki Sadak Road                               | 21.52             | 44.00 |              |
| 50DR016      | Piparahawa-Sauraha-Baskhor-Shihokhor- Sultanwapur-Kopawa- Marjadpur Road | 12.24             | 20.00 |              |
| 50DR017      | Sonawarsi- Loharauli- Pokharabhitawa- Shrirampur- Sihokhor- Khoriya Road | 9.27              | 18.00 |              |
| 50DR018      | Simrahawa - Basantapur- Amalonaha- Rangapur -purnihawa Road              | 9.37              | 14.00 |              |
| 50DR019      | Bargadawa- Bhawapur- Titirkhi- Road                                      | 10.97             | 12.00 |              |
| 50DR020      | Harnampur- Bhadehar- Basantapur- Dangari -Gotihawa Road                  | 8.52              | 18.00 |              |
| 50DR021      | Gaura Bhansar- Sishaniya-Kuwagaun- Dohani Road                           | 8.06              | 18.00 |              |
| 50DR022      | Dohani- Bankasiya- Baluhawa- Baluhi- Gauraha Road                        | 4.47              | 8.00  |              |
| 50DR023      | Chakarchauda- Dohani- Pachehara Road                                     | 10.14             | 26.00 |              |
| 50DR024      | Barrohiya- Pachehara Road  | 8.41              | 12.00 |              |
| 50DR025      | Barrohiya-Jayanagara Road (Purano Hulaki)                                | 11.49             | 22.00 |              |
| 50DR026      | Laxmanghat-Jagidishpur-Tilaurakot (Paryatakiya Road)                     | 15.24             | 10.00 |              |
| 50DR027      | Mainihawa-Pachehara Road   | 10.08             | 8.00  |              |
| 50DR028      | Jhanda-Bangain- Motipur- Dohote Road                                     | 14.40             | 24.00 |              |
| 50DR029      | Jahadi- Bikuli- Bungchi Road   | 12.04             | 30.00 |              |
| 50DR030      | Bedauli-Mainaharawa-Dewapur- Hathausa- Patna- Kothi Road                 | 12.57             | 8.00  |              |
| 50DR031      | Chappar gaun- Gansahawa- Dhodekol- Mormi- Jinuwa Road                    | 2.85              | 14.00 |              |
| 50DR032      | Bodgaun- Mormi- Bardahawa- Dohate Road                                   | 6.99              | 10.00 |              |
| 50DR033      | Laxmanghat- Gajehada-Balapur- bankatti (Bolbam Dham) Road                | 9.74              | 12.00 |              |
| 50DR034      | Sibalawa-Labani- MRM Road  | 31.46             | 22.00 |              |
| 50DR035      | Odari-Patna-Kothi nadi Road  | 11.07             | 8.00  |              |
| <b>Total</b> |  | <b>374.50</b>     |       | -            |

### 3.2.6 BLACKTOPPING

To improve the surface condition of the DRCN roads based on the PCU greater than 150, the required blacktopping of DRCN roads are listed during the DRCN survey. The required blacktopping length of the roads is shown in table below.

**Table 3.2.6 Sections of the district road core network requiring blacktopping**

| Code         | Name of Road   | Total length (km) | Blacktop (km) | Traffic (PCU) | Blacktopping (km) | PCU | 150 |
|--------------|--|-------------------|---------------|---------------|-------------------|-----|-----|
| 50DR001      | Krishna Nagar- Srishihawa- Gugauli - Shivagadhi Road                     | 24.69             |               | 69            |                   |     |     |
| 50DR002      | Chandrauta- Balapur- Sundaridanda Road                                   | 5.90              |               | 21            |                   |     |     |
| 50DR003      | Dharam Nagar (Birpur)- Majhigauwa-Bishnupur- Mijhuniya-Padariya Road     | 8.50              |               | 16            |                   |     |     |
| 50DR004      | Rudrapur- Jagdishpur RTO Road  | 7.88              |               | 35            |                   |     |     |
| 50DR005      | Jawabhari- Nibihawa- Patwar- Pathardaiya- Ganeshpur Road                 | 9.91              | 1.23          | 46            |                   |     |     |
| 50DR006      | RTO Saunahawa- Bahadurgunj Road  | 6.09              | 0.34          | 88            |                   |     |     |
| 50DR007      | Khairendrapur- Maharajgunj Road  | 11.00             | 0.25          | 31            |                   |     |     |
| 50DR008      | Badaegaun- Manpur- Thuniya Road  | 6.01              |               | 46            |                   |     |     |
| 50DR009      | Karma-jigna- Lalpur- Thuniya Road  | 14.83             |               | 61            |                   |     |     |
| 50DR010      | Rudrapur- Lalpur- Sisawa-Chamarsathiya- Maharajgunj                      | 9.52              |               | 40            |                   |     |     |
| 50DR011      | Rajpur- Aurahawa- Bhanpur- Badhani Border Road                           | 6.12              |               | 35            |                   |     |     |
| 50DR012      | Buddi- Rangai- Taku- Bakatpur Road                                       | 9.08              |               | 57            |                   |     |     |
| 50DR013      | Hardasadiwa- Mahuwa- Magurgad Road                                       | 9.11              |               | 36            |                   |     |     |
| 50DR014      | Bijgauri-Shankarpur-Aurahawa Road  | 4.99              |               | 62            |                   |     |     |
| 50DR015      | Tikkar- Buddi- Bijgauri- Hulaki Sadak Road                               | 21.52             | 11.42         | 124           |                   |     |     |
| 50DR016      | Piparahawa-Sauraha-Baskhor-Shihokhor- Sultanwapur-Kopawa- Marjadpur Road | 12.24             | 2.13          | 48            |                   |     |     |
| 50DR017      | Sonawarsi- Loharauli- Pokharabhitawa- Shrirampur- Sihokhor- Khoriya Road | 9.27              |               | 41            |                   |     |     |
| 50DR018      | Simrahawa - Basantapur- Amalonaha- Rangapur -purnihawa Road              | 9.37              |               | 38            |                   |     |     |
| 50DR019      | Bargadawa- Bhawapur- Titirkhi- Road                                      | 10.97             | 5.44          | 29            |                   |     |     |
| 50DR020      | Harnampur- Bhadehar- Basantapur- Dangari -Gotihawa Road                  | 8.52              |               | 43            |                   |     |     |
| 50DR021      | Gaura Bhansar- Sishaniya-Kuwagaun- Dohani Road                           | 8.06              |               | 52            |                   |     |     |
| 50DR022      | Dohani- Bankasiya- Baluhawa- Baluhi- Gauraha Road                        | 4.47              | -             | 21            |                   |     |     |
| 50DR023      | Chakarchauda- Dohani- Pachehara Road                                     | 10.14             | 1.70          | 64            |                   |     |     |
| 50DR024      | Barrohiya- Pachehara Road  | 8.41              | -             | 26            |                   |     |     |
| 50DR025      | Barrohiya-Jayanagara Road (Purano Hulaki)                                | 11.49             | -             | 54            |                   |     |     |
| 50DR026      | Laxmanghat-Jagdishpur-Tilaurokot (Paryatakiya Road)                      | 15.24             | -             | 25            |                   |     |     |
| 50DR027      | Mainihawa-Pachehara Road   | 10.08             | -             | 25            |                   |     |     |
| 50DR028      | Jhanda-Bangain- Motipur- Dohote Road                                     | 14.40             | 2.77          | 54            |                   |     |     |
| 50DR029      | Jahadi- Bikuli- Bungchi Road   | 12.04             | 2.53          | 76            |                   |     |     |
| 50DR030      | Bedauli-Mainaharawa-Dewapur- Hathausa- Patna- Kothi Road                 | 12.57             | -             | 19            |                   |     |     |
| 50DR031      | Chappar gaun- Gansahawa- Dhodekol- Mormi- Jnuwa Road                     | 2.85              | 0.65          | 35            |                   |     |     |
| 50DR032      | Bodgaun- Mormi- Bardahawa- Dohate Road                                   | 6.99              | 0.44          | 22            |                   |     |     |
| 50DR033      | Laxmanghat- Gajehada-Balapur- bankatti (Bolbam Dham) Road                | 9.74              | -             | 28            |                   |     |     |
| 50DR034      | Sibalawa-Labani- MRM Road  | 31.46             | -             | 51            |                   |     |     |
| 50DR035      | Odari-Patna-Kothi nadi Road  | 11.07             | -             | 19            |                   |     |     |
| <b>Total</b> |  | <b>374.50</b>     |               |               |                   |     |     |

### **3.3 NEW CONSTRUCTION**

In Kapilvastu District one VDC headquarter is not connected with road network and some of other road are not completed that are selected in DRCN. Hence those roads are proposed for new construction, which are shown in the table below.

**Table 3.3.1 Sections of the district road core network requiring new construction**

| <b>Code</b>  | <b>Name of Road</b>                                     | <b>New VDCs</b> | <b>Existing length</b> | <b>New length</b> | <b>Bridge (m)</b> |
|--------------|---|-----------------|------------------------|-------------------|-------------------|
| 50DR020      | Harnampur- Bhadehar- Basantapur- Dangari -Gotihawa Road |                 | 8.52                   | 2.00              |                   |
| <b>Total</b> |   |                 |                        | <b>2.00</b>       | -                 |

### **3.4 DISTRICT TRANSPORT PERSPECTIVE PLAN**

The list of all the interventions that are necessary to bring the roads to a maintainable all-weather standard and keep them there, as well as the construction of any new roads considered necessary to complete the DRCN are identified. The interventions identified which are required to improve the road to the proper standard as well as the conservation requirements to keep the roads at this standard are worked out. The list of all the perspective interventions required are listed in the table 3.4.1 as listed below.

**Table 3.4.1 District Transport Perspective Plan**

| <b>Code</b>  | <b>Emergency maintenance (km)</b> | <b>Routine maintenance (km)</b> | <b>Recurrent maintenance (km)</b> | <b>Periodic maintenance (km)</b> | <b>Rehabilitation (km)</b> | <b>Gravelling (km)</b> | <b>Blacktopping (km)</b> | <b>Widening (m)</b> | <b>Bridge (m)</b> | <b>Slab culvert (m)</b> | <b>CC Causeway (m)</b> | <b>Stone Causeway (m)</b> | <b>Pipe culvert (units)</b> | <b>Masonry walls (m3)</b> | <b>Gabion walls (m3)</b> | <b>Lined drain (m)</b> | <b>New construction (km)</b> |
|--------------|-----------------------------------|---------------------------------|-----------------------------------|----------------------------------|----------------------------|------------------------|--------------------------|---------------------|-------------------|-------------------------|------------------------|---------------------------|-----------------------------|---------------------------|--------------------------|------------------------|------------------------------|
| 50DR001      | 24.69                             | 24.69                           | 24.69                             | 24.69                            | 1.50                       | 1.77                   |                          |                     | -                 |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR002      | 5.90                              | 5.90                            | 5.90                              | 5.90                             |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR003      | 8.50                              | 8.50                            | 8.50                              | 8.50                             | 2.00                       | 1.48                   |                          |                     |                   | 80.00                   |                        |                           |                             |                           |                          |                        |                              |
| 50DR004      | 7.88                              | 7.88                            | 7.88                              | 7.88                             |                            |                        |                          |                     |                   | -                       |                        |                           |                             |                           |                          |                        |                              |
| 50DR005      | 9.91                              | 9.91                            | 9.91                              | 9.91                             |                            |                        |                          |                     |                   | 120.00                  |                        |                           |                             |                           |                          |                        |                              |
| 50DR006      | 6.09                              | 6.09                            | 6.09                              | 6.09                             |                            |                        |                          |                     |                   | 100.00                  | 2.00                   |                           |                             |                           |                          |                        |                              |
| 50DR007      | 11.00                             | 11.00                           | 11.00                             | 11.00                            |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR008      | 6.01                              | 6.01                            | 6.01                              | 6.01                             | -                          | 1.11                   |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR009      | 14.83                             | 14.83                           | 14.83                             | 14.83                            | -                          | 9.62                   |                          |                     |                   | 30.00                   | 4.00                   |                           |                             | 1.00                      |                          |                        |                              |
| 50DR010      | 9.52                              | 9.52                            | 9.52                              | 9.52                             | 0.50                       | 2.88                   |                          |                     |                   |                         | 12.00                  |                           |                             |                           | 1.00                     |                        |                              |
| 50DR011      | 6.12                              | 6.12                            | 6.12                              | 6.12                             |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           | 1.00                     |                        |                              |
| 50DR012      | 9.08                              | 9.08                            | 9.08                              | 9.08                             |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR013      | 9.11                              | 9.11                            | 9.11                              | 9.11                             | -                          | 1.49                   |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR014      | 4.99                              | 4.99                            | 4.99                              | 4.99                             |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR015      | 21.52                             | 21.52                           | 21.52                             | 21.52                            |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR016      | 12.24                             | 12.24                           | 12.24                             | 12.24                            |                            | 4.68                   |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR017      | 9.27                              | 9.27                            | 9.27                              | 9.27                             | 0.50                       | 1.64                   |                          |                     |                   | 18.00                   |                        |                           |                             | 3.00                      |                          |                        |                              |
| 50DR018      | 9.37                              | 9.37                            | 9.37                              | 9.37                             |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR019      | 10.97                             | 10.97                           | 10.97                             | 10.97                            |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR020      | 8.52                              | 8.52                            | 8.52                              | 8.52                             |                            | 2.55                   |                          |                     |                   |                         |                        |                           |                             | 3.00                      |                          |                        | 2.00                         |
| 50DR021      | 8.06                              | 8.06                            | 8.06                              | 8.06                             |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR022      | 4.47                              | 4.47                            | 4.47                              | 4.47                             |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR023      | 10.14                             | 10.14                           | 10.14                             | 10.14                            |                            | 3.00                   |                          |                     |                   |                         |                        |                           |                             | 7.00                      |                          |                        |                              |
| 50DR024      | 8.41                              | 8.41                            | 8.41                              | 8.41                             |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR025      | 11.49                             | 11.49                           | 11.49                             | 11.49                            |                            |                        |                          |                     |                   | 30.00                   | 2.00                   |                           |                             | 1.00                      |                          |                        |                              |
| 50DR026      | 15.24                             | 15.24                           | 15.24                             | 15.24                            |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR027      | 10.08                             | 10.08                           | 10.08                             | 10.08                            |                            |                        |                          |                     |                   |                         |                        |                           |                             | 1.00                      |                          |                        |                              |
| 50DR028      | 14.40                             | 14.40                           | 14.40                             | 14.40                            |                            |                        |                          |                     |                   | 130.00                  |                        |                           |                             |                           |                          |                        |                              |
| 50DR029      | 12.04                             | 12.04                           | 12.04                             | 12.04                            |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR030      | 12.57                             | 12.57                           | 12.57                             | 12.57                            |                            | 9.23                   |                          |                     |                   |                         | 28.00                  |                           |                             | 2.00                      |                          |                        |                              |
| 50DR031      | 2.85                              | 2.85                            | 2.85                              | 2.85                             |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR032      | 6.99                              | 6.99                            | 6.99                              | 6.99                             |                            |                        |                          |                     |                   | 62.00                   |                        |                           |                             |                           |                          |                        |                              |
| 50DR033      | 9.74                              | 9.74                            | 9.74                              | 9.74                             |                            |                        |                          |                     |                   |                         | 8.00                   |                           |                             |                           |                          |                        |                              |
| 50DR034      | 31.46                             | 31.46                           | 31.46                             | 31.46                            |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| 50DR035      | 11.07                             | 11.07                           | 11.07                             | 11.07                            |                            |                        |                          |                     |                   |                         |                        |                           |                             |                           |                          |                        |                              |
| <b>Total</b> | <b>374.50</b>                     | <b>374.50</b>                   | <b>374.50</b>                     | <b>374.50</b>                    | <b>4.50</b>                | <b>39.45</b>           |                          |                     |                   | <b>570</b>              | <b>56</b>              |                           |                             | <b>20</b>                 |                          |                        | <b>2.00</b>                  |

**Figure 4 District Transport Perspective Plan (DTPP)**

## 4. COST ESTIMATION

The required interventions are determined from detailed survey of the DRCN roads. The costs necessary for conservation, improvement and new construction are calculated separately using actual average standard costs of the district.

### 4.1 CONSERVATION

The conservation costs are calculated for the first year to arrive at the amount of funding required. The costs are calculated by multiplying the lengths of roads requiring conservation by the relevant standard costs for different types of surfaces and type of maintenance. The Standard unit costs for conservation provided by Kapilvastu district are listed in table 4.1.1 as below.

**Table 4.1.1 Standard unit costs for conservation**

| Activity                         | Unit | Unit cost (NPR) |
|----------------------------------|------|-----------------|
| Emergency maintenance            | Km   | 45,000          |
| Routine maintenance              | Km   | 40,000          |
| Recurrent maintenance (blacktop) | Km   | 500,000         |
| Recurrent maintenance (gravel)   | Km   | 350,000         |
| Recurrent maintenance (earthen)  | Km   | 200,000         |
| Periodic maintenance (blacktop)  | Km   | 225,000         |
| Periodic maintenance (gravel)    | Km   | 200,000         |

The total conservation cost for the first year is Rs 222,670,000. Consequently the 5-year cost is Rs 1,113,351,000. This calculation is shown in the table 4.1.2 as below. These costs for later year will vary slightly due to changes to the road network in terms of upgrading and new construction.

**Table 4.1.2 Estimated conservation costs for the first year (NPR '000)**

| Code         | Total length (km) | Blacktop (km) | Gravel (km)   | Earthen (km) | Emergency maintenance | Routine maintenance | Recurrent maintenance (blacktop) | Recurrent maintenance (gravel) | Recurrent maintenance (earthen) | Periodic maintenance (blacktop) | Periodic maintenance (gravel) | Total first year cost | Total 5-year cost |
|--------------|-------------------|---------------|---------------|--------------|-----------------------|---------------------|----------------------------------|--------------------------------|---------------------------------|---------------------------------|-------------------------------|-----------------------|-------------------|
| 50DR001      | 24.69             | -             | 22.92         | 1.77         | 1,111                 | 988                 |                                  | 8,022                          | 353                             |                                 | 4,584                         | <b>15,058</b>         | <b>75,291</b>     |
| 50DR002      | 5.90              | -             | 5.90          | -            | 265                   | 236                 |                                  | 2,065                          | -                               |                                 | 1,180                         | <b>3,746</b>          | <b>18,731</b>     |
| 50DR003      | 8.50              | -             | 7.02          | 1.48         | 382                   | 340                 |                                  | 2,456                          | 296                             |                                 | 1,403                         | <b>4,878</b>          | <b>24,389</b>     |
| 50DR004      | 7.88              | -             | 7.88          | -            | 354                   | 315                 |                                  | 2,757                          |                                 |                                 | 1,575                         | <b>5,001</b>          | <b>25,006</b>     |
| 50DR005      | 9.91              | 1.23          | 8.68          | -            | 446                   | 396                 | 613                              | 3,039                          |                                 |                                 | 1,736                         | <b>6,230</b>          | <b>31,151</b>     |
| 50DR006      | 6.09              | 0.34          | 5.75          | -            | 274                   | 244                 | 172                              | 2,012                          |                                 |                                 | 1,149                         | <b>3,851</b>          | <b>19,253</b>     |
| 50DR007      | 11.00             | 0.25          | 10.76         | -            | 495                   | 440                 | 123                              | 3,765                          |                                 |                                 | 2,152                         | <b>6,975</b>          | <b>34,876</b>     |
| 50DR008      | 6.01              | -             | 4.89          | 1.11         | 270                   | 240                 |                                  | 1,713                          | 223                             |                                 | 979                           | <b>3,425</b>          | <b>17,127</b>     |
| 50DR009      | 14.83             | -             | 5.21          | 9.62         | 667                   | 593                 |                                  | 1,824                          | 1,924                           |                                 | 1,042                         | <b>6,051</b>          | <b>30,254</b>     |
| 50DR010      | 9.52              | -             | 6.64          | 2.88         | 428                   | 381                 |                                  | 2,324                          | 576                             |                                 | 1,328                         | <b>5,037</b>          | <b>25,183</b>     |
| 50DR011      | 6.12              | -             | 6.12          | -            | 275                   | 245                 | -                                | 2,141                          | -                               |                                 | 1,223                         | <b>3,884</b>          | <b>19,421</b>     |
| 50DR012      | 9.08              | -             | 9.08          |              | 409                   | 363                 |                                  | 3,179                          |                                 |                                 | 1,817                         | <b>5,768</b>          | <b>28,840</b>     |
| 50DR013      | 9.11              | -             | 7.62          | 1.49         | 410                   | 364                 |                                  | 2,667                          | 298                             |                                 | 1,524                         | <b>5,263</b>          | <b>26,316</b>     |
| 50DR014      | 4.99              | -             | 4.99          | -            | 224                   | 199                 |                                  | 1,746                          |                                 |                                 | 997                           | <b>3,167</b>          | <b>15,835</b>     |
| 50DR015      | 21.52             | 11.42         | 10.09         | -            | 968                   | 861                 | 5,710                            | 3,533                          |                                 |                                 | 2,019                         | <b>13,091</b>         | <b>65,457</b>     |
| 50DR016      | 12.23             | 0.50          | 7.05          | 4.68         | 550                   | 489                 | 250                              | 2,468                          | 936                             | -                               | 1,410                         | <b>6,103</b>          | <b>30,515</b>     |
| 50DR017      | 9.27              | -             | 7.63          | 1.64         | 417                   | 371                 |                                  | 2,672                          | 327                             |                                 | 1,527                         | <b>5,314</b>          | <b>26,568</b>     |
| 50DR018      | 9.37              | -             | 9.37          | -            | 422                   | 375                 |                                  | 3,280                          |                                 |                                 | 1,874                         | <b>5,950</b>          | <b>29,751</b>     |
| 50DR019      | 10.97             | 5.44          | 5.53          | -            | 494                   | 439                 | 2,722                            | 1,934                          |                                 |                                 | 1,105                         | <b>6,694</b>          | <b>33,468</b>     |
| 50DR020      | 8.52              | -             | 5.97          | 2.55         | 383                   | 341                 |                                  | 2,089                          | 510                             |                                 | 1,194                         | <b>4,516</b>          | <b>22,579</b>     |
| 50DR021      | 8.06              | -             | 8.06          | -            | 363                   | 323                 |                                  | 2,822                          |                                 |                                 | 1,613                         | <b>5,120</b>          | <b>25,600</b>     |
| 50DR022      | 4.47              | -             | 4.47          | -            | 201                   | 179                 |                                  | 1,566                          |                                 |                                 | 895                           | <b>2,841</b>          | <b>14,204</b>     |
| 50DR023      | 10.14             | 1.00          | 6.14          | 3.00         | 456                   | 406                 | 500                              | 2,148                          | 600                             |                                 | 1,227                         | 5,338                 | 26,689            |
| 50DR024      | 8.41              | -             | 8.41          | -            | 378                   | 336                 |                                  | 2,943                          |                                 |                                 | 1,682                         | <b>5,339</b>          | <b>26,694</b>     |
| 50DR025      | 11.49             | -             | 11.49         | -            | 517                   | 460                 |                                  | 4,022                          |                                 |                                 | 2,298                         | <b>7,297</b>          | <b>36,487</b>     |
| 50DR026      | 15.24             | -             | 15.24         | -            | 686                   | 609                 |                                  | 5,333                          |                                 |                                 | 3,047                         | <b>9,675</b>          | <b>48,377</b>     |
| 50DR027      | 10.08             | -             | 10.08         | -            | 453                   | 403                 |                                  | 3,526                          |                                 |                                 | 2,015                         | <b>6,398</b>          | <b>31,990</b>     |
| 50DR028      | 14.40             | 2.77          | 11.64         | -            | 648                   | 576                 | 1,383                            | 4,073                          |                                 |                                 | 2,328                         | <b>9,008</b>          | <b>45,039</b>     |
| 50DR029      | 12.04             | 2.53          | 9.52          | -            | 542                   | 482                 | 1,264                            | 3,331                          |                                 |                                 | 1,903                         | <b>7,521</b>          | <b>37,605</b>     |
| 50DR030      | 12.57             | -             | 3.34          | 9.23         | 566                   | 503                 |                                  | 1,169                          | 1,846                           |                                 | 668                           | <b>4,751</b>          | <b>23,757</b>     |
| 50DR031      | 2.85              | 0.65          | 2.20          | -            | 128                   | 114                 | 323                              | 770                            |                                 |                                 | 440                           | <b>1,776</b>          | <b>8,881</b>      |
| 50DR032      | 6.99              | 0.44          | 6.55          | -            | 315                   | 280                 | 218                              | 2,294                          |                                 |                                 | 1,311                         | <b>4,417</b>          | <b>22,083</b>     |
| 50DR033      | 9.74              | -             | 9.74          | -            | 438                   | 390                 |                                  | 3,409                          |                                 |                                 | 1,948                         | <b>6,184</b>          | <b>30,922</b>     |
| 50DR034      | 31.46             | -             | 31.46         | -            | 1,416                 | 1,258               |                                  | 11,010                         |                                 |                                 | 6,291                         | <b>19,974</b>         | <b>99,872</b>     |
| 50DR035      | 11.07             | -             | 11.07         | -            | 498                   | 443                 |                                  | 3,874                          |                                 |                                 | 2,214                         | <b>7,029</b>          | <b>35,143</b>     |
| <b>Total</b> | <b>374.50</b>     | <b>26.55</b>  | <b>308.49</b> | <b>39.45</b> | <b>16,852</b>         | <b>14,980</b>       | <b>13,277</b>                    | <b>107,973</b>                 | <b>7,889</b>                    |                                 | <b>61,699</b>                 | <b>222,670</b>        | <b>1,113,351</b>  |

## 4.2 IMPROVEMENT

The improvement costs are calculated by multiplying the standard costs as given in table 4.2.1 (provided by Kapilvastu DDC/DTO) with the intervention lengths and volumes as shown in next table 4.2.2 as below.

**Table 4.2.1 Standard unit costs for improvement activities**

| Activity                    | Unit  | Unit cost (NPR) |
|-----------------------------|-------|-----------------|
| Rehabilitation              | km    | 1,200,000       |
| Widening                    | m     | 20,000          |
| Gravelling                  | km    | 1,200,000       |
| Blacktopping                | km    | 6,000,000       |
| Bridge construction         | m     | 700,000         |
| Slab culvert construction   | m     | 160,000         |
| CC Causeway construction    | m     | 150,000         |
| Stone Causeway construction | m     | 15,000          |
| Pipe culvert placement      | unit  | 15,000          |
| Masonry wall construction   | $m^3$ | 12,000          |
| Gabion wall construction    | $m^3$ | 3,200           |
| Lined drain construction    | m     | 1,600           |

The estimated cost for the improvement of the existing DRCN is the cost to maintain the DRCN to a maintainable all-weather standard. The total cost for improvement is Rs 460,996,000 as shown in table 4.2.2 as below.

**Table 4.2.2 Cost estimate for improvement measures (NPR '000)**

| Code         | Total length (km) | Rehabilitation | Widening | Gravelling    | Blacktopping | Bridges        | Slab culverts | CC causeways | Stone causeways | Pipe culvert | Masonry walls | Gabion walls | Lined drains | Total cost     |
|--------------|-------------------|----------------|----------|---------------|--------------|----------------|---------------|--------------|-----------------|--------------|---------------|--------------|--------------|----------------|
| 50DR001      | 24.69             | 1,800          |          | 2,121         |              |                |               |              |                 |              |               |              |              | 3,921          |
| 50DR002      | 5.90              |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| 50DR003      | 8.50              | 2,400          |          | 1,776         |              | 56,000         |               |              |                 |              |               |              |              | 60,176         |
| 50DR004      | 7.88              |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| 50DR005      | 9.91              |                |          |               |              | 84,000         |               |              |                 |              |               |              |              | 84,000         |
| 50DR006      | 6.09              |                |          |               |              | 70,000         | 320           |              |                 |              |               |              |              | 70,320         |
| 50DR007      | 11.00             |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| 50DR008      | 6.01              |                |          | 1,337         |              |                |               |              |                 |              |               |              |              | 1,337          |
| 50DR009      | 14.83             |                |          | 11,546        |              | 21,000         | 640           |              | 15              |              |               |              |              | 33,201         |
| 50DR010      | 9.52              | 600            |          | 3,457         |              |                | 1,920         |              | 15              |              |               |              |              | 5,992          |
| 50DR011      | 6.12              |                |          |               |              |                |               |              | 15              |              |               |              |              | 15             |
| 50DR012      | 9.08              |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| 50DR013      | 9.11              |                |          | 1,787         |              |                |               |              |                 |              |               |              |              | 1,787          |
| 50DR014      | 4.99              |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| 50DR015      | 21.52             |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| 50DR016      | 12.23             |                |          | 5,616         |              |                |               |              |                 |              |               |              |              | 5,616          |
| 50DR017      | 9.27              | 600            |          | 1,963         |              | 12600          |               |              | 45              |              |               |              |              | 15,208         |
| 50DR018      | 9.37              |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| 50DR019      | 10.97             |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| 50DR020      | 8.52              |                |          |               |              |                |               |              | 45              |              |               |              |              | -              |
| 50DR021      | 8.06              |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| 50DR022      | 4.47              |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| 50DR023      | 10.14             |                |          | 3,602         |              |                |               |              |                 | 105          |               |              |              | 3,707          |
| 50DR024      | 8.41              |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| 50DR025      | 11.49             |                |          |               |              | 21,000         | 320           |              | 15              |              |               |              |              | 21,335         |
| 50DR026      | 15.24             |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| 50DR027      | 10.08             |                |          |               |              |                |               |              | 15              |              |               |              |              | 15             |
| 50DR028      | 14.40             |                |          |               |              | 91,000         |               |              |                 |              |               |              |              | 91,000         |
| 50DR029      | 12.04             |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| 50DR030      | 12.57             |                |          | 11,074        |              |                | 4,480         |              | 30              |              |               |              |              | 15,584         |
| 50DR031      | 2.85              |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| 50DR032      | 6.99              |                |          |               |              | 43,400         |               |              |                 |              |               |              |              | 43,400         |
| 50DR033      | 9.74              |                |          |               |              |                | 1,280         |              |                 |              |               |              |              | 1,280          |
| 50DR034      | 31.46             |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| 50DR035      | 11.07             |                |          |               |              |                |               |              |                 |              |               |              |              | -              |
| <b>Total</b> | <b>374.50</b>     | <b>5,400</b>   |          | <b>47,336</b> |              | <b>399,000</b> | <b>8,960</b>  |              |                 | <b>300</b>   |               |              |              | <b>460,996</b> |

### 4.3 NEW CONSTRUCTION

The cost for new construction is calculated by using standard unit costs as given in table 4.3.1 provided by kapilvastu DDC/ DTO.

**Table 4.3.1 Standard unit costs for new construction**

| Activity            | Unit | Unit cost (NPR) |
|---------------------|------|-----------------|
| Track opening       | Km   | 2,000,000       |
| Gravelling          | Km   | 1,200,000       |
| Bridge construction | M    | 700,000         |

The new construction required to complete the DRCN is identified as 2 Km. In Kapilvastu all VDC are accessible by road network before DTMP.

The new construction cost calculated is Rs 6,400,000 with required interventions of bridge, which is shown in table 4.3.2 as below.

**Table 4.3.2 Cost estimate for new construction (NPR '000)**

| Code         | Name of Road   | New length (km) | Opening up (NPR) | Gravelling (NPR) | Bridges (NPR) | Total cost (NPR) |              |
|--------------|--|-----------------|------------------|------------------|---------------|------------------|--------------|
| 50DR020      | Harnampur- Bhadehar- Basantapur-Dangari -Gotihawa Road | 2.00            | 4,000            | 2,400            | -             | 6,400            |              |
| <b>Total</b> |  | <b>0</b>        | <b>2.00</b>      | <b>4,000</b>     | <b>2,400</b>  | <b>-</b>         | <b>6,400</b> |

#### 4.4 DTPP COSTS

The DTPP cost is the required cost for long list of conservation, improvement and new construction for DRCN selected in the district. Projected 5-year Budget will not be sufficient to meet all the cost. The total DTPP cost calculated is Rs 1,580,748,000 which is shown in the table 4.4.1 as below.

**Table 4.4.1 DTPP costs (NPR '000)**

| <b>Code</b>  | <b>Conservation</b> | <b>Improvement</b> | <b>New construction</b> | <b>Total</b>     |
|--------------|---------------------|--------------------|-------------------------|------------------|
| 50DR001      | 75,291              | 3,921              | -                       | 79,211           |
| 50DR002      | 18,731              | -                  | -                       | 18,731           |
| 50DR003      | 24,389              | 60,176             | -                       | 84,564           |
| 50DR004      | 25,006              | -                  | -                       | 25,006           |
| 50DR005      | 31,151              | 84,000             | -                       | 115,151          |
| 50DR006      | 19,253              | 70,320             | -                       | 89,573           |
| 50DR007      | 34,876              | -                  | -                       | 34,876           |
| 50DR008      | 17,127              | 1,337              | -                       | 18,464           |
| 50DR009      | 30,254              | 33,201             | -                       | 63,455           |
| 50DR010      | 25,183              | 5,992              | -                       | 31,175           |
| 50DR011      | 19,421              | 15                 | -                       | 19,436           |
| 50DR012      | 28,840              | -                  | -                       | 28,840           |
| 50DR013      | 26,316              | 1,787              | -                       | 28,103           |
| 50DR014      | 15,835              | -                  | -                       | 15,835           |
| 50DR015      | 65,457              | -                  | -                       | 65,457           |
| 50DR016      | 30,515              | 5,616              | -                       | 36,131           |
| 50DR017      | 26,568              | 15,208             | -                       | 41,776           |
| 50DR018      | 29,751              | -                  | -                       | 29,751           |
| 50DR019      | 33,468              | -                  | -                       | 33,468           |
| 50DR020      | 22,579              | 3,102              | 6,400                   | 32,081           |
| 50DR021      | 25,600              | -                  | -                       | 25,600           |
| 50DR022      | 14,204              | -                  | -                       | 14,204           |
| 50DR023      | 26,689              | 3,707              | -                       | 30,396           |
| 50DR024      | 26,694              | -                  | -                       | 26,694           |
| 50DR025      | 36,487              | 21,335             | -                       | 57,822           |
| 50DR026      | 48,377              | -                  | -                       | 48,377           |
| 50DR027      | 31,990              | 15                 | -                       | 32,005           |
| 50DR028      | 45,039              | 91,000             | -                       | 136,039          |
| 50DR029      | 37,605              | -                  | -                       | 37,605           |
| 50DR030      | 23,757              | 15,584             | -                       | 39,341           |
| 50DR031      | 8,881               | -                  | -                       | 8,881            |
| 50DR032      | 22,083              | 43,400             | -                       | 65,483           |
| 50DR033      | 30,922              | 1,280              | -                       | 32,202           |
| 50DR034      | 99,872              | -                  | -                       | 99,872           |
| 50DR035      | 35,143              | -                  | -                       | 35,143           |
| <b>Total</b> | <b>1,113,351</b>    | <b>460,996</b>     | <b>6,400</b>            | <b>1,580,748</b> |

## 5. RANKING

Ranking of the DRCN roads are based on the cost calculation of the intervention and population served basis. Prioritization is done according to the cost per capita and ranking is carried out for conservation, improvement and new construction. The cost of all the interventions under conservation, improvement , new construction is added up for each roads and this total cost is divided by the population served by the road.The population data for the VDCs linked by the road concerned are shown in Annex 2.

### 5.1 CONSERVATION

The ranking for conservation is based on per capita cost for conservation cost. The ranking for conservation is shown in table 5.1.1 as below.

**Table 5.1.1 Ranking of conservation works (NPR '000)**

| Code    | Total length (km) | 1. Emergency | 2. Routine | 3. Recurrent (paved) | 4. Recurrent (gravel) | 5. Recurrent (earth) | 6. Periodic (blacktop) | 7. Periodic (gravel) | Total cost (NPR '000) | Population served | Cost/person (NPR) |
|---------|-------------------|--------------|------------|----------------------|-----------------------|----------------------|------------------------|----------------------|-----------------------|-------------------|-------------------|
| 50DR031 | 2.85              | 128          | 114        | 323                  | 770                   | -                    | -                      | 440                  | 1,776                 | 14,460            | 123               |
| 50DR004 | 7.88              | 354          | 315        | -                    | 2,757                 | -                    | -                      | 1,575                | 5,001                 | 37,034            | 135               |
| 50DR030 | 12.57             | 566          | 503        | -                    | 1,169                 | 1,846                | -                      | 668                  | 4,751                 | 28,491            | 167               |
| 50DR003 | 8.50              | 382          | 340        | -                    | 2,456                 | 296                  | -                      | 1,403                | 4,878                 | 28,319            | 172               |
| 50DR033 | 9.74              | 438          | 390        | -                    | 3,409                 | -                    | -                      | 1,948                | 6,184                 | 32,891            | 188               |
| 50DR009 | 14.83             | 667          | 593        | -                    | 1,824                 | 1,924                | -                      | 1,042                | 6,051                 | 29,748            | 203               |
| 50DR010 | 9.52              | 428          | 381        | -                    | 2,324                 | 576                  | -                      | 1,328                | 5,037                 | 23,915            | 211               |
| 50DR006 | 6.09              | 274          | 244        | 172                  | 2,012                 | -                    | -                      | 1,149                | 3,851                 | 18,183            | 212               |
| 50DR008 | 6.01              | 270          | 240        | -                    | 1,713                 | 223                  | -                      | 979                  | 3,425                 | 15,803            | 217               |
| 50DR032 | 6.99              | 315          | 280        | 218                  | 2,294                 | -                    | -                      | 1,311                | 4,417                 | 20,192            | 219               |
| 50DR005 | 9.91              | 446          | 396        | 613                  | 3,039                 | -                    | -                      | 1,736                | 6,230                 | 28,113            | 222               |
| 50DR014 | 4.99              | 224          | 199        | -                    | 1,746                 | -                    | -                      | 997                  | 3,167                 | 13,797            | 230               |
| 50DR017 | 9.27              | 417          | 371        | -                    | 2,672                 | 327                  | -                      | 1,527                | 5,314                 | 22,708            | 234               |
| 50DR022 | 4.47              | 201          | 179        | -                    | 1,566                 | -                    | -                      | 895                  | 2,841                 | 11,004            | 258               |
| 50DR001 | 24.69             | 1,111        | 988        | -                    | 8,022                 | 353                  | -                      | 4,584                | 15,058                | 53,848            | 280               |
| 50DR021 | 8.06              | 363          | 323        | -                    | 2,822                 | -                    | -                      | 1,613                | 5,120                 | 17,196            | 298               |
| 50DR023 | 10.14             | 456          | 406        | 500                  | 2,148                 | 600                  | -                      | 1,227                | 5,338                 | 16,904            | 316               |
| 50DR026 | 15.24             | 686          | 609        | -                    | 5,333                 | -                    | -                      | 3,047                | 9,675                 | 30,075            | 322               |
| 50DR011 | 6.12              | 275          | 245        | -                    | 2,141                 | -                    | -                      | 1,223                | 3,884                 | 11,757            | 330               |
| 50DR002 | 5.90              | 265          | 236        | -                    | 2,065                 | -                    | -                      | 1,180                | 3,746                 | 10,905            | 344               |
| 50DR029 | 12.04             | 542          | 482        | 1,264                | 3,331                 | -                    | -                      | 1,903                | 7,521                 | 21,765            | 346               |
| 50DR034 | 31.46             | 1,416        | 1,258      | -                    | 11,010                | -                    | -                      | 6,291                | 19,974                | 57,345            | 348               |
| 50DR020 | 8.52              | 383          | 341        | -                    | 2,089                 | 510                  | -                      | 1,194                | 4,516                 | 12,320            | 367               |
| 50DR024 | 8.41              | 378          | 336        | -                    | 2,943                 | -                    | -                      | 1,682                | 5,339                 | 14,055            | 380               |
| 50DR016 | 12.23             | 550          | 489        | 250                  | 2,468                 | 936                  | -                      | 1,410                | 6,103                 | 15,818            | 386               |
| 50DR035 | 11.07             | 498          | 443        | -                    | 3,874                 | -                    | -                      | 2,214                | 7,029                 | 17,961            | 391               |
| 50DR025 | 11.49             | 517          | 460        | -                    | 4,022                 | -                    | -                      | 2,298                | 7,297                 | 18,474            | 395               |
| 50DR015 | 21.52             | 968          | 861        | 5,710                | 3,533                 | -                    | -                      | 2,019                | 13,091                | 31,619            | 414               |
| 50DR028 | 14.40             | 648          | 576        | 1,383                | 4,073                 | -                    | -                      | 2,328                | 9,008                 | 20,192            | 446               |
| 50DR007 | 11.00             | 495          | 440        | 123                  | 3,765                 | -                    | -                      | 2,152                | 6,975                 | 15,218            | 458               |
| 50DR013 | 9.11              | 410          | 364        | -                    | 2,667                 | 298                  | -                      | 1,524                | 5,263                 | 10,030            | 525               |
| 50DR012 | 9.08              | 409          | 363        | -                    | 3,179                 | -                    | -                      | 1,817                | 5,768                 | 10,633            | 542               |
| 50DR027 | 10.08             | 453          | 403        | -                    | 3,526                 | -                    | -                      | 2,015                | 6,398                 | 10,847            | 590               |
| 50DR018 | 9.37              | 422          | 375        | -                    | 3,280                 | -                    | -                      | 1,874                | 5,950                 | 9,430             | 631               |
| 50DR019 | 10.97             | 494          | 439        | 2,722                | 1,934                 | -                    | -                      | 1,105                | 6,694                 | 9,792             | 684               |

## 5.2 IMPROVEMENT

The ranking for improvement is based on per capita cost for improvement cost. The ranking for improvement is shown in table 5.2.1 as below.

**Table 5.2.1 Ranking of improvement works (NPR '000)**

| Code    | Total length (km) | Gravelling (km) | Blacktopping (km) | Total cost (NPR '000) | Population served | Cost/person (NPR) |
|---------|-------------------|-----------------|-------------------|-----------------------|-------------------|-------------------|
| 50DR011 | 6.12              | -               | -                 | 15                    | 11,757            | 1                 |
| 50DR027 | 10.08             | -               | -                 | 15                    | 10,847            | 1                 |
| 50DR033 | 9.74              | -               | -                 | 1,280                 | 32,891            | 39                |
| 50DR001 | 24.69             | 1.77            | -                 | 3,921                 | 53,848            | 73                |
| 50DR008 | 6.01              | 1.11            | -                 | 1,337                 | 15,803            | 85                |
| 50DR013 | 9.11              | 1.49            | -                 | 1,787                 | 10,030            | 178               |
| 50DR023 | 10.14             | 3.00            | -                 | 3,707                 | 16,904            | 219               |
| 50DR010 | 9.52              | 2.88            | -                 | 5,992                 | 23,915            | 251               |
| 50DR020 | 8.52              | 2.55            | -                 | 3,102                 | 12,320            | 252               |
| 50DR016 | 12.23             | 4.68            | -                 | 5,616                 | 15,818            | 355               |
| 50DR030 | 12.57             | 9.23            | -                 | 15,584                | 28,491            | 547               |
| 50DR017 | 9.27              | 1.64            | -                 | 15,208                | 22,708            | 670               |
| 50DR009 | 14.83             | 9.62            | -                 | 33,201                | 29,748            | 1,116             |
| 50DR025 | 11.49             | -               | -                 | 21,335                | 18,474            | 1,155             |
| 50DR003 | 8.50              | 1.48            | -                 | 60,176                | 28,319            | 2,125             |
| 50DR032 | 6.99              | -               | -                 | 43,400                | 20,192            | 2,149             |
| 50DR005 | 9.91              | -               | -                 | 84,000                | 28,113            | 2,988             |
| 50DR006 | 6.09              | -               | -                 | 70,320                | 18,183            | 3,867             |
| 50DR028 | 14.40             | -               | -                 | 91,000                | 20,192            | 4,507             |

## 5.3 NEW CONSTRUCTION

The ranking for new construction is based on per capita cost for new construction cost. The ranking for new construction is shown in table 5.3.1 as below.

**Table 5.3.1 Ranking of new construction works (NPR '000)**

| Code    | Length (km) | Total cost (NPR '000) | Population served | Cost/person (NPR) |
|---------|-------------|-----------------------|-------------------|-------------------|
| 50DR020 | 2.00        | 6,400                 | 12,320            | 519               |

## 6. DISTRICT TRANSPORT MASTER PLAN (DTMP)

In the process of preparing DTMP, balancing of the available budget and the estimated costs of the required interventions, to determine which interventions can be carried out in the 5-year DTMP period are worked out.

### 6.1 FIVE YEAR PROJECTED FINANCIAL RESOURCES

The estimation of the financial resources available at district level for investments in the road sector has been carried out which is shown in Table 6.1.1 below. The expected fund for next five year is worked out by projecting the last year available budget at an average of 10% increment of the budget.

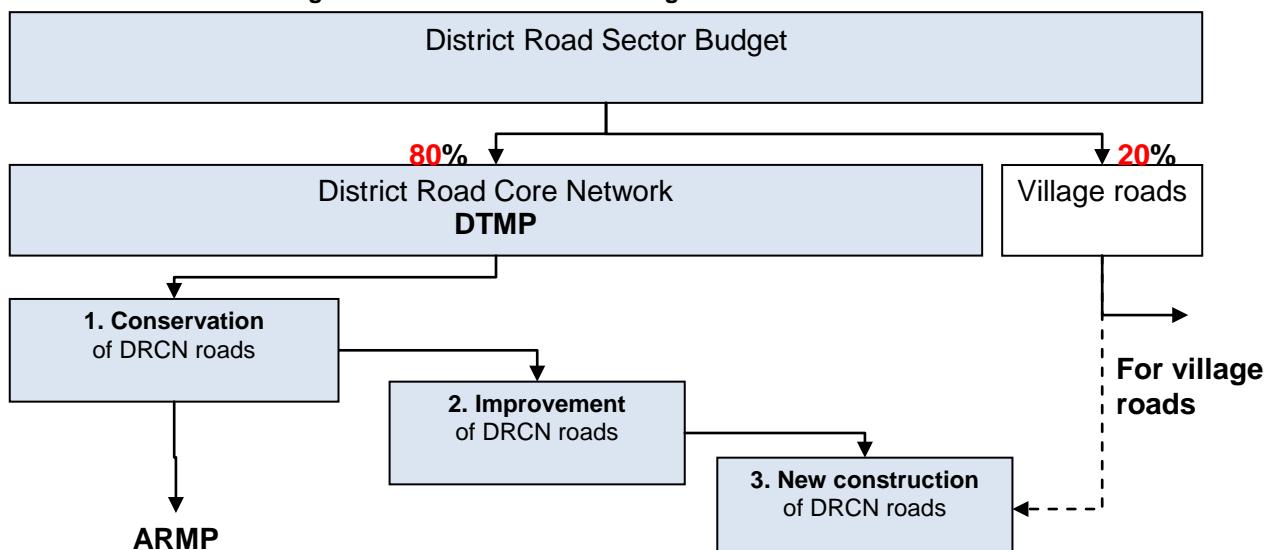
**Table 6.1.1 Estimated funding levels (roads) for next five years (in NPR '000)**

| Funding source                      | 2071/72        | 2072/73        | 2073/74        | 2074/75          | 2075/76        |
|-------------------------------------|----------------|----------------|----------------|------------------|----------------|
| Internal Source Revenue             | 78,000         | 93,600         | 112,320        | 134,784          | 161,741        |
| Raidp                               | 93,240         | 111,888        | 134,266        | 161,119          | 193,342        |
| Road Board                          | 2,232          | 2,678          | 3,214          | 3,857            | 4,628          |
| DDC Grant                           | 43,506         | 52,207         | 62,649         | 75,178           | 90,214         |
| Local Raod Transportation           | 19,440         | 23,328         | 27,994         | 33,592           | 40,311         |
| Madhesi Muslim Pichada Barga        | 1,320          | 1,452          | 1,597          | 1,757            | 1,933          |
| Janasahabhangita                    | 3,850          | 4,235          | 4,659          | 5,124            | 5,637          |
| Pichadiyeko Tarai Madhesh Karyakram | 5,500          | 6,050          | 6,655          | 7,321            | 8,053          |
| Central level Road support          | 13,116         | 14,428         | 15,871         | 17,458           | 19,204         |
| Nirbachan Kshetra Bikas Karyakram   | 7,150          | 7,865          | 8,652          | 9,517            | 10,468         |
| <b>Total</b>                        | <b>267,354</b> | <b>317,732</b> | <b>377,875</b> | <b>449,707</b>   | <b>535,530</b> |
| <b>Grand total</b>                  |                |                |                | <b>1,948,198</b> |                |

### 6.2 BUDGET ALLOCATION

The percentage of budget allocation for DRCN road is 80% and 20% is allocated in village roads as decided by DTICC/DDC meeting held in the district.

**Figure 5 District road sector budget allocation**



The budget allocation for next five year is done based on the ranking of the road and the priority on the basis of cost/ person. Due to budget constraint, more budget is allocated for conservation of DRCN roads in this planning then budget is allocated to improve some road into gravel surface condition no new construction will be seen in this planning due to limitation of the budget. The detail of allocation of budget for next five year is shown in the table 6.2.1 as below.

**Table 6.2.1 DTMP investment plan**

| Item                            |        |      |      | Year           |    |                |        |                |      |                |    |                |         |                  |       |         |    |                  |  |             |
|---------------------------------|--------|------|------|----------------|----|----------------|--------|----------------|------|----------------|----|----------------|---------|------------------|-------|---------|----|------------------|--|-------------|
|                                 |        |      |      | 2071/72        |    | 2072/73        |        | 2073/74        |      | 2074/75        |    | 2075/76        |         |                  |       |         |    |                  |  |             |
| Fiscal year                     |        |      |      | 2071/72        |    | 2072/73        |        | 2073/74        |      | 2074/75        |    | 2075/76        |         |                  |       |         |    |                  |  |             |
| Total budget                    |        |      |      | 267,354        |    | 317,732        |        | 377,875        |      | 449,707        |    | 535,530        |         |                  |       |         |    |                  |  |             |
| Village roads                   |        |      |      | 53,471         |    | 63,546         |        | 75,575         |      | 89,941         |    | 107,106        |         | 20%              |       |         |    |                  |  |             |
| Core road network budget (DTMP) |        |      |      | <b>213,884</b> |    | <b>254,185</b> |        | <b>302,300</b> |      | <b>359,765</b> |    | <b>428,424</b> |         | 80%              |       |         |    |                  |  |             |
| <b>Core network length (km)</b> |        |      |      | 374.50         |    | 374.50         |        | 374.50         |      | 374.50         |    | 374.50         |         | <b>374.50</b>    |       |         |    |                  |  |             |
| Blacktop (km)                   |        |      |      | 26.55          |    | 26.55          |        | 26.55          |      | 26.55          |    | 26.55          |         | 26.55            |       |         |    |                  |  |             |
| Gravel (km)                     |        |      |      | 308.49         |    | 308.49         |        | 324.95         |      | 346.46         |    | 347.94         |         | 347.94           |       |         |    |                  |  |             |
| Earthen (km)                    |        |      |      | 39.45          |    | 39.45          |        | 22.99          |      | 1.48           |    | 0.00           |         | 0.00             |       |         |    |                  |  |             |
| <b>Conservation (NRs)</b>       |        |      |      | 213,884        |    | 228,645        |        | 234,404        |      | 241,934        |    | 242,452        |         | <b>1,161,318</b> |       |         |    |                  |  |             |
| Emergency                       |        |      |      | 16,852         |    | 16,852         |        | 16,852         |      | 16,852         |    | 16,852         |         |                  |       |         |    |                  |  |             |
| Routine                         |        |      |      | 14,980         |    | 14,980         |        | 14,980         |      | 14,980         |    | 14,980         |         |                  |       |         |    |                  |  |             |
| Recurrent (blacktop)            |        |      |      | 13,277         |    | 13,277         |        | 13,277         |      | 13,277         |    | 13,277         |         |                  |       |         |    |                  |  |             |
| Recurrent (gravel)              |        |      |      | 107,973        |    | 107,973        |        | 113,732        |      | 121,261        |    | 121,779        |         |                  |       |         |    |                  |  |             |
| Recurrent (earthen)             |        |      |      | 7,889          |    | 7,889          |        | 4,599          |      | 296            |    | 0              |         |                  |       |         |    |                  |  |             |
| Periodic (blacktop)             |        |      |      | 5,975          |    | 5,975          |        | 5,975          |      | 5,975          |    | 5,975          |         |                  |       |         |    |                  |  |             |
| Periodic (gravel)               |        |      |      | 46,937         |    | 61,699         |        | 64,990         |      | 69,292         |    | 69,588         |         |                  |       |         |    |                  |  |             |
| Improvement                     | Cost   | BT   | GR   | 0              | BT | GR             | 25,127 | BT             | GR   | 67,603         | BT | GR             | 117,417 | BT               | GR    | 185,558 | BT | GR               |  |             |
| 50DR011                         | 15     |      |      |                |    |                | 15     |                |      |                |    |                |         |                  |       |         |    |                  |  |             |
| 50DR027                         | 15     |      |      |                |    |                | 15     |                |      |                |    |                |         |                  |       |         |    |                  |  |             |
| 50DR033                         | 1,280  |      |      |                |    |                | 1,280  |                |      |                |    |                |         |                  |       |         |    |                  |  |             |
| 50DR001                         | 3,921  |      | 1.77 |                |    |                | 3,921  |                | 1.77 |                |    |                |         |                  |       |         |    |                  |  |             |
| 50DR008                         | 1,337  |      | 1.11 |                |    |                | 1,337  |                | 1.11 |                |    |                |         |                  |       |         |    |                  |  |             |
| 50DR013                         | 1,787  |      | 1.49 |                |    |                | 1,787  |                | 1.49 |                |    |                |         |                  |       |         |    |                  |  |             |
| 50DR023                         | 3,707  |      | 3.00 |                |    |                | 3,707  |                | 3.00 |                |    |                |         |                  |       |         |    |                  |  |             |
| 50DR010                         | 5,992  |      | 2.88 |                |    |                | 5,992  |                | 2.88 |                |    |                |         |                  |       |         |    |                  |  |             |
| 50DR020                         | 3,102  |      | 2.55 |                |    |                | 3,102  |                | 2.55 |                |    |                |         |                  |       |         |    |                  |  |             |
| 50DR016                         | 5,616  |      | 4.68 |                |    |                | 4,384  |                | 3.65 | 1,232          |    | 1.03           |         |                  |       |         |    |                  |  |             |
| 50DR030                         | 15,584 |      | 9.23 |                |    |                |        |                |      | 15,584         |    | 9.23           |         |                  |       |         |    |                  |  |             |
| 50DR017                         | 15,208 |      | 1.64 |                |    |                |        |                |      | 15,208         |    | 1.64           |         |                  |       |         |    |                  |  |             |
| 50DR009                         | 33,201 |      | 9.62 |                |    |                |        |                |      | 33,201         |    | 9.62           |         |                  |       |         |    |                  |  |             |
| 50DR025                         | 21,335 |      |      |                |    |                |        |                |      |                |    |                | 18,665  |                  |       |         |    |                  |  |             |
| 50DR003                         | 60,176 |      | 1.48 |                |    |                |        |                |      |                |    |                | 60,176  |                  | 1.48  |         |    |                  |  |             |
| 50DR032                         | 43,400 |      |      |                |    |                |        |                |      |                |    |                | 38,991  |                  | 4,409 |         |    |                  |  |             |
| 50DR005                         | 84,000 |      |      |                |    |                |        |                |      |                |    |                |         |                  |       | 84,000  |    |                  |  |             |
| 50DR006                         | 70,320 |      |      |                |    |                |        |                |      |                |    |                |         |                  |       | 70,320  |    |                  |  |             |
| 50DR028                         | 91,000 |      |      |                |    |                |        |                |      |                |    |                |         |                  |       | 27,244  |    |                  |  |             |
| Total improvement               |        |      |      | 25,540         |    | 16.45          |        | 67,896         |      | 21.51          |    | 117,832        |         | 1.48             |       | 185,973 |    | <b>397,240</b>   |  | Improvement |
| Construction                    | Cost   | GR   |      | -              | GR |                | -      | GR             |      | -              | GR |                | -       | GR               |       | -       | GR |                  |  |             |
| 50DR020                         | 6,400  | 2.00 |      | -              | -  | -              | -      | -              | -    | -              | -  | -              | -       | -                | -     | -       | -  |                  |  |             |
| <b>Total new construction</b>   |        |      |      | -              | -  | -              | -      | -              | -    | -              | -  | -              | -       | -                | -     | -       | -  | New construction |  |             |
| <b>Remaining budget</b>         |        |      |      | -              | -  | -              | -      | -              | -    | -              | -  | -              | -       | -                | -     | -       | -  | Remaining        |  |             |

### 6.3 DTMP OUTPUTS

The output of the DTMP will be of conservation 374.5 km and improvement to gravel will be 39.45 km as shown in table 6.3.1 below.

**Table 6.3.1 DTMP output**

| Conservation | Improvement gravel | Improvement blacktop | New construction |
|--------------|--------------------|----------------------|------------------|
| 374.50       | 39.45              | -                    | -                |

The budget allocated for next five years is; Rs 1,161,318,000 for conservation and Rs 397,240,000 for improvement.

### 6.4 DTMP OUTCOME

After the DTMP, fair weather roads are decreased from approx 11% to 0%, all weather gravel roads are increased from approx 82% to 93%, which is shown in the table 6.4.1 as below.

**Table 6.4.1 Standard of DRCN roads**

|               | Total length | Fair-weather |      | All-weather gravel |     | All-weather blacktop |    |
|---------------|--------------|--------------|------|--------------------|-----|----------------------|----|
|               |              | km           | %    | km                 | %   | km                   | %  |
| Start of DTMP | 374.50       | 39.45        | 11%  | 308.49             | 82% | 26.55                | 7% |
| End of DTMP   | 374.50       | - 0.00       | 0.0% | 347.94             | 93% | 26.55                | 7% |
| Difference    | -            | - 39.45      | -11% | 39.45              | 11% | -                    | 0% |

All VDC were accessed by road at the start and end of DTMP. All the VDC will accessible at the last of DTMP. After DTMP the access condition to VDC population is presented in table 6.4.2 below.

**Table 6.4.2 Population with access to road network**

|               | Direct access to SRN |            |     | No access to road |            |    | Fair-weather core roads |            |    | All-weather core roads |            |     |
|---------------|----------------------|------------|-----|-------------------|------------|----|-------------------------|------------|----|------------------------|------------|-----|
|               | VDCs                 | Population | %   | VDCs              | Population | %  | VDCs                    | Population | %  | VDCs                   | Population | %   |
| Start of DTMP | 44                   | 363,390    | 64% | 0                 | -          | 0% | 0                       | -          | 0% | 64                     | 445,352    | 78% |
| End of DTMP   | 44                   | 363,390    | 64% | 0                 | -          | 0% | 0                       | -          | 0% | 64                     | 445,352    | 78% |
| Difference    | -                    | -          | 0%  | -                 | -          | 0% | -                       | -          | 0% | -                      | -          | 0%  |

**Figure 6 District Transport Master Plan (DTMP)**

## ANNEX 1 TRAFFIC DATA

**Table A1.2 Traffic Data**

| <b>Code</b>  | <b>Total Length<br/>(km)</b> | <b>Motorcycle</b> | <b>Car-Jeep-<br/>Minibus</b> | <b>Tractor</b> | <b>Truck-Bus</b> | <b>PCU</b> | <b>VPD</b> |
|--------------|------------------------------|-------------------|------------------------------|----------------|------------------|------------|------------|
| 50DR001      | 24.69                        | 30                | 10                           | 10             | 6                | <b>69</b>  | <b>26</b>  |
| 50DR002      | 5.90                         | 6                 | 2                            | 4              | 2                | <b>21</b>  | <b>8</b>   |
| 50DR003      | 8.50                         | 4                 | 2                            | 2              | 2                | <b>16</b>  | <b>6</b>   |
| 50DR004      | 7.88                         | 10                | 6                            | 8              | 2                | <b>35</b>  | <b>16</b>  |
| 50DR005      | 9.91                         | 12                | 4                            | 10             | 4                | <b>46</b>  | <b>18</b>  |
| 50DR006      | 6.09                         | 20                | 10                           | 10             | 12               | <b>88</b>  | <b>32</b>  |
| 50DR007      | 11.00                        | 6                 | 4                            | 8              | 2                | <b>31</b>  | <b>14</b>  |
| 50DR008      | 6.01                         | 8                 | 6                            | 10             | 4                | <b>46</b>  | <b>20</b>  |
| 50DR009      | 14.83                        | 14                | 6                            | 12             | 6                | <b>61</b>  | <b>24</b>  |
| 50DR010      | 9.52                         | 8                 | 4                            | 8              | 4                | <b>40</b>  | <b>16</b>  |
| 50DR011      | 6.12                         | 10                | 6                            | 8              | 2                | <b>35</b>  | <b>16</b>  |
| 50DR012      | 9.08                         | 14                | 6                            | 10             | 6                | <b>57</b>  | <b>22</b>  |
| 50DR013      | 9.11                         | 8                 | 4                            | 6              | 4                | <b>36</b>  | <b>14</b>  |
| 50DR014      | 4.99                         | 12                | 8                            | 12             | 6                | <b>62</b>  | <b>26</b>  |
| 50DR015      | 21.52                        | 40                | 16                           | 12             | 16               | <b>124</b> | <b>44</b>  |
| 50DR016      | 12.24                        | 12                | 6                            | 10             | 4                | <b>48</b>  | <b>20</b>  |
| 50DR017      | 9.27                         | 14                | 6                            | 10             | 2                | <b>41</b>  | <b>18</b>  |
| 50DR018      | 9.37                         | 12                | 4                            | 6              | 4                | <b>38</b>  | <b>14</b>  |
| 50DR019      | 10.97                        | 10                | 4                            | 6              | 2                | <b>29</b>  | <b>12</b>  |
| 50DR020      | 8.52                         | 14                | 8                            | 6              | 4                | <b>43</b>  | <b>18</b>  |
| 50DR021      | 8.06                         | 20                | 6                            | 6              | 6                | <b>52</b>  | <b>18</b>  |
| 50DR022      | 4.47                         | 6                 | 2                            | 4              | 2                | <b>21</b>  | <b>8</b>   |
| 50DR023      | 10.14                        | 20                | 10                           | 10             | 6                | <b>64</b>  | <b>26</b>  |
| 50DR024      | 8.41                         | 8                 | 6                            | 4              | 2                | <b>26</b>  | <b>12</b>  |
| 50DR025      | 11.49                        | 12                | 8                            | 8              | 6                | <b>54</b>  | <b>22</b>  |
| 50DR026      | 15.24                        | 10                | 4                            | 4              | 2                | <b>25</b>  | <b>10</b>  |
| 50DR027      | 10.08                        | 14                | 2                            | 4              | 2                | <b>25</b>  | <b>8</b>   |
| 50DR028      | 14.40                        | 16                | 10                           | 10             | 4                | <b>54</b>  | <b>24</b>  |
| 50DR029      | 12.04                        | 24                | 12                           | 10             | 8                | <b>76</b>  | <b>30</b>  |
| 50DR030      | 12.57                        | 6                 | 4                            | 2              | 2                | <b>19</b>  | <b>8</b>   |
| 50DR031      | 2.85                         | 10                | 6                            | 4              | 4                | <b>35</b>  | <b>14</b>  |
| 50DR032      | 6.99                         | 8                 | 6                            | 2              | 2                | <b>22</b>  | <b>10</b>  |
| 50DR033      | 9.74                         | 12                | 6                            | 4              | 2                | <b>28</b>  | <b>12</b>  |
| 50DR034      | 31.46                        | 14                | 8                            | 10             | 4                | <b>51</b>  | <b>22</b>  |
| 50DR035      | 11.07                        | 6                 | 4                            | 2              | 2                | <b>19</b>  | <b>8</b>   |
| <b>Total</b> | <b>374.50</b>                |                   |                              |                |                  |            |            |

## ANNEX 2 POPULATION DATA

**Table A2.1 Population Served**

| #  | VDC/municipal<br>ity | Populati<br>on | Road    |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | SRN     |         |         |         |         |         |
|----|----------------------|----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|    |                      |                | 50DR001 | 50DR002 | 50DR003 | 50DR004 | 50DR005 | 50DR006 | 50DR007 | 50DR008 | 50DR009 | 50DR010 | 50DR011 | 50DR012 | 50DR013 | 50DR014 | 50DR015 | 50DR016 | 50DR017 | 50DR018 | 50DR019 | 50DR020 | 50DR021 | 50DR022 | 50DR023 | 50DR024 | 50DR025 | 50DR026 | 50DR027 | 50DR028 | 50DR029 | 50DR030 | 50DR031 | 50DR032 | 50DR033 | 50DR034 | 50DR035 |
| 1  | Abhirao              | 6,908          |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |         |
| 2  | Ajigara              | 5,182          |         |         |         |         |         |         |         | X       |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 3  | Bahadurganj          | 12,882         |         |         | X       |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |
| 4  | Balarampur           | 4,771          |         |         |         |         | X       |         |         |         |         |         |         |         |         |         | X       |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |         |
| 5  | Baluhawa             | 5,356          |         |         |         |         |         | X       |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 6  | Banganga             | 13,080         |         |         |         |         |         |         |         |         |         |         |         |         | X       |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       | X       |
| 7  | Baraipur             | 3,371          |         |         |         |         |         |         | X       |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |
| 8  | Barkulpur            | 9,330          |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |
| 9  | Basantapur           | 3,248          |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |         | X       |         |         |         |         |         |         |         |         |         |         |         |         | X       |         |
| 10 | Baskhore             | 9,818          |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |
| 11 | Baidauli             | 5,533          |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |
| 12 | Bhagwanpur           | 5,889          | X       |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 13 | Bhalwari             | 4,878          |         |         |         |         |         |         | X       |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |
| 14 | Bijuwa               | 5,863          |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |
| 15 | Birpur               | 12,313         |         | X       | X       |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |         |
| 16 | Bishunpur            | 5,057          |         | X       | X       | X       |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |         |
| 17 | Bithuwa              | 4,648          |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |
| 18 | Buddhi               | 5,697          |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |         | X       |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |         |
| 19 | Chanai               | 11,658         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |
| 20 | Dhankauli            | 9,026          |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       | X       |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |         |
| 21 | Dharmpaniya          | 4,879          |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |
| 22 | Dohani               | 6,721          |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |         | X       |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | X       |         |
| 23 | Dubiya               | 4,936          |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |



Source: *Population census 2012*

**Table A2.2 - Level of Access**

| #  | VDC/municipality | No access DRCN start DTMP | No access DRCN end DTMP | Fair-weather DRCN start DTMP | Fair-weather DRCN end DTMP | All-weather DRCN start DTMP | All-weather DRCN end DTMP | Direct access to SRN |
|----|------------------|---------------------------|-------------------------|------------------------------|----------------------------|-----------------------------|---------------------------|----------------------|
| 1  | Abhirao          |                           |                         |                              |                            | X                           | X                         | X                    |
| 2  | Ajigara          |                           |                         |                              | X                          | X                           |                           |                      |
| 3  | Bahadurganj      |                           |                         |                              | X                          | X                           |                           | X                    |
| 4  | Balaramwapur     |                           |                         |                              | X                          | X                           |                           | X                    |
| 5  | Baluhawa         |                           |                         |                              | X                          | X                           |                           |                      |
| 6  | Banganga         |                           |                         |                              | X                          | X                           |                           | X                    |
| 7  | Baraipur         |                           |                         |                              | X                          | X                           |                           | X                    |
| 8  | Barkulpur        |                           |                         |                              |                            |                             |                           | X                    |
| 9  | Basantapur       |                           |                         |                              | X                          | X                           |                           | X                    |
| 10 | Baskhore         |                           |                         |                              | X                          | X                           |                           | X                    |
| 11 | Baidauli         |                           |                         |                              |                            |                             |                           | X                    |
| 12 | Bhagwanpur       |                           |                         |                              |                            |                             |                           |                      |
| 13 | Bhalwari         |                           |                         |                              | X                          | X                           |                           | X                    |
| 14 | Bijuwa           |                           |                         |                              |                            |                             |                           | X                    |
| 15 | Birpur           |                           |                         |                              | X                          | X                           |                           | X                    |
| 16 | Bishunpur        |                           |                         |                              | X                          | X                           |                           | X                    |
| 17 | Bithuwa          |                           |                         |                              | X                          | X                           |                           |                      |
| 18 | Buddhi           |                           |                         |                              | X                          | X                           |                           | X                    |
| 19 | Chanai           |                           |                         |                              |                            |                             |                           | X                    |
| 20 | Dhankauli        |                           |                         |                              | X                          | X                           |                           | X                    |
| 21 | Dharpaniya       |                           |                         |                              | X                          | X                           |                           | X                    |
| 22 | Dohani           |                           |                         |                              | X                          | X                           |                           | X                    |
| 23 | Dubiya           |                           |                         |                              | X                          | X                           |                           |                      |
| 24 | Dumara           |                           |                         |                              |                            |                             |                           | X                    |
| 25 | Fulika           |                           |                         |                              | X                          | X                           |                           |                      |
| 26 | Gajehada         |                           |                         |                              | X                          | X                           |                           | X                    |
| 27 | Ganeshpur        |                           |                         |                              | X                          | X                           |                           |                      |
| 28 | Gauri            |                           |                         |                              | X                          | X                           |                           |                      |

|    |                         |  |  |  |   |   |   |
|----|-------------------------|--|--|--|---|---|---|
| 29 | Gotihawa                |  |  |  | X | X | X |
| 30 | Gugauli                 |  |  |  | X | X | X |
| 31 | Harnampur               |  |  |  | X | X |   |
| 32 | Hardauna                |  |  |  | X | X | X |
| 33 | Harihpur                |  |  |  |   |   | X |
| 34 | Hathausa                |  |  |  | X | X | X |
| 35 | Hathihawa               |  |  |  | X | X |   |
| 36 | Jahadi                  |  |  |  | X | X |   |
| 37 | Jawabhari               |  |  |  | X | X | X |
| 38 | Jayanagar               |  |  |  |   |   | X |
| 39 | Kajarhawa               |  |  |  |   |   | X |
| 40 | Kapilvastu Municipality |  |  |  |   |   | X |
| 41 | Khurhuriya              |  |  |  | X | X | X |
| 42 | Kopawa                  |  |  |  | X | X |   |
| 43 | Krishnanagar            |  |  |  | X | X | X |
| 44 | Kushhawa                |  |  |  | X | X |   |
| 45 | Lawani                  |  |  |  | X | X | X |
| 46 | Lalpur                  |  |  |  | X | X |   |
| 47 | Maharajganj             |  |  |  | X | X | X |
| 48 | Mahendrakot             |  |  |  | X | X | X |
| 49 | Mahuwa                  |  |  |  | X | X |   |
| 50 | Bhalwad                 |  |  |  | X | X |   |
| 51 | Manpur                  |  |  |  | X | X |   |
| 52 | Bhilmi                  |  |  |  | X | X |   |
| 53 | Motipur                 |  |  |  | X | X | X |
| 54 | Nandanagar              |  |  |  | X | X |   |
| 55 | Niglihawa               |  |  |  | X | X |   |
| 56 | Pakadi                  |  |  |  | X | X | X |
| 57 | Parsohiya               |  |  |  | X | X |   |
| 58 | Patariya                |  |  |  | X | X | X |
| 59 | Patna                   |  |  |  | X | X |   |
| 60 | Pathardaiya             |  |  |  | X | X |   |
| 61 | Pipara                  |  |  |  | X | X |   |
| 62 | Purushottampur          |  |  |  |   |   | X |
| 63 | Rajpur                  |  |  |  | X | X |   |
| 64 | Ramnagar                |  |  |  |   |   | X |
| 65 | Rangapur                |  |  |  | X | X |   |
| 66 | Sauraha                 |  |  |  | X | X | X |
| 67 | Shivanagar              |  |  |  |   |   | X |
| 68 | Shivagadhi              |  |  |  | X | X | X |
| 69 | Shivapur                |  |  |  |   |   | X |
| 70 | Sihokhor                |  |  |  | X | X |   |

|    |                         |   |   |   |   |         |         |         |
|----|-------------------------|---|---|---|---|---------|---------|---------|
| 71 | Sirsihawa               |   |   |   |   | X       | X       |         |
| 72 | Sisawa                  |   |   |   |   | X       | X       |         |
| 73 | Somdiha                 |   |   |   |   | X       | X       |         |
| 74 | Thunhiya                |   |   |   |   | X       | X       |         |
| 75 | Tilaurakot              |   |   |   |   | X       | X       |         |
| 76 | Titirkhi                |   |   |   |   | X       | X       |         |
| 77 | Udayapur                |   |   |   |   | X       | X       |         |
| 78 | Vidhyanagar             |   |   |   |   | X       | X       | X       |
|    | <b>Total population</b> | - | - | - | - | 439,463 | 439,463 | 363,390 |
|    | <b>Total VDCs</b>       | 0 | 0 | 0 | 0 | 63      | 63      | 44      |

## ANNEX 3 LOCATION OF PROPOSED INTERVENTIONS

**Table A3.1 Location of proposed Interventions**

| Road code    | Road Name  | Length (km)   | Start chainage (km) or X-coordinate | End chainage (km) or Y-coordinate | Rehabilitation (km) | Graveling (km) | (km)     | Widening (m) | Bridge (m) | Slab culvert (m) | CC Culway (m) | Stone Culway (m) | Pipe culvert (units) | walls (m³) | (m³)     | (m)      |
|--------------|--|---------------|-------------------------------------|-----------------------------------|---------------------|----------------|----------|--------------|------------|------------------|---------------|------------------|----------------------|------------|----------|----------|
| 50DR001      | Krishna Nagar- Srishihawa- Gugauli - Shivagadhi Road                     | 24.688        | 0+000                               | 24+688                            | 1.5                 | 1.77           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR002      | Chandrauta- Balapur- Sundaridanda Road                                   | 5.900         | 0+000                               | 5+900                             | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR003      | Dharam Nagar (Birpur)- Majhigauwa-Bishnupur- Mijhuniya-Padariya Road     | 8.497         | 0+000                               | 8+497                             | 2                   | 1.48           | 0        | 0            | 80         | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR004      | Rudrapur- Jagdishpur RTO Road  | 7.876         | 0+000                               | 7+876                             | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR005      | Jawabhari- Nibihawa- Patwar- Pathardaiya- Ganeshpur Road                 | 9.908         | 0+000                               | 9+908                             | 0                   | 0.00           | 0        | 0            | 120        | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR006      | RTO Saunahawa- Bahadurgunj Road  | 6.091         | 0+000                               | 6+091                             | 0                   | 0.00           | 0        | 0            | 100        | 2                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR007      | Khairendrapur- Maharajgunj Road  | 11.004        | 0+000                               | 11+004                            | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR008      | Badaegaun- Manpur- Thuniya Road  | 6.008         | 0+000                               | 6+008                             | 0                   | 1.11           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR009      | Karma- jigna- Lalpur- Thuniya Road                                       | 14.832        | 0+000                               | 14+832                            | 0                   | 9.62           | 0        | 0            | 30         | 4                | 0             | 0                | 1                    | 0          | 0        | 0        |
| 50DR010      | Rudrapur- Lalpur- Sisawa-Chamarsathiya- Maharajgunj                      | 9.519         | 0+000                               | 9+519                             | 0.5                 | 2.88           | 0        | 0            | 0          | 12               | 0             | 0                | 1                    | 0          | 0        | 0        |
| 50DR011      | Rajpur- Aurahawa- Bhanpur- Badhani Border Road                           | 6.117         | 0+000                               | 6+117                             | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 1          | 0        | 0        |
| 50DR012      | Buddi- Rangai- Taku- Bakatpur Road                                       | 9.084         | 0+000                               | 9+084                             | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR013      | Hardasadiwa- Mahuwa- Magurgad Road                                       | 9.109         | 0+000                               | 9+109                             | 0                   | 1.49           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR014      | Bijgauri-Shankarpur-Aurahawa Road  | 4.987         | 0+000                               | 4+987                             | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR015      | Tikkar- Buddi- Bijgauri- Hulaki Sadak Road                               | 21.516        | 0+000                               | 21+516                            | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR016      | Piparahawa-Sauraha-Baskhor-Shihokhor- Sultanwapur-Kopawa- Marjadpur Road | 12.230        | 0+000                               | 12+230                            | 0                   | 4.68           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR017      | Sonawarsi- Loharauli- Pokharabhitawa- Shrirampur- Sihokhor- Khoriya Road | 9.270         | 0+000                               | 9+270                             | 0.5                 | 1.64           | 0        | 0            | 18         | 0                | 0             | 0                | 3                    | 0          | 0        | 0        |
| 50DR018      | Simrahawa - Basantapur- Amalonaha- Rangapur -purnihawa Road              | 9.371         | 0+000                               | 9+371                             | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR019      | Bargadawa- Bhawapur- Titirkhi- Road                                      | 10.970        | 0+000                               | 10+970                            | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR020      | Harnampur- Bhadehar- Basantapur- Dangari -Gotihawa Road                  | 8.516         | 0+000                               | 8+516                             | 0                   | 2.55           | 0        | 0            | 0          | 0                | 0             | 0                | 3                    | 0          | 0        | 0        |
| 50DR021      | Gaura Bhansar- Sishaniya-Kuwagaun- Dohani Road                           | 8.063         | 0+000                               | 8+063                             | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR022      | Dohani- Bankasiya- Baluhawa- Baluhi- Gauraha Road                        | 4.474         | 0+000                               | 4+474                             | 0                   | 3.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR023      | Chakarchauda- Dohani- Pachehara Road                                     | 10.139        | 0+000                               | 10+139                            | 0                   | 3.00           | 0        | 0            | 0          | 0                | 0             | 0                | 7                    | 0          | 0        | 0        |
| 50DR024      | Barrohiya- Pachehara Road  | 8.408         | 0+000                               | 8+408                             | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR025      | Barrohiya-Jayanagara Road (Purano Hulaki)                                | 11.492        | 0+000                               | 11+492                            | 0                   | 0.00           | 0        | 0            | 30         | 2                | 0             | 0                | 1                    | 0          | 0        | 0        |
| 50DR026      | Laxmanghat-Jagidishpur-Tilaurakot (Paryatakiya Road)                     | 15.237        | 0+000                               | 15+237                            | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR027      | Mainihawa-Pachehara Road   | 10.075        | 0+000                               | 10+075                            | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 1                    | 0          | 0        | 0        |
| 50DR028      | Jhanda-Bangain- Motipur- Dohote Road                                     | 14.403        | 0+000                               | 14+403                            | 0                   | 0.00           | 0        | 0            | 130        | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR029      | Jahadi- Bikuli- Bungchi Road   | 12.043        | 0+000                               | 12+043                            | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR030      | Bedauli-Mainaharawa-Dewapur- Hathausa- Patna- Kothi Road                 | 12.569        | 0+000                               | 12+569                            | 0                   | 9.23           | 0        | 0            | 0          | 28               | 0             | 0                | 2                    | 0          | 0        | 0        |
| 50DR031      | Chappar gaun- Gansahawa- Dhodekol- Mormi- Jiniwa Road                    | 2.848         | 0+000                               | 2+848                             | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR032      | Bodgaun- Mormi- Bardahawa- Dohate Road                                   | 6.989         | 0+000                               | 6+989                             | 0                   | 0.00           | 0        | 0            | 62         | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR033      | Laxmanghat- Gajehada-Balapur- bankatti (Bolbam Dham) Road                | 9.739         | 0+000                               | 9+739                             | 0                   | 0.00           | 0        | 0            | 0          | 8                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR034      | Sibalawa-Labani- MRM Road  | 31.456        | 0+000                               | 31+456                            | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| 50DR035      | Odari-Patna-Kothi nadi Road  | 11.069        | 0+000                               | 11+069                            | 0                   | 0.00           | 0        | 0            | 0          | 0                | 0             | 0                | 0                    | 0          | 0        | 0        |
| <b>Total</b> |  | <b>374.50</b> |                                     |                                   | <b>4.5</b>          | <b>39.45</b>   | <b>0</b> | <b>0</b>     | <b>570</b> | <b>56</b>        | <b>0</b>      | <b>0</b>         | <b>20</b>            | <b>0</b>   | <b>0</b> | <b>0</b> |

## ANNEX 4 OVERALL INVENTORY

**Table A4.1 Overall Road Inventory**

| Road code | Road Name  | Length (km) | Start chainage (km) or XY-coordinate | End chainage (km) or XY-coordinate | Surface Type: Black Top | Surface Type : Gravel | Surface Type : Earth | All Weather | Fair Weather | Condition - Good/ Fair | Condition - Poor | Condition - Temporarily Impassable | Condition - Permanently Impassable |
|-----------|--|-------------|--------------------------------------|------------------------------------|-------------------------|-----------------------|----------------------|-------------|--------------|------------------------|------------------|------------------------------------|------------------------------------|
| 50DR001   | Krishna Nagar- Srishihawa- Gugauli - Shivagadhi Road                       | 24.688      | 0+000                                | 24+688                             | 0.00                    | 22.92                 | 1.77                 | 22.92       | 1.77         | 24.69                  |                  |                                    |                                    |
| 50DR002   | Chandrauta- Balapur- Sundaridanda Road                                     | 5.900       | 0+000                                | 5+900                              | 0.00                    | 5.90                  | 0.00                 | 5.90        | 0.00         | 5.90                   |                  |                                    |                                    |
| 50DR003   | Dharam Nagar (Birpur)- Majhigauwa-Bishnupur- Mijhuniya-Padariya Road       | 8.497       | 0+000                                | 8+497                              | 0.00                    | 7.02                  | 1.48                 | 7.02        | 1.48         | 8.50                   |                  |                                    |                                    |
| 50DR004   | Rudrapur- Jagdishpur RTO Road  | 7.876       | 0+000                                | 7+876                              | 0.00                    | 7.88                  | 0.00                 | 7.88        | 0.00         | 7.88                   |                  |                                    |                                    |
| 50DR005   | Jawabhari- Nibihawa- Patwar- Pathardaiya- Ganeshpur Road                   | 9.908       | 0+000                                | 9+908                              | 1.23                    | 8.68                  | 0.00                 | 9.91        | 0.00         | 9.91                   |                  |                                    |                                    |
| 50DR006   | RTO Saunahawa- Bahadurgunj Road  | 6.091       | 0+000                                | 6+091                              | 0.34                    | 5.75                  | 0.00                 | 6.09        | 0.00         | 6.09                   |                  |                                    |                                    |
| 50DR007   | Khairendrapur- Maharajgunj Road  | 11.004      | 0+000                                | 11+004                             | 0.25                    | 10.76                 | 0.00                 | 11.00       | 0.00         | 11.00                  |                  |                                    |                                    |
| 50DR008   | Badaegaun- Manpur- Thuniya Road  | 6.008       | 0+000                                | 6+008                              | 0.00                    | 4.89                  | 1.11                 | 4.89        | 1.11         | 6.01                   |                  |                                    |                                    |
| 50DR009   | Karma- jigna- Lalpur- Thuniya Road   | 14.832      | 0+000                                | 14+832                             | 0.00                    | 5.21                  | 9.62                 | 5.21        | 9.62         | 14.83                  |                  |                                    |                                    |
| 50DR010   | Rudrapur- Lalpur- Sisawa-Chamarsathiya- Maharajgunj                        | 9.519       | 0+000                                | 9+519                              | 0.00                    | 6.64                  | 2.88                 | 6.64        | 2.88         | 9.52                   |                  |                                    |                                    |
| 50DR011   | Rajpur- Aurahawa- Bhanpur- Badhani Border Road                             | 6.117       | 0+000                                | 6+117                              | 0.00                    | 6.12                  | 0.00                 | 6.12        | 0.00         | 6.12                   |                  |                                    |                                    |
| 50DR012   | Buddi- Rangai- Taku- Bakatpur Road   | 9.084       | 0+000                                | 9+084                              | 0.00                    | 9.08                  | 0.00                 | 9.08        | 0.00         | 9.08                   |                  |                                    |                                    |
| 50DR013   | Hardasadiwa- Mahuwa- Magurgad Road   | 9.109       | 0+000                                | 9+109                              | 0.00                    | 7.62                  | 1.49                 | 7.62        | 1.49         | 9.11                   |                  |                                    |                                    |
| 50DR014   | Bijgauri-Shankarpur-Aurahawa Road  | 4.987       | 0+000                                | 4+987                              | 0.00                    | 4.99                  | 0.00                 | 4.99        | 0.00         | 4.99                   |                  |                                    |                                    |
| 50DR015   | Tikkar- Buddi- Bijgauri- Hulaki Sadak Road                                 | 21.516      | 0+000                                | 21+516                             | 11.42                   | 10.09                 | 0.00                 | 21.52       | 0.00         | 21.52                  |                  |                                    |                                    |
| 50DR016   | Piparahawa-Saurahta-Baskhor-Shihokhor- Sultanwapur- Kopawa- Marjadpur Road | 12.230      | 0+000                                | 12+230                             | 0.5                     | 7.05                  | 4.68                 | 7.56        | 4.68         | 12.24                  |                  |                                    |                                    |
| 50DR017   | Sonawarsi- Loharauli- Pokharabhitawa- Shrirampur- Sihokhor- Khoriya Road   | 9.270       | 0+000                                | 9+270                              | 0.00                    | 7.63                  | 1.64                 | 7.63        | 1.64         | 9.27                   |                  |                                    |                                    |
| 50DR018   | Simrahawa - Basantapur- Amalonaha- Rangapur - purnihawa Road               | 9.371       | 0+000                                | 9+371                              | 0.00                    | 9.37                  | 0.00                 | 9.37        | 0.00         | 9.37                   |                  |                                    |                                    |
| 50DR019   | Bargadawa- Bhawapur- Titirkhi- Road  | 10.970      | 0+000                                | 10+970                             | 5.44                    | 5.53                  | 0.00                 | 10.97       | 0.00         | 10.97                  |                  |                                    |                                    |
| 50DR020   | Harnampur- Bhadehar- Basantapur- Dangari - Gotihawa Road                   | 8.516       | 0+000                                | 8+516                              | 0.00                    | 5.97                  | 2.55                 | 5.97        | 2.55         | 8.52                   |                  |                                    |                                    |
| 50DR021   | Gaura Bhansar- Sishaniya-Kuwagaun- Dohani Road                             | 8.063       | 0+000                                | 8+063                              | 0.00                    | 8.06                  | 0.00                 | 8.06        | 0.00         | 8.06                   |                  |                                    |                                    |

|         |   |        |       |        |      |       |       |       |       |       |  |  |  |
|---------|---|--------|-------|--------|------|-------|-------|-------|-------|-------|--|--|--|
| 50DR022 | Dohani- Bankasiya- Baluhawa- Baluhi- Gauraha Road                                     | 4.474  | 0+000 | 4+474  | 0.00 | 4.47  | 0.00  | 4.47  | 0.00  | 4.47  |  |  |  |
| 50DR023 | Chakarchauda- Dohani- Pachehara Road  | 10.139 | 0+000 | 10+139 | 1.00 | 6.14  | 3.00  | 7.14  | 3.00  | 10.14 |  |  |  |
| 50DR024 | Barrohiya- Pachehara Road   | 8.408  | 0+000 | 8+408  | 0.00 | 8.41  | 0.00  | 8.41  | 0.00  | 8.41  |  |  |  |
| 50DR025 | Barrohiya-Jayanagara Road (Purano Hulaki)   | 11.492 | 0+000 | 11+492 | 0.00 | 11.49 | 0.00  | 11.49 | 0.00  | 11.49 |  |  |  |
| 50DR026 | Laxmanghat-Jagidishpur-Tilaurakot (Paryatakiya Road)                                  | 15.237 | 0+000 | 15+237 | 0.00 | 15.24 | 0.00  | 15.24 | 0.00  | 15.24 |  |  |  |
| 50DR027 | Mainihawa-Pachehara Road  | 10.075 | 0+000 | 10+075 | 0.00 | 10.08 | 0.00  | 10.08 | 0.00  | 10.08 |  |  |  |
| 50DR028 | Jhanda-Bangain- Motipur- Dohote Road  | 14.403 | 0+000 | 14+403 | 2.77 | 11.64 | 0.00  | 14.40 | 0.00  | 14.40 |  |  |  |
| 50DR029 | Jahadi- Bikuli- Bungchi Road  | 12.043 | 0+000 | 12+043 | 2.53 | 9.52  | 0.00  | 12.04 | 0.00  | 12.04 |  |  |  |
| 50DR030 | Bedauli-Mainaharawa-Dewapur- Hathausa- Patna-Kothi Road                               | 12.569 | 0+000 | 12+569 | 0.00 | 3.34  | 9.23  | 3.34  | 9.23  | 12.57 |  |  |  |
| 50DR031 | Chappar gaun- Gansahawa- Dhodekol- Mormi- Jinuwa Road                                 | 2.848  | 0+000 | 2+848  | 0.65 | 2.20  | 0.00  | 2.85  | 0.00  | 2.85  |  |  |  |
| 50DR032 | Bodgaun- Mormi- Bardahawa- Dohate Road  | 6.989  | 0+000 | 6+989  | 0.44 | 6.55  | 0.00  | 6.99  | 0.00  | 6.99  |  |  |  |
| 50DR033 | Laxmanghat- Gajehada-Balapur- bankatti (Bolbam Dham) Road                             | 9.739  | 0+000 | 9+739  | 0.00 | 9.74  | 0.00  | 9.74  | 0.00  | 9.74  |  |  |  |
| 50DR034 | Sibalawa-Labani- MRM Road   | 31.456 | 0+000 | 31+456 | 0.00 | 31.46 | 0.00  | 31.46 | 0.00  | 31.46 |  |  |  |
| 50DR035 | Odari-Patna-Kothi nadi Road   | 11.069 | 0+000 | 11+069 | 0.00 | 11.07 | 0.00  | 11.07 | 0.00  | 11.07 |  |  |  |
| 50VR001 | Dubripur (Dumara)-Ganeshpur-Lalpur-Bankasihawa-Baluhawa-Buladihawa- Pipra border Road | 6.416  | 0+000 | 6+416  | 0.00 | 6.42  | 0.00  | 6.42  | 0.00  | 6.42  |  |  |  |
| 50VR002 | Dumara- Asnahara- Boktapur Road   | 8.391  | 0+000 | 8+391  | 0.00 | 4.33  | 4.06  | 4.33  | 4.06  | 8.39  |  |  |  |
| 50VR003 | Hardauna- Algi-Mujahani- Kusahawa-Bhirmi-Dabara (Chandrauta-Krishnanagar road) Road   | 17.733 | 0+000 | 17+733 | 0.00 | 12.34 | 5.39  | 12.34 | 5.39  | 17.73 |  |  |  |
| 50VR004 | Harnampur Mahadev-Dumara-Pachehara  | 7.743  | 0+000 | 7+743  | 0.00 | 7.74  | 0.00  | 7.74  | 0.00  | 7.74  |  |  |  |
| 50VR005 | Jagdishpur- Shreenagar- Gobari Road   | 3.520  | 0+000 | 3+520  | 0.00 | 3.52  | 0.00  | 3.52  | 0.00  | 3.52  |  |  |  |
| 50VR006 | Jahadi 8-Bankatawa-Patariya   | 10.797 | 0+000 | 10+797 | 0.00 | 6.09  | 4.71  | 6.09  | 4.71  | 10.80 |  |  |  |
| 50VR007 | Khobiya tal-Dhanchaura-Dubiya tal   | 7.174  | 0+000 | 7+174  | 0.00 | 0.00  | 7.17  | 0.00  | 7.17  | 7.17  |  |  |  |
| 50VR008 | Kopawa-Amaraiya-Nagawa-Odari-Patana   | 8.556  | 0+000 | 8+556  | 0.00 | 3.17  | 5.39  | 3.17  | 5.39  | 8.56  |  |  |  |
| 50VR009 | Nandnagar- Bairiya road   | 6.141  | 0+000 | 6+141  | 0.00 | 6.14  | 0.00  | 6.14  | 0.00  | 6.14  |  |  |  |
| 50VR010 | Pipara-Devisthan-Nandanagar-Simalpani   | 18.495 | 0+000 | 18+495 | 0.00 | 0.00  | 18.50 | 0.00  | 18.50 | 18.50 |  |  |  |
| 50VR011 | Pipara Kalauni-Dachhin Chakarchauda   | 2.135  | 0+000 | 2+135  | 0.00 | 2.14  | 0.00  | 2.14  | 0.00  | 2.14  |  |  |  |
| 50VR012 | Rajpur-Takiyaba   | 5.196  | 0+000 | 5+196  | 0.00 | 1.75  | 3.44  | 1.75  | 3.44  | 5.20  |  |  |  |
| 50VR013 | Ramnagar Jhingaha gaun RTO-Basbariya road   | 2.411  | 0+000 | 2+411  | 0.00 | 2.41  | 0.00  | 2.41  | 0.00  | 2.41  |  |  |  |
| 50VR014 | Shivapur- Karahiya-Madwa- Belnadi Road  | 7.170  | 0+000 | 7+170  | 0.00 | 5.89  | 1.28  | 5.89  | 1.28  | 7.17  |  |  |  |
| 50VR015 | Matkudi-Naudihawa Road  | 2.000  | 0+000 | 2+000  | 0.00 | 2.00  | 0.00  | 2.00  | 0.00  | 2.00  |  |  |  |
| 50VR016 | Sohasa-Bimiha-Karma Kapasi-Mankhoriya-Haribansapur                                    | 14.799 | 0+000 | 14+799 | 0.00 | 8.08  | 6.72  | 8.08  | 6.72  | 14.80 |  |  |  |
| 50VR017 | Sudhaul (Bedauli) road-Parasohiya-Rangapur-purnihawa                                  | 7.487  | 0+000 | 7+487  | 0.00 | 7.49  | 0.00  | 7.49  | 0.00  | 7.49  |  |  |  |
| 50VR018 | Siddhapaira-Bichagauri Road   | 2.521  | 0+000 | 2+521  | 0.00 | 0.83  | 1.69  | 0.83  | 1.69  | 2.52  |  |  |  |
| 50VR019 | Singhakhor 8 Gotihawa Shitpura gaun-Gotihawa gaun ko Kudan                            | 5.576  | 0+000 | 5+576  | 0.00 | 5.58  | 0.00  | 5.58  | 0.00  | 5.58  |  |  |  |

|         |   |        |       |        |      |      |       |      |       |       |  |  |  |
|---------|---|--------|-------|--------|------|------|-------|------|-------|-------|--|--|--|
| 50VR020 | Bijuwa-Jamuni-Sankarpur Road  | 4.244  | 0+000 | 4+244  | 0.00 | 0.00 | 4.24  | 0.00 | 4.24  | 4.24  |  |  |  |
| 50VR021 | Bijuwa gaun (Bijuwa)-Jignihawa-Amahawa Shankarpur-Purba Marthi nadi-Jainagara (Bithuwa) | 3.256  | 0+000 | 3+256  | 0.00 | 3.26 | 0.00  | 3.26 | 0.00  | 3.26  |  |  |  |
| 50VR021 | Bijuwa 7 Hulaki sadak-Ne.Ra. Ucha mabi-Jharuwachok (Labani)                             | 9.062  | 0+000 | 9+062  | 0.00 | 0.00 | 9.06  | 0.00 | 9.06  | 9.06  |  |  |  |
| 50VR022 | Abhiraw- Mankhoriya Road  | 1.493  | 0+000 | 1+493  | 0.00 | 1.49 | 0.00  | 1.49 | 0.00  | 1.49  |  |  |  |
| 50VR023 | Abhiraw-Bharabaliya-Dubaripur Road  | 4.815  | 0+000 | 4+815  | 0.00 | 2.52 | 2.30  | 2.52 | 2.30  | 4.82  |  |  |  |
| 50VR024 | Amlonaha-Rangpur-Titirkhi Road  | 3.451  | 0+000 | 3+451  | 0.00 | 3.45 | 0.00  | 3.45 | 0.00  | 3.45  |  |  |  |
| 50VR025 | Babhani-Pokharbhitarwa-Lahrauli gaun  | 3.987  | 0+000 | 3+987  | 0.00 | 3.99 | 0.00  | 3.99 | 0.00  | 3.99  |  |  |  |
| 50VR026 | Bairiya-Nandanagar Road   | 4.134  | 0+000 | 4+134  | 0.00 | 4.13 | 0.00  | 4.13 | 0.00  | 4.13  |  |  |  |
| 50VR027 | Balapur- Sundaridanda- R.T.O. Road  | 6.387  | 0+000 | 6+387  | 0.00 | 6.39 | 0.00  | 6.39 | 0.00  | 6.39  |  |  |  |
|         | Bangain lokmarg-Bhalawad Bharlabas-Arghakhachi ko Simalpani                             | 9.615  | 0+000 | 9+615  | 0.00 | 0.00 | 9.62  | 0.00 | 9.62  | 9.62  |  |  |  |
| 50VR029 | Bargadawa-Bhabpur- Titirkhi Road  | 2.465  | 0+000 | 2+465  | 0.00 | 0.00 | 2.47  | 0.00 | 2.47  | 2.47  |  |  |  |
| 50VR030 | Bijuwa gaun (Bijuwa)-Jignihawa-Amahawa Shankarpur-Purba Marthi nadi-Jainagara (Bithuwa) | 3.085  | 0+000 | 3+085  | 0.00 | 0.00 | 3.08  | 0.00 | 3.08  | 3.08  |  |  |  |
| 50VR031 | Bishunpur 3, 4 Mahuli sadak   | 15.844 | 0+000 | 15+844 | 0.00 | 5.06 | 10.78 | 5.06 | 10.78 | 15.84 |  |  |  |
| 50VR032 | Bisunpur 2 Badariya-Mahula-Bilrahawa-Pakadi Bahadurgunj road                            | 8.118  | 0+000 | 8+118  | 0.00 | 8.12 | 0.00  | 8.12 | 0.00  | 8.12  |  |  |  |
| 50VR033 | Bolbam dham Laxmanghat-Madhaul- Jhugaha-Gajehada-Bankatti                               | 12.590 | 0+000 | 12+590 | 0.00 | 0.00 | 12.59 | 0.00 | 12.59 | 12.59 |  |  |  |
| 50VR034 | Buddhanagar-Shankarpur- Jagdishpur- Surahi Road   | 14.980 | 0+000 | 14+980 | 0.00 | 0.00 | 14.98 | 0.00 | 14.98 | 14.98 |  |  |  |
| 50VR035 | Buhadilwa-Rajabapur-Sishaniya Road  | 2.578  | 0+000 | 2+578  | 0.00 | 2.58 | 0.00  | 2.58 | 0.00  | 2.58  |  |  |  |
| 50VR036 | Chakarchauda- Tulsidehawa Road  | 1.700  | 0+000 | 1+700  | 0.00 | 0.00 | 1.70  | 0.00 | 1.70  | 1.70  |  |  |  |
| 50VR037 | Changhat mandir-Khobiya tal   | 11.121 | 0+000 | 11+121 | 0.00 | 8.30 | 2.82  | 8.30 | 2.82  | 11.12 |  |  |  |
| 50VR038 | Chetardehi chok-Bhagawanpur Piparhawa-Dhankauli ko Huddi                                | 4.315  | 0+000 | 4+315  | 0.00 | 4.31 | 0.00  | 4.31 | 0.00  | 4.31  |  |  |  |
| 50VR039 | Dhamauli- Fulika- Bagdi Road  | 5.832  | 0+000 | 5+832  | 0.00 | 0.00 | 5.83  | 0.00 | 5.83  | 5.83  |  |  |  |
| 50VR040 | Dohani-Bagahauwa-Pachehara  | 0.815  | 0+000 | 0+815  | 0.00 | 0.00 | 0.81  | 0.00 | 0.81  | 0.81  |  |  |  |
| 50VR041 | Dohani-Pakadi   | 5.772  | 0+000 | 5+772  | 0.00 | 5.77 | 0.00  | 5.77 | 0.00  | 5.77  |  |  |  |
| 50VR042 | Dohani 4-Sisahaniya 8   | 7.720  | 0+000 | 7+720  | 0.00 | 3.88 | 3.84  | 3.88 | 3.84  | 7.72  |  |  |  |
| 50VR043 | Gaura- Ganeshpur- Karmahawa-Harnampur-Baluhawa-Siharaiya Road                           | 11.680 | 0+000 | 11+680 | 0.00 | 3.98 | 7.70  | 3.98 | 7.70  | 11.68 |  |  |  |
| 50VR044 | Gotihawa canal-Sauraha 6, 7, 8-Sihokhor-Somadi VDC -Border                              | 9.623  | 0+000 | 9+623  | 0.00 | 5.99 | 3.64  | 5.99 | 3.64  | 9.62  |  |  |  |
| 50VR045 | Hathausa 9 Odari Bhadsadwa-Bhaddihawa-Pipara chok Chakarchauda Patana                   | 8.016  | 0+000 | 8+016  | 0.00 | 8.02 | 0.00  | 8.02 | 0.00  | 8.02  |  |  |  |
| 50VR046 | Hulaki-Karma- Lohati Border Road  | 6.279  | 0+000 | 6+279  | 0.00 | 0.00 | 6.28  | 0.00 | 6.28  | 6.28  |  |  |  |
| 50VR047 | Jawabhari- Lalpur- Sisawa- Chamarsat (Kharendrapur-Maharajgunj road) Road               | 1.036  | 0+000 | 1+036  | 0.00 | 1.04 | 0.00  | 1.04 | 0.00  | 1.04  |  |  |  |
| 50VR048 | Jitpur-Simalpani  | 8.159  | 0+000 | 8+159  | 0.00 | 0.00 | 8.16  | 0.00 | 8.16  | 8.16  |  |  |  |

|              |   |                |       |        |              |               |               |              |              |              |          |          |          |
|--------------|---|----------------|-------|--------|--------------|---------------|---------------|--------------|--------------|--------------|----------|----------|----------|
| 50VR049      | Kewalpur- Pachehara Road  | 8.766          | 0+000 | 8+766  | 0.00         | 8.77          | 0.00          | 8.77         | 0.00         | 8.77         |          |          |          |
| 50VR050      | Bargada-Maharajgannj Road   | 3.361          | 0+000 | 3+361  | 0.42         | 2.94          | 0.00          | 3.36         | 0.00         | 3.36         |          |          |          |
| 50VR051      | Kharindrapur-Semari- Bhadokhar-Nangadehawa-Banardihawa (Manpur-Kharendrapur road) Road  | 12.842         | 0+000 | 12+842 | 0.00         | 0.00          | 12.84         | 0.00         | 12.84        | 12.84        |          |          |          |
| 50VR052      | Kopawa-Itawa school   | 1.368          | 0+000 | 1+368  | 0.00         | 1.37          | 0.00          | 1.37         | 0.00         | 1.37         |          |          |          |
| 50VR053      | Krishnanagar-Shivagadhi-Dhankhola-RTO road  | 39.708         | 0+000 | 39+708 | 0.00         | 39.71         | 0.00          | 39.71        | 0.00         | 39.71        |          |          |          |
| 50VR054      | Krishnananagar link road-Bhuddhihawa (Birpur)-Kudarbetawa-Pachagawa-Motinagar-Balanagar-Nibhawa-Jumili-Jubla Road               | 22.188         | 0+000 | 22+188 | 0.00         | 22.19         | 0.00          | 22.19        | 0.00         | 22.19        |          |          |          |
| 50VR055      | Lokmarg Shivapur 6-Balapur-Suraikhola-Shankarpur-Mijhuniya-Bijayanagar-Premnagar-RTO road                                       | 10.924         | 0+000 | 10+924 | 0.00         | 10.92         | 0.00          | 10.92        | 0.00         | 10.92        |          |          |          |
| 50VR056      | Maharajgunj-Pipari-Bargadi- Bargada-Padariya-Kajrawa (Imliya-Maharajgun road) Road  | 5.045          | 0+000 | 5+045  | 0.00         | 0.00          | 5.04          | 0.00         | 5.04         | 5.04         |          |          |          |
| 50VR057      | Mahendrakot Bhelai-Kapasi Purena-Gorusinghe-Bakadariya-Chetradehi-Tilaurokot  | 14.234         | 0+000 | 14+234 | 0.00         | 5.00          | 9.23          | 5.00         | 9.23         | 14.23        |          |          |          |
| 50VR058      | Mainihawa-Dhamauli-Bagdi (Phulika)  | 4.200          | 0+000 | 4+200  | 0.00         | 0.00          | 4.20          | 0.00         | 4.20         | 4.20         |          |          |          |
| 50VR059      | Mormi Tharu gaun ward 1, 2-Koilihawa-Purena-Gorusinge   | 7.185          | 0+000 | 7+185  | 0.00         | 0.00          | 7.19          | 0.00         | 7.19         | 7.19         |          |          |          |
| 50VR060      | Mudhila Chauraha-Mudhila Bypass-Loharauli rangapur  | 4.247          | 0+000 | 4+247  | 0.00         | 1.76          | 2.49          | 1.76         | 2.49         | 4.25         |          |          |          |
| 50VR061      | Piparahawa- Bithuwa- Baskhor- Belsapur Road   | 10.128         | 0+000 | 10+128 | 0.00         | 2.76          | 7.36          | 2.76         | 7.36         | 10.13        |          |          |          |
| 50VR062      | Rangpur-Parsohiya- Baidauli Road  | 1.050          | 0+000 | 1+050  | 0.00         | 1.05          | 0.00          | 1.05         | 0.00         | 1.05         |          |          |          |
| 50VR063      | Rehara school-Bahabasi-Rajawapur-Dumarachok-Bankasawa-Baluahaha-Gaura   | 5.764          | 0+000 | 5+764  | 0.00         | 3.31          | 2.46          | 3.31         | 2.46         | 5.76         |          |          |          |
| 50VR064      | Singhakhor 8 Gotihawa Shitpura gaun-Gotihawa gaun ko Kudan  | 1.556          | 0+000 | 1+556  | 0.00         | 0.00          | 1.56          | 0.00         | 1.56         | 1.56         |          |          |          |
| 50VR065      | Suthali-Baidauli-Dewapar-Hathausa-Sonpur-Kothinadi sadak  | 3.586          | 0+000 | 3+586  | 0.00         | 0.00          | 3.59          | 0.00         | 3.59         | 3.59         |          |          |          |
| 50VR066      | Suthauli Budhapar Sultanawapur Belsapur Road  | 4.278          | 0+000 | 4+278  | 0.00         | 2.00          | 2.27          | 2.00         | 2.27         | 4.28         |          |          |          |
| 50VR067      | Taulihawa-Maryadpur   | 7.097          | 0+000 | 7+097  | 0.00         | 7.10          | 0.00          | 7.10         | 0.00         | 7.10         |          |          |          |
| 50VR068      | Thuniya- Sheakhuniya Taal- Badea Gaun (Kharindrapur-Maharajgunj road) Road  | 0.655          | 0+000 | 0+655  | 0.00         | 0.00          | 0.66          | 0.00         | 0.66         | 0.66         |          |          |          |
| 50VR069      | Tripalnagar (Patthardehiya)-Deupura-Mahilbar-Dagadai-Jagadishpur-kadhiyar-Patthardehiya-Mainari-Ramnagar Jhingaha gaun RTO road | 8.895          | 0+000 | 8+895  | 0.00         | 0.00          | 8.89          | 0.00         | 8.89         | 8.89         |          |          |          |
| 50VR070      | Unwaliya- Semari- Tenuwa-Shibavari Road   | 12.702         | 0+000 | 12+702 | 0.00         | 6.52          | 6.19          | 6.52         | 6.19         | 12.70        |          |          |          |
| 50VR071      | Imiliya (Pakadi)-Gauriganj (Baskhor)-Sohasa (Patariya)  | 7.614          | 0+000 | 7+614  | 0.00         | 2.50          | 5.11          | 2.50         | 5.11         | 7.61         |          |          |          |
| <b>Total</b> |   | <b>908.329</b> |       |        | <b>26.98</b> | <b>594.57</b> | <b>286.77</b> | <b>540.7</b> | <b>272.8</b> | <b>813.5</b> | <b>0</b> | <b>0</b> | <b>0</b> |

## **ANNEX 5 MINUTE OF MEETINGS**