Identification of Tourism Circuits across India

Interim Report
Uttarakhand

April– 2012

Submitted to:	**Submitted by:**
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1. Introduction

1.1 Assignment Brief

IL&FS Infrastructure Development Corporation Ltd (IL&FS IDC) appointed as the National Level Consultant (NLC) by Ministry of Tourism, is in the process of identifying Tourism Circuits across all the States and UTs (except North-East). These circuits are proposed to be developed during the 12th Plan, in an integrated manner with Central Financial Assistance and appropriate involvement of State Governments and private sector.

As a part of the above mentioned study, identification of National Circuits is also an important component of the mandate. The said assignment for 'Identification and Development of National Circuits' comprises identification and prioritisation of these circuits, identification of the basic and tourism related infrastructural and promotional needs of the identified circuits, which are to be implemented on priority basis, along with the tentative cost estimates. These projects should be related to development of basic as well as tourism related infrastructure. Thereafter, Detailed Project Reports (DPRs) of the identified projects along with their financial projections will be prepared.

1.2 Objectives of the Study

The objectives of the present study are as follows:

1) To identify the potential tourist circuits/destinations in the state of Uttarakhand.
2) To analyse the potential and carrying capacity of the identified tourist circuits/destinations and prioritise the same.
3) Assess the existing infrastructure – basic and tourism related for the circuits/destinations.
4) To assess the interventions for improving the quantity and quality of basic and tourism infrastructure for prioritized circuits/destinations.
5) Identify infrastructural projects to be initiated by Central/State/Private sector.

1.3 Approach and Methodology

Figure 1 presents a flow diagram of the approach and methodology used for the present study. Based on primary and secondary sources, literature search and discussions with key stake holders (State Government and local tour & travel industry), the existing tourists' flow and orientation were studied. The existing and future potential and connectivity of the destinations were studied for an initial screening of the tourist circuits/destinations.

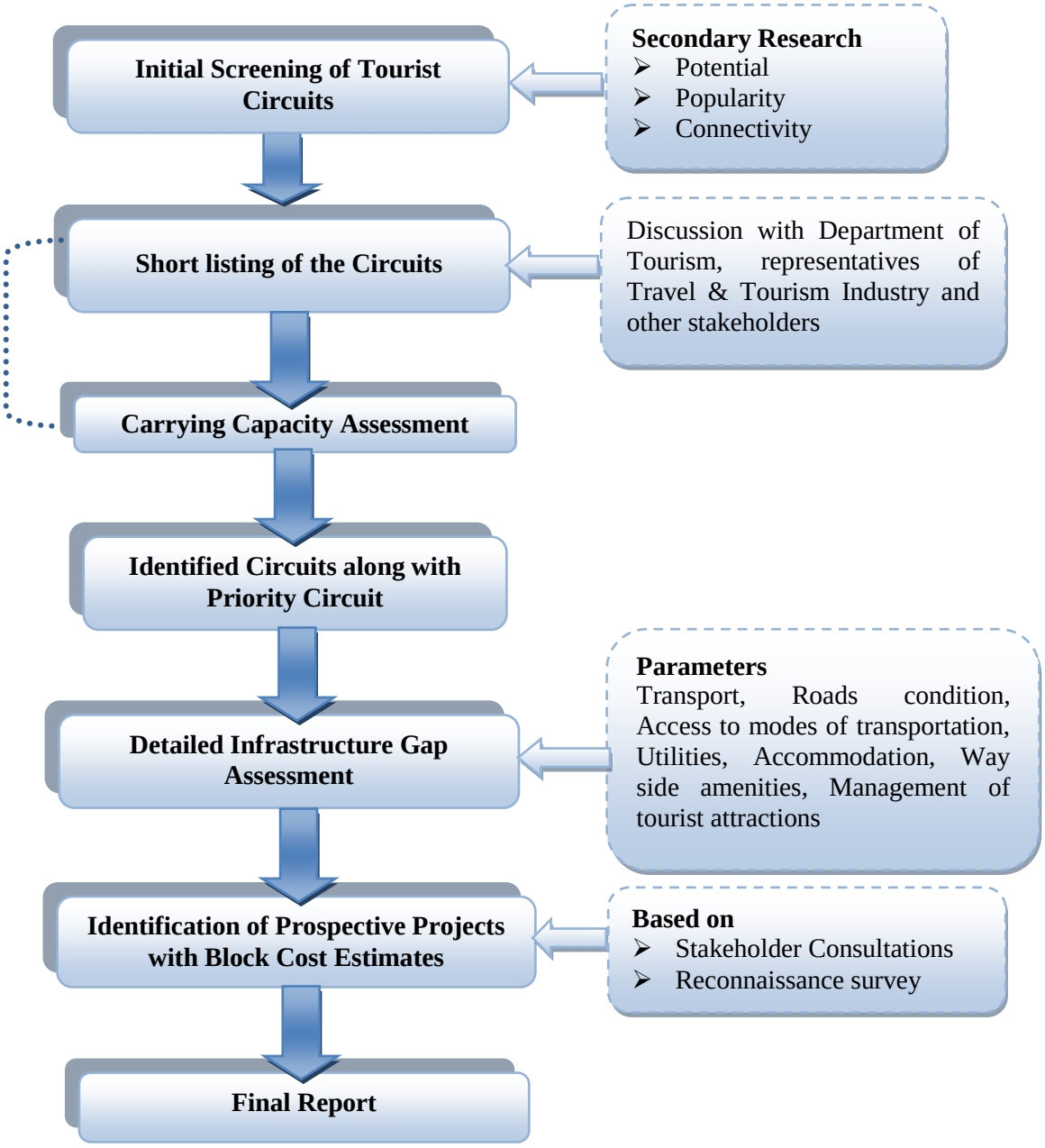


Figure 1: Study Methodology

After the initial screening, the circuits identified were discussed with the State Government (Department of Tourism), representatives of Travel & Tourism Industry and other stakeholders. On the basis of these consultations, tourism circuits have been shortlisted. In order to understand existing capacity of the shortlisted circuits as well as destinations, a detailed carrying capacity assessment has been done. This assessment is, primarily, based on the residential and tourist population densities of the town/cities.

Based on above exercise, four circuits have been identified and prioritized. The circuits have been prioritized after consultations with the stakeholders and based on the popularity, tourists' flow pattern

and perceived need for improvements/investments to basic and tourism infrastructure. In the present study, the circuit with the highest priority has been taken up for detailed examination.

Thereafter, detailed infrastructure assessment of the priority circuit is undertaken. The objective of the said assessment is to understand the significance of the mentioned sites from a tourist perspective and to map the availability of basic and tourism related-infrastructure. Typical infrastructure being demanded includes facilities at entry-exit points, accommodation, way-side amenities, physical & social infrastructure, public utilities as well as health & security. This assessment is based on reconnaissance survey done along the route, wayside and on site of the priority circuit. Following infrastructure has been examined to assess the requirements and deficiencies:

1) Modes of Transport- airways, roadways, railways and access thereto
2) Road network
3) Utilities-power, water facility, etc
4) Accommodation
5) Way side amenities
6) Maintenance and management of built heritage/tourist attractions

On the basis of reconnaissance survey, discussions with local community and other stakeholders, gaps have been identified. Based on these gaps as well as site potential, sustainable projects have been proposed along with the indicative block costs. These proposed projects are intended to achieve the following two objectives:

1) Products and activities proposed will attract the tourist inflow and will hold the tourists in the circuits which will provide socio-economic benefits at a larger level.
2) Sustainable projects will attract different investors and private players to participate in infrastructure development which will benefit both, Government as well as private sector.

1.4 Key Findings

Based on consultations, following four circuits were identified in the state:

Circuit 1: Dehradun-Musoorie-Dhanaulti-Kanatal-Rishikesh-Haridwar-Dehradun

Circuit 2: Corbett-Nainital-Corbett

Circuit 3: AdiBadri-Simli-Karyprayag-Chamoli-Pipalkoti-Urgam-VradhBadri-Joshimath-Bhavishya Badri-Yogdhyan Badri (Pandukeshwar)-Tapovan-Malari-Niti village

Circuit 4: Nankmatta-Tanakpur-Purnagiri-Champawat-Lohaghat-AbbotMount-Pithoragarh-Jaul Jibi- Madkot-Munsiyari-Shyama-Kamkot-Bageshwar-Takula-Almora leading to Vanasur

Among the identified circuits, Circuit 1 i.e., Dehradun-Musoorie-Dhanaulti-Kanatal-Rishikesh-Haridwar-Dehradun has been taken on priority basis. The key findings of the study conducted along the priority circuit are as follows:

Mussorie

- Alternate eco-friendly means need to be developed between Dehradun and Mussorie such as ropeway.
- Though unorganised food joints/dhabas etc are available, some good quality restaurants can be proposed.
- An Intensive solid waste management plan is needed.
- Presently, the need of public conveniences is fulfilled mostly from poorly maintained private wayside restaurants etc.

Dhanaulti

- Inadequate water supply, currently drinking water facility is only available from shops & restaurants.
- More information signages need to be installed.
- Adequate parking facility is required as presently tourist vehicles are parked by the roadside.
- A Tourist Information Centre is needed.

Kanatal

- The road condition between Dhanaulti to Kanatal (SH) is not good and some patches require resurfacing.
- The frequency of UKSRTC buses should be increased and quality (buses) improved for them to serve as good public transport modes.
- Improvement in the basic tourist infrastructure such as Tourist Information Centres, quality restaurants, public conveniences, directional signages, information signages and trained guides are required.

Rishikesh

- The road condition between Kanatal to Rishikesh needs resurfacing.
- Needs to improve the quality and frequency of the state transport buses between Kanatal to Rishikesh.
- Improvement in the basic tourist infrastructure such as Tourist Information Centres, quality restaurants, public conveniences, directional signages, information signages and trained guides are required.
- Intensive solid waste management plan is needed.

Haridwar

- Requirement of well maintained Tourist information centre
- CNG pumps, public conveniences, seating places and drinking water facilities are required enroute as well as on site.
- Parking facilities need to be improved

Dehradun

- Basic tourist infrastructure such as Tourist Information Centres, quality restaurants, public conveniences, directional signages, information signages and trained guides require improvement.
- Solid waste management needs to be improved and more dustbins need to be installed at different locations.

1.5 Structure of the Report

This interim report, which covers the priority circuit identified for Uttarakhand, has been divided into 6 sections. The next section of the report focuses on the profile of the State, especially in terms of infrastructure, tourism trends and key spots/sites. This is followed by sections explaining key parameters for finalizing a circuit (Tourist profile/Carrying capacity/Safety/Sustainability), outcome of stakeholder discussions at Centre and State, current status of circuits (based on site study undertaken) and infrastructure gaps identified during the site visit. On the basis of this, assessment of the level of adequacy of infrastructure will be done with respect to the existing infrastructure, increasing tourist inflow, destination popularity, types of tourists and seasonality. This approach will be able to assess and filling up the gaps (based on selective parameters) which categorizes the facilities available en route, way side and onsite. The study of the respective circuits is, primarily, based on visitors' approach towards destinations from the entry-exit points. The latter sections of the study report provides information on prospective projects in the circuits that can be taken up for infrastructural up-gradation. These projects have been proposed on the basis of identified deficiencies and perceived need to accommodate the tourist inflow into the circuits/destinations.

2. Brief on the State

2.1 Introduction

The state of Uttarakhand was formed on 9th November 2000 as the 27th State of India, when it was carved out of northern Uttar Pradesh. Located at the foothills of the Himalayan mountain ranges, it is largely a hilly State, having international boundaries with China (Tibet) in the north and Nepal in the east. On its north-west lies Himachal Pradesh, while on the south is Uttar Pradesh. It is rich in natural resources especially water and forests with many glaciers, rivers, dense forests and snow-clad mountain peaks. The state has a vast tourism potential in adventure, leisure, and eco-tourism.

Figure 2: Location Map of Uttarakhand

Source: en.wikipedia.org

According to Census of India, 2011, Uttarakhand has a total population of 101.17 Lakh with a decadal growth rate of 19.17 percent for the year 2001-11. Out of total population, 51 percent are males while 49 percent are females. The population density of the state is 189 persons per sq.km while the literacy rate is 79.6 percent which is higher than the national average of 74 percent[1].

[1] census.gov.in

The tourism industry is a major contributor to the economy of Uttaranchal, with the Raj-era hill-stations at Mussorie, Almora, Ranikhet and Nainital being some of the most frequented destinations. Some of the holy Hindu shrines also belong to this region. For almost 2000 years, pilgrims have been visiting the temples at Haridwar, Rishikesh, Badrinath and Kedarnath.[2]

2.2 Trends in Tourist Arrivals

Table 1 shows the Domestic and Foreign tourist arrival in Uttarakhand. According to the statistics available, the share of Uttarakhand to the total tourist in India (domestic tourist) has increased in past few years while in case of foreign tourist, the growth is almost stagnant.

It can also been observed that the tourist inflows in the state, both domestic and foreign, has shown a significant increase in past 2-3 years.

Table 1: Tourist arrival in the State

State/Country		2008		2009		2010	
		Domestic	Foreign	Domestic	Foreign	Domestic	Foreign
Uttarakhand		20546323	99910	21934567	106470	30206030	127258
All India		562982298	14112590	650038673	13717522	740214297	17852777
% Growth	Uttarakhand	-	-	6.8	6.6	37.7	19.5
	All India	-	-	15.5	-2.8	10.7	24.2
Share of Uttarakhand to India		3.6	0.7	3.4	0.8	4.1	0.7

Source: India Tourism Statistics, 2009 and 2010

According to published figures by MoT, for the year 2010, the state has improved its rank from 8th to 7th in case of domestic tourist visits while it has lowered in case of foreign tourist i.e., from 15th in 2009 to 16th in 2010.

2.2.1 Tourism in Key Destinations

The state of Uttarakhand is primarily known for its hill stations, pilgrim and adventure sites. The list of tourist destinations in the state is given in Table 2:

Table 2: Key tourist destinations in the State

S. No	Themes/Activities	Destinations
1	Hill Stations	Abbott Mount, Almora Auli, Bhimtal Bhowali, Chakrata, Chamba, Champawat, Chaukori, Chopta Dhanaulti, Dharchula, Didihat, Dwarahat, Gangolihat, Gwaldam, Harsil, Jeolikot, Kanatal, Kausani, Khirsu Lansdowne, Lohaghat, Mukteshwar, Munsiyari, Mussoorie, Nainital, Naukuchiatal, Pangot, Patal Bhuvaneshwar, Pauri, Pithoragarh, Ramgarh, Ranikhet, Sattal, Tehri Garhwal, Uttarkashi
2	Wild Life (Sanctuaries and National Parks)	Binsar, Jim Corbett, Rajaji and Ramnagar

[2] www.uttaranchal.org

3	Adventure (Trekking/Paragliding)	Auli, Barkot, Bedni Ali Bugyal, Bhojbasa, Chandrashila, Chopta, Dayara, Bugyal, Deoria Tal, Dodital, Gandhi Sarovar, Gangnani, Ghangaria, Ghuttu, Govindghat, Hanuman Chatti, Har Ki Doon, Hemkund Sahib, Kalpeshwar, Kedar Tal, Kedarnath, Madmaheshwar, Milam Glacier, Mori Munsiyari, Pindari Glacier, Roopkund, Rudranath, Sunderdhunga Glacier, Tungnath
4	Pilgrimage	Adi Kailash, Almora, Augustmuni, Badrinath, Devprayag, Dwarahat, Gangnani, Gangolihat, Gangotri, Gaurikund, Ghangaria, Guptkashi, Hanuman Chatti, Haridwar, Hemkund Sahib, Jageshwar, Janki Chatti, Joshimath, Kalpeshwar, Karnaprayag, Kedarnath, Madmaheshwar, Nanakmatta, Patal, Bhuvaneshwar, Rudranath, Rudraprayag, Tungnath, Ukhimath, Yamunotri

Source:www.euttaranchal.com

2.3 Physical Infrastructure & Connectivity

2.3.1 Connectivity

a) Roadways

Figure 3 shows the road network in the state. According to the statistics available for year 2009-10, the total road network in the state is 33,914.7 km. According to Ministry of Road Transport & Highways, National Highways running through the state has a total length of 2,042 km while the length of State Highways is 1,575.5 km. as per latest estimates available, major district road length is 567.8 km and village roads totaled to 12,375.6 km in 2009-10[3], respectively.

Figure 3: Road network in the state

Source: www.mapsofindia.com

[3] Uttarakhand at a Glance 2010-11, Ministry of Road Transport & Highways, Annual Report 2010-11

b) Railways

The state had 345 km of rail routes in 2009-10[4]. The main railway stations are Dehradun, Haridwar, Roorkee, Kotdwar, Kashipur, Udhamsingh Nagar, Haldwani, Ramnagar and Kathgodam. Initiatives have been made to start monorails at Dehradun, Haridwar and Rishikesh, on the inter-city linkage routes.

Figure 4: Railway network in the state

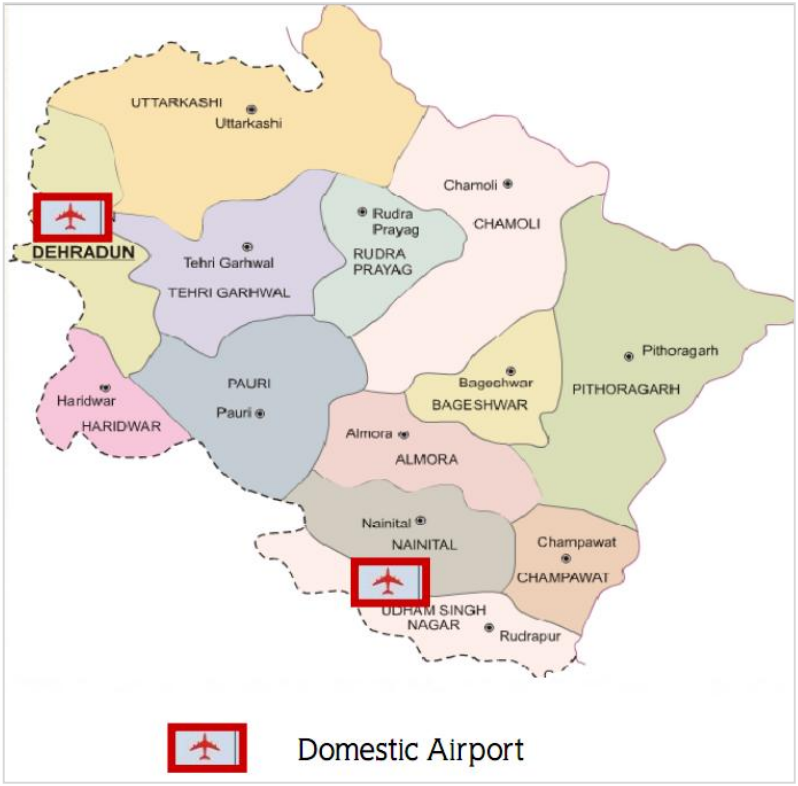
Source: www.mapsofindia.com

c) Airways

The state has two domestic airports: one at Jolly Grant in the Dehradun district and another at Pant Nagar in the Udham Singh Nagar district. All flights connect the state to Delhi. Up-gradation work is under way at the Dehradun airport with the coordination of Airport Authority of India (AAI). Because of the hilly terrain, the Government has proposed the construction of at least, one helipad per district[5].

[4] www.phdcci.in
[5] www.ibef.org

Figure 5: Airports in the state



Source: www.mapsofindia.com

2.3.2 Tourist Accommodation

Table 3 shows the typology of hotel accommodation as well as its distribution in the state.

Table 3: Accommodation availability in the state

Place	5 Star Deluxe	5 Star	4 Star	3 Star	2 Star	1 Star	Apart-ment Hotel	Time Share Resort	Heritage	Un-classified	Total
Almora	-	-	-	-	1	-	-	-	-	1	2
	-	-	-	-	10	-	-	-	-	25	35
Badrinath	-	-	-	-	1	-	-	-	-	-	1
	-	-	-	-	40	-	-	-	-	-	40
Dehradun	-	-	1	1	-	-	-	-	-	-	2
	-	-	69	26	-	-	-	-	-	-	95
Haridwar	-	-	-	3	-	-	-	-	1	1	5
	-	-		196	-	-	-	-	20	46	262
Kirtinagar	-	-	-	-	1	-	-	-	-	-	1
	-	-	-	-	33	-	-	-	-	-	33
Mukteshwar	-	-	-	-	1	-	-	-	-	-	1
	-	-	-	-	10	-	-	-	-	-	10
Mussoorie	1			3	-	-	-	-	-	-	4
	90			17	-	-	-	-	-	-	207

Place	5 Star Deluxe	5 Star	4 Star	3 Star	2 Star	1 Star	Apart-ment Hotel	Time Share Resort	Heritage	Un-classified	Total
Nainital	-	-	-	-	-	-	-	-	1	-	1
	-	-	-	-	-	-	-	-	28	-	28
Narender Nagar	-	-	-	1	-	-	-	-	-	-	1
	-	-	-	75	-	-	-	-	-	-	75
Ram Nagar	-	-	-	1	-	-	-	-	-	-	1
	-	-	-	52	-	-	-	-	-	-	52
Rudrapur	-	-	-	-	1	-	-	-	-	-	1
	-	-	-	-	45	-	-	-	-	-	45
Kashipur	-	-	-	-	1	-	-	-	-	-	1
	-	-	-	-	30	-	-	-	-	-	30
Pantnagar	-	-	-	-	1	-	-	-	-	-	1
	-	-	-	-	98	-	-	-	-	-	98
Total (No. of Hotels)	1	0	1	9	7	0	0	0	2	2	22
Total (No. of Rooms)	90	0	69	466	266	0	0	0	48	71	1010

Source: India Tourism Statistics, 2009

Table 3 above shows that there are nearly 22 registered hotels in the state out of which 73 percent belongs to 3 Star and 2 Star category while remaining comprises 5 Star Deluxe, 4 Star, Heritage and unclassified category of hotels. It can also be observed that hotels are mainly concentrated in Haridwar, Mussorie and Dehradun, the reason being the popularity of these destinations. It also indicates that there is a need to promote the other/lesser known destinations present in the state so that it can lead to balanced development of the state. This can be done with the assistance of suitable promotional strategy by the State Tourism Development Corporation.

3. Initial Screening of the Circuits

3.1 Based on Secondary Research

On the basis of discussions with the state tourism department and stakeholder interactions with the travel and tour industry, the following major tourism circuits were identified:

1) Delhi - Nainital - Kausani - Ranikhet – Delhi

2) Delhi - Haridwar - Rishikesh – Mussoorie

3) Rishikesh - Yamunotri - Gangotri - Gaumukh - Kedarnath – Badrinath

4) Delhi - Rishikesh - Yamunotri - Gangotri - Kedarnath - Badrinath - Haridwar - Delhi

5) Nainital-Kausani-Almora

3.2 Key Parameters

a) Tourist Profile

The type of tourist visiting a destination depends on the nature of destination. They can be broadly categorized into Domestic and International Tourists. This further affects the physical and socio-economic development of a destination as spending patterns determine the related multiplier effects. It also governs the type and scale of infrastructure required.

The peak season for tourist inflow in the state is between June to August for both Domestic as well as Foreign tourist. According to a survey[6], the average expenditure per visitor per day is around Rs. 762 at the overall level. The approximate figure for the domestic overnight visitor is Rs. 758 while that for the foreign overnight visitor is Rs. 798, respectively. These expenditures are majorly done on accommodation followed by transport and food & beverage services at the overall level.

b) Carrying Capacity

The carrying capacity[7] assessment and sustainability of tourism in the circuits identified is an important component of the study as it will form the basis for resource allocation and future development. The carrying capacity assessment has been done separately for the circuits, based on city population (resident), population density and tourist population and density (floating population). The estimation has been done by comparing the total density with the city density norms for small, medium and large town / cities set by Urban Development Plan Formulation and Implementation Guidelines (UDPFI). Only such places have been considered that can offer a sustainable value proposition to the tourists such that when tourism products are offered in those places, they can be maintained as well.

[6] tourism.gov.in/CMSPagePicture/file/marketresearch/statisticalsurveys/07%20uttaranchal.pdf

[7] Carrying capacity is defined as maximum number of individuals than a given environment can support without any adverse impact on it.

c) Travel and Tour

Generally, tour operators organize trips in such a way that only popular sites can be covered in a given period of time. This practice creates more pressure on such destinations. Therefore, while selecting the circuits, attempts have been made to promote the sites situated around these popular / saturated destinations which are relatively less developed.

d) Safety

Tourist safety has been considered and attempts have been made not to incorporate any such destination which is already adversely affected in terms of law and order.

4. Stakeholder Consultations

4.1 State Government

Following is the list of circuits identified and proposed by the Uttarakhand Tourism Development Board (UTDB):

1) Dehradun-Mussoorie-Dhanaulti-Kanatal-Rishikesh-Haridwar-Dehradun
2) Corbett-Nainital-Corbett
3) Adi Badri-Simli-Karyprayag-Chamoli-Pipalkoti-Urgam-Vradh Badri-Joshimath-Bhavishya Badri-Yogdhyan Badri (Pandukeshwar)-Tapovan-Malari-Niti village
4) Nankmatta-Tanakpur-Purnagiri-Champawat-Lohaghat—Abbot Mount-Pithoragarh-Jaul Jibi-Madkot-Munsiyari-Shyama-Kamkot-Bageshwar-Takula-Almora leading to Vanasur

4.2 National Level Stakeholder Consultation

The circuits, suggested by the UTDB (mentioned above), were presented in the National Level Stakeholder Consultation held on 23rd November, 2011. Table 4 shows the list of representatives who attended the meeting:

Table 4: Stakeholders in National Level Consultation

S. No	Names	Designation and Organisation
1	Shri R.H.Khwaja	Secretary, Tourism
2	Shri Sanjay Kothari	Additional Secretary (T)
3	Shri Anand Kumar	Joint Secretary (T)
4	Dr. R.N Pandey	Additional D.G. (MR)
5	Shri Devesh Chaturvedi	Additional D.G. (T)
6	Shri Amit Ray	Director (T)
7	Smt. Sandhya Singh	Dy. Director(MR)
8	Shri Vivek Shukla	General Manger, The Lalit
9	Shri Bharat Bhushan	Director, HAI
10	Shri K.P.Singh	Vice President, Samode hotels
11	Shri Gour Kanjilal	Executive Director, IATO
12	Shri Subhash Verma	President, ADTOI
13	Shri M.D.Kapoor	General Secretary, FHRAI
14	Shri Jason P David	Manager T.T, CGH Earth
15	Shri M.K.Kutty	Chief Co-ordinator, ITTA

1) It was suggested that the circuits presented need to be studied in the terms of their present and proposed carrying capacity.
2) Quality improvement projects are to be considered in saturated circuits.

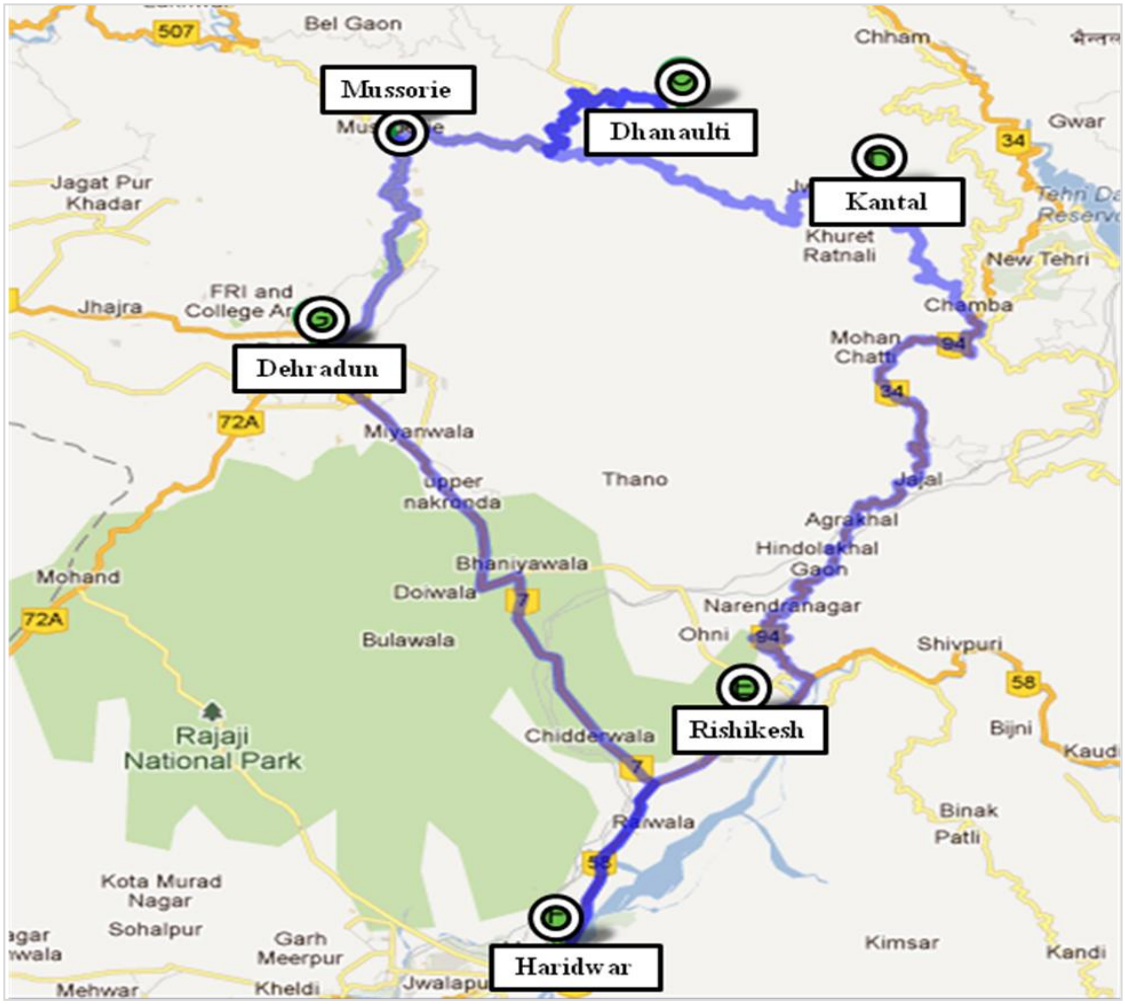
4.3 Ranked List of Circuits

Based on discussions and consultations undertaken, following is the ranked list of circuits:

1) Dehradun-Mussoorie-Dhanaulti-Kanatal-Rishikesh-Haridwar-Dehradun
2) Corbett-Nainital-Corbett
3) Adi Badri-Simli-Karyprayag-Chamoli-Pipalkoti-Urgam-Vradh Badri-Joshimath-Bhavishya Badri-Yogdhyan Badri (Pandukeshwar)-Tapovan-Malari-Niti village
4) Nankmatta-Tanakpur-Purnagiri-Champawat-Lohaghat-Abbot Mount-Pithoragarh-Jaul Jibi-Madkot-Munsiyari-Shyama-Kamkot-Bageshwar-Takula-Almora leading to Vanasur

Amongst the above mentioned circuits, circuit 1 i.e., Dehradun-Musoorie-Dhanaulti-Kanatal-Rishikesh-Haridwar-Dehradun has been chosen as priority circuit.

Figure 6: Map of the priority circuit in Uttarakhand



A brief description of the destinations covered under the priority circuit is given below[8]:

a) Dehradun

The city is the capital of Uttarakhand and a famous hill station. The famous tourist sites in the city and around include the Tibetan temple, Santaula Devi temple, Lacchiwala, Rajaji National Park and Dakpathar.

b) Mussoorie

Also popular as 'queen of hill stations', it is characterized by a cool climate and dense woods that make it an ideal hill resort. The prime highlights of this town are Tibetan Temple, Lake Mist, Mussoorie Lake, Municipal Gardens and Lal Tibba.

c) Dhanaulti

It is situated on Mussoorie - Chamba Road. As Mussoorie has become crowded, many tourists like to retreat to this place.

d) Kanatal

Kanatal is situated 33kms from Mussoorie at an elevation of 8500ft above sea level on Mussoorie - Chamba road. The view of the splendid Himalayan range is invigorating from Kanatal, and is increasingly gaining popularity as an alternative to the more crowded tourist spots.

e) Rishikesh

Located 25kms from Haridwar, Rishikesh is the popular destination amongst devotees, yoga persons and adventurers. It is also popular as it serves as a starting point to the "*Char Dham Yatra*" (Badrinath, Kedarnath, Gangotri and Yamunotri). It is an ideal destination for adventurers for rafting, trekking, rock climbing, kayaking, mountaineering etc.

f) Haridwar

Haridwar meaning 'Gateway to God' is one of the seven holiest places of the Hindus, located on the banks of River Ganges. With Ujjain, Nasik and Allahabad, Haridwar forms the four important pilgrimage centers of India where Kumbh Mela is celebrated after every 3 years rotated over these 4 destinations. *Har-ki-Pauri* is the most holy place where thousands of devotees take a dip.

[8] www.euttaranchal.com/tourism

4.4 Carrying Capacity Assessment

Tourism carrying capacity is defined as '*the maximum number of people that may visit the tourist destination without causing destruction of the physical, economic and socio cultural environment and an unacceptable decrease in the quality of visitors' satisfaction*.' (Alvin Chandy, 2009)

Assessment of TCC is based on three major indicators: Physical-Ecological, Socio-Demographic and Political- Economic.

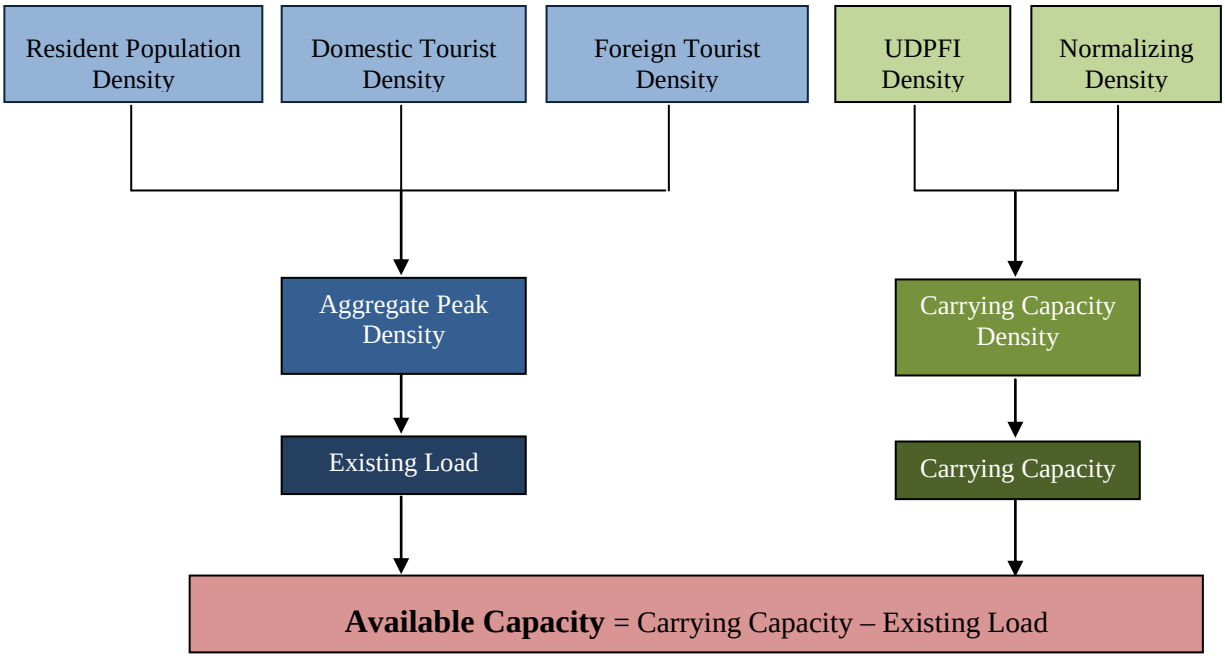
Physical and Ecological Indicators are based on fixed components (ecological capacity, assimilative capacity) and flexible components (infrastructure systems like water supply, electricity, transportation, etc).

Socio-demographic Indicators refer to social and demographic issues and importance to local communities, as they relate to the presence and growth of tourism. Some of these can be expressed in quantitative terms but most require suitable socio- psychological research.

Political-economic Indicators refer to the impacts of tourism on local economic structures, activities, etc. including competition to other sectors.

The objective of the interventions intended by the Ministry of Tourism, Government of India is to improve the quality and quantity of tourism infrastructure at tourist destinations/circuits in a sustainable manner. Hence, for the purposes of this report the primary focus would be on the Physical and Ecological Indicators. It is expected that improvement in physical infrastructure at destinations/circuits would translate into improvements in the socio-demographic and political-economic conditions of these places.

Figure 7: Methodology for Carrying Capacity Analysis



The methodology for evaluating the available carrying capacity for the tourist destinations of the circuit is illustrated in Figure 7 and is described below:

I. Calculation of Existing Load ($L_{EXISTING}$)

This is done by calculating the following:

a) ***Resident Population Density (β_{RP})*:** This was derived by dividing the existing resident population of the tourist town by its area in hectares (ha.)

b) ***Domestic Tourist Density (β_{DT})*:** This was derived as follows:

Step 1. **Domestic Tourist Arrival (T_D):** Domestic tourist arrivals during peak season (days) was determined.

Step 2. **Domestic Tourist stay days in peak seasons (T_{DSP})**: Domestic tourist arrival was multiplied by average number of days of tourist stay at that tourist town.

$$T_{DSP} = T_D * Stay_{Average\ Days}$$

Step 3. **Average number of tourist staying per day during peak season (α_{DSP}):** This was evaluated by dividing the number of tourist stay days per season by the number of days comprising the peak season

$$\alpha_{DSP} = Stay_{Average\ Days} / Days_{Peak\ Season}$$

Step 4. **Domestic Tourist Density (β_{DT}):** This was evaluated by dividing Average number of tourist staying per day during peak season by area of tourist town in hectares.

$$\beta_{DT} = \alpha_{PS} / Area$$

c) **Foreign Tourist Density *(β_{FT})*:** This was derived as follows:

Step 1. **Foreign Tourist Arrival (T_F):** Foreign tourist arrivals during peak season (days) was determined

Step 2. **Tourist stay days in peak seasons (T_{FSP})**: Foreign tourist arrival was multiplied by average number of day of stay for tourist at that tourist town.

$$T_{FSP} = T_F * Stay_{Average\ Days}$$

Step 3. **Average number of tourist staying per day during peak season (α_{FSP}):** This was evaluated by dividing the number of tourist stay days per season by the number of days comprising the peak season.

$$\alpha_{FSP} = Stay_{Average\ Days} / Days_{Peak\ Season}$$

Step 4. **Foreign Tourist Density:** This was evaluated by diving Average number of tourist staying per day during peak season by area of tourist town in hectares.

$$B_{FT} = \alpha_{PS} / Area$$

Aggregate Peak Density (A_{PD}) = *Resident Population Density + Domestic Tourist Density +Foreign Tourist Density*

$$A_{PD} = \beta_{RP} + \beta_{DT} + \beta_{FT}$$

Existing Load ($L_{EXISTING}$) = *Aggregate Peak Density * Area of the town*

$$L_{EXISTING} = A_{PD} * Area$$

II. Estimation of Carrying Capacity (CC)

a) UDPFI Density (D_{UDPFI}): The Urban Development Plan Formulation and Implementation Guidelines (UDPFI, 1996) guidelines classifies the towns on the basis of population as mentioned in Table 5.

Table 5: UDPFI Density Limits

Towns	Population	Upper Limit Density (PPH)
Small Town	Less than 50000	125
Medium Town	50000 – 500000	150
Large City	More than 500000	150
Metro Cities		175
Small Hill Town	20000	75
Medium Hill Town	20000-80000	90
Large Hill Town	More than 80000	90

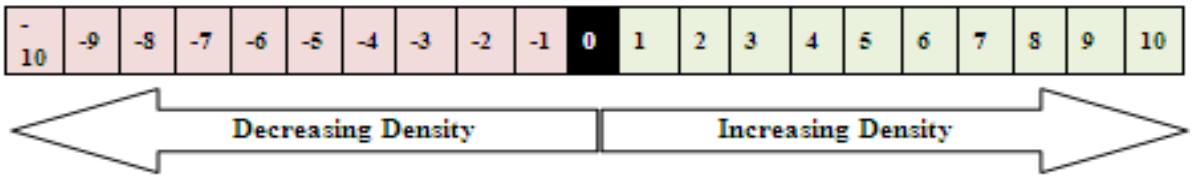
Source: UDPFI Guidelines, 1996

The densities suggested by the UDPFI guidelines as shown in Table 5 are for the standard cases. Tourist towns which vary from highly eco-sensitive sanctuaries to highly dense pilgrimage places have specific characteristics and carrying capacities. Thus, UDPFI densities need to be adjusted to account for these factors, which is done with the help of Normalizing Density (№)

Normalizing Density (№)

Normalizing density is evaluated as follows:

i. Sites were evaluated on a normalizing index (Ni) of range -10 to +10



Negative Indices were adopted for sites where densities were to be allowed on a conservative scale (i.e. for example places which are ecologically sensitive). Positive Indices were adopted for sites where densities were to be allowed at higher values than prevailing such as pilgrimage towns etc.

ii. The values of the indices were evaluated based on a qualitative assessment with respect to the Physical – Ecological indicators. The indicators which were assessed for the category wise tourist places are summarized in Table 6.

Table 6: Physical and Ecological Indicators

Physical – Ecological Indicators	Thematic Areas						
	Coastal Area	Islands	Protected Areas	Rural Areas	Mountain Resorts	Urban, Historic	Pilgrimage Place
Biodiversity	✓	✓	✓	✓	✓		
Air Quality			✓			✓	✓
Noise Pollution			✓		✓	✓	✓
Availability of Power		✓					
Water	✓	✓	✓		✓	✓	✓
Waste Management	✓	✓	✓	✓	✓	✓	✓
Cultural heritage	✓	✓	✓	✓	✓	✓	✓
Tourist infrastructure	✓	✓	✓	✓	✓	✓	✓
Land Availability	✓	✓	✓		✓	✓	
Quality of Transport Infrastructure					✓	✓	✓

Source: Countries,E.(Dec,2001). Defining, Measuring and Evaluating Carrying Capacity in European Tourism Destinations.Athens.

Normalizing Density (№) was calculated by multiplying a factor of 10pph by the Normalizing index.

$$\text{Normalizing Density (№)} = 10^{*} \text{ Ni}$$

(The value of 10pph was derived by establishing the boundary conditions of lower and upper sustainable densities for tourist towns of the relevant categories. To establish the lower limit, reference was made to the capacity norms cited by World Tourism Organization WTO *(Inskeep, 1991)*. The upper limit was established by determining the densities for saturated tourist towns.)

The Normalizing index (Ni) was evaluated as follows: Each of the applicable indicators for the corresponding thematic area (to which the tourist destination/circuits belong) was ranked on a scale of 0-10. The average of the indicators would give the value of the Normalizing index (Ni).

Carrying Capacity Density (CC_D) was calculated by summing up the Upper Limit of the relevant UDPFI density with the Normalizing Density.

$$\text{Carrying Capacity Density } (CC_D) = D_{UDPFI} + №$$

Carrying Capacity (CC) was calculated by multiplying the carrying capacity density with the Area of the respective town in hectares.

$$\text{Carrying Capacity (CC)} = CC_D * \text{Area of Town}$$

Available Capacity was finally evaluated by finding the difference between the Carrying Capacity of the tourist town and the Existing Load in the town.

Available Capacity = Carrying Capacity (CC) - Existing Load ($L_{EXISTING}$)

Table 7: Social and Demographic Indicators

Social Demographic Indicators	Thematic Areas						
	Coastal Area	Islands	Protected Areas	Rural Areas	Mountain Resorts	Urban & Historic	Pilgrimage Place
Demography		✓	✓	✓	✓		✓
Tourist Flows	✓	✓	✓		✓	✓	✓
Social & Behavioral Aspects		✓		✓	✓		✓
Health & Hygiene	✓	✓	✓	✓		✓	✓
Safety	✓		✓	✓	✓	✓	✓

Source: Countries, E.(Dec,2001). Defining, Measuring and Evaluating Carrying Capacity in European Tourism Destinations.Athens.

Table 8: Political Economic Indicators

Political -Economic Indicators	Thematic Areas						
	Coastal Area	Islands	Protected Areas	Rural Areas	Mountain Resorts	Urban & Historic	Pilgrimage Place
Tourism Earnings and Investment	✓	✓		✓	✓	✓	✓
Employment	✓	✓		✓	✓		✓
Public Expenditure and Revenue	✓	✓		✓	✓	✓	✓

Source: Countries.(Dec,2001). Defining, Measuring and Evaluating Carrying Capacity in European Tourism Destinations. Athens.

Table 9: Evaluation Criterion for Physical and Ecological Indicators

Physical – Ecological Indicators	Evaluation Criterion
Biodiversity	Threatened species, Protected areas as a % of territory and type of ecosystem
Air Quality	Population exposure to air pollution - Sox & Nox emission intensities
Noise Pollution	Sensitivity to noise pollutions. Allowable decibels limit if specified.
Availability of Power	Hours of regular power supply from all energy sources.
Water	Intensity of Use of water resources. Drinking water availability @135lpcd.
Waste Management	Generation of waste, Movement of hazardous waste, Availability of waste management system
Cultural & Heritage	Listed Buildings and scheduled ancient monuments at risk.
	No. of community heritage groups active.
	Cultural traditions and communities which are at a risk of getting extinct.
Tourist infrastructure	Availability of tourist infrastructure such as on site accommodation, wayside amenities, signages, restaurants, public convenience, petrol pumps etc.
Land Availability	Area of Land available for tourism development.
Quality of Transport Infrastructure	Inter and Intra city transport connectivity in tourist towns. Availability of Last Mile connectivity.

Source: White V., M. G. (2006). Indicators of Sustainability and Sustainable Tourism: Some Example Sets. Aberdeen: The Macaulay Institute.

Methodology adopted for estimating the Tourist Load in 2020

The load in 2020 has two components–domestic tourist load and foreign tourist load. The methodology for evaluation of tourist load in 2020 is as follows:

Step 1: Estimation of Domestic Tourist Load in 2020:

The Ministry of Tourism Government of India aims at maintaining the annual domestic tourist growth rate of 12.16% for the next five years[9]. For calculating the domestic tourist load in 2020 the base year figures of 2010 were thus projected using a CAGR of 12.16%.

Step 2: Estimation of Foreign Tourist Load in 2020:

The Ministry of Tourism Government of India aims at increasing the country's share of World Tourist Arrivals from 0.6% to 1% for the next five years[10]. Using these figures a CAGR of 10.76% was calculated. Thus For calculating the foreign tourist load in 2020 the base year figures of 2010 were thus projected using a CAGR of 10.76%.

Step 3: Estimation of Tourist Load in 2020:

The sum of Domestic Tourist Load (2020) and Foreign Tourist Load (2020) was arrived at to estimate the Tourist Load in 2020.

4.5 Town wise Carrying Capacity Analysis

Based on tourist inflows (both domestic and foreign), residential population of tourist towns, peak season and other factors, carrying capacity for the tourist towns has been assessed.

Table 10: Town wise carrying capacity of the circuit

District	Tourist Town	Destinations Covered	Existing Load	Carrying Capacity	Available Capacity	Estimated Load	Carrying Capacity	Estimated Capacity
			2010			2020		
Dehradun	Dehradun	Rajaji National Park, Robber's Cave,Tapkeshwar Temple, Laxman Siddh	557431	754000	196569	730446	754000	23554
Haridwar	Haridwar	Hari ki Pauri, Chandi Devi	269268	241120	-28148	423755	241120	-182635
Dehradun	Rishikesh	Bharat Mandir, Rishi Kund, Laxman Jhula, Triveni Ghat	87480	140000	52520	116397	140000	23603
Dehradun	Mussorie	Gun Hill, Mussorie Lake, Kempty Fall	44079	64750	20671	76163	64750	-11413

[9] Letter DO No. 8(12)/2011- MRD, issued by Ministry of Tourism, Government of India to Secretary Tourism of all States
[10] Letter DO No. 8(12)/2011- MRD, issued by Ministry of Tourism, Government of India to Secretary Tourism of all States

Table 10 shows the town wise carrying capacity of the destinations coming under priority circuit. It can be observed from the statistics that cities such as Dehradun and Haridwar have already reached their saturation levels in terms of their carrying capacities. While Haridwar is a pilgrimage city, Mussorie is a hill station which attracts domestic tourists from Chandigarh, New Delhi, Haryana, Uttar Pradesh and Punjab. All the mentioned tourist towns under the priority circuit are already popular. Hence, it will be advisable only to upgrade the existing infrastructural requirement so that tourist can enjoy the beauty and can understand the importance of these destinations for years.

5. Existing Infrastructure Status in the Priority Circuit

An assessment of tourism infrastructure between major tourist destinations has been done. Each of the destinations and their enroute stretches have been assessed and rated on a scale of A, B, C,D and E wherein, A denotes 'Very Good', B denotes 'Good', C denotes 'Fair', D denotes 'Bad' and E denotes 'Very Bad'. The infrastructure assessment sheets are presented as Annexure I and II. The major issues and gaps identified at each destination are given below:

5.1 Infrastructure Gaps

Mussorie

- Alternate eco-friendly means need to be developed between Dehradun and Mussorie such as ropeway.
- Though unorganised food joints/dhabas etc are available, some good quality restaurants can be proposed.
- An Intensive solid waste management plan is needed.
- Presently, the need of public conveniences is fulfilled mostly from poorly maintained by private wayside restaurants etc.

Dhanaulti

- Inadequate water supply, currently drinking water facility is only available from shops & restaurants.
- More information signages need to be installed.
- Adequate parking facility is required as presently people tourist vehicles are parked roadside.
- Guides may not need but a Tourist Information Centre is needed.

Kanatal

- The road condition between Dhanaulti to Kanatal (SH) is not good and some patches require resurfacing.
- The frequency of UKSRTC buses should be increased and quality (buses) improved for them to serve as good public transport modes.
- Improvement in the basic tourist infrastructure such as Tourist Information Centres, quality restaurants, public conveniences, directional signages, information signages and trained guides are required.

Rishikesh

- Distance between Kanatal to Rishikesh is around is around 75kms which is a State Highway. Road condition, enroute, needs to be improved and require resurfacing.
- Needs to improve the quality and frequency of the state transport buses between Kanatal to Rishikesh.
- Improvement in the basic tourist infrastructure such as Tourist Information Centres, quality restaurants, public conveniences, directional signages, information signages and trained guides are required.
- Intensive solid waste management plan is needed.

Haridwar

- Requirement of well maintained Tourist information centre
- CNG pumps, public conveniences, seating places and drinking water facilities are required enroute as well as on site.
- Parking

Dehradun

- Basic tourist infrastructure such as Tourist Information Centres, quality restaurants, public conveniences, directional signages, information signages and trained guides require improvement.
- Solid waste management needs to be improved and more dustbins need to be installed at different locations.

6. Projects Identification, Block Cost Estimate, Implementation and Funding

Table 11: Identified Projects, Block Cost Estimate, Implementation and Funding

Location	Projects	Block Cost Estimates	Implementing Agency	Mode of Funding	Existing Schemes
Dehradun & environs					
Rajpur Village	Conservation of historical buildings in Rajpur village.	0.7	INTACH/ UTDB/State Archeological Department	Public	Product/infrastructure Development for Destinations and Circuits (PIDDC), MoT, GoI
	Trek to Mussoorie (safety measures, proper resting places/shelters and convenience facilities)	0.5	Uttarakhand Tourism Development Board (UTDB)	Public	PIDDC
	Development of organized Tibetan market (with food stalls and public conveniences)	0.8	UTDB	Public	PIDDC
Forest Research Institute (FRI)	Revitalization/Upgradation/maintenance of FRI (botanical garden, buildings etc)	0.6	UTDB	Public	PIDDC
	Promotion of exhibits for tourist interests and incorporation of required tourism infrastructure.	0.4	UTDB	Public	PIDDC
Robbers Cave	Food Kiosks / Restaurant	0.1	UTDB	Public	PIDDC
	Trained Guides	0.03	UTDB	Public	Hunar se Rozgar Scheme
	Signages	0.25	UTDB/Mussorie Dehradun Development Authority(MDDA)	Public	PIDDC
	Solid waste management	0.2	MDDA	Public	PIDDC
	Up-gradation of supporting facilities	0.25	UTDB	Public	PIDDC
	Light & sound show	4	UTDB	PPP	PIDDC
	Parking (50 cars)	0.5	MDDA	PPP	Urban Infrastructure Scheme for Small and Medium Towns (UIDSS

Location	Projects	Block Cost Estimates	Implementing Agency	Mode of Funding	Existing Schemes
					MT)
Malsi Deer Park	Food Kiosks / Restaurant, Drinking water	0.4	UTDB	Public	PIDDC
	Solid waste management	0.3	UTDB	Public	PIDDC
	Public conveniences	0.1	UTDB	PPP	PIDDC
	Additional recreational facilities such as upgradation of fountain, good quality swings (children playground), small zoo	1	UTDB	Public	PIDDC
	Up-gradation of supporting surrounding facilities	0.25	UTDB	Public	PIDDC
	Parking (50 cars)	0.5	UTDB	PPP	UIDSS MT
Clock Tower & City Center	Revitalization of Paltan Bazaar and Moti Bazaar (improvement of small lanes and alley way).	2	UTDB	Public	PIDDC
	Conservation and night illumination of heritage buildings	0.75	UTDB	Public	PIDDC
	Multi-purpose Visitor's Information Centre near clock tower.	0.1	UTDB	Public	PIDDC
	Upgradation of Public Spaces: streets, squares, alley ways, pedestrian lanes and parks in the city centre (hard and soft landscaping, street furniture and signages).	2	UTDB/MDDA	Public	PIDDC
	Development of Heritage Walk	0.4	UTDB/ MDDA	Public	PIDDC
	Solid waste management	0.3	UTDB/MDDA	Public	PIDDC
Parade Ground	Up-gradation of Parade Ground into a small stadium with provision of public utilities, organized fairs, symposiums etc	7.5	UTDB/ MDDA	PPP	PIDDC
	Organized parking facility (100 cars)	1	UTDB/MDDA	PPP	UIDSS MT
Development of Shahastradhara Tourist Spot	Food Kiosks / Restaurant / Accommodation	0.1	UTDB/ MDDA	Public	PIDDC
	Trained Guides	0.3	UTDB	Public	Hunar se Rozgar Scheme
	Up-gradation of supporting surrounding facilities	0.3	UTDB/MDDA	Public	PIDDC
	Light & sound show	4	UTDB	PPP	PIDDC
	Parking (100)	1	UTDB/ MDDA	PPP	UIDSS MT
Garhi Cantt.	Development of Eco tourism facilities at Garhi Cantt.	5	UTDB	Public	PIDDC
Development of Lachhiwala picnic spot	Seating/resting facilities, drinking water	0.4	UTDB/ MDDA	Public	PIDDC
	Parking	0.5	UTDB/ MDDA	PPP	PIDDC

Location	Projects	Block Cost Estimates	Implementing Agency	Mode of Funding	Existing Schemes
	Public conveniences	0.1	UTDB/ MDDA	PPP	PIDDC
Mussoorie & environs					
In and around Mussoorie	Development of 2 parking facilities in and around Mussoorie (King Craig area for about 300cars, another location will depend on land availability) to decongest the Mall road	3.5	MDDA	PPP	UIDSSMT
	Beautification of Mall Road at Mussoorie	2	MDDA	Public	PIDDC
	Development of telescopic view point at Lal Tibba	0.25	UTDB	PPP	PIDDC
	Development of Bhatta Fall and Mussoorie Lake	1.5	UTDB	Public	PIDDC
	Widening of road / accessibility	1	PWD	PPP	PIDDC
	Development of parking facilities	0.5	MDDA	PPP	PIDDC
	Up-gradation of existing utilities	0.3	MDDA	PPP	PIDDC
	Development of sound & light show	1	MDDA	PPP	PIDDC
Jharipani	Destination Development at Jharipani (between Mussoorie & Dehradun)	1	UTDB	Public	PIDDC
	Approach road & parking	0.75	PWD	PPP	PIDDC
	Main road entry gate	0.25	MDDA	Public	PIDDC
	Site development / landscaping / path ways	0.5	MDDA	Public	PIDDC
	Entertainment Park (19 acre land available with the Department)	1	UTDB	PPP	PIDDC
	Development of Camping sites	0.3	UTDB	PPP	PIDDC
	Other utilities	0.2	MDDA	Public	PIDDC
Gun Hill	Re-organization / Relocation of Shops at Gun Hill	0.5	MDDA		PIDDC
	Public Utilities	0.1	MDDA	PPP	PIDDC
The Library Bazaar (Victorian style library and traditional bandstand)	Restoration and Conservation with modern facilities and conveniences.	2.5	UTDB	Public	PIDDC
	Proposal for Traffic Management study for Library Bazaar Square area.	0.5	MDDA	Public	PIDDC
Christ Church (Colonial time)	Area development around the Churches	1	UTDB	Public	PIDDC
Camel's Back Road	Improvement of road for sunset walk and evening or morning ride (with attractive landscaping features and shelters along the way).	2	PWD	Public	PIDDC

Location	Projects	Block Cost Estimates	Implementing Agency	Mode of Funding	Existing Schemes
Kempty Falls	Development of area around the Fall (improvement of ramshackle structures along the road with proper sanitary and other services).	1.5	MDDA	Public	PIDDC
	Development of parking facility (creation of new one within 3-500 m distance and removal of the existing one).	0.5	MDDA	PPP	PIDDC
	Establishment of treks between the falls and the Benog Sanctuary along the stream and from the road and to the Kempty Village along the hillsides or across the Valley	1.5	UTDA/ MDDA	Public	PIDDC
	Up-gradation/Improvement of cable car connection	3.5	MDDA	PPP	PIDDC
Dhanaulti and Environs					
	Upgradation of existing government tourist rest houses	1	UTDB	Public	PIDDC
	Development of a forest eco-lodge and trekking base	1	UTDB	Public	PIDDC
Chamba and Environs					
	Upgradation of hilltop resort (basic facilities such as seating places, bird watch facilities, security measures, trained guides etc)	5	UTDB	Public	PIDDC
Rishikesh and Environs					
	Development of Community Based Village cluster	1	UTDB	Public	PIDDC
	International Centre for Yoga	3	UTDB	PPP	PIDDC
	White water rafting centre	1	UTDB	PPP	PIDDC
	Trekking routes along forested banks of the Ganga and beyond	1	UTDB	PPP	PIDDC
	Camping activities	1	UTDB	PPP	PIDDC
	Development of 4.5 km Aerial passenger ropeway between Laxman Jhula (Rishikesh) to Neelkanth	60	UTDB/ Development Authority	PPP	Scheme of Assistance for Large Revenue Generating Project (LRG), MoT, GoI
Haridwar and environs					
	Solid waste management at Har-ki-pauri, Haridwar	1	Haridwar Development	Public	PIDDC

Location	Projects	Block Cost Estimates	Implementing Agency	Mode of Funding	Existing Schemes
			Authority (HAD)		
	Multi-level Car Parking at Har-ki-pauri (200 cars)	12	HAD	PPP	PIDDC
	Landscaping of west bank of Har-ki-pauri	3	HAD/UTDB	Public	PIDDC
	Open Terrace Tourist Bus connecting various Temples & tourist spots	1.5	HAD	Public	PIDDC
	Facilities such as Toilets, wash rooms, Food stalls, Kiosks	1	HAD	PPP	PIDDC
Rajaji National Park	Parking at 4 Entry gates	1	HAD	PPP	PIDDC
	Informative & Interactive Map + Signage at each Entry Point	0.7	UTDB	Public	PIDDC
	Book Store / Library on Rajaji National Park at prominent Entry Gates	0.7	UTDB	PPP	PIDDC
	Eco-tourism products at Chilla	0.6	UTDB	Public	PIDDC
	Development of Important Bird Watching Locations: Binog IBA - Rajaji IBA - Asan Barrage IBA with base at Dehradun	10	UTDB	Public	PIDDC
TOTAL		**169.75 Cr**			

Total Cost of the Identified Projects: 169.75 Cr.

Public Funds: 57.15 Cr.

Private/PPP Investment: 112.6 Cr.

6.1.1 PPP Bifurcation of the Identified Projects

Table 12: PPP Bifurcations of the Identified Projects

Location	Projects	Block Cost Estimates	Mode of Funding	Public Funds	Private Investment
Dehradun & environs					
Robbers Cave	Light & sound show	4	PPP	1	3
	Parking (50 cars)	0.5	PPP	0.125	0.375
Malsi Deer Park	public conveniences	0.1	PPP	0.025	0.075
	Parking (50 cars)	0.5	PPP	0.125	0.375
Parade Ground	Up-gradation of Parade Ground into a small stadium with provision of public utilities, organized fairs, symposiums etc	7.5	PPP	1.875	5.625
	Organized parking facility (100 cars)	1	PPP	0.25	0.75
Development of Shahastradhara Tourist Spot	Light & sound show	4	PPP	1	3
	Parking (100)	1	PPP	0.25	0.75

Location	Projects	Block Cost Estimates	Mode of Funding	Public Funds	Private Investment
Development of Lachhiwala picnic spot	Parking	0.5	PPP	0.125	0.375
	public conveniences	0.1	PPP	0.025	0.075
Mussoorie & environs					
	Development of 2 parking facilities in and around Mussoorie (King Craig area for about 300cars, another location will depend on land availability) to decongest the Mall road	3.5	PPP	0.875	2.625
	Development of telescopic view point at Lal Tibba	0.25	PPP	0.0625	0.1875
	Widening of road / accessibility	1	PPP	0.25	0.75
	Development of parking facilities	0.5	PPP	0.125	0.375
	Up-gradation of existing utilities	0.3	PPP	0.075	0.225
	Development of sound & light show	1	PPP	0.25	0.75
Jharipani	Approach road & parking	0.75	PPP	0.1875	0.5625
	Entertainment Park (19 acre land available with the Department)	1	PPP	0.25	0.75
	Development of Camping sites	0.3	PPP	0.075	0.225
Gun Hill	Public Utilities	0.1	PPP	0.025	0.075
Kempty Falls	Development of parking facility (creation of new one within 3-500 m distance and removal of the existing one).	0.5	PPP	0.125	0.375
	Up-gradation/Improvement of cable car connection	3.5	PPP	0.875	2.625
Rishikesh and Environs					
	International centre for yoga	3	PPP	0.75	2.25
	White water rafting centre	1	PPP	0.25	0.75
	Trekking routes along forested banks of the Ganga and beyond	1	PPP	0.25	0.75
	Camping activities	1	PPP	0.25	0.75
	Development of 4.5 km Aerial passenger ropeway between Laxman Jhula (Rishikesh) to Neelkanth	60	PPP	15	45
Haridwar					
	Multi-level Car Parking at Har-ki-pauri (200 cars)	12	PPP	3	9
Rajaji National Park					
	Facilities such as Toilets, wash rooms, Food stalls, Kiosks	1	PPP	0.25	0.75

Location	Projects	Block Cost Estimates	Mode of Funding	Public Funds	Private Investment
	Parking at 4 Entry gates	1	PPP	0.25	0.75
	Book Store / Library on Rajaji National Park at prominent Entry Gates	0.7	PPP	0.175	0.525
TOTAL		**112.6**		**28.14**	**84.42**

Within the Public Private Partnership projects 28.14 Crores can be facilitated from Public Funds and 84.42 Crores from Private Investments.

6.1.2 Estimated Employment Generation

The proposed investments at tourist destinations and circuit are expected to generate employment that has been estimated on a district level because of the direct and indirect nature of employment generation from these investments. To estimate the number of employment generated an investment multiplier of 78 jobs per million investments is taken.

Table 13: Estimated Employment Generation

District	Investment (in Cr.)	Expected Employment Generation
Dehradun	131.28	102398
Haridwar	31.5	24570
Tehri Garhwal	7	5460
Total	**169.78**	**132428**

Annexure 1: Infrastructure Gap Assessment

Route			Dehradun - Mussoorie		Mussoorie - Dhanaulti		Dhanaulti - Kanatal	
Destination			**Mussoorie**		**Dhanaulti**		**Kanatal**	
Enroute/Onsite	**Parameters**	**Components**	**Rating**	**Remarks**	**Rating**	**Remarks**	**Rating**	**Remarks**
Enroute	Distance in km		31		28		12	
Enroute	**Approach Road**	Quality (A-C)	B	Some patches needs re-surfacing	A	Some patches needs re-surfacing	B	Some patches needs resurfacing.
		Type of Road(metalled, unmetalled)	Metalled		Metalled		Metalled	
		Typology (NH/SH)	SH		SH		SH	
		Lanes	2		2		2	
		Riding Quality (A-E)	B		B		A	
Enroute	**Transport** (more specific to transport access to tourist destinations from various parts of city)	Modes Used by tourists	Private Taxis, State Buses, Own vehicles and motorcycle.	Alternate eco-friendly means to be developed such as ropeways / funicular. There was a plan of taking rail track from Dehradun to Mussoorie which is later abandoned. Should be evaluated further.	Private Taxis, State Buses, Own vehicles and motorcycle.		Private Taxis, Uttarakhand State Road Transport Corporation (UKSRTC) Buses.	The frequency of UKSRTC buses should be increased and quality (buses) improved for them to serve as good public transport modes.
		Availability (A-C)	B		B		B	
Enroute	Wayside Amenities	Restaurants availability	B	Unorganized Dhabas, maggi point are available, Better qualities of restaurants are needed	C	Better quality of restaurants are needed	B	Better quality of restaurants are needed
		Petrol Pump/ Service Centre availability	B	CNG Pump can be installed for environment prospective.	B		B	

Route			Dehradun - Mussoorie		Mussoorie - Dhanaulti		Dhanaulti - Kanatal	
Destination			Mussoorie		Dhanaulti		Kanatal	
Enroute/Onsite	Parameters	Components	Rating	Remarks	Rating	Remarks	Rating	Remarks
		Public Convenience availability	B	The need is fulfilled mostly from poorly maintained Public Conveniences by private wayside restaurants etc.	B	The need is fulfilled mostly from poorly maintained Public Conveniences by private wayside restaurants etc.	B	The need is fulfilled mostly from poorly maintained Public Conveniences by private wayside restaurants etc.
Enroute	Direction Signages	Sufficiency (A-C)	B		B		C	
	(Inside the city to directing the tourist destinations)	Languages	English & Hindi	More Informative signages needs to be installed	English & Hindi	More Informative signages needs to be installed	English & Hindi	More Informative signages needs to be installed
On Site	Land ownership of the Site		Mostly Forest & GOU		Mostly Forest & GOU		Mostly Forest & GOU, Private	
City/Town	Accommodation	Type	GMVN Guest Houses, Private Hotels		GMVN Guest Houses, Private Hotels		GMVN Guest Houses, Private Hotels & Resorts	
		Capacity						
		Bed Occupancy						
		Sufficiency (A-C)	B		B		B	
On Site	Drinking Water facility	Availability (A-C)	B	Currently only packaged drinking water facility is available.	B	Inadequate water supply, Currently drinking water facility is only available from shops & restaurants.	B	Currently drinking water facility is only available from shops & restaurants.
		Quality(A-C)	A		B		B	

Route			Dehradun - Mussoorie		Mussoorie - Dhanaulti		Dhanaulti - Kanatal	
Destination			Mussoorie		Dhanaulti		Kanatal	
Enroute/Onsite	Parameters	Components	Rating	Remarks	Rating	Remarks	Rating	Remarks
On Site	Solid Waste Management	A-C	C	An Intensive solid waste management plan is needed	C	An Intensive solid waste management plan is needed	C	Absence of SWM
On Site	Electricity	Supply (AC, Gen)	AC, Gen		AC, Gen		AC, Gen	
On Site	Parking	Sufficiency (A-C)	C	Currently people park on the roadside	C	Currently people park on the roadside.	C	Currently people park on the roadside or hotel.
		Availability of Land for future parking	Will have to be acquired		Will have to be acquired		Will have to be acquired	
		Area of this land (approx)						
On Site/or in City	Tourist Information Centers	Available(Y/N)	Y	At Dehradun	N	At Mussoorie	N	
		Quality (A-C)	B	Tourism Police / Mitre is being proposed by UTDB	-	Guides may not needed but a Tourist Information Centre is needed	-	Guides may not needed but a Tourist Information Centre is needed
	Trained Guides	Availability (A-C)	B		B		B	
On Site	Information Signages	Sufficiency (A-C)	B		C		C	
		Languages	English/Hindi		English/Hindi		English/Hindi	
On Site	Seating/ Resting	Sufficiency (A-C)	B		C		C	
		Quality (A-C)	C		C		C	
On Site	Public Convenience	Availability (A-C)	C	Not adequate	C		C	
On Site	Shops/ Kiosks	Sufficiency (A-E)	B		B		B	
		Quality (A-C)	B		C		C	
On Site	Street Lighting	Sufficiency (A-C)	B		B		B	
		Quality (A-C)	B		B		B	

Route			Kanatal – Rishikesh		Rishikesh – Haridwar		Haridwar - Dehradun	
Destination			**Rishikesh**		**Haridwar**		**Dehradun**	
Enroute/Onsite	**Parameters**	**Components**	**Rating**	**Remarks**	**Rating**	**Remarks**	**Rating**	**Remarks**
Enroute	Distance in km		75		20		55	
Enroute	**Approach Road**	Quality (A-C)	B	Some patches needs resurfacing.	A	Some patches needs resurfacing.	C	work going on for widening of NH
		Type of Road(metalled, unmetalled)	Metalled		Metalled		Metalled	
		Typology (NH/SH)	SH		NH 58			
		Lanes	2		2		2	
		Riding Quality (A-E)	B		B		A	
Enroute	**Transport**	Modes Used by tourists	Private Taxis, Uttarakhand State Road Transport Corporation (UKSRTC) Buses.	The frequency of UKSRTC buses should be increased and quality (buses) improved for them to serve as good public transport modes.	Train, Private Taxis, Uttarakhand State Road Transport Corporation (UKSRTC) Buses.	A Rail link is proposed from Rishikesh to Karnpryag & 4 laning of NH is in progress between Rishikesh to Haridwar.	Train, Private Taxis, UKSRTC Buses.	4 laning of NH is in progress between Haridwar to Dehradun
	(more specific to transport access to tourist destinations from various parts of city)	Availability (A-C)	B		B		B	
Enroute	Wayside Amenities	Restaurants availability	B	Better quality of restaurants are needed	B		B	
		Petrol Pump/ Service Centre availability	B		B	CNG Pump can be installed for environment	B	CNG Pump can be installed for environment

Route			Kanatal – Rishikesh		Rishikesh – Haridwar		Haridwar - Dehradun	
Destination			**Rishikesh**		**Haridwar**		**Dehradun**	
Enroute/Onsite	**Parameters**	**Components**	**Rating**	**Remarks**	**Rating**	**Remarks**	**Rating**	**Remarks**
						prospective.		prospective.
		Public Convenience availability	C	The need is fulfilled mostly from poorly maintained Public Conveniences by private wayside restaurants etc.	C	The need is fulfilled mostly from poorly maintained Public Conveniences by private wayside restaurants etc.	C	The need is fulfilled mostly from poorly maintained Public Conveniences by private wayside restaurants etc.
Enroute	Direction Signages	Sufficiency (A-C)	C		C		C	
	(Inside the city to directing the tourist destinations)	Languages	English & Hindi	More Informative signages needs to be installed	English & Hindi		English & Hindi	
On Site	Land ownership of the Site		Mostly Forest & GOU, Private		Mostly Forest & GOU, Private		Mostly Forest & GOU, Private	
City/Town	Accommodation	Type	Private Hotels & Resorts		GMVN Guest Houses, Private Hotel & Resorts, Dharmshala & Asharams		GMVN Guest Houses, Private Hotel & Resorts, Dharmshala & Asharams	
		Capacity						
		Bed Occupancy						
		Sufficiency (A-C)	B		A		A	

Route			Kanatal – Rishikesh		Rishikesh – Haridwar		Haridwar - Dehradun	
Destination			**Rishikesh**		**Haridwar**		**Dehradun**	
Enroute/Onsite	**Parameters**	**Components**	**Rating**	**Remarks**	**Rating**	**Remarks**	**Rating**	**Remarks**
On Site	Drinking Water facility	Availability (A-C)	C	Currently only packaged drinking water facility is only available.	B	Currently only packaged drinking water facility is available.	B	Currently only packaged drinking water facility is available.
		Quality(A-C)	B		A		A	
On Site	Solid Waste Management	A-C	C	An Intensive solid waste management plan is needed	B	Only a few bins are available on road side and Ghats.	B	Absence of SWM
On Site	Electricity	Supply (AC, Gen)	AC, Gen		AC, Gen		AC, Gen	
On Site	Parking	Sufficiency (A-C)	B	Currently people park on the roadside or hotel.	C	There is a parking lot which falls short and additional parking is requires.	C	Parking lots are available near Ghats.
		Availability of Land for future parking	Will have to be acquired		Will have to be acquired		Will have to be acquired	
		Area of this land (approx)						
On Site/or in City	Tourist Information Centers	Available(Y/N)	Y	At Rishikesh	y	At Rishikesh & Haridwar	y	At Haridwar & Dehradun

Route			Kanatal – Rishikesh		Rishikesh – Haridwar		Haridwar - Dehradun	
Destination			**Rishikesh**		**Haridwar**		**Dehradun**	
Enroute/Onsite	**Parameters**	**Components**	**Rating**	**Remarks**	**Rating**	**Remarks**	**Rating**	**Remarks**
		Quality (A-C)	-	Well Trained Guides and a well equipped Tourist Information Centre is needed	B	Guides may not needed but a Tourist Information Centre is needed	B	Guides may not needed but a Tourist Information Centre is needed
	Trained Guides	Availability (A-C)	C		B		C	
On Site	Information Signages	Sufficiency (A-C)	C		B		B	
		Languages	English/Hindi		English/Hindi		English/Hindi	
On Site	Seating/ Resting	Sufficiency (A-C)	B		B		C	
		Quality (A-C)	C		B		B	
On Site	Public Convenience	Availability (A-C)	B		B		C	
On Site	Shops/ Kiosks	Sufficiency (A-E)	**B**		B		B	
		Quality (A-C)	B		C		C	
On Site	Street Lighting	Sufficiency (A-C)	B		B		B	
		Quality (A-C)	B		B		B	