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Developing road map strategy for transport and traffic management of Chitrakoot district Satna (M.P.)

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Abstract

Chitrakoot area of Satna district has selected as smart city in Satna district. Lakhs of pilgrims comes to Chitrakoot every year to pay Kamad Nath Ji. Traffic management in Chitrakoot is not good, so that pilgrims face lots of problems. To solve this problem, authors prepared a traffic plan for Chitrakoot are using data available in the form of remote sensing images.

Keywords: Developing, strategy, transport, traffic, Chitrakoot

Introduction

City transportation is an important pillar for quality of life of citizens. Currently, in most of the cities, public and private road transportations are the key mode of commuting and logistics. Some large and mega cities have metro and local train network as the backbone transportation mode.

Traffic management and control approaches are used to control the traffic flows and to prevent or reduce traffic jams, or more generally to improve the performance of the traffic system.

An IT's application must detect, control and reduce congestion based on online data that describes traffic patterns such as, density, speed, travel time, the geographic position of vehicles and the current time. To accomplish this goal, however, the main challenge is how to forecast congestion and re-route vehicles appropriately by considering the time impact on future traffic in an area of interest (Roo T., 2016) [10].

Smart cities use infrastructure, innovation, and technology for adapting the changes brought about by the overpopulation of cities and thus contribute to the reduction of carbon dioxide emissions, decreasing energy consumption, and promoting economic, social, and environmental development.

Socio-technical imaginaries and roadmaps to the smart Chitrakoot

Scientific and technological change depends on expectations and visions that play a central role in mobilizing resources (Borup *et al.*, 2006; Berkhout, 2006; Jasanoff, 2015) [4, 2, 8]. Various institutions use imaginaries to elevate some imagined futures above others, according them a dominant position for policy purposes and drawing attention away from alternatives (Van Hulst, 2012; Jasanoff, 2015) [13, 8]. In this way, the smart city narrative is somewhat predominant in contemporary urban development discourses (Greenfield, 2013; Söderström *et al.*, 2014). [7, 12] Indeed, future city narratives are almost completely dominated by a single story centred on the deployment of networked informatics, with somewhat hyperbolic narratives about the future of urban life framing the smart city as a rational, depoliticized and even unavoidable passage, inherently transformational and socially beneficial (Vanolo, 2014; Söderström *et al.*, 2014; Shelton *et al.*, 2014; Luque-Ayala and Marvin, 2015) [14, 12, 11, 9].

Roadmaps to the smart Chitrakoot

There is not a unique roadmap to the smart city. Rather, there are many smart city frameworks and guidance documents built around common themes, issued by both public and private bodies. Collectively the roadmaps exhibit some distinctly modernist features (Greenfield, 2013; Söderström *et al.*, 2014) [7, 12]. Metrics are established, resources are marshalled, and progress is assessed as the smart city project progresses through predefined stages. Urban questions are essentially framed as engineering problems to be analysed and resolved using empirical, preferably quantitative methods (Bell, 2011) [1]. A core claim shared by the various versions of the roadmap is that by making vast amounts of urban information available in real time, city leaders can improve the efficiency of public service delivery, the sustainability of the urban environment,

and the quality of life of citizens (Cisco 2012 BIS 2013) [6, 3].

Study Area

Chitrakoot is very backward from the point of view of transport and transportation. It does not have direct connectivity to any place by rail. Its nearest railway stations are Karwi, Shivaramapuram and Majhaganwan. There is a paved route to Chitrakoot from Karwi Railway Station and Majhaganwan Railway Station. All the trains stop at Chitrakoot Dham Karwi station and Chitrakoot is near from here so pilgrims prefer to go to Chitrakoot from here. There is a need to make easy routes for the pilgrims connecting the major religious places here. While preparing the development plan, care has been taken that every religious place and villages falling under the particular area can get its benefit.

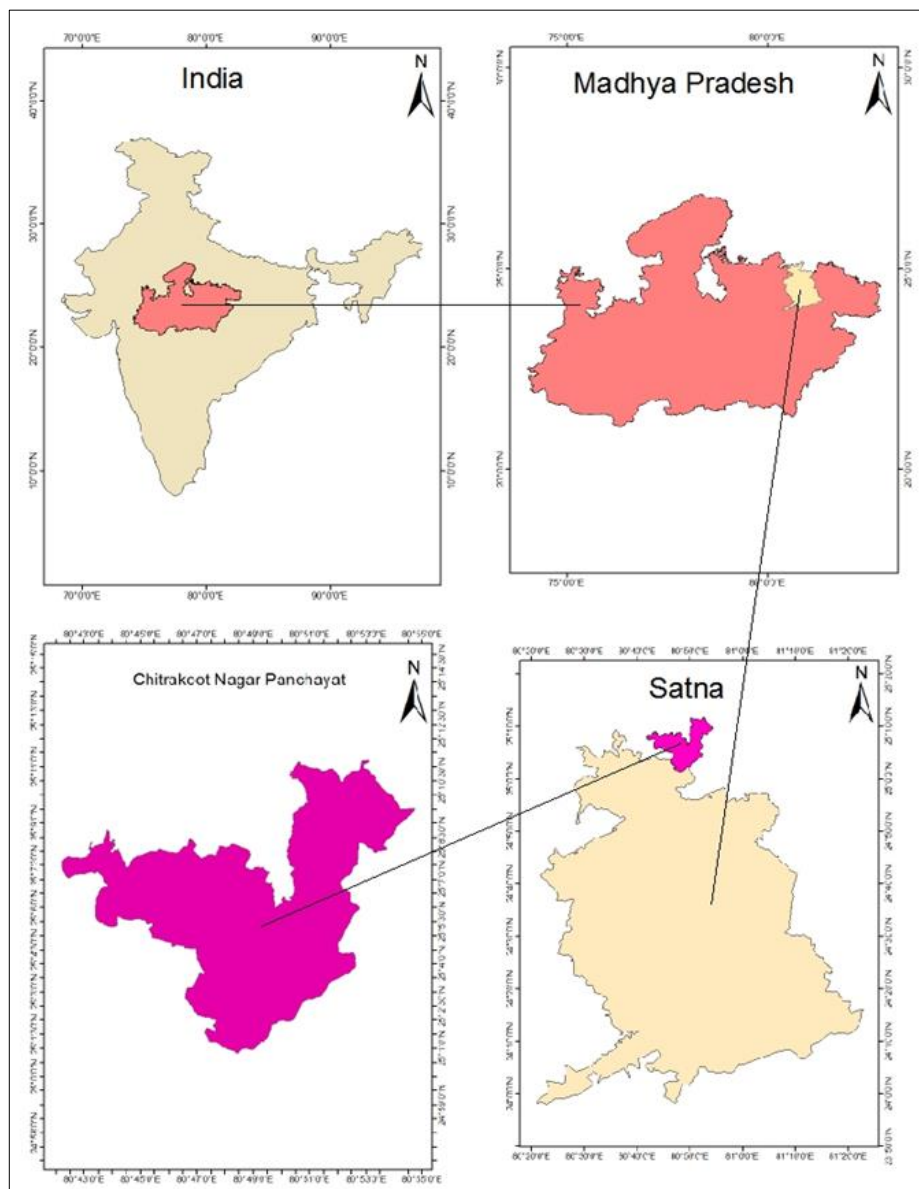


Fig 1: Location map of the study area

There is a lack of paved roads to connect the scattered religious places in the interior. Most of the religious places are connected by kutchra routes. A paved road joins the road leading to Sitakund through the upper boundary of Kamta village on the north side of Kamadgiri from the bus stand. The second route via this bus stand joins the Banda-Karwi

road from the west of Nirmohi Akhara via Sitapur. From the bus stand itself, another route passes through the east of Nirmohi Akhara and meets the Sitapur road passing through the urban area of Sitapur. The road is unusable for vehicles as it is very narrow. This route comes in the Uttar Pradesh border.

One route leads to Gupt Godavari and Sati Anusuiya Ashram via Chitrakoot-Satna road. Road leading to Sati Anusuiya Ashram. Sure. A paved road is also available from Chitrakoot to Sphatik Shila. Other religious places in this region are connected by unpaved roads and trails. The present bus stand here is located at a very unsuitable site while the new bus stand is under construction.

Along with the development of routes to local and religious places, it is necessary to arrange for additional local vehicles for the pilgrims. The requirement of about 15 regular buses is estimated on the Satna-Chitrakoot route on normal days. The requirement of about 50 special buses is estimated on the occasions of Somvati Amavasya, Deepawali and Ram Navami etc.

The main aim of this paper is to prepare road connecting from Chitrakoot to other pilgrim places objectives of the paper are as follows:

1. To facilitate the pilgrims to reach Chitrakoot Dham by different routes.
2. Facility for pilgrims to visit religious and natural places.
3. Connecting the villages of the investment area with pucca roads.

There are several roads in the planning area that connect the city and its surroundings to important places. They are the following

Table 1: Routes connecting tourist places

S.N.	Route	Route of type	Status
1	Bus stand and Hnuman Dhara road	arterial road	Good
2	Chitrakoot-Satna Road to Sphatik Shila	arterial road	Good
3	Chitrakoot-Satna Road to Gupt Godavari	arterial road	Good
4	Road connecting Chitrakoot-Satna Road to Sati Anusuiya	arterial road	Good
5	Ramghat road	sub arterial road	Good
6	Kamadgiri Road	sub arterial road	Good
7	Parikrama Route	sub arterial road	Good

Vehicle Stop Sites

A bus stand exists in the city of Chitrakoot. This state highway is located at Sadguru Eye Hospital. State owned bus services connect Chitrakoot with Majhagowan, Jhansi, Kanpur, Banda and Allahabad. The frequency of buses is very less except Chitrakoot-Satna. It is the most preferred mode of transport for the tourists visiting the city.

A new bus stand has been constructed near Pramod Van but it lacks basic facilities. In view of the tourist movement during festivals, a temporary bus stand at Sirsawan was proposed in the development plan (1994-2005) but the proposal has not been implemented yet.

Proposed road network

1. The Chitrakoot-Karvi Route, apart from being the entrance to the city, acts as the backbone of the investment area along which major development is established. Additional growth is expected on this route due to the proposals of herbal products, education sector, health sector supported by herbal (herbal related) industries and Sadguru Trust etc. In view of the possibility of widening of this route, it has been

proposed to widen this route to 18 meters. There is a bypass road on this route which starts near the petrol pump of Rajoula village and meets on the Pili Kothi road. This route is also proposed to be widened to 18 meters which will facilitate the movement of pilgrims coming from Satna Nagar as they can directly reach Kamadgiri Parikrama through this route and will provide easy movement to the pilgrims and the residents.

2. Pili Kothi road by 30 meters it is proposed to widen. This route is very important because lakhs of people use this route during the new moon for Kamadgiri Parikrama.
3. It is also proposed to widen by 30 meters from Ramnath Ashram Shala (DRI) Route near Pili Kothi Route to Chitara Gokulpur as this road meets Chitrakoot-Karvi road and then joins NH-76 near Ahmedganj.
4. The road passing through Gudar Katra and connecting the road with Chitrakoot Municipal Council is proposed to be widened to 24 meters as important commercial and residential areas are proposed along this road. This route goes from Hanuman dhara to Karvi.

Table 2: The proposed width of the existing routes Details

S.N.	Detail	Details of the current route Width (metres)	Detail of the proposed route Width (metres)
1.	Chitrakoot-Karvi Route	12	30
2.	Pili Kothi Road	12	30
3.	Pili Kothi-Khoi-Paldev Route via Choubeypur	6	30
4.	Choubeypur -Lalapur-Sejwar Road to Bharatkup	9	18
5.	Pathra-Bandarkol-Khoi Route	6	18
6.	Route from Rajola to Bandarkol via Khoi Route via Bhaganpur	6	18
7.	in front of gas warehouse located at Rajoula	6	18
8.	Route from Mohkamgarh to Hanumandhara road and through airstrip	9	18
9.	route from Rajola to Balapur and route to Khoi road via Bandarkol	6	18
10.	Tulsi Route		
	(A) From Chitrakoot route to present bypass	12	18
	(B) From bypass to Pramukh dhar	6-9	12
11	Chitrakoot Satna Route (SH-11)	12	30
12	Karvi – Chitara – Gokulpur Route	9	30

13	Sphatik Sila Route	15	18
14	Sati Anusuiya Route	12	18
15	Gupt Godavari Route	18	24
16	Hanuman Dhara Route,		
	(a) Tourist Bungalow to Hanuman Dhara Route	18	24

Result and Discussion

Traffic and Transport

Some new routes have been proposed to provide connectivity to existing as well as proposed areas. Some routes have been proposed for widening due to their importance. Traffic and transport terminals have been proposed at important places of Kamta village and Rajoula village. An area of about 227 hectares is proposed to be developed as a transport and transport area.

Large institutions located in Chitrakoot like Sadguru Seva Trust, Mahatma Gandhi Chitrakoot Vishwavidyalaya and Pandit Deendayal Research Institute can be used with their permission.

Traffic Structure

State Highway 11 passes through the planning area which starts from the south and moves towards Karvi in the north. A regional route starts from Uttar Pradesh near Pili Kothi which goes to Karvi. This route passes through Kamadgiri and joins Chitrakoot-Karvi (SH 11) and then back to Uttar Pradesh goes to. The Parikrama Route is a circular route with religious significance around the border area of Kamadgiri, which is 5.5 km long.

Chitrakoot-Karvi road being the gateway of the city acts as a major road to the planning area. From the point of view of present commercial development, it is proposed to widen

the Pili Kothi road. This route is very important as lakhs of people use this route during Amavasya for Kamadgiri Parikrama, Pilgrimage based activities are mainly concentrated in Kamta region and west bank of Mandakini river.

In the planning area, a 30 meter wide road is proposed in the northern part of Kamta, which passes through the middle of Pili Kothi Route and meets Karvi Route near Sitapur Mafi, passing through Ramnath Ashram school. This proposed route will prove useful in dealing with any emergency situation near Kamadgiri Parikrama.

A 30 meter wide road is proposed near Rajoula village divided by Chitrakoot-Karvi road, which passes through Pausaraha and Paldev villages and meets directly in Gupt Godavari. This new connectivity route has been proposed to facilitate tourist activity and this route will help in protecting the forest area.

Proposed Bus Terminal

Bus terminals at Kamta and Rajoula have been proposed. The new bus terminal near Kamta will serve the pilgrims coming from north especially from Uttar Pradesh. The bus terminal near Rajoula will serve the pilgrims coming from the southern part of the Chitrakoot planning area, especially those coming from Satna.

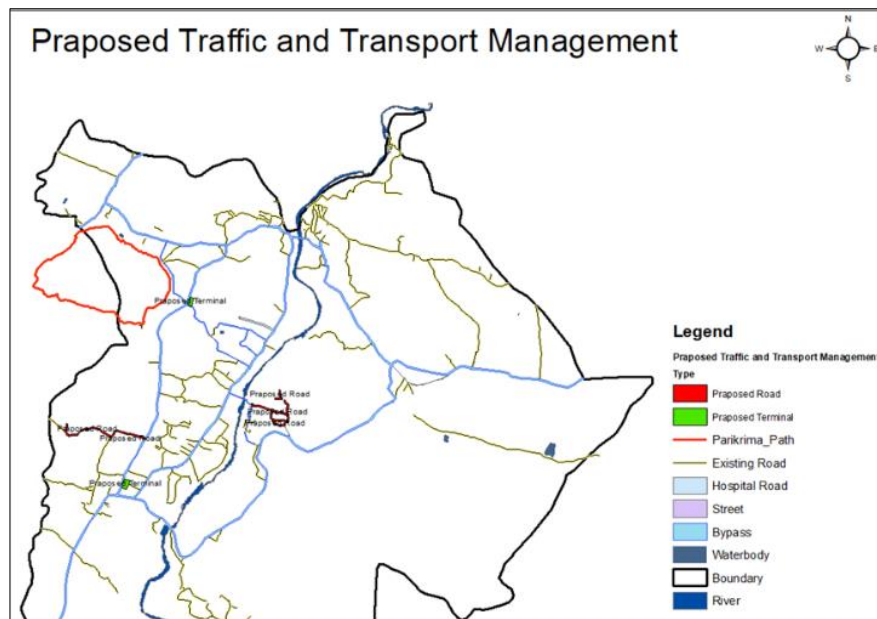


Fig 2: Proposed Traffic and Transport Management map of the study area

The proposed traffic plan is essential because Chitrakoot has selected as a mini smart city under the Satna district. It will solve the problem of Chitrakoot not only from traffic point of view but helpful in enhancing the economic status of the area.

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