

Critical Assessment of Smart City Mission - A Research of Gwalior Smart City Proposals

Mohd. Nasir, Mohammad Salman, Fahad Ahmad, Tahir Abdul Rahman Siddiquee

Abstract— Smart city mission aims to promote the quality life in Indian cities and for that cities were selected from entire India. All the smart cities needed to make a smart city proposal (SCP) for further selection. Gwalior is being selected to be one of the smart cities in 100 Indian cities. Gwalior is a city in Madhya Pradesh and had a strong link to the region glorious past, as this is the one of oldest center in region (as per the current footprints). Because of fast urbanization rate the current condition shows urban decay due to lacking in core infrastructural element in almost most all the Indian cities, Gwalior is also going through same issue. The paper aims to identify the various unexplored aspects that were not considered and not taken care of in the current SCP. This research work will be started with the understanding of the concept by analyzing the guidelines of the smart city mission and comparative study/analysis of smart city global module(international modules on smart city), the entire research work will focus to identify the gaps between need of the city and smart city proposal.

Keywords— smart city, smart city proposal,

INTRODUCTION

As the rate of urbanization growing faster from last century and in today's world it's at peak in human history and because of that population in cities increasing as per many studies and researchers expected that India's urban area going to cater 40% population of the total as urban population and to accommodate this big amount it requires to develop all infrastructure services through which a city be alive physical institutional, economic and social infrastructure in sustainability aspect as all the very important in improving quality of life

As per the smart city guideline the city which calls itself smart must having these core infrastructure elements:

- Adequate water supply,
- Health and education.
- Sanitation, including solid waste management,
- Efficient urban mobility and public transport,
- Affordable housing, especially for the poor,
- Robust IT connectivity and digitalization,
- Good governance, especially e-Governance and citizen participation,
- Sustainable environment,
- Safety and security of citizens, particularly women, children and the elderly, and
- Assured electricity supply,

The concept of smart cities came forward with a vision of making the Indian cities more livable, sustainable and economically viable. This concept is further split up into two aspects i.e. **the Area Based Development and the PAN city proposals**. With the combination of both, the concept envisions to make the Indian cities smart

According to the proposals analyses, around (65-75 %) of the project funding will be spent on area based development and only 3-4 % of the city population come under the direct benefit of it, because most of the projects under it are only like old center retrofitting/redevelopment in sense of beautification proposed in many SCPs and for entire city project comes under pan city scheme which deals only in limited field IT based services i.e. CCTV- monitoring center, educational portal, water and traffic management. this approach of prioritization might enhance a lived experience of residents fall under these area, but it poses larger questions mark on the vision of this mission as making whole city smart in current module' on the other hand there are multiple policies in existence for urban India: the Swachh Bharat the National Urban Livelihoods Mission; the National Urban Information System; and the Heritage City Development and Augmentation Yojana (HRIDAY). Additionally, there are multiple infrastructure projects like city roads expansion and highways, water reservoir and storage-related development which are mostly undertaken by development authorities or the State governments. The linkage between all these with smart city mission unknown and unconnected. Therefore, it is required to study/analysis to come up with a sustainable module which benefits maximum. The aim of this research is to analysis the current scenario-potential and issues of city and Gwalior smart city proposal(to find out gaps and need) and come up with proposal (solutions) and process to make it as (smart) under guideline of smart city for sustainable development of city and communities.

HISTROY BACKGROUND

Gwalior city is the third largest city of Madhya Pradesh, situated in the rich Chambal agro region. It was the capital of former state of scindhias. It comprises of three distinct settlements namely old Gwalior situated on the north of the fort hill, lashkar is in the south of old Gwalior and third settlement called morar cantonment in the east lashkar was developed during the British regime as cantonment.

Revised Manuscript Received on April 12, 2019.

Mohd. Nasir, SIGMA College of Architecture-Kanyakumari, T.N, India. (E-mail: abdulnsr201@gmail.com)

Mohammad Salman, Beary Enviro Architecture Design School-Mangalore, India. (E-mail: ar.salman279@gmail.com)

Fahad Ahmad, CASA Forever Pvt. Ltd.

Aligarh, India. (E-mail: fahad.livestrong@gmail.com)

Tahir Abdul Rahman Siddiquee, International Islamic University Kuala Lumpur, Malaysia. (E-mail: tahir.aligarh89@gmail.com)



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The city derived its name from historic fort hill called goparbat-gopadri, continued to grow and flourish around north and north east of fort hill, until during scindias regime. the early settlement being the capital of the state belonging to 6th century A.D. witnessed cheered history with the change of rulers often after feudal wars the town passed through many hands, who founded the fort to various to schindias in the recent past. During Mughal regime the city gained its fame in the music world when 16 of 36 famous musicians of Akbar durbar belong to Gwalior. It was only during scindhias regime that the foundations of new town away from old Gwalior were laid when maharaj daulat Rao scindhia shifted his capital from Ujjain and setup a camp in this town in the area known as lashkar.

The British, in their set pattern developed cantonment away from the town in morar and neglected the development of town. The first municipality was established in 1887 with resulted in rapid development of the city in scindhias period. Post-Independence period witnessed the growth of the city as one of the principle educational center of the state.

Beside above, many new colonies came into existence, developed by private and government agencies.

REGIONAL IMPORTANCE

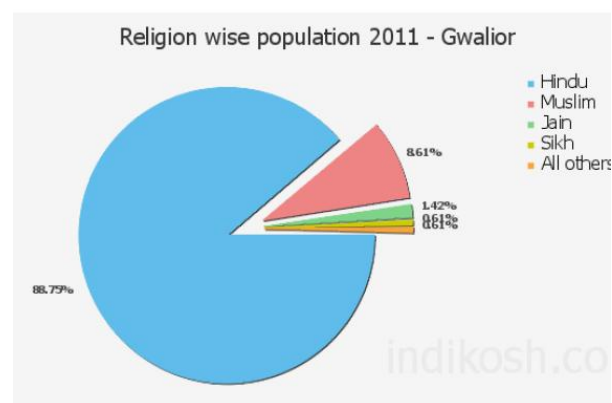
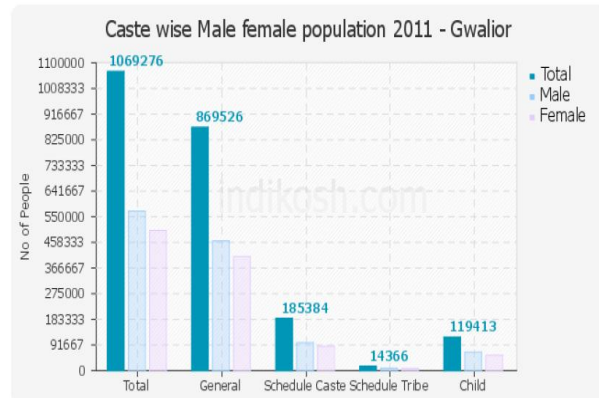
Gwalior is the largest city of Gwalior agro region the region consist of five district Gwalior, bhind, morena, datia and shivpuri. The city enjoyed the status of flourishing Centre for trade and commerce and since then its continuously growing to function as regional Centre. apart from this city also functions as important administrative Centre of region thus playing vital role in the economy of the region and occupies a place of regional city. City growth Trent-the earliest settlement of OLD Gwalior (gapura) came up and functioned as a link development to the fort on the hillock. The development in the lashkar started from camp and ultimately took the shape of a township. the development of morara also came for providing accommodations to military and administrative personnel. Natural land form have also played significant role in giving present urban form of city.

Gwalior is located in rock basin corresponding to vindhyas hills in the west and bijawar hills in the south east. These hill portions have given aesthetic frame to city urban forms. When we see further in detail we found Gwalior is situated between two natural divisions, namely the plain in north-east and hilly country in south east. The plains extended from the Chambal River in extreme north. the city lies in a horse shoe shaped valley surrounded on the three sides by low hills of vindhyas ranges.

DEMOGRAPHIC PROFILE

Gwalior Municipal Corporation, with population of about 11.7 lakh is Gwalior (Gird) sub district's only municipal corporation located in Gwalior (Gird) sub district of Gwalior district in the state Madhya Pradesh in India. Total geographical area of Gwalior Municipal Corporation is 413 km². Population density of the city is 6157 persons per km². There are 66 wards in the city, among them Gwalior Ward No 18 is the most populous ward with population of

about 40 thousand and Gwalior Ward No 59 is the least populous ward with population of 9138.

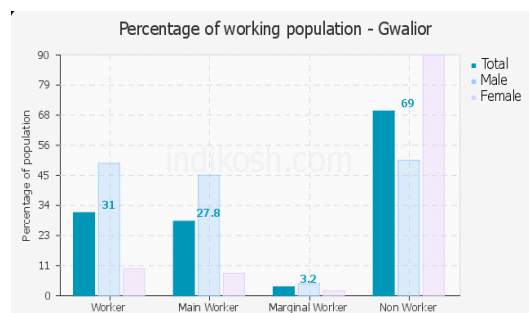


LITERACY

Out of total population..... 8 lakh(approx.) come under literacy graph in which around 3.5 lakh female and 4.5 lakh male (children under 6 are excluded). literacy rate is 84% in Gwalior in last decade survey (census) an growing trend is observed that male literacy rate is going down about 2% mean while female gone up 7%.

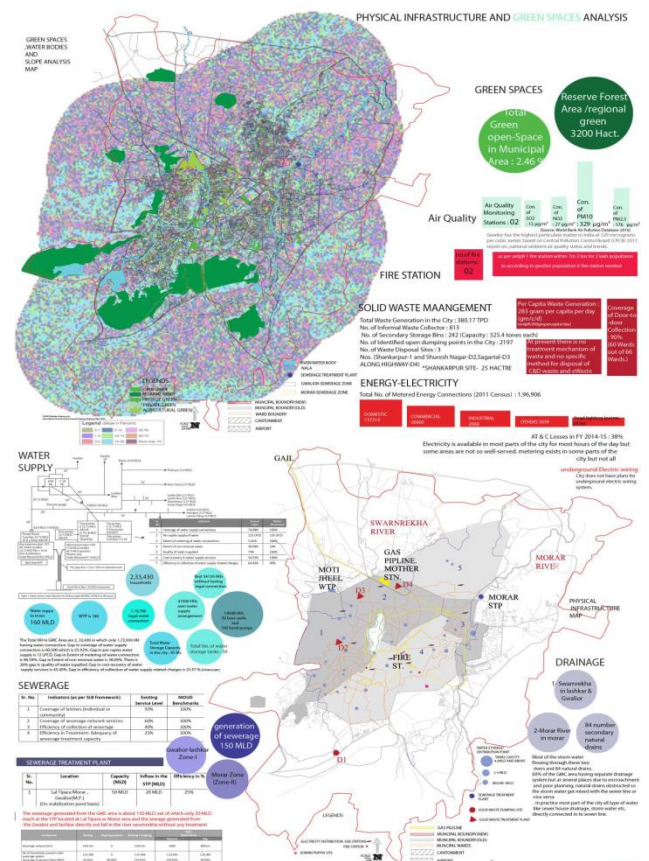
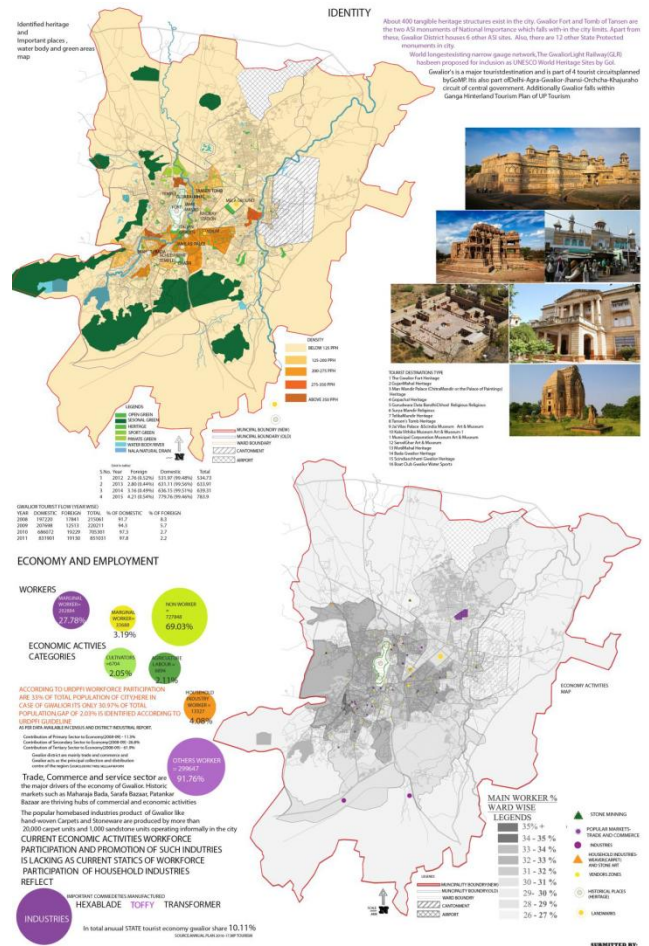
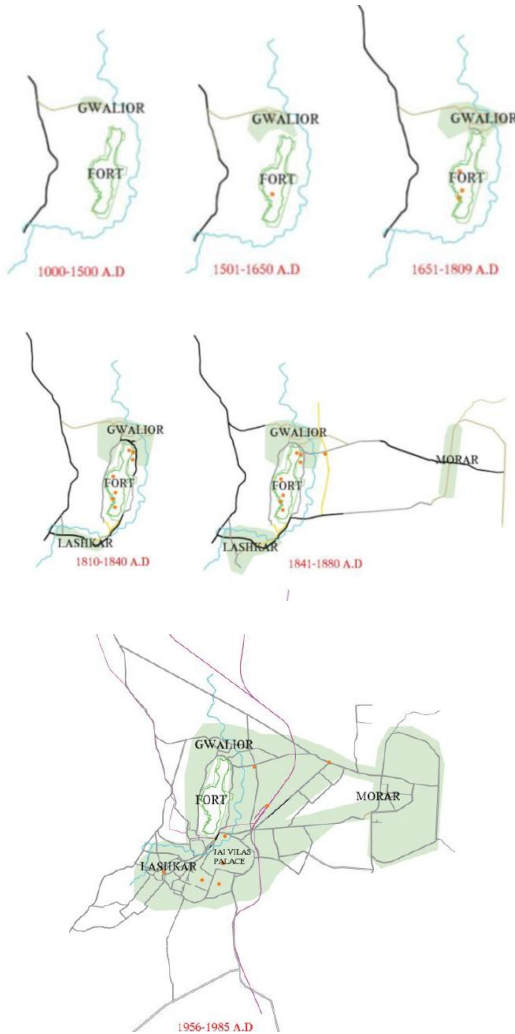
WORKERS PROFILE

In Gwalior as per census 2011 about 3.3 lakh only (31%) population engaged in either main or marginal works. 49% male and 10% female population working population for male population main (full time) workers are 45% of total and marginal (part time) workers are 4%. For women female population main worker are 8% of total and 2% are marginal workers

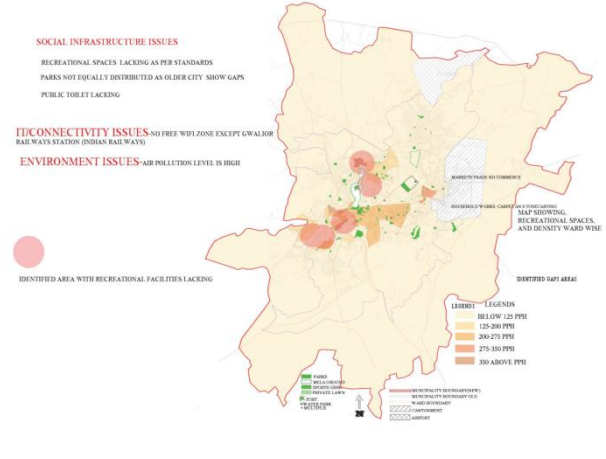
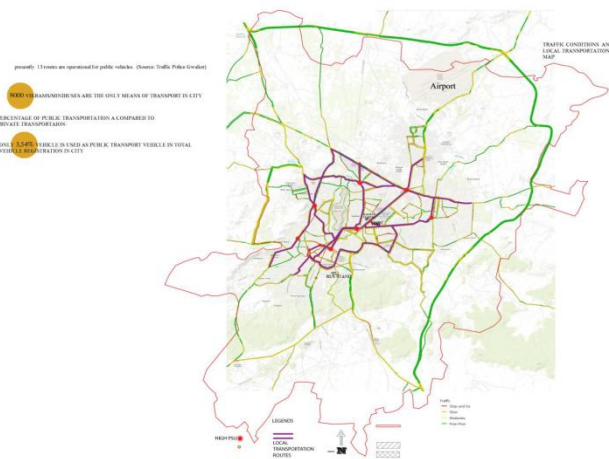
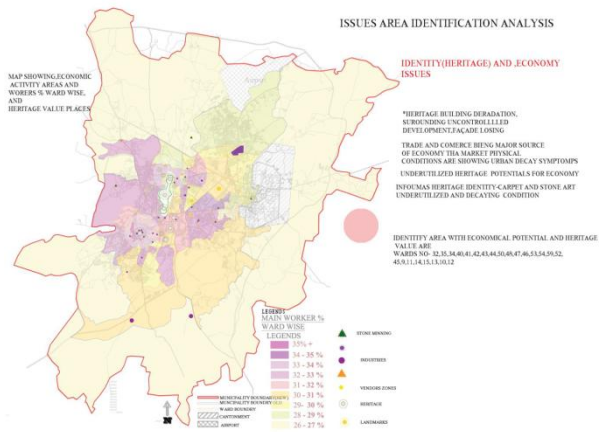
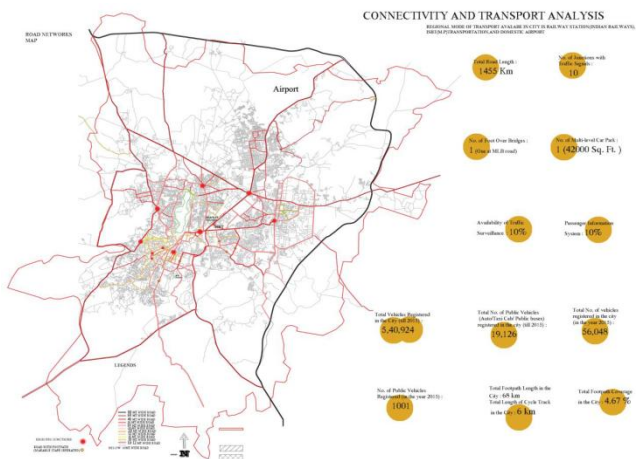
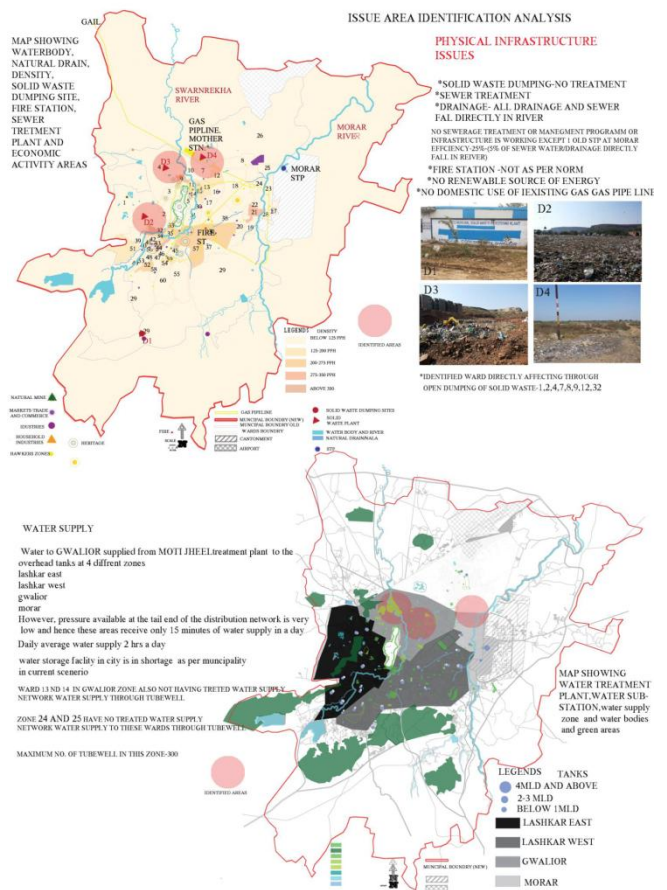
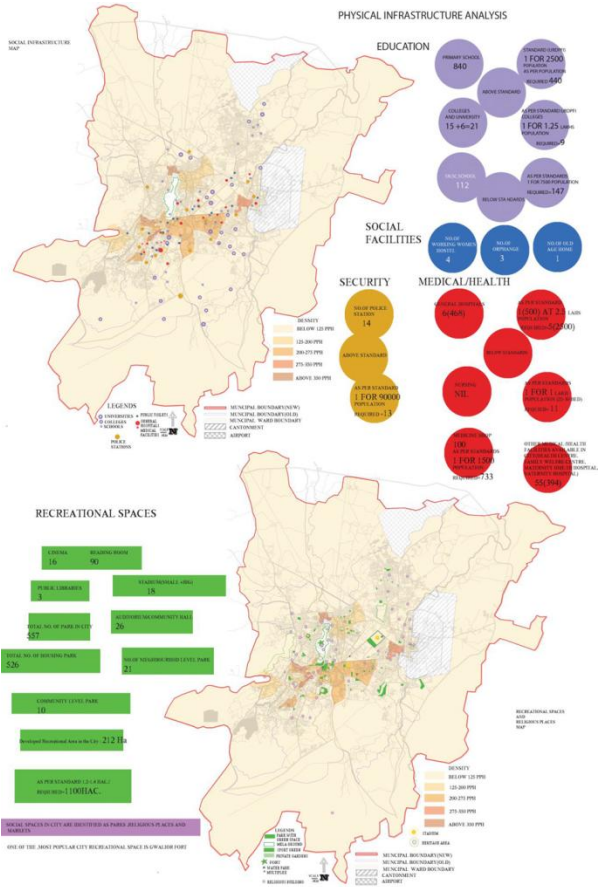


TEST RESULTS

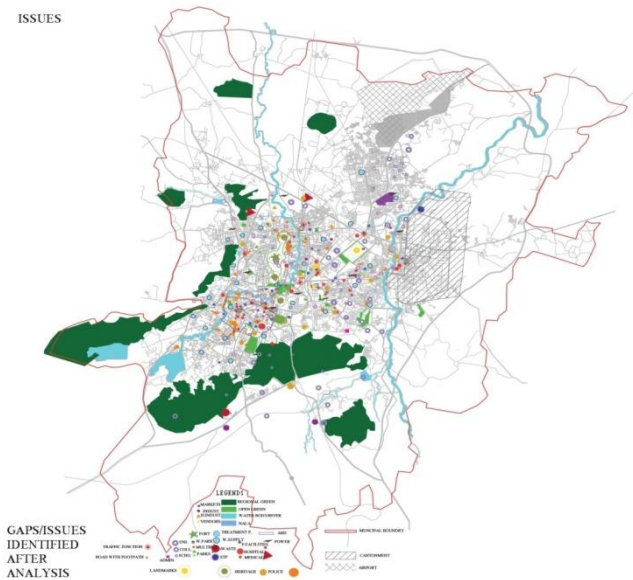
The development in the three different periods gave a district physical shape of the city with three different townships of Gwalior, Lashkar and Morar. The open space left in between the townships was later on filled up by un-controlled/co-ordinated manner and mixed development after independence.



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ISSUES



POLLUTION	DATA	ISSUE	HEALTH/MEDICAL	POWER	TRANSPORTATION	WATER SUPPLY
LAND USE	RECREATIONAL LAND USE AND OPEN SPACE ARE NOT AVAILABLE IN THE CITY AND ARE NOT AVAILABLE IN THE CITY AND ARE NOT AVAILABLE IN THE CITY	ONLY 70% COVERAGE OF WHOLE MUNICIPALITY AND PROBLEM OF MIX OF TREATED AND TUBEWELL WATER SUPPLY AND PROBLEM OF LOW PRESSURE AT HIGH ALTITUDE AREA. SHORTAGE OF WATER STORE TANKS IN CITY AND ONLY 2-3 HR. WATER SUPPLY IN DAY				
WATER SUPPLY						
ENERGY/ELECTRICITY						
SEWERAGE		1 SEWERAGE TREATMENT PLANT ONLY OF 25% EFFICIENCY WORK IN 1 ZONE OUT OF 2. ONE ZONE HAVE NO STP (PROPOSED) ALL THE SEWERAGE MIX WITH DRAINAGE AND FALL IN SWARNREKHA RIVER AND MORAR RIVER				
DRAINAGE		BECAUSE OF NO PROPOSED SEWERAGE TREATMENT PLANT ALL THE SEWERAGE MIX WITH DRAINAGE AND FALL IN SWARNREKHA RIVER AND MORAR RIVER				
WASTE MANAGEMENT		BECAUSE OF NO PROPOSED WASTE MANAGEMENT PLANT ALL THE WASTE MIX WITH DRAINAGE AND FALL IN SWARNREKHA RIVER AND MORAR RIVER				
POLLUTION						
TRANSPORTATION						
FOOTPATH						
OPEN AND RECREATIONAL SPACES						
IDENTITY/HERITAGE						
HOUSING CONDITIONS						
ROADS WITH AND TRAFFIC						
HEALTH AND MEDICAL						
ECONOMY/MARKETS						
IT/CONNECTIVITY						

COMPARATIVE ANALYSIS OF CITY NEED AND CITY SCP'S

ISSUES/GAPS IDENTIFIED	CITY AREAS (WARDS) WITH PROBLEM	SMART CITY - ABD COVERS/ (AREAS)	SMART CITY- PROPOSALS	REMARKS
only 70% coverage of whole municipality and problem of mix of treated and tubewell water supply and problem of low pressure at high altitude area. Shortage of water store tanks in city and only 2-3 hr. water supply in day	All most all wards in city have same problem of water supply time and mix of tube well and treated water supply and ward 24 and 25 have only tube well water supply no treated water supply in these wards.	only 18 wards out of 66 wards lashkar east zone	proposal for 24x 7 water supply	not solving the basic problem of treated and untreated water supply. only 18 wards get 24 x 7 and no proposal for rest
sharing % of renewable energy source in supply level is nil. no underground wiring is available in whole city (except in street lights in new area like city centre)	all most all wards in city have same problem of water supply time and mix of tube well and treated water supply and ward 24 and 25 have only tube well water supply no treated water supply in these wards.	one/two public institution	roof top solar panel installation	there is no solid proposal/plan for conversion of conventional energy supply to renewable source of energy supply
1 sewerage treatment plant only of 25% efficiency work in 1 zone out of 2. one zone have no STP (proposed) all the sewerage mix with drainage and fall in swarnrekha river and morar river	at Gwalior- lashkar zone and half morar area	nil	no proposals	much needed proposal at city level

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no treatment of solid waste directly get dumped on dumping site	wards affected directly(1,2,4,7,8,9,12,32)	pan city	proposal for picking waste and collection only on dustbin based censor technology	proposal needed for treatment of solid waste
there is vikram tempo at city level public transportation available only ,private auto and taxi is mode of transport in city	whole city	pan city	proposal for public transportation network and services,development of corridor,strengthening of existing bridges on swamarekhariver,pedestrian only zone at bada	much needed proposal at city level
Recreational spaces is lacking as per land use. available and required ratio has big gap	whole city	in 18 wards only	improvement of existing parks (upgradation on nehru park, ladies park and shivaji park)and rejuvenation and riverfront development of swamarekha river	only 1.6km of river get developed
heritage building degradation, surrounding uncontrolled development, façade losing	old Gwalior,Qilagate area,jama masjid area (wards-3,4,5,9,11,14,15),lashkar(maharajbada)(wards-40-45,50,57)	lashkar (maharajbada)	revitalizing maharajbada and heritage network trail	old gwalior,qila gate jama masjid area and thatipur are also need revetelization
small-small pockets of slums available in almost all heritage zones	lashkar area(wards-32,34,35,39,40,44,48,53,52,59,45,37),old Gwalior area (3,9,11,13,14,15,16)and morar(21,22)	lashkar area	redevelpment of area -development of 3686 affordable housing unit on ppp under pmay.residential care home,hostels for working women	only 5.6% of city slum will get benifited
physical condition of all popular/heritage markets are showing urban dyeing symptom(façadedegradatio, (surrounding development),hoardings,wires,polls,encroachments)	old Gwalior-jama masjid area,qilagate area,lashkar(wards-40-45,50,57),thatipur	lashkar only	revitalization of markets and surrounding	old gwalior area also need attention
no free internet access facility is available except Gwalior railway station (Indian railways)	at whole city level	at three points	public squares	needed at more public places
being a regional medical hub as per standards no. of general hospital with bed occupancies is less and no. of despencrieries as per population	city level		proposal for multi speciality hospital	

economy	old Gwalior-household industries		proposal for it hub and buisnesscentre,skill development center for handloom and hanicraft workers	
public facilities	old Gwalior and almost at city level	18 wards(lashkar area)	automated public toilets with water atms	
area covers	423.35 sq.km municipal area	803 acres	area based proposals	only 0.77% of city area
population	11.59lac	1.02 lac	area based proposals	only 8.9 5% of city population

CONCLUSION

After analyzing the city need and gaps identified its obsevy that city is in need of physical and social infrastructure improvement first. proposals in smart city only cover an area or area based and one pen city city important need for servival is like-drinking water issue,cityseweragesystem,citysolidwaste managemen citytransportation,housing,slums,heritage , recreational spaces and ,i.e is basic infrastructure of city .

As per smart city guideline development the city will call as smart city which having atleast core infrastructure element like adequate water,health and education,solid waste management,sanitation,public transport,etc and other hand proposal of gwalior smart city acoording to mission strategies 'AS per which the proposed area for abd is important (as it has heritage and economic value of city). scp deals with area is in need to focused but notresolving the basic issues of city infrastrucures) which is against the smartcity guideline to become smart city.

That means only doing beautification work in a particular area will not make the city smart untill unless first we have to create/repair the city basic infrstructure fully workable and responsivebe for that as percurrent strategy of abd and pan city, we have to expand the area of concentration and money allotment of pancity more rather than abd and project on city level like seware drainage,drinking water,connectivity,walkabilty,social spaceshas to be dealed on priority.i.e reimage as strategies ,at city level project/proposal more to establish city towards smartness not only one area.

“Only dealing with an area in city without completing the basic infrastructure of city it never turn into smart city”

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