Smart city: Pursuit of City Smartness and Delhi

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Abstract

A smart city is defined as the integration of Information and technology (ICT), Modern communication infrastructure(ICT) and also Sustainable economic development plus the quality of life. The study deals and focuses on the smart city and pursuit city smartness in Delhi. The aim of a smart city in India is providing a better quality of life to its citizen, Delhi is the capital city of India, which is highly dense and most populated city due to unplanned urbanization, overgrowth population, environmental challenges, mismanagement of solid waste and social exclusion. Smart city action fields that govern the development of smart governance, economy, mobility, environment, people and smart living for this its need better urban management. The parameter for study Delhi as a smart city will be governance, economy, public health, education, transport, water supply, sewerage green spaces etc.. In the conclusion part, based on the study analysis and inference are drawn, recommended that its is emphasized that civic institutions should correctly understand a city's social, economic and physical requirements and its diversity and respond accordingly. at the same time, citizens should show a greater sense of civic responsibility.

Keywords: **Smart City, ICT, People, Government, Delhi, Environment, Smart Living, digital, Information.**

1. Introduction

People migrate to cities primarily for employment. To support their happy and comfortable living, they also need good quality housing, cost-efficient physical and social infrastructure such as water, sanitation, electricity, clean air, education, healthcare, security, entertainment, etc. Industries also locate in cities because there are agglomeration economies that provide easy access to labor and other factors of production. In this context, Smart Cities are those that are able to attract investments. Good infrastructure, simple and transparent online processes that make it easy to establish an enterprise and run it efficiently are important features of an investor-friendly city.

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"A city becomes smart when the human and social capital investments, the traditional (transport) and modern (ICT) infrastructures, foster sustainable economic growth and a high quality of life, through an efficient management of natural resources and a participatory governance". (Nijkamp et al., 2009)

Both the definitions of Low Carbon City and Smart City include economic and environmental efficiency (coherent with a circular economy approach)

- The definition of Smart City also underlines the relevance of participatory governance
- Technological and social innovation is explicitly key aspects for a Smart City, but they are also implicitly determinant for a Low Carbon City
- Quality of living is an essential feature for both • Urban carbon mitigation policies and measures are often (but not always) «smart»

A Smart City connects human capital, social capital and ICT infrastructure in order to address public issues, achieve a sustainable development and increase the quality of life of its citizens.

DEFINITIONS OF SMART CITY:

A city well performing in a forward-looking way in economy, people, governance, mobility, environment, and living, built on the smart combination of endowments and activities of self-decisive, independent and aware citizens.

A city that monitors and integrates conditions of all of its critical infrastructures, including roads, bridges, tunnels, rails, subways, airports, seaports, communications, water, power, even major buildings, can better optimize its resources, plan its preventive maintenance activities, and monitor security aspects while maximizing services to its citizens.

A city "connecting the physical infrastructure, the IT infrastructure, the social infrastructure, and the business infrastructure to leverage the collective intelligence of the city"

A city striving to make itself "smarter" (more efficient, sustainable, equitable, and livable)

A city "combining ICT and Web 2.0 technology with other organizational, design and planning efforts to dematerialize and speed up bureaucratic processes and help to identify new, innovative solutions to city management complexity, in order to improve sustainability and livability."

2. Smart City Concepts & Scope

The concept of a Smart City goes way beyond the transactional relationships between citizen and service provider. It is essentially enabling and encouraging the citizen to become a more active and participative member of the community, for example, providing feedback on the quality of services or the state of roads and the built environment, adopting a more sustainable and healthy lifestyle, volunteering for social activities or supporting minority groups. Furthermore, citizens need employment and "Smart Cities" are often attractive locations to live, work and visit.

But the concept is not static: there is no absolute definition of a smart city, no end point, but rather a process, or series of steps, by which cities become more "livable" and resilient and, hence, able to respond quickly to new challenges. Thus, a Smart City should enable every citizen to engage with all the services on offer, public as well as private, in a way best suited to his or her needs. It brings together hard infrastructure, social capital including local skills and community institutions, and (digital) technologies to fuel sustainable economic development and provide an attractive environment for all.

There are five key aspects to smarter approaches, which are strongly information-driven:

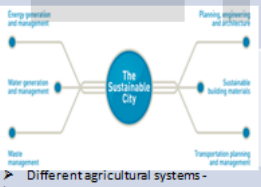
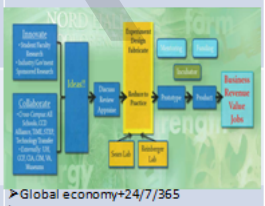
A modern digital infrastructure, combined with a secure but open access approach to public re-useable data, which enables citizens to access the information they need, when they need it;

A recognition that service delivery is improved by being citizen-centric: this involves placing the citizen's needs at the forefront, sharing management information to provide a coherent service, rather than operating in a multiplicity of service silos (for example, sharing changes of address more effectively), and offering internet service delivery where possible (at a fraction of the face to face cost);

An intelligent physical infrastructure ("smart" systems or the Internet of Things), to enable service providers to use the full range of data both to manage service delivery on a daily basis and to inform strategic investment in the city/community (for example, gathering and analyzing data on whether public transport is adequate to cope with rush hour peaks);

2.1 Existing Concepts of Cities

2.5– EXISTING CONCEPTS OF CITIES

CITY	ECONOMIC CITY	GREEN CITY	SUSTAINABEL CITY	DIGITAL CITY
GENRAL TERMS	▪Cities which are a key product of the industrial revolution and the development of capitalist economies. ▪Trade between city-regions is the basis of the global economy ▪Cities who dominate the planet's economy, and are of critical importance in processes of social and economic development ▪Ex. NEW YORK, LONDON, AND TOKYO	❑An Green-city also known as Eco city. ❑Designed - environmental impact, inhabited by people and dedicated to people and society ❑minimize required inputs of energy, ❑water and food, and waste output of heat, air pollution - CO_2, methane, and water pollution. ❑It should meet the needs of the present without sacrificing the ability of future generations. Ex. HONG KONG, MASDAR , SIGAPORE Etc.	❑ A city which create the smallest possible ecological footprint ❑ A city which produce the lowest quantity of pollution possible, ❑ A city in which, efficiently use land & compost used materials ❑ recycle it or convert waste-to-energy	Digital City refers to a locally focused online network, which delivers local (city-based) content such as community events, nightlife, localized yellow pages, entertainment, visitor's guide, and e-commerce
CONCEPT				
PRACTICAL ASPECT	➢Relation between urban growth and capitalist development ➢Central place theory ➢Economic base model ➢Housing markets in urban areas ➢Gentrification processes & poverty ➢The development of global cities ➢**Urban division of labor** •Central Business Districts to urban peripheries •Residential Location Decisions	➢Different agricultural systems - ➢Renewable energy sources ➢air conditioning -. ➢Transportation planning- ➢Optimal building density - -avoid the creation of urban heat islands. ➢Green roofs ➢Zero-emission transports ➢Zero-energy buildings ➢energy conservation systems/devices	➢ Different agricultural systems - ➢ Renewable energy sources - ➢ Methods to reduce air conditioning - ➢ Reduces environmental impact ➢ Improves economic performance ➢ Urban framing- • It advocates housing for a diverse population, a full mix of uses, • Integrated civic and commercial centers and walkable streets • Accessible open space • Positive public space	➢Global economy+24/7/365 ➢Partnering across time zones ➢Outsourced expertise ➢Independent workers, Job growth ➢Companies take on a new role ➢Provide level playing field ➢Open Data relevant info, for each citizen ➢Support for entrepreneurism ➢Municipal infrastructure, Public safety ➢Collaborative Platform to help Entrepreneurial activities
EXAMPLE				
INFRENCES	•The wide integration of tractable economic theory and empirical inquiry among those working on urban and regional questions in economics positions our field well to make convincing progress on important questions.	cities should have air and water that is clean, power that comes from renewable sources and transport that does not pollute. Global human talent can be effectively utilised to provide viable long-term solutions, help improve our environment that is sustainable and vibrant.	We can prepare a sustainable framework to assist your project / district / city to identify the problems and select the best solutions to become more environmentally sustainable, long-term financially viable and economically vibrant.	Digital City Innovation can cultivate the resources and capabilities of a smart city and could be a sinusoidal to turning ideas into businesses. The next stage for these is Digital City Business which provides a comprehensive business support service.

CONCLUSION :

- The city development is more concerned with making progress as concerns the smart indicators rather than rating a city, which inevitably is a snapshot in time.
- Consideration of different characteristics, factors and parameters in a non-weighted way expresses that the Urban Development is a complex process in different dimensions and evaluation, finally depends on the actors,
- their preferences and individual objectives.
- A truly urban city may use the parameters and rating as a tool to benchmark with other cities, and draw lessons from better performing cities, perhaps resulting in policy transfer.
- A city concept and rating presented requires further research, alterations and improvements due to passage of time.
- guidelines were set for leading ICT enabled development. Large scale investments in the urban sector were initiated.
- For improving services, reducing costs, process time, productivity gains, etc. i.e. bettering urban governance and service delivery; ICT revolution had to be capitalized. ICT synergizing with the emerging technologies is transforming businesses and societies in a significant way.

Fig – Existing Concepts of Cities

2.2 Scope of Smart Cities

Urban inclusion: Expanding digital and social inclusion, often initiated or supported by national policies to abolish the digital/broadband divide of all citizens, regardless of status, nationality, and age

Collaboration, community, and citizenship: Development of community-driven valued services, often supported by connected voluntarism in times of emergency across agencies. This includes collaborative design and participation, often in an online app store development environment

Service and ecosystem diversity: Generation of service availability from multiple yet connected providers, where the city is operated as an innovation lab to obtain best-of-breed services, applications, and technology environment. This also includes ecosystems for smart buildings and integrated service environments

Urban sustainability and infrastructure efficiency: Resource awareness and management of utilities, transportation, and traffic network, which helps reduce carbon dioxide emissions, energy consumption and noise levels, while also improving air quality, parking availability and traffic flow. Energy and utility investments in smart grid operations, energy management, and efficiency are key enablers here to develop new operational benefits

Urban policy, transparency and economic growth: Urban policy toward smart cities is expressed in governance frameworks that determine the internal and operational benefit of Smart City policies, such as emergency response and command and control. Transparency of the decision-making process is critical to determining the roadmap of deployments and the ownership of the Smart City information

Citizen services: The distinct citizen services that are generated through the contextualized information exchange can be offered through many different channels: government agencies, public entities, service providers, public/private partnerships, and businesses. The government and operations view will be looking at Smart City predominantly in an operational efficiency and process alignment perspective, in the form of government governance domain – including open government initiatives and digital inclusion, as well as compliance to other national initiatives

2.3 Smart city Goals

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SMART CITY GOALS

Achieve a sustainable development.

Increase the quality of life of its citizens.

Improve the efficiency of the existing and new infrastructure.

Use ICT as tool for the improvement of the city

A Smart City is a city able to accumulate, preserve, integrate and enhance its capital endowments:

(A)Physical Capital

(B) Natural Capital

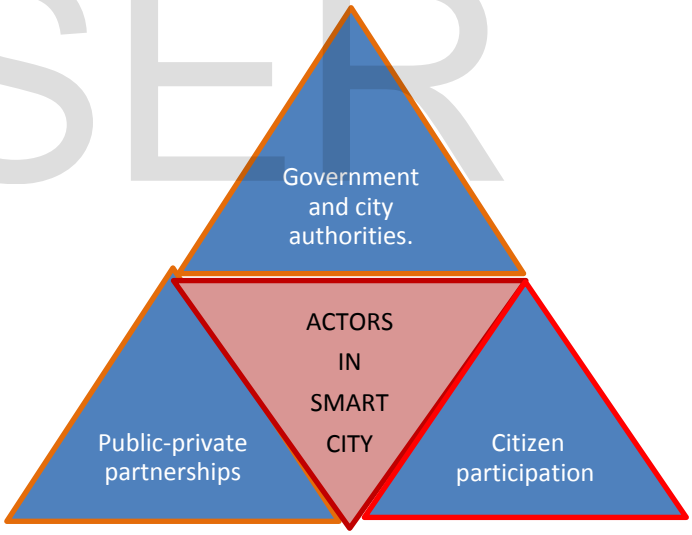
(C) Social Capital

In order to measure the smartness of a city it is necessary to define common inventories, monitoring and reporting systems for cities and over all common metrics.

A capital-based approach uses monetary units to measure and compare smartness.

Smart Cities' will refer to areas that are arguably already operating with at least a rudimentary version of the Smart City framework.

The interactions between sector-specific and inter-sector information flows result in more resource-efficient and sustainable business models and lifestyles.



RELATION BETWEEN OTHER VARIANTS AND THE SMART CITY MODEL

SMART CITY ACTION FIELD AND AREAS			
SUSTAINABLE CITY ASPECT	**CITY AXES**	**SMART CITY ACTION FIELD**	**SMART CITY AREAS**
ECONOMIC	INSTITUTIONS	GOVERNANCE	PARTICIPATION
			TRANSPARENCY
			PUBLIC & SOCIAL SERVICE
		ECONOMY	INNOVATION
			ENTREPRENEURSHIP
ENVIRONMENTAL	HABITAT	MOBILITY	TRAFFIC
			PUBLIC TRANSPORT
			ICT INFRASTRUCTURE
			LOGISTICS
		ENVIRONMENT	NETWORK & ENVIRONMENTAL
			MONITERING
			ENERGY EFFICIENCY
SOCIAL	CITIZEN	PEOPLE	DIGITAL EDUCATION
			CREATIVITY
		LIVING	TOURISM & CULTURE
			HEALTH & SAFETY
			TECHNOLOGY ACCESIBILITY

Fig – Smart city action fields and areas

CITY CHALLENGES FACES IN SMART CITY DEVELOPMENT					
GOVERNANCE	ECONOMY	MOBILITY	ENVIRONMENT	PEOPLE	LIVING
FLEXIBLE GOVERNANCE	UNEMPLOYMENT	SUSTAINABLE MOBILITY	ENERGY SAVING	UNEMPLOYMENT	AFFORDABLE HOUSING
SHRINKING CITIES	SHRINKING CITIES	INCLUSIVE MOBILITY	SHRINKING CITIES	SOCIAL COHESION	SOCIAL COHESION
COMBINATION OF FORMAL AND INFORMAL GOVERNMENT	ECONOMIC DECLINE & SOCIAL DIVERSITY AS SOURCE OF INNOVATION	MULTIMODAL PUBLIC TRANSPORT SYSTEMS	HOLISTIC APPROACH TO ENVIRONMENTAL AND ENERGY ISSUES	POVERTY	HEALTH PROBLEMS
TERRITORIAL COHESION	TERRITORIAL COHESION	POLLUTION	POLLUTION	AGEING POPULATION	CRIME RATE
	MONO-SECTORIAL ECONOMY	TRAFFIC CONGESTION	URBAN SPRAWL	SOCIAL DIVERSITY AS SOURCE OF INNOVATION	URBAN SPRAWL
	SUSTAINABLE LOCAL ECONOMIES	NON-CAR MOBILITY			HAFAZOIDAL SETTLEMENT

Fig – City challenges faces in smart city development

2.4 Factors to be Consider in a Smart City Development

Need for Smarter Approaches:

Our starting point is the wide range of challenges that are driving change in most of the metro cities:

Economic restructuring, combined with the economic downturn, has raised levels of unemployment, particularly among young people, and so economic growth and building resilience to further change is a key priority for city authorities; The urban infrastructure has grown piecemeal and rising urban populations are putting pressure on housing and transport; Concerns about climate change, and the fact that most of the population live in cities, inevitably means that cities have a key role in improving energy efficiency and reducing carbon emissions, while promoting energy resilience in terms of security of supply and price; The paradigm shift towards online entertainment and online retail/consumer services is beginning to change the nature of the High Street.

An ageing population is placing an increasing burden on adult social care, to the point where it is absorbing an ever-increasing proportion of local authority budgets; At the same time, the pressures on public finances have seen local authority budgets reduce, on average, by an estimated 12-15% in real terms over the past three years.

Notwithstanding recent flexibility accorded to Local Authorities in relation to Council Tax and Business Rates, grants from Government Departments are still the main source of local authority funding, especially for cities, and local authorities consider this to limit their ability to provide integrated responses to the challenges they face. The scale of the challenges is forcing cities to rethink their strategies and to innovate in order to maintain service levels, in particular: outsourcing services using outcomes based contracts; service integration, both back office, and increasingly front line services; online service delivery; releasing data to enable new services to develop and citizens to make informed decisions e.g. providing real-time information on traffic to assist citizens in planning journeys; and Reducing demand on services, for example, promoting independent living allows older people to live much longer in their own communities with less statutory support.

A capital-based approach uses monetary units to measure and compare smartness. But it would be a mistake to think that smart urban development is purely a developing world phenomenon. There is a growing recognition among city leaders in the developed economies that smarter approaches are needed to address the challenges which confront society, to improve the efficiency of public service delivery, the sustainability of the urban environment, and the quality of life in our cities. Furthermore, these cities are using smart concepts to enhance their locational competitive advantage, promoting their sustainable and smart credentials to attract new business and talent. As part of our evidence base, it has been commissioned to examine the evolving nature of public service delivery in urban environments, and the design and management of the five main service utilities, with a view to identifying opportunities for in smart cities in the value chain:

Intelligent transport systems: Traffic monitoring and management, congestion management, road user charging, emergency response, public information systems, smart parking, and integrated traffic light management;

Assisted or Independent Living: health and care products and systems, and digital participation services;

Water Management: Water system upgrades, consumption monitoring, wastewater treatment, environmental safety systems, and flood management;

Smart grids or energy networks: Demand management, electronic vehicle support, energy efficiency program, and renewable energy integration; and

Waste management: Waste collection modeling and consistent supply to energy generation.

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3. Pursuit City Smartness in Delhi

Demographic Profile of The City

Presently the National Capital Territory of Delhi is the capital territory of India. Delhi is historically and culturally connected to both the Upper Doab of the Yamuna-Ganges river system and the Punjab region. It is bordered by Haryana on three sides and by Uttar Pradesh to the east. It has a population of about 16.3 million, making it the second most populous city and second most populous urban agglomeration in India and the 3rd largest urban area in the world. Such is the nature of urban expansion in Delhi that its growth has expanded beyond the NCT to incorporate towns in neighboring states and at its largest extent can count a population of about 25 million residents as of 2014.

The National Capital Region (NCR) in India is the designation for the conurbation or metropolitan area which encompasses the entire National Capital Territory of Delhi, which includes New Delhi, as well as urban areas surrounding it in neighboring states of Haryana, Uttar Pradesh, and Rajasthan. 22 cities are considered in NCR.

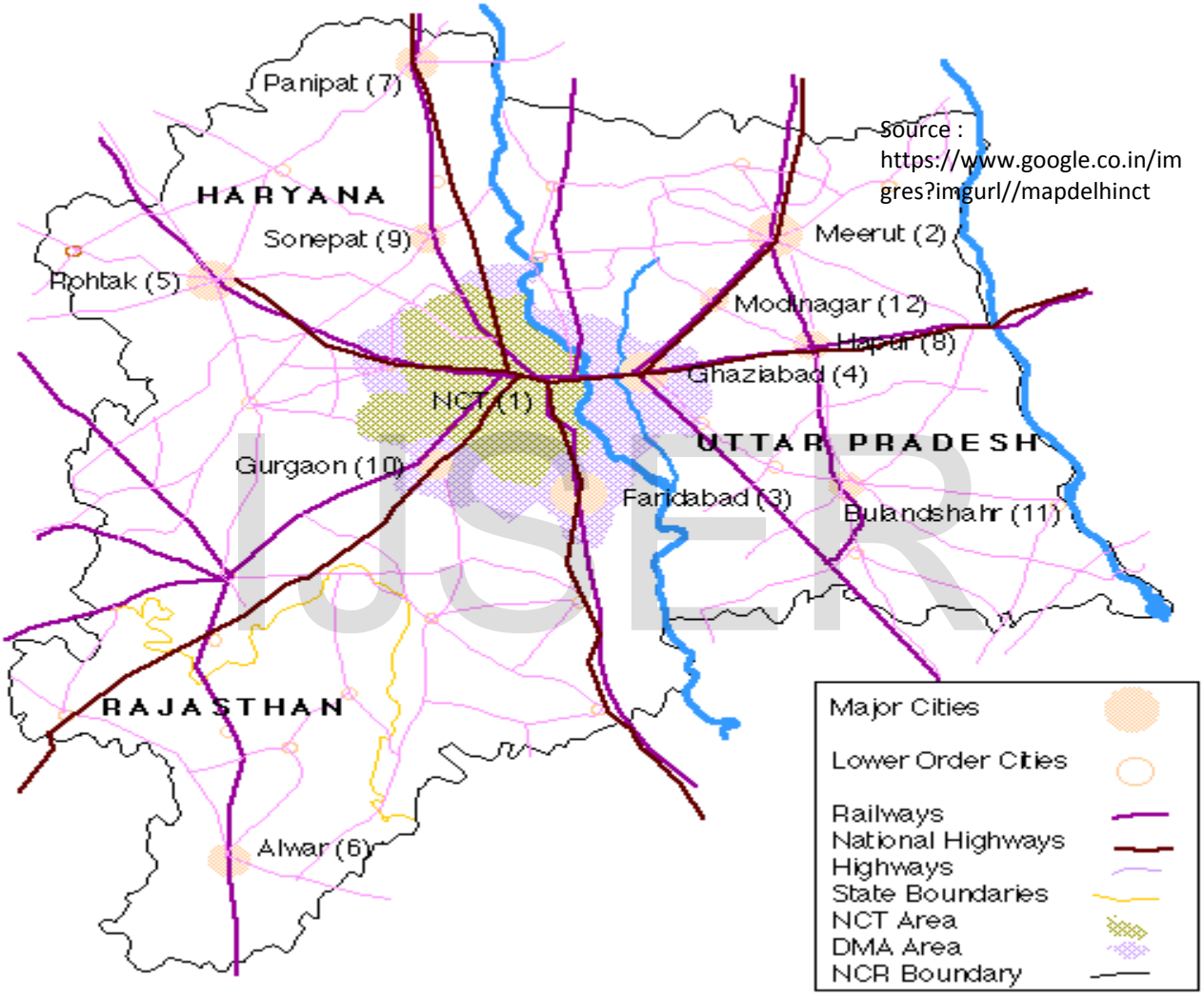
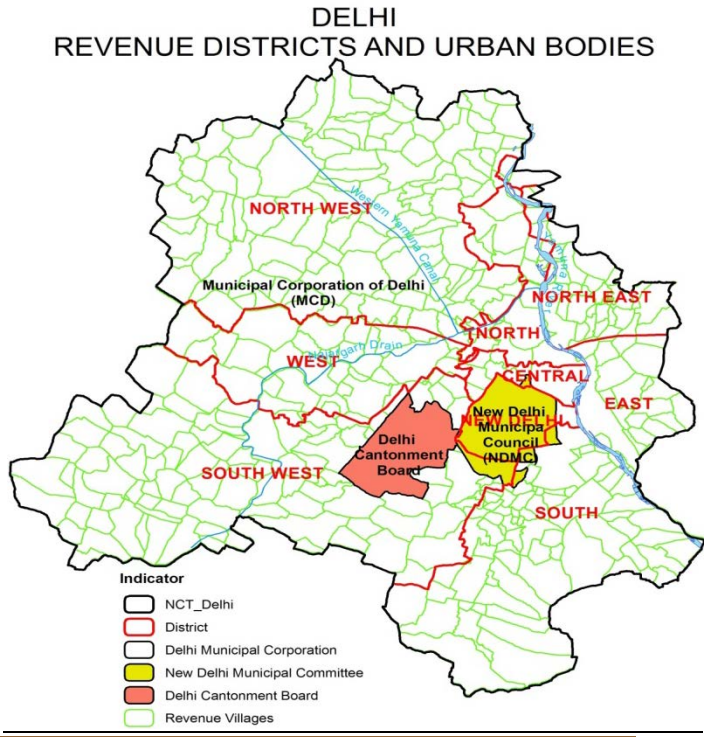


Figure - DELHI WITH NCR CITIES

At present the plan of Delhi is having 2 ring roads, 8 metro lines, 96 flyovers, 54 underways, more than 36thousand km of the road network with airports and railway stations, still suffering from pollution, population, traffic problems etc. which would be discussed in the latter part of the studies.

3.1 Study of City Delhi & Delhi Parameters

DEMOGRAPHIC PROFILE OF THE CITY



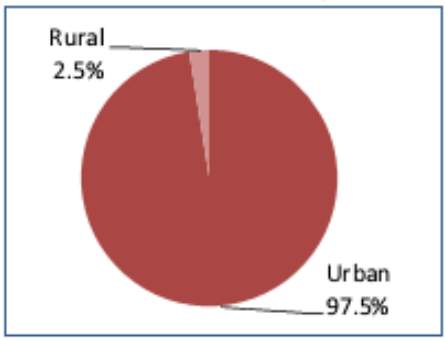
Parameters	Delhi
Geographical area (sq km)	1,483
Administrative districts (No)	9
Population density (persons per sq km)*	11,297
Total population (million)*	16.7
Male population (million)*	8.9
Female population (million)*	7.8
Sex ratio (females per 1,000 males)*	866
Literacy rate (%)*	86.3

Population

District wise population in Delhi

INTRODUCTION

- *Delhi is the capital of the Republic of India and also a state for administrative purposes. It is one of the largest metropolises in the country. Delhi shares its border with the states of Uttar Pradesh and Haryana.*
- *Delhi has a cosmopolitan culture with a mix of languages in use. English and Hindi are commonly spoken for everyday transactions. Punjabi, Bihari and Haryanvi, etc., are the other languages used.*
- *It is home to the Union Government of the country and the State Government offices. Delhi is the epicenter of international politics, trade, culture and literature in India.*
- *The Delhi state is divided into 165 administrative villages under nine districts. The Union Government's area is managed by the New Delhi Municipal Council (NDMC).*



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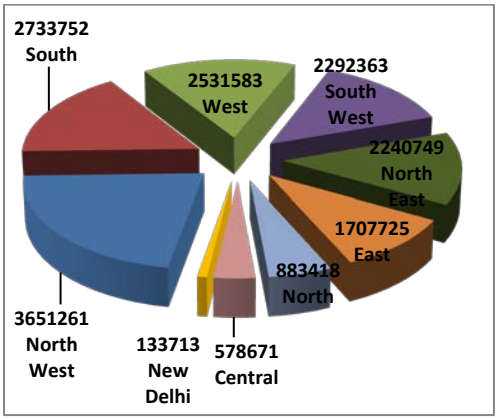
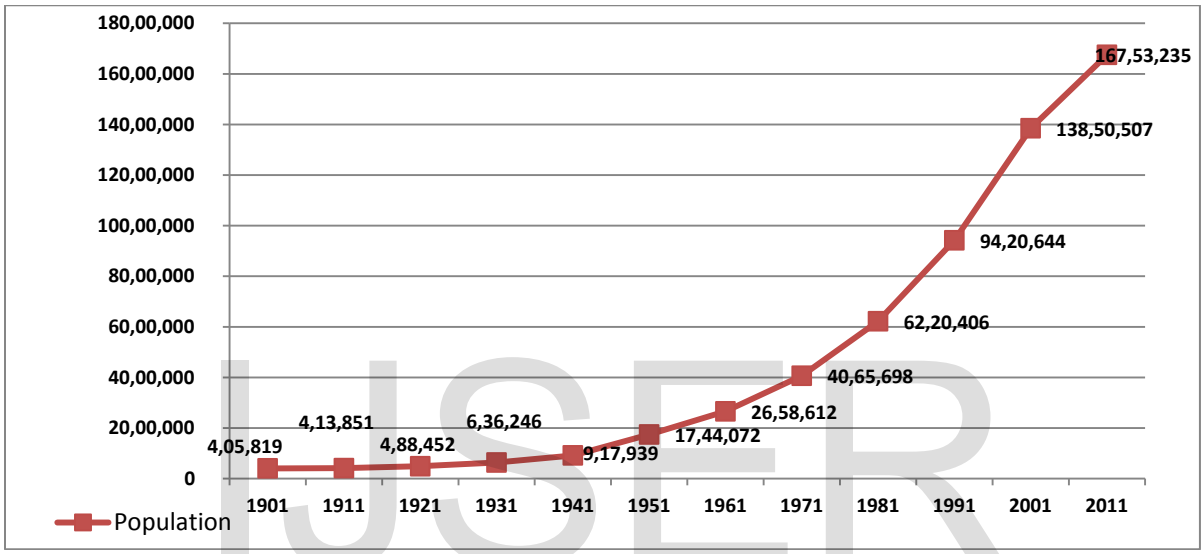
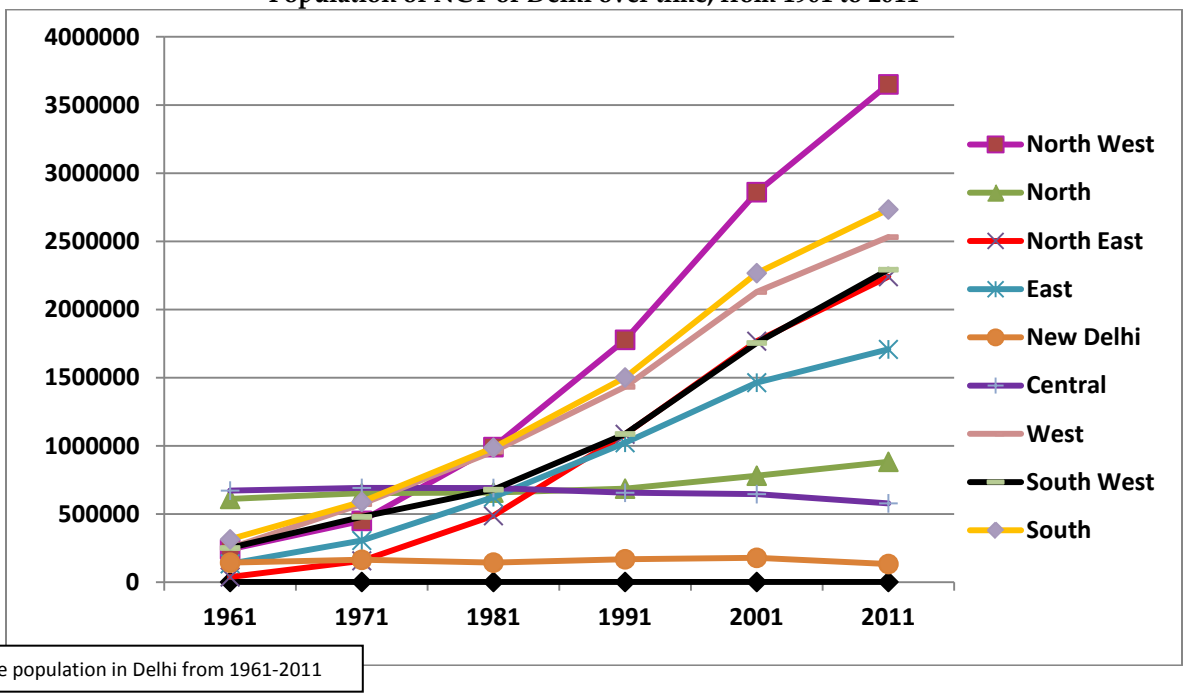


POPULATION	Persons	1,67,53,235	
	Males	8976410	
	Females	7776825	
DECADAL (2001-2011)	POPULATION GROWTH	Absolute	Percentage
	Persons	2902728	20.96
	Males	1369176	18.00
	Females	1533552	24.56
DENSITY OF POPULATION (per sq. km.)		11297	



Population of NCT of Delhi over time, from 1901 to 2011



District wise population in Delhi from 1961-2011

3.2Pursuit City Smartness in Delhi – Parameter for Study as Smart City

- DEMOGRAPHIC PROFILE
- GOVERNANCE
- ECONOMY & FINANCE
- PUBLIC HEALTH
- EDUCATION
- ENVIRONMENT
- ENERGY
- FIRE
- TRANSPORT
- WATER SUPPLY
- SEWERAGE
- GREEN SPACE
- SOLID WASTE
- TELECOMMUNICATION
- SHELTER
- CRIME

DELHI GOVERNANCE

NO OF bribery IN THE CITY (23,175115.8 PER LAC POPULATION) source indiatoday.intoday.in

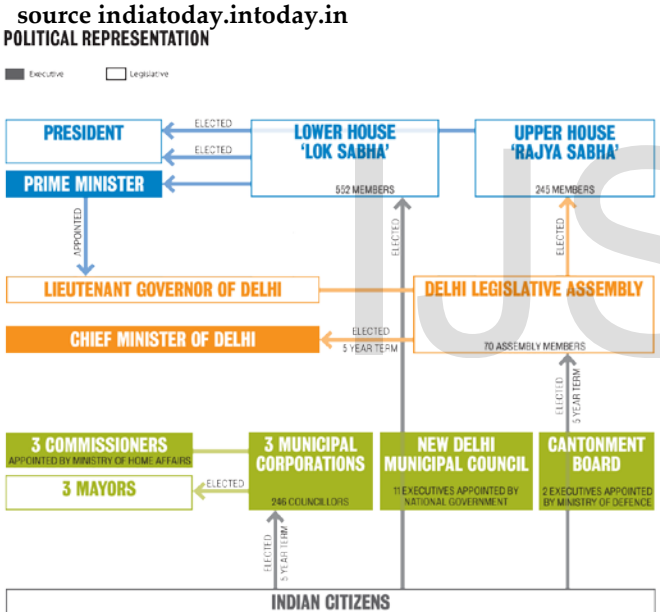


Figure - POLITICAL REPRESENTATION CHART

Economy –

"means careful management of available resources."

An economy (a Greek word meaning- manage) or economic system consists of the production, distribution or trade, and consumption of limited goods and services by different agents in a given geographical location.

The economic agents can be individuals, businesses, organizations, or governments.

Transactions occur when two parties agree to the value or price of the transacted good or service, commonly expressed in a certain currency.

GSDP - GROSS STATE DOMESTIC PRODUCT

At current prices, the Gross State Domestic Product (GSDP) of

DISTRICT CENTRES

- Nehru Place
- Rajendra Place
- Bhikaji Cama Place
- Janakpuri
- Laxmi Nagar
- Shivaji Place
- (Raja Garden)
- Jhandewalan
- Netaji Subhash Place (Wazirpur)
- Saket
- Manglam Place (Rohini)

MCD zones : The entire MCD area is divided into 12 zones

- Karol Bagh
- Sadar Paharganj
- Civil Lines
- Narela
- Rohini
- South Delhi M.C.
- Central Delhi
- South Delhi
- West Delhi
- Najafgarh
- East Delhi M.C.
- Shahdara South
- Shahdara North

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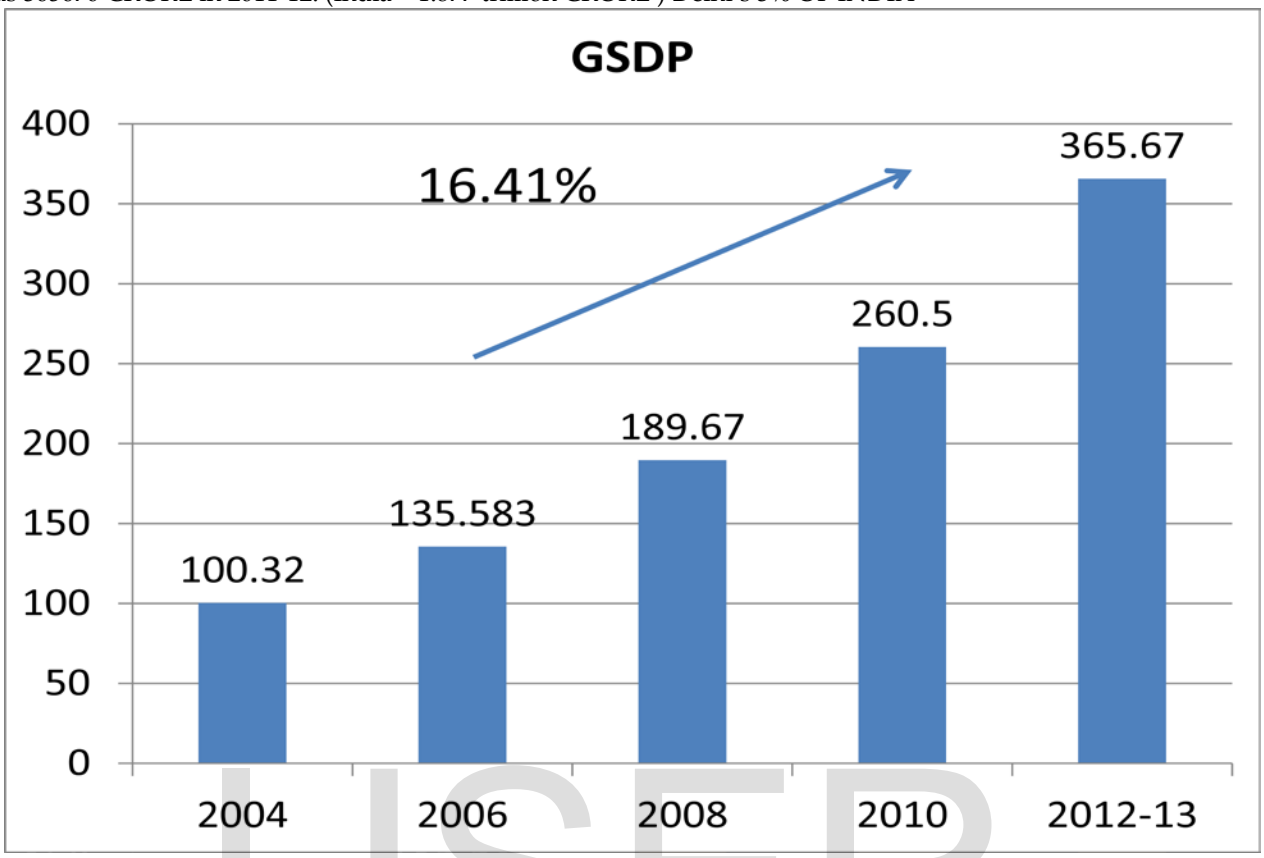
Delhi was 365670 CRORE in 2011-12. (India – 1.877 trillion CRORE) Delhi's 3% OF INDIA



GRAPH 1 INCREASING GSDP RATE IN DELHI Source:- Author interpretation from Delhi Draft regional plan

Increase in the gross domestic product of Delhi with a rate of 16.41% due to both central government policies and state policies, inviting foreign companies and also giving chance to small entrepreneurs to set up their own firms.

alternative uses of available agricultural and rural land providing higher return;

Bette Civic Infrastructure, Transport, Communication, Trade, Storage, Health, Education and Other Facilities have promoted the Tertiary sector

"Education is a basic need just after the living & safety. It acts as a force for social change."

The main aim of education is Intellectual, Physical, social, Political, Aesthetical and Ethical Development of man.

"The purpose of education would be met if the schools provided educational methods of

Self-development by which the individual can gain complete possession of all his powers

Role:

Education holds the key to economic growth, social transformation, modernization and national integration in NCT Delhi. The National Policy on Education formulated in 1986 and modified in 1992 aims to provide education of a comparable quality up to a given level to all students irrespective of their caste, creed residence or sex. It aims at promotion of a national, a sense of common citizenship and composite culture and strengthening national integration. It lays stress on the need for a radical transformation of the education system to improve its quality at all stages and gives much greater attention to Science and Technology. All children are proposed to be provided free and compulsory education up to 14 years of age.

Table 1 EDUCATIONAL INSTITUTIONS

Year	Number of Educational Institutions			
	Total No. of Primary Schools	Total No. of Middle Schools	Total No. of Sec/Sr. Secondary Schools	Total No. of Schools
2001-02	2406	679	1605	4690
2002-03	2106	661	1624	4391
2003-04	2126	671	1678	4475
2004-05	2463	635	1712	4810
2005-06	2617	645	1750	5012
2006-07	2595	640	1750	4985
2007-08	2569	640	1768	4977
2008-09	2593	659	1759	5011
2009-10	2586	583	1824	4993
2010-11	2563	588	1872	5023

CRISIS OF DELHI ROAD TRANSPORTATION SYSTEM

The explosive increase in personal vehicles – cars and two-wheelers, are responsible for choking congestion. The speed of this increase is scary. Since 1991 the vehicle growth rate is averaging 200,000 vehicles per year. In contrast to the national trend, cars are increasing at a faster rate than two-wheelers. Cars have grown at 10 percent annually since 1995 as opposed to 7 percent for twowheelers. On the whole, the growth rate in the personal vehicles sector is the highest. This is worsening the air quality, increasing energy use, and the city is actually grinding to a stop due to congestion. Direct exposure to traffic fumes is amongst the deadliest of the health threats.

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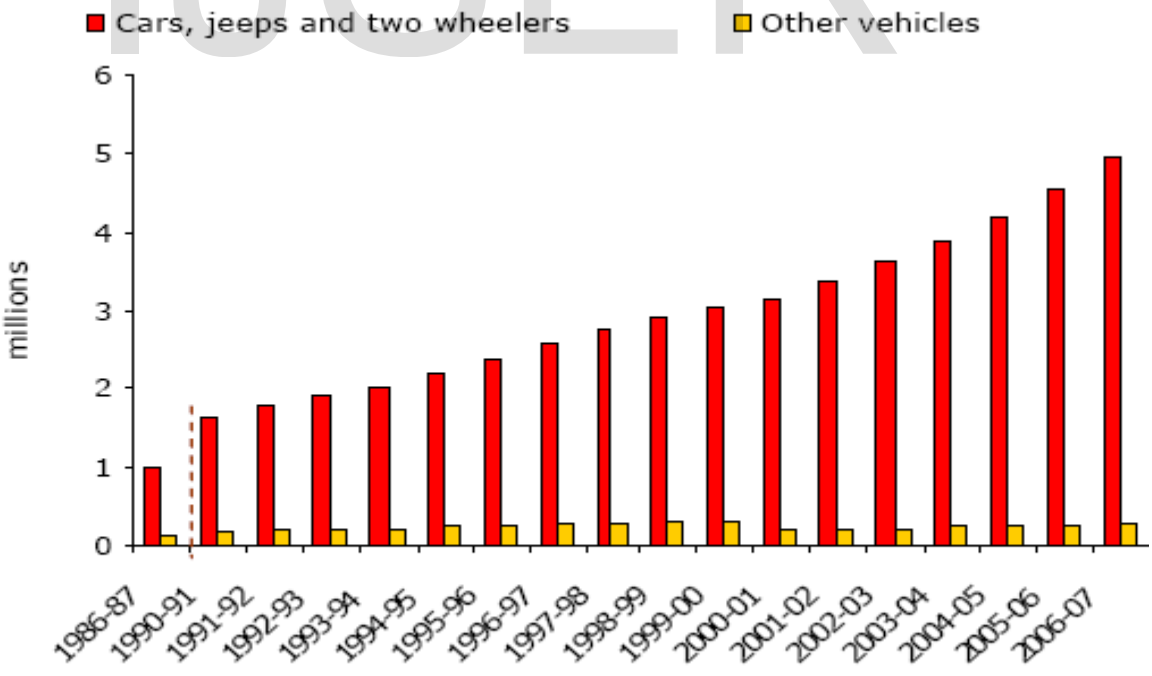

Source: Economic Survey of Delhi, 2007

4. Inference

The total population of NCT Delhi as per the provisional figures is about 1.68 cr. as compared to the total population as per Census 2001 of 1.38 cr., thus exhibiting a decadal growth rate of 21%. This is far lesser than the growth rate of the previous decade, 1991 to 2001, of about 47%. It thus appears that the population growth of NCT Delhi is now showing a tendency towards stabilization.

The density of population per sq. Km. is about 11000 and this figure is alarming as it beats the density of any other state by a huge margin.

The state has a growth rate of about 20% which slightly exceeds the national growth rate of about 17%. The population of the state is rising considerably due to rapid efforts towards development and progress.

It a major contributory factor for the trend towards stabilization appears to be the sharp fall in fertility brought in evidence from the magnitude of the 0-6 population, which is about 19.7 lakhs as opposed to about 20.2 lakhs in 2001.

Thus the absolute number of children 0-6 is lower than it was in 2001, even though the base population has since increased by about 30 lakhs. This trend is fairly uniform across all nine districts.

There has been a substantial increase in the overall sex ratio, from 821 in 2001 to 866 in 2011.

It may, however, indicate that a larger proportion of migrants coming into Delhi for work reasons are women compared to the situation ten years back, when there was a tendency for men to come in for work while women stayed back in the village.

On the literacy front, there has been a steady increase over the years, with 91% of men and 81% of women being literate, an overall 5% improvement from past decade.

Now it would be easier to implement the policies and explaining their benefit

As there is a large governance system having multiple windows of services with the conflict of division in central government and NCT government, thus its very difficult to prepare, organize and execute to any policy in the Delhi. So there is a requirement to organizing the government body related to the public services with a single window also there is a prompt need to resolve the board's division between central and state government. There is need to increase the PPP system.

The no. of literacy in state Delhi has been increasing as per passing decade in spite of these the interest of people to choose their leader (i.e. participation in elections) is not increasing. Though a necessary step is required to increase the interest level.

Beside the active media of current trend, no. of open data is lesser by decreasing the public awareness which required more public participation trough E-voting and open data system

City and it's governments required more important as 'new state space'

Urban poverty needs to be recognized as multi-dimensional deprivations

City governments need to strengthen their own capacity and link up with other scale levels of government – metropolitan governance and city-to-city networks, and trans-national urban governance networks with the help of PPP system and a strong model of E-governance

The diversity of citizens' identities and interests made explicit so that inequalities do not grow further

Although there are various initiatives have been taking by the gov. NCT but also Participatory models are required to support redistributive urban policies

Urban regime research still very necessary to analyze government-private sector links as all the implemented policies are running on initial stage.

Increase in the gross domestic product of Delhi with a rate of 16.41% due to both central government policies and state policies, inviting foreign companies and also giving chance to small entrepreneurs to set up their own firms.

alternative uses of available agricultural and rural land providing higher return;

Better Civic Infrastructure, Transport, Communication, Trade, Storage, Health, Education and Other Facilities have promoted the Tertiary sector

It may be inferred from the graph that the per capita income of Delhi at current prices increased from ` 63877 in 2004-05 to ` 201083 in 2012-13 recorded an annual compound growth rate at 15.41 percent.

Delhi has a literacy rate of 86.3 percent according to the provisional data of Census 2011; the male literacy rate is 91 percent and the female literacy rate is 80.9 percent.

As of 2009-10, there were 50 pre-primary schools, 2,586 primary schools, 583 middle-level schools and 1,824 senior secondary/secondary schools in Delhi.

At the intermediate college level, courses in the science, arts, and commerce streams are offered.

Vocational courses are offered in the fields of agriculture, engineering and technology, home science, paramedical, business and commerce, and humanities.

5. Conclusion

Smart city concept can be used for transforming any city into a smart city. The smart city has various overwhelming benefits & it a win-win situation for both, government & the citizens. In the terminology of the smart city, we set out the enormous challenges facing cities, the size of the opportunity afforded by the focus being given, worldwide, to addressing those challenges by transforming city infrastructures and city systems, and the key actions needed to seize those opportunities. A smart city estimates that the global market for smart urban systems for transport, energy, healthcare, water, and waste.

Growth opportunities lie, no less, at home through smarter approaches to transport management, healthcare, and energy. On the back of better connectivity and better access to public information, we can manage cities more effectively, anticipate and solve problems more cost-effectively, and raise the economic prospects and the quality of life in every metro city. In so doing, a city can strengthen its position as a global hub of expertise at a time when cities throughout the world are seeking innovative solutions to the challenges of urbanization.

As the Section on current policies and programmes makes clear, there is a considerable amount of work already continue to develop the city sustainability to deliver a smart concept. However, global competition is increasing steadily and most of the cities are becoming the focus of this competition. As an architect we will have to set out the innovative approaches of a sample of global cities, a future success depends on three main elements:

An innovative and demanding customer:

Innovation by local authorities requires vision and leadership; a real focus on the key challenges they face, such as congestion, care in an aging society, and economic growth; an openness to new approaches/new business models; and the ability to manage risk. A key barrier to progress is that, under current financial conditions. The actions we have proposed therefore relate to lowering the bar and fostering user-driven innovation by :

Providing cities with greater autonomy to achieve the outcomes which meet their own particular needs through City Deals;

Helping cities to develop a vision for city regeneration by promoting a better understanding of developments in global cities at the forefront of the smart city agenda (e.g. Chicago, Boston, Barcelona, and Stockholm);

Helping cities, through the Future Cities Catapult, to understand the opportunities offered by city-integration, to test and prove the business case, to collaborate with business and academia to innovate solutions, and to tackle the barriers – such as procurement rules or lack of investment, which stop new solutions going to scale.

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Continuous development of capability:

This constitutes a wide range of activities, including:

Establishing a Smart Cities Forum, comprising representatives from cities, business, OGDs and the research base, to develop a shared perspective, identify barriers to progress and advise Ministers on strategic priorities, global Developments / opportunities, and to co-ordinate Government policies in areas related to smart cities;

Maintaining cities thought leadership through the Foresight Programme;

Supporting research in areas germane to the smart city concept, including the Internet of Things, secure technologies, intelligent search, supercomputing, and systems modeling and analysis;

Promoting new applications of technology through the Technology Strategy Board (TSB) and through the use of SBRI in the smart city context, to capitalize on the innovative capacity of SMEs;

Promoting supply chain initiatives in complex utility service systems;

Developing interoperable standards to facilitate systems integration;

Analysing the impact on communities of making Government data (Trading Funds as well as local data) freely available in two cities and training officials in its effective release.

Staying abreast of global developments and seizing opportunities:

Working with international standards bodies to ensure that smart city solutions are marketable worldwide;

Working constructively with the EU Commission and member states on proposals to develop a European capability, and securing smart city participation in future programmes;

Delivering, a strategic approach to promoting and exploiting capability overseas; and Supporting public & private participation in leading global city networks, such as City Protocol Society.

Establishing the Future Cities Catapult, a global center of excellence on urban innovation, which will help cities, academia, and business collaborate to produce exportable innovations.

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