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**STRATEGIC TRANSPORT PLANNING FOR ODISHA MATCHING WITH CHANGING SCENARIOS OF CURRENT INDUSTRIALIZATION AND ECONOMIC POLICY IN 21<sup>ST</sup> CENTURY**

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**ABSTRACT**

The author's intention is to reflect the present transport and logistic system in Odisha and to focus precisely the strategic transport planning matching with changing scenarios of new industrialization and economic policy in the subsequent need for transportation planning for fast moving benefits to shareholders in the state.

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**INTRODUCTION**

Present transportation status in Odisha carries the bleeding meaning which paralyses our goal towards attaining industrial and economic tranquility taking into consideration the viability and availability of financial stability and infrastructural adversity with proper emphasis to judicious STP model in order to excel in forthcoming generation. For rapid industrialization, adequate transport facilities are desirable for attaining excellency in economic system. To transfer the State into a vibrant economic zone, State Government have given emphasis to convert potential energy into kinetic energy through massive industrialization with infrastructural development in roads and transport by optimization of value addition, technological up gradation and export promotion. In integrated rural development programs, road network is an important part of infrastructure to be developed. The objective of road network development should be linked with other socio-economic services and facilities to be provided in rural

areas. Kick-start of socio-economic enlightenment is the adequacy of infrastructure in transport sector, which pickup attracting investment. The root cause of socio-economic development is upliftment of transportation facilities into unprecedented dimensions, which ultimately reflects enviable condition in infrastructural advancement of Odisha with respect to population growth and to resolve all inadequate traffic problems facing in current times. Integrated transport system should be technically feasible, economically viable and socially acceptable. The possibility of increasing accessibility and mobility should be examined in relation to adoptability of advanced surface transport. In present day planning concept, a region is considered as an organic entity in which the whole is related to parts as the parts are related to the whole. Regions are considered as human creations for purpose of analysis, synthesis and planning. In order to achieve this, regular and orderly distribution of resources is essential and well planned transportation system can only assure it. Efficiency of transportation reflects the efficacy of the planning process. An effective distribution channel can be a source of strategic advantage for companies. Transport channels can be understood by analyzing their constituents, structure, functions and contributions.

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**Main Focus**

The ongoing economic reforms through the scientific transport design, can bring smiles on the face of depressed, oppressed, suppressed & repressed citizens who are in distress, destitute, despair & despondency. Refinement of transportation infrastructure is basic & basis for marketing agricultural products and empowering the farmers to deserve a fair price. We have men, means and mantras for the integration of universal value into development of human person and human society. It can be ensured only when the temper of reform on transport sector should maintain its internal integrity and external impregnability. Infrastructural development in roads and transport leads to spontaneous and tremendous progress of the general public by ventilating and inspiring spirits within their minds.

Transport sector as means of communication and channel of distribution, plays major role for bringing strength, stability and potentiality in the internal fabric as well as external competency. To overcome all detrimental factors in transport like traffic problems due to rapid growth of vehicles and population in Odisha, the State Government has adopted various scientific steps for sustaining internal consistency with maintaining proper disciplinary actions by traffic police and a patrolling force in major cities of Odisha. STP at micro level by using various optimized models can bring rapid industrialization in Odisha. STP faces some challenges on transportation, which can be bypassed by inventive orientation through developed modeling process. Strategic decision are means to achieve the ends. STP becomes burning flame by utilizing operation research techniques in effective way for strengthening the economic background of Odisha.

The spring time of human civilization is about to bloom by using STP model. It arrests all foul play of State organs by accelerating the momentum of inherent structural inbuilt force within the frame work of Odisha. The crying need of STP is integration of all road ways and rail ways into the development of human society. STP model is constitutional fundamentals, socialist order and economic imperative. STP model should be guided by the changing industrial and economic policies, which are the key stone of the arch of Odisha march. Correctional approach, critical appraisal and creative orientation are essential for building suitable STP model. STP acts as a tunic to restructure the system, reorient the objective and reform the transport facilities in better prospective manner in order to prevail dynamic economic performance by making profitable transportation systems.

STP model of course, the better side of the Odisha balance sheet, a new awakening for progressive movement of Odisha, but yet tantalizing and ineffectual. It serves to reform the economic discontent and social maladjustment of Odisha. Here speedy and ready attempt is made to take a closer look at the development of rural and urban transport planning in Odisha. It is discussed some of the positive efforts proposed and carried out under the banner of STP by the authorities to overcome the problems and suggest suitable remedial steps for future action. A new approach to STP was developed in early 1990's by 'Harvard Business School', because it balances the use of financial and non-financial performance measures to

evaluate short run and long run performance in a single report and also translate a sector's mission and strategy into a set of performance measures that provides the frame work for implementing the strategy. This is heralded by the 'Harvard Business Review' as one of the most significant management ideas.

**Present Transport and Logistic System in the State**

Odisha Industrial Policy, 2007 sanctioned top priority in road infrastructure development in the State. Transport Policy of Odisha, 2007 outlined with main objectives to increase competition, efficiency, transparency, accessibility and adequate availability of transport services in the State. OSRTC functions to provide safe transport facilities to the public. An ultramodern and well-designed transport network gains momentum for enhancing the productivity and profitability of various socio-economic activities. The State Govt. has given much emphasis on infrastructure development in roads and transport both in urban and rural areas, for effective utilization of resources.

**Existing roads and connectivity**

The State has a total road length of 2, 50,328 K.M by the end of 2011-12. By the end of 2011-12 the road length in Odisha by types given below.

**Box No 1.**

Types of Roads	Length in KM (s)
National High Ways	3594.162
Express High Ways	38.40
State High Ways	3616.728
Urban Roads	18580.689
Rural Roads	28158.737
Major District Roads	4260.046
Other District Roads	7116.19
PanchayatSamiti Roads	25702.51
Gram Panchayat Roads	145367.77
Forest Roads	7518.128
Irrigation Roads	6277
GRIDCO Roads	88
Total	250328.180

The National Highways (NH) constitute only about 2% of the road network Sixteen National Highways cover 3594.162 Kms through Odisha. The following programs are in pipe line.

- (1) The State Govt. has submitted proposal to the Ministry of Road Transport and Highways, GOI for five State roads measuring 1023.7 Kms as new NH.
- (2) A portion of NH-200 from Karnataka to Jharsuguda measuring 68 Kms in length has been identified for improvement under PPP undertaking.
- (3) A total of 249.37 Kms of 8 NH Projects have been identified for improvement.
- (4) A proposal for improvement of 557.485 Km of 8 NH projects and 90.323 Kms two lanes under the Word Bank assisted State road Project.

Achievement of Roads in 2011-12 and under Progress in 2012-13 given below.

**Box No 2.**

	Achievement in 2011-12 (Kms)	Work under Progress in 2012-13 (Kms)
Widening of 2 Lanes	74.3	209
Strengthening the existing pavement	50.2	42.6
Improving riding quality	80.9	26.6
Periodical renewal	238.4	215

**Existing Rural Roads and Connectivity**

Rural roads and connectivity is needed for socio economic development of the State. The State had 3762 rural roads of 28159 Km length by the end of 2011-12, out of which 17430 Km (61.9%) are black topped and 2365 Km (8.4%) are cement concrete roads. PMGSY, RIDF, CWA, Finance Commission Award Works (R & B) and Special repair Schemes are the major rural connectivity Programs which are under implementation in the State.

Figure 1 Details Roads network diagram of Odisha given below.



Figure 1.

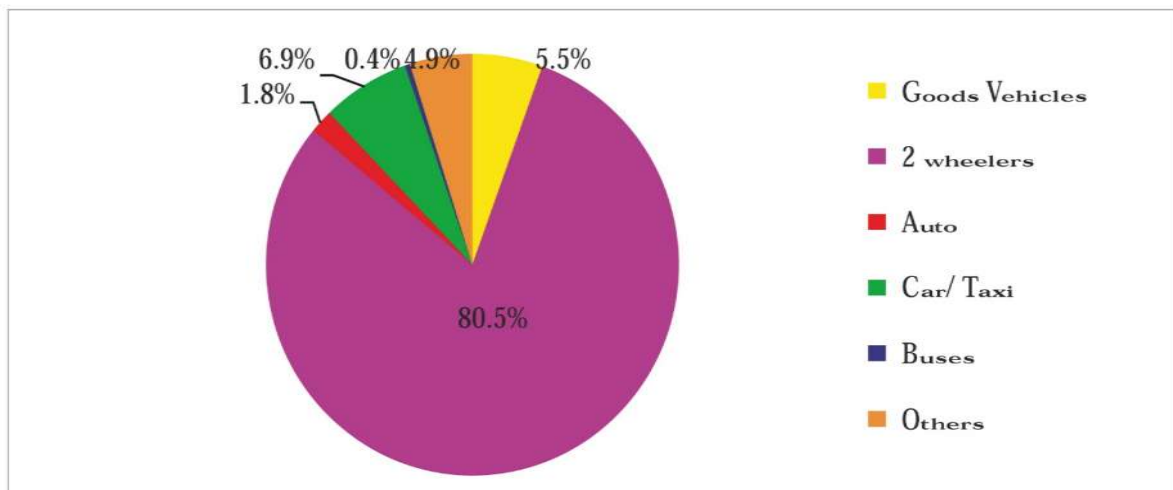


Figure 2.

Since the inception of PMGSY in 2000-01, rural road connectivity has remained a benchmark policy objective under PMGSY. Out of 9184 roads of 36071 Kms in length sanctioned, 6156 roads that were 23081 Km in length have been completed as on 31<sup>st</sup> March 2012. The target under Bharat Nirman Yojana (BNY) was to connect 5680 unconnected habitations by constructing 29289.43 Kms of road by March 2012. During 2012-13 it is targeted to connect 391 unconnected habitations by constructing 3000 km of roads. Under the Rural Infrastructure Development Fund (RIDF) of NABARD, 132 roads and 175 bridges have been completed as on 31.03.2012 Besides, 15 roads and 90 bridges under RIDF are in progress. In addition, rural connectivity programs are also funded under Revised Long Term Action Plan (RLTAP), BijuKalahandiBolangirKoraput Plan, GopabandhuGrammenYojana (GGY), BijuKandhamal O GajapatiYojana, Backward Region Grant Fund (BRGF) and BijuSetuYojana. The RLTAP and BRGF are funded by GoI.

### Number and composition of vehicles in roads

Buses are a major means of road transport for common people in the State, During 2011-12, 135665 buses, both public and private were plying. This indicates 29 buses per one lakh populations. Composition of vehicles on road as on 2011-12 is shown below through Pie diagram.

### Existing railways and connectivity

Railway routes pass through twenty three districts of the State, excluding Boudh, Deogarh, Kandhamala, Kendrapada, Malkangiri, Nabarangapur and Nayagarh by the end of 2011-12, under Box. shows district wise railway coverage as per following.

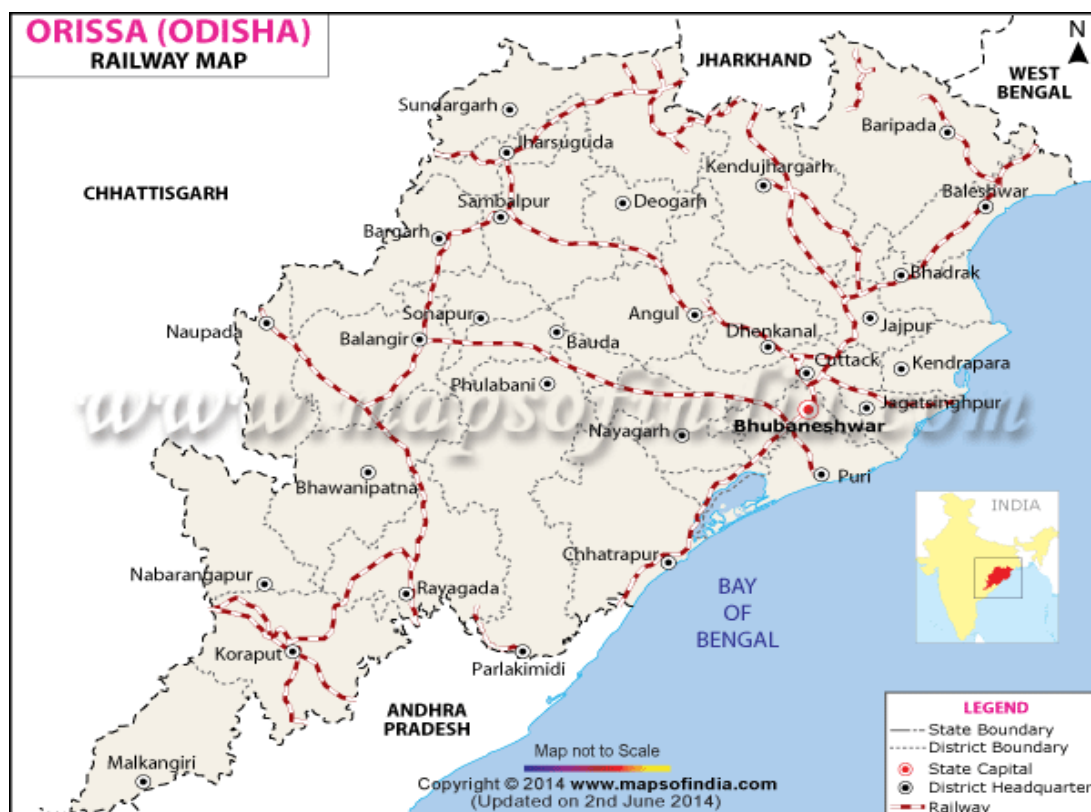
**Box 3. District wise length of Railway routes in Odisha 2011-2012**

DISTRICT	SINGLE LINE (KMS)	DOUBLE LINE (KMS)
ANGUL	90.13	
BALASORE	-	107.69
BARAGARH	54.33	-
BHADRAK	-	35.82
BALANGIR	165.46	11.11
CUTTACK	28.82	82.55
DHENKANAL	-	50.60
GAJAPATI	54	-
GANJAM	-	85.64
JAGATSINGHPUR	-	68.12
JAJPUR	66.05	65.61
JHARSUGUDA	7.14	45.24
KALAHANDI	-	38.43
KEONJHER	164.82	-
KHURDA	-	117.39
KORAPUT	281	-
MAYURBHANJ	112.01	-
NUAPADA	31.67	-
PURI	28.05	14.51
RAYAGADA	42	112
SAMBALPUR	128.72	36.68
SONEPUR	12.13	-
SUNDARGARH	153.88	108.12
TOTAL	1420.30	996.89

BY the end of 2011-12, the State had 2,417 kms of railway lines. The overall railway coverage is poor and this is one of the factors that has hampered the pace of it's industrial development. Details railway routes diagram of Odisha given below.

### New industrialization and economic planning

The industry sector has been emerging as one of the strong movers of the State's economy. It's contribution is 24.23% share to Odisha's GSDP for the year 2012-13.



**Fig. 3.**

Odisha is richly blessed with a variety of natural resources like minerals, forests, along coast line, sea and rivers. In order to transfer the State into a vibrant economy, Odisha Govt. has endeavored to improve the rich potential of the State for socio-economic development through extensive industrialization through proactive industrial policy called the Odisha Industrial Policy Resolution (IPR) 2001. It has put in place a robust policy frame work for industrial promotion and investment facilitation in the State including creation of enabling environment. The Odisha IPR 2007 aims at reinforcing and further expanding this process. These IPR have been framed with objectives to transform Odisha into a vibrant industrialized State by enhancing the share of industries in the Gross State Domestic Product (GSDP) and promoting orderly and environmentally sustainable industrial growth. The IPRs promote Odisha as a major manufacturing hub, maximize linkage between micro, small, medium & large industries, promote Handicrafts, Handlooms, Khadi, Coir etc., and promote IT, Biotechnology, Agro, Marine, Food processing, Tourism, Textiles, Automotive etc., IPRs assist in arresting industrial sickness and promote revival and rehabilitation of potentially variable sick industries, especially in the Micro, Small and Medium Enterprises (MSME) sector.

The State Govt. has not only put the IPRs in place at the same time planned to adopt strategies to translate the objectives of IPRs to action by creating an enabling environment for development of industrial and related social infrastructure of international standard and to promote entrepreneurship development for healthy industrial growth. IPRs strengthen the industrial facilitation mechanism by putting the same to action under Odisha Industries (Facilitation) Act 2004 and Odisha Industries (Facilitation) Rules 2005, which have been framed and issued with a view to ensuring single window clearance system. Again the above act and rules facilitate industrialization in the State. It has been planned that the District Industries Centers (DICs) shall be suitably restructured to effectively discharge the functions of District Level Nodal Agency (DLNA). Escort services have been provided by Industrial Promotion and Investment Corporation of Odisha Ltd. (IPICOL) and DIC level for interaction with various agencies & authorities. Keeping in view the priorities laid down in industrial policy, establishment of growth centers at Duburi, Chhatrapur, Khurda, Jharsuguda and kesinga have already been sanctioned by Govt. of India.

High priority is being accorded for establishment of specialized parks. Export promotion Industrial Park (EPIP) known as INFOCITY has been established. The functioning of IPICOL and Odisha State Finance Corporation (OSFC) will be strengthened and IPICOL will continue to be the nodal agency for promotion of large and medium industries by providing necessary escort services for facilitating implementation of mega projects, which are in pipeline. OSFC will promote establishment of Small Scale Industries (SSIs) including downstream industries. A policy for Special Economic Zones (SEZ) as required under the SEZ act 2005 and the SEZ rules 2006, in order to mark selective locations for industrialization. Odisha Industrial Infrastructure Development Corporation (IDCO) is promoting integrated Industrial Township at selected locations. IDCO is taking proactive steps to develop five industrial corridors like Chandikhol-Paradeep, Balasore-

Bhadrak-Dhamara, Rayagoda-Gopalpur, Sambalpur-Jharsuguda-Rourkela and Angul-Talcher-Duburi. IDCO is forming a Special Purpose Vehicle (SPV) for promoting Petroleum Chemicals and Petrochemicals Investment Region (PCPIR) at paradeep on Public Private Partnership (PPP) mode and Central Institute of Plastic & Engineering Technology (CIPET) in Bhubaneswar. Some of the initiatives to promote PPP projects in promoting industry and exports are establishment of an Info Park in Bhubaneswar, up gradation of industrial infrastructure at Kalinganagar Industrial Complex through IDCO and user industries, development of Haridaspur-Paradeep Rail link jointly by Rail Vikas Nigam Limited and user industries, promotion of SEZ at different location, establishment of Bio-Tech Park, establishment of IIT in Bhubaneswar, development of ShilpaJyoti in IPICOL development of ShilpaSathi in the Directorate of Industries and development of second INFOCITY for establishment of IT industries in Bhubaneswar respectively.

The State Govt. is proactively promoting construction of rail corridor between ports and industrial hubs such as Therubali-Gunupur rail corridor to provide port connectivity in southern Odisha through Gopalpur port. Apart from DhamraGopalpur and Kirtania ports which are being developed on PPP mode, the State Govt. shall promote more ports and fishing harbours at suitable locations for giving a thrust to economic activities in those regions. Special effort shall also be made to develop industrial areas in the hinterland of ports for enhancing their viability and intensifying economic activities in the port area development region. Large scale industries include firms that produce iron and steel, cement, aluminum, ferro-manganese, fertilizers, chemicals, aeronautical items, heavy water, textile, refractory, ceramic glass and paper. Steel is the backbone of industry in the State. The Rourkela Steel Plant is the largest plants. There are new potential entrants such as Vedant, Jindal, Posco, Tata and Essar. By the end of 2011-12, the State Govt. had signed MoU with 94 reputed investors covering 50 for steel, 3 for aluminium, 30 for power, 4 for cement, one each for auto component, Oil refinery, titanium dioxide and 4 ancillary & downstream industries.

Of these 50 MoUs for steel, 30 projects have started partial production, Odisha occupies the first place in India with respect to aluminum production. Both Vedanta Aluminum Ltd. (VAL) and National Aluminum Corporation (NALCO) produce more than 50% of the total aluminum production in India. It is encouraging to note that the number of MSME units and total investment therein, have been increasing over the years. The MSME units are repairing, food, metal, textile, glass & ceramic, paper, wood, chemical, rubber, electronics and leather. Odisha is deemed as the Land of handicrafts and cottage industries which are integral part of our heritage. Govt. puts high priority for promotion of handicraft enterprises like salt, coir, handloom and sericulture. Handloom is one of the most important cottage industry in Odisha. The Handloom products of Odisha has got wide recognition all over the country and abroad for their highly artistic design, colour combination, super craftsmanship, excellence and long durability. Odisha Khadi and Village Industries Board (OK&VIB) promotes khadi and village industries within the State. Odisha is richly blessed with verities of minerals like chromites, bauxite, graphite iron ore, manganese ore,



limestone, clay, quartz, nickel, copper, lead, coal and precious stones. Blessed with rich minerals, Odisha has huge potentials for rapid industrialization. In recent years the mining and quarrying sector has been contributing about 7.5% to Odisha GSDP. Odisha ranks the highest in value of output of minerals in India (Mishra, 2009). Industrial Development Corporation of Odisha Limited (IDCOL) is to promote large and medium scale industries in the State. The corporation, Since its inception has set up 15 industrial units like cement, ferrochrome, pig iron, spun pipe etc. With a view to strengthen the rural economy by promotion of agro-based and food processing industries, Agricultural Promotion and Investment Corporation of Odisha Ltd. (APICOL) came in to existence in March 1996.

Odisha Film Development Corporation (OFDC) is a promotional agency functioning for the growth and development of Oriya Film Industry Odisha Small Industries Corporation (OSIC) was established to assist small scale industrial units in the State. Four leading companies of Govt. of India namely, Gas Authority Of India Ltd. (GAIL), Coal India Ltd. (CIL), Rashtriya Chemical and Fertilizer (RCF) and Fertilizer Corporation of India (FCI) have tempted through agreement in Dec. 2014 for revival of Talcher fertilizer Industry for economic development of Odisha. India's topmost IT consulting firms including Satyam, Computer services, TCS, Mind Tree Consulting, Hex aware Technologies, Price water house Coopers and Infosys have large branches in Odisha. IBM, Syntel, Bosch and Wipro are setting up development centre in Odisha.

In a survey, World Bank has ranked Bhubaneswar among the top three cities of India for ease of doing business. Info valley spread over 600 acres near Janla Industrial EState will be the biggest IT SEZ in eastern India. K. Raheja Group have signed a Memorandum of Understanding (MoU) with the Government for developing its Mind space brand IT SEZ over 30 acres of land in the city. The Information Technology Investment Region (ITIR) in Bhubaneswar supported by the Government of India (GoI) would integrate all the IT parks and other ecosystem to foster investment accelerated growth. National Informatics Centre (NIC) is a premier organization under the Department of IT of GoI. NIC, Odisha State center has been promoting IT culture for effective governance at the State. The Information and Communication Technology (ICT) Policy 2004 has been instrumental in bringing bigger IT units to the State and help IT to reach the common man.

Odisha Computer Application Centre (OCAC), acts as the nodal department for the NIC and designated to function as a Technical Directorate. The State Govt. is implementing large number e-Governance projects across various domains and Govt. Departments. These include the three vital pillars of the National e-Governance Action plan namely, Odisha State Wide Area Network, Common Services Centre and the State Data Centre. A number of State Mission Mode Projects pertaining to Agriculture, Commercial Taxes, District Administration, Land records, Panchayats, Police, Property registration, Road Transport, Court, Jails, Municipalities, Employment Exchange and Govt. Colleges are in progress.

### **Need for transportation and logistic system planning for fast moving benefits to share holders in the state**

Logistics is an important part of distribution channel management in Odisha. Supply chain partners must cover an increasingly complex array of communication and co-ordination issues to maintain effective relationships with contracting, manufacturing, delivery, storage and customer services. The supply chain has frequently been identified as a mission-critical business process and many companies have begun to re-engineer their supply chains to gain a competitive advantage. Each organization in the supply chain is seen as an entity with a strategic intent including vision, mission, strategies, business product and planning etc. Each organization is trying to optimize its own objective while managing the complexities of its processes and working within the capacity constraints. Supply chain management is characterized by control based on networking and integration of processes across functional, geographical and organizational interfaces. Transport sector is in the concurrent list of the constitution. The basic need of transport planning is to design the entire transport structure into sophisticated economic zone by restructuring the infrastructural facilities into productive force. The under cited reflection are the urgent needs of transport planning.

1. To increase competition, efficiency, transparency, accessibility and adequate availability of transport services in Odisha.
2. To improve infrastructural facilities including amenities to passengers.
3. To expand road network in Odisha in sequential phase wise style.
4. To facilitate more private investment with better soft loan facilities for growth in passenger & freight transport.
5. To establish national fare structure for passenger and goods transport.
6. To ensure comfortable need based safe environment in road transport system in Odisha.
7. To improve efficiency at Boarder Check gate management for smooth flow of vehicles and additional generation of revenue.
8. To introduce E-governance in transport for better transparency, efficiency & restriction leakage of revenue.
9. To restructure OSRTC.
10. To create a user friendly database for the transport sector in the State.
11. To evolve improved Urban Transport Systems.
12. To facilitate expansion of the railway network in Odisha.
13. To develop inland water transport system in Odisha.
14. To develop and modernize airways in Odisha.
15. To develop means of accessibility of rural people to market.
16. To accelerate infrastructural development projects in roads and transport for further furtherance of industrial growth.
17. The raise revenue and economic growth of State by continuance strategic transport planning.
18. For providing infrastructural support of international standard in the changing industrial environment in Odisha.

19. The main need of transport planning is to transform Odisha into successful economic region by converting potential energy into kinetic energy through massive industrialization, technological up gradation, export and import promotion.
20. Emphasis on development of backward areas of Odisha through industrial and mining ventures.
21. Advancement of agriculture by establishing appropriate linkage between agriculture, agro and food processing industries.
22. Stimulating and strengthening local entrepreneurial talent and base.
23. Generation of employment in large scale industrial activities.

Restructuring, reforming, redesigning and redressing the original framework of transport planning in scientific manner will provide maximum benefits to shareholders in the State.

### Conclusion

Of the two predominantly used sub-systems namely, the railways and road based transportation, the former is more capital intensive and less flexible. As a result of this, it cannot offer the level of accessibility that is desired at State level. Railways can become effective only if efficiently supported by road based system. Under various schemes thousands of kilometers of roads of different categories have been constructed in Odisha during the past few decades. But a major portion of this remained non-descript because of a lack of suitable functional character. Transportation by road holds the key role by sorting out intra and inter regional imbalances and proper planning of road transport can only effectively augment and maintain the desired levels of accessibility and mobility at a State level.

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