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A Review on Construction Management of Roadway Network in Konkan Region

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Abstract: *Various roadway design and management factors can affect mobility and accessibility. Roadway design decisions often involve tradeoffs between different forms of access. For example, roadway planners must often choose between allocating road space to general traffic lanes, bus lanes, bike lanes, parking lanes, sidewalks, utilities (such as telephone poles), street furniture, and other activities (such as landscaping and sidewalk cafes). Wider and straighter roads with minimum intersections and driveways tend to favor automobile travel, but may be difficult and unpleasant for walking and cycling, and therefore for public transit access. Conversely, design and management strategies, such as expanding pedestrian and cycling facilities, traffic calming, and traffic speed reductions, tend to benefit walking and cycling access, but reduce motor vehicle traffic speeds and capacity, reducing mobility. Transportation is an engine for economic development. It may be broadly defined as a system of linkages that facilitate and enable the flow of goods and services. Road Transport is a very important segment of physical infrastructure. Transport network in transport geography play an essential role in reducing the disparities and bringing about a balance and integrated development. A high-quality road network provides connectivity and convenience to remote areas. Konkan region is a land deeply lined by fast flowing streams from the Sahyadris and crises-crossed with highly tattered trace ranges. Therefore Road transport being the back bone of the transport system faces heavy pressure of transport created in this region. It is only the source which provides the services throughout the year in this region. In the present study focuses on Sindhudurg district and Ratnagiri district in Southern Konkan region of Maharashtra This paper attempt to study the pattern of road structure in Sindhudurg and Ratnagiri districts in Southern konkan region of Maharashtra It also focuses on development trend of roads transportation in the Southern Konkan region with selected parameters such as road length, passenger and goods traffic, density of motor vehicles per Kms. and comparison of road connectivity with neighboring districts of Ratnagiri and Sindhudurg districts. The study is stretched over a period of ten years i.e. from 1990-1991 to 2010-2011.*

Keywords: Transportation, Road Pattern, Road Transport Service

I. INTRODUCTION

Such planning practices can result in decisions that increase mobility but reduce overall accessibility (for example, by reducing travel options and stimulating sprawl), and tend to undervalue other accessibility improvement options (such as more accessible land use development, and mobility substitutes such as telework). More comprehensive analysis can help decision-makers identify more optimal solutions.

There is no single way to evaluate accessibility. Different planning issues require different methods to account for different users, modes, scales and perspectives. For example, neighborhood planning requires more walkability analysis, while regional planning requires more analysis of automobile, bus and rail travel. Evaluating access for lower-income populations differs from that of wealthier and business travelers.

This paper provides guidance for applying various types of accessibility analysis in transport planning. It defines the concept of accessibility, describes factors that affect people's ability to reach destinations and perspectives to consider, discusses evaluation methods, and describes options for improving access. This document should be useful to transport planners, modelers and decision-makers.

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Defining Accessibility

Accessibility (or just access) refers to the ease of reaching goods, services, activities and destinations, which together are called opportunities. It can be defined as the potential for interaction and exchange (Hansen 1959; Engwicht 1993). For example, grocery stores provide access to food. Libraries and the Internet provide access to information. Paths, roads and airports provide access to destinations and therefore activities (also called opportunities). Accessibility can be defined in terms of potential (opportunities that could be reached) or in terms of activity (opportunities that are reached). Even people who don't currently use a particular form of access may value having it available for possible future use, called option value. For example, motorists may value having public transit services available in case they are unable to drive in the future.

Access is the goal of most transport activity, except the small portion of travel for which mobility is an end in itself (e.g., jogging, cruising, leisure train rides). Even recreational travel usually has a destination, such as a resort or campsite. Various disciplines analyze accessibility, but their perspective is often limited:

- Transport planners generally focus on mobility, particularly vehicle travel.
- Land use planners generally focus on geographic accessibility (distances between activities).
- Communications experts focus on telecommunication quality (such as the portion of households with access to telephone, cable and Internet services).
- Social service planners focus on accessibility options for specific groups to specific services (such as disabled people's ability to reach medical clinics and recreation centers).

How transportation is evaluated affects planning decisions. For example, if transportation is evaluated based on vehicle travel conditions (traffic speeds, congestion delay, roadway Level-of-Service ratings), the only way to improve transport system quality is to improve roadways. If transportation is evaluated based on mobility (movement of people and Evaluating Accessibility for Transportation Planning Victoria Transport Policy Institute 4 goods), then rideshare and public transit service improvements can also be considered. If transportation is evaluated based on accessibility (people's overall ability to reach desired goods, services and activities), additional transportation improvement options

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can be considered (besides roadway, rideshare and public transit), including improved walking and cycling conditions, more accessible land use patterns to reduce travel distances, and telecommunications and delivery services that substitute for physical travel.

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Travel demand is often treated as a fixed value. For example a planner might say, "Vehicle traffic demand will increase 20% in ten years." But factors such as price and service quality affect demand, so planners should indicate how policies affect it, for example, by saying "Vehicle traffic is projected to increase by 20% over the next decade if current policies continue, 10% with moderate mobility management, and 0% with aggressive mobility management." This lets communities to determine their mobility.

Most people consider a certain amount of mobility desirable (Mokhtarian and Salomon 2001; Colonna 2009), including walking, cycling, driving and public transit (Handy, 1993). People enjoy certain travel activities, such as drives in the countryside, holiday trips. Even utilitarian trips, such as errands and commuting, may be longer than necessary due to travel enjoyment. However, travel time research indicates that most people would prefer to devote less time to travel ("Travel Time Costs," Litman 2006a).

Implications:

1] Demographic and geographic factors affect demand for mobility and access. Attending school, being employed, or having dependents increases demand.

2] Price, quality and other factors affect demand for each mode and therefore mode split.

3] As accessibility improves people tend to access more opportunities. People enjoy a certain amount of travel.

Transportation Options

Transportation options (also called mobility options, transport diversity and transport choice) refer to the quantity and quality of transport modes and services available in a particular situation. In general, improving transport options improves accessibility. Different modes serve different users and purposes, as summarized in Table 2.

Table 2 **Suitability of Transport Modes**

Mode	Non-Drivers	Poor	Handi-capped	Limitations	Most Appropriate Uses
Walking	Yes	Yes	Varies	Requires physical ability. Limited distance and carrying capacity. Difficult or unsafe in some areas.	Short trips by physically able people.
Wheelchair	Yes	Yes	Yes	Requires sidewalk or path. Limited distance and carrying capacity.	Short urban trips by people with physical disabilities.
Bicycle	Yes	Yes	Varies	Requires bicycle and physical ability. Limited distance and carrying capacity.	Short to medium length trips by physically able people on suitable routes.
Taxi	Yes	Limited	Yes	Relatively high cost per mile.	Infrequent trips, short and medium distance trips.
Fixed Route Transit	Yes	Yes	Yes	Destinations and times limited.	Short to medium distance trips along busy corridors.
Paratransit	Yes	Yes	Yes	High cost and limited service.	Travel for disabled people.
Auto driver	No	Limited	Varies	Requires driving ability and automobile. High fixed costs.	Travel by people who can drive and afford an automobile.
Ridesharing (auto passenger)	Yes	Yes	Yes	Requires cooperative motorist.	Trips in which motorists can carry additional passengers.
Carsharing (Vehicle Rentals)	No	Limited	Varies	Requires convenient and affordable vehicle rentals services.	Occasional use by drivers who don't own an automobile.
Motorcycle	No	Limited	No	Requires riding ability and motorcycle. High fixed costs.	Travel by people who can ride and afford a motorcycle.
Telecommute	Yes	Varies	Varies	Requires equipment and skill.	Suitable for some types of trips.

Each mode is suitable for certain purposes.

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Conventional evaluation tends to evaluate accessibility based primarily on travel speeds (such as average traffic speeds and congestion delay), but convenience and comfort factors are also important (Litman 2007a). Level-of-service (LOS) ratings, which grade service quality from A (best) to F (worst), can be used to evaluate travel conditions, for example, to identify problems and possible improvements. Table 3 summarizes level-of service rating factors for various modes.

Table 3 **Multi-Modal Level of Service**

Mode	Level of Service Factors
Universal design (disability access)	Degree to which transport facilities and services accommodate people with disabilities and other special needs.
Walking	Sidewalk/path quality, street crossing conditions, land use conditions, security, prestige.
Cycling	Path quality, street riding conditions, parking conditions, security.
Ridesharing	Ridematching services, chances of finding rideshare matches, HOV priority.
Public transit	Service coverage, frequency, speed (particularly compared with driving), vehicle and waiting area comfort, user information, price, security, prestige.
Automobile	Speed, congestion delay, roadway conditions, parking convenience, safety.
Telework	Employer acceptance/support of telecommuting, Internet access.
Delivery services	Coverage, speed, convenience, affordability.

This table indicates specific factors for evaluating the service quality of various transport modes.

Special models are sometimes used to quantify accessibility by a particular mode. For example, Minocha, et al. (2008) evaluate transit employment accessibility using an index of transit service quality (frequency and station quality) and transit travel times to employment areas.

Integration, Terminals and Parking

Accessibility is affected by the quality of system integration, such as the ease of transferring between modes, the quality of stations and terminals, and parking convenience.

Automobile transportation is generally well integrated. Most destinations have abundant and generally free or low-priced parking, and most transfer stations (airports, train and bus stations, ferry terminals and ports) are located and designed for convenient highway access, vehicle parking and often vehicle rental services. Motorists generally have good information through signs and maps.

The integration of other modes varies significantly, and inadequate integration is sometimes a major barrier to non-automobile accessibility. For example, airports and ferry terminals are sometimes difficult to access by public transit, and bus stops and train stations are sometimes uncomfortable and difficult to access, particularly by people with disabilities, children, and people carrying heavy loads. Some destinations lack suitable bicycle parking and changing facilities. It is often difficult to obtain accurate information on alternative modes.

Implications:

- The connections between links and modes affect accessibility.
- The location and quality of transportation terminals affects the accessibility of the modes they serve. The quality of bus stops, train stations, ferry terminals and other transfer facilities affects the relative accessibility of these modes.
- The availability, price and convenience of parking affect automobile accessibility.
- Bicycle transportation is facilitated by appropriate bicycle parking and storage facilities (including some covered and secure parking), and changing facilities at worksites.

Affordability

Transportation Affordability means that user financial costs of transport are not excessive, particularly for basic access (travel with high social value). Individual and community factors influence transportation affordability. Motorists are primarily affected by the affordability of driving, while non-drivers are more affected by the affordability of other modes such as public transit and taxi services.

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Transportation affordability can be evaluated in several ways, including the quality and costs of using various modes (particularly modes used by people with lower incomes, such as walking, cycling, public transit, used cars, and taxi services), the affordability of living in more accessible locations, and the portion of total household budgets devoted to transport (Fan and Huang 2011). Requiring lower-income households to spend more than about 20% of their budget on transport can be considered unaffordable. Lower-income workers in automobile-dependent communities tend to bear particularly high transportation costs ("Affordability," VTPI 2006). Because lower-income households tend to own older, less reliable vehicles, and have high insurance costs, they often face problems associated with unexpected breakdowns and associated expenses, high crash risk, and uninsured driving.

Some recent studies use an affordability index of combined household housing and transportation costs (including vehicle ownership and operation, and transit fares) to evaluate the cost burden of different housing locations. Lipman (2006) found that the portion of household budgets devoted to housing and transportation averages 48% overall, but for working families with incomes under $50,000, the combined burden averages 57%, with lower rates in more central locations and higher rates in more dispersed locations.

Planning generally recognizes certain transportation affordability factors, such as vehicle operating costs (fuel prices, road tolls and parking fees) and transit fares, but tends to overlook other factors, particularly the importance of no motorized modes, modal integration (such as delivery services that help people shop by walking, cycling and public transit) and location factors. In particular, current planning practices sometimes restrict development of affordable housing, forcing lower-income people to live in automobile-dependent locations where they bear excessive transportation costs.

Implications:

- Affordability affects accessibility.
- Affordability is especially a problem for lower-income workers.
- Affordability can be improved by reducing user costs (vehicle purchase costs, fuel prices, transit fares, etc.), by improving more affordable modes (such as walking, cycling and public transit), and by increasing land use accessibility.
- Location affects transport affordability. Lower-income residents in automobile-dependent locations tend to spend an excessive portion of their income on transport.

II. RESULT AND DISCUSSION

1. Water way of Mumbai to Ratnagiri plan by new assessable way in sea.
2. Railway are also limited and running by the particular timing that overcomes Increasing Konkan railway root for more assessable travels and truisms.

The Earth's population is growing, and cities large and small are now a natural habitat for most humans. In the digital age, cities are increasingly embracing smart technologies and innovations. Obviously, the future of smart Konkan looks optimistic as local governments begin to rely on smart Konkan initiatives to deal with social issues like healthcare, road infrastructure, public transportation, security, migration and education. For businesses, smart city technology offers a plethora of opportunities to create brand new products and services. The versatile data obtained by smart systems enables entrepreneurs to come up with new ideas and business models. Smart Konkan like Singapore, Stockholm, Amsterdam, Barcelona, New York and Dubai, to name a few, are inspiring other urban communities to follow suit. In this article, we will break down the smart city concept and look at key opportunities and challenges surrounding smart Konkan

III. CONCLUSION

Accessibility refers to peoples' ability to reach desired goods, services, activities and destinations. The quality of accessibility has tremendous direct and indirect impacts. Improving accessibility and reducing accessibility costs can help achieve many economic, social and environmental objectives. Since accessibility is the ultimate goal of most transportation activity (excepting the small amount of travel that has no desired destination), transport planning should be based on accessibility.

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This is actually good news because it indicates that there are many more ways to improve accessibility than recognized in conventional planning. For example, many transport problems are best solved by improving the convenience and comfort of alternative modes, providing better user information, improving connections among modes, and increasing land use accessibility. However, transport planning practices will need to change for such solutions to be implemented as much as optimal.

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