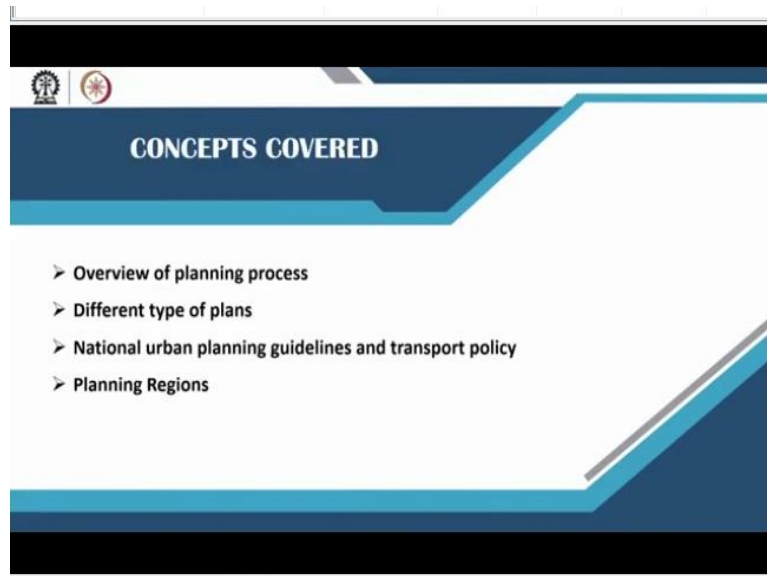


Urban Landuse and Transportation Planning
Prof. Debapratim Pandit
Department of Architecture and Regional Planning
Indian Institute of Technology-Kharagpur

Lecture-02
Plans and Planning Process

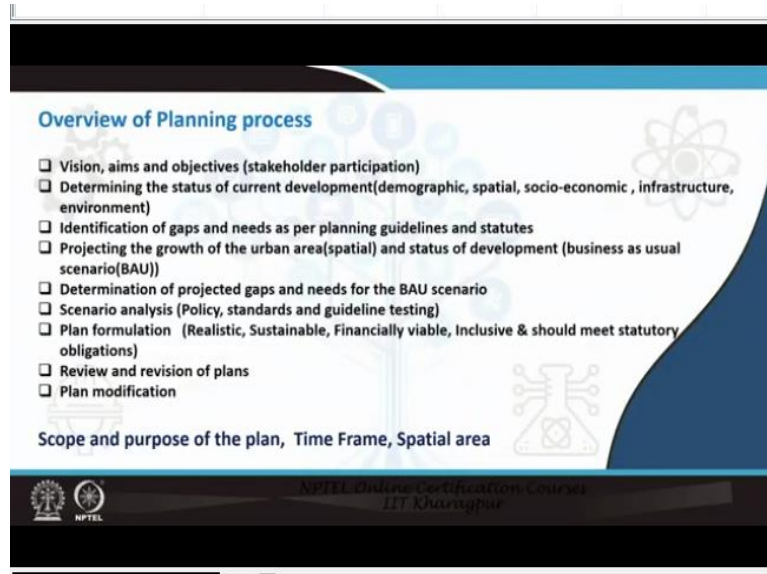
Welcome back in this lecture we will cover different kinds of plans and the urban planning process in general.

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The different concepts that will be covered are an overview of the urban planning process; different kinds of plans that will be prepared; the national urban planning guidelines and transport policy; and planning regions.

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The planning process:

There are different steps in the planning process, first, we start with a vision that means every urban area has different characteristics, and based on these characteristics, the kind of people that live there, the aspirations of the people, and based on the current context of that particular urban area or even the political context, there is a **vision** for that urban area. So, it is the first thing that needs to be formed and then it has to be converted into aims, subsequently specific objectives need to be framed that are to be taken up. Various stakeholders also need to participate in this process of forming aims and objectives. This marks the starting point using which we derive an overall idea about the kind of plan this area requires.

In the next step, the current status of development is determined. It is needed to answer various questions while assessing the current status of development. For example: what is the demographic condition of that particular urban area? What is the spatial condition of that particular urban area? What kind of area, what kind of municipalities exist in the surrounding area? Does the size of the urban area needs to be increased? and so on. Apart from these, the socio-economic development of the urban area, the infrastructure in that particular urban area, and the environment in that urban area also needs to be taken into consideration.

After assessment of the current state of development, it is needed to analyze what are the gaps and inadequacies as per the current urban planning guidelines in terms of infrastructure and socio-economic parameters for that particular urban area. Once the identification of all the gaps is done, it is required to figure out how to bridge these gaps by providing certain policies or certain steps that could be taken in the urban area. But any intervention prescribed by

policymakers, or urban planners, takes a certain amount of time to be executed. So, it is also required to determine what kind of growth is going to happen and what will be the status of the gaps due to that growth in the near term or in the long term in that particular area.

After these steps, it is needed to finally determine what kind of urban planning intervention to be done. So, the next step in the process of planning is to project the spatial growth of the urban area and gaps resulting from that growth in a business-as-usual scenario i.e. without any major changes to identify the gaps in urban infrastructure, urban land-use, etc. that might arise in that area during the time of execution of any prescribed intervention. These gaps are should be bridged using certain policies or plans. In addition to it, the impact of these policies and its standards, on the urban area and its surroundings, using a scenario-based analysis are to be analyzed. In scenario analysis, one scenario could be the business-as-usual scenario and the other, an alternative scenario where we change certain parts of the direction in which the urban area is meant to grow. For example, a proposal of a heavy rail transit system or a metro rail transit system. If a metro corridor comes up in that urban area, there is going to be a change. That change might bridge an existing gap or it may not do so. To evaluate the effectiveness of this intervention, an assessment of the impacts of the proposal is required. Similarly, to prevent urban sprawl, the density of an urban area can be increased by proposing an increase in the floor area ratio in certain parts of the city. Therefore, the possible impacts of this intervention on every aspect of the urban metabolism need to be analyzed. The scenario analysis enables us to understand how effective the future plan would be or what could be done to improve our urban area.

The next step is plan formulation which needs to be realistic, sustainable, financially viable, inclusive, and should also meet all the statutory obligations. Inclusivity means taking into account the entire population, across various socio-economic and challenged groups. Financial viability is necessary as funds are one of the most crucial aspects for any project to be implemented.

Once plans are formulated, the next step is to review those plans. Review is done by both experts as well as the stakeholders for whom the plan is being prepared. Once a plan has been prepared for an urban area, it needs to be put in front of all the stakeholders, to have their feedback. Once the feedbacks have been accounted for, the plans are revised in a step called

plan modification process and ultimately the final plan is obtained. This is an overview of the urban planning process and this is more or less undertaken for all different kinds of plans.

There are 3 considerations needed when preparing a plan, one is the scope and purpose of the plan, the second is the time frame of the plan and the third is the spatial area for which we are doing the plan. For example, the scope and purpose of the plan are guided primarily by the vision that is formed at the beginning which implies that the plan, based on the focus or the vision, would cover certain things but may not be covering certain other things. So, scope and purpose are important characteristics of a plan. The time frame of a plan, be it a five-year plan, a 20-year plan, or even a longer period plan, influences the projections and variations in the projection. The spatial area also influences the kind of proposals that are recommended in the plan. Proposing interventions for a small neighbourhood might have a certain level of detail, and certain infrastructure developments that might not be there in the proposal for a large city as a whole. For example, a proposal for a neighbourhood will not have the information of new highway linkages, and proposals for a district will not have design details of stormwater drains for each ward in that district. So, depending on the spatial area the planning recommendations also vary.

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The slide is titled "Different types of Plans" and features a blue and white color scheme with decorative icons of gears and a network diagram. It lists three types of plans:

- Perspective Plan**: Vision and policy for a 20 year period in form of a concept plan.
- Regional Plan**: Coordinates and consolidates individual plans for urban rural and semi-urban areas considering migration, resources, knowledge, investment opportunities for a 20 year period.

Below the Regional Plan, there is a definition: "Region is a large area with multiple urban and rural settlements and other areas which are either linked through administrative boundary, economic dependencies, geographical features or through adjacency." This is followed by the text: "Intra and Inter regional transportation and other linkages and dependencies." A small video inset of a man is visible in the bottom right corner of the slide content.

At the bottom of the slide, there are logos for NPTEL and IIT Kharsipur, along with the text "NPTEL Online Certification Courses IIT Kharsipur".

Types of plans:

Perspective plan:

This plan is mostly a policy document for a long period. Usually, 20 years is taken up and it is mostly a concept plan. It gives the planners or the people or the stakeholders an idea of how

the city should grow or what should be the broad strokes that should be undertaken to set up a direction of growth for the city.

Regional plan:

Region is a large area with multiple urban and rural settlements, and other areas which are either linked through an administrative boundary, economic dependencies, geographical features, or physical adjacency. A regional plan is a bit more concrete plan as compared to the perspective plan, looking into all of its urban and rural settlements together. It is also a broader plan which deals with coordinating the plans of local bodies. The coordination among these bodies and is also taken up for a 20-year period. While preparing this kind of a plan, a fair understanding of what are the overall goals for developing this particular region should be considered. For example, we may want to prevent migration from one part of the region to another since a huge amount of people moving into the city without any kind of shelter will create infrastructural problems or other disturbances in the city. Managing such kind of phenomenon is a part of regional planning. Regional planning also requires us to understand how to develop various resources or make use of the available resources in the regional area. Decisions on investments in the region also needs to be looked into so that the area does not only survive but grow during the entire planning period.

Similarly, when considering land-use and transportation, intra-regional and interregional linkages could be also taken up in a regional plan. In such cases, it is needed to find out if the linkages are adequate in terms of creating enough opportunities for people to travel from one zone to another or making sure that trade is taking place efficiently. So, transportation is also a big part of regional plans.

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Aspects of Regional Planning:

Sustainability: The first objective that every planner should look at, is to maintain sustainability; in terms of resource management, sprawl prevention, cultural resources. In a regional plan one should not only look at the physical resources that are in hand, but the overall development of the region.

Environmental challenges: Regional plan also looks into the environmental aspects of the region. For example, if the green cover is reducing in a particular region that needs to be taken care of in a regional plan; preventing watershed and groundwater resources from getting polluted or depleted due to various agents. This could be only taken up in a regional plan because it may not be a local problem, and this may have spread across the entire region.

Disaster management: The impact of any disaster is not confined to a certain administrative boundary but the region as a whole. So, this aspect is also a part of the regional plan.

Inclusive development: Balanced development between the different sub-regions and inclusive development needs to be ensured so that there are no sub-regional disparities and a homogeneous region can be envisaged.

Land use classifications for Regional Planning

In a regional plan, it is needed to classify the land into different categories. Since certain areas are reserved as urbanizable zone and further categorization of the zone into different land use components is not undertaken. Then comes the transport and communication zone. Then the

primary activity zone which is mostly linked with agriculture and other kinds of activities. Industrial zones are the areas that could be reserved for industries. In the open area zone, the areas are meant to be kept open. Then there are protective and eco-sensitive zones that should be protected. Special area zones are deemed special because of the presence of certain tribes living in that area or because of the presence of forest in that area and so on.

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Development Plan/ Master Plan

- Development plan is a statutory plan (based on perspective plan)
- Strategies and physical proposals for integrating land use and transportation considering economic and social needs, user perception and aspiration of the people and available resources.
- Broad directions related to infrastructure development.
- Planning period ranges from 20-30 years and undertaken in phases.

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Development Plan/ Master plan:

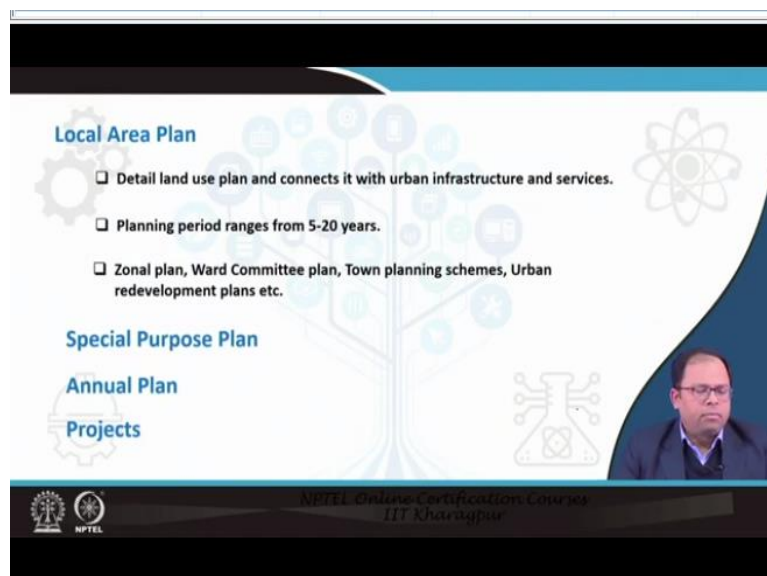
In the next level, plans are prepared for urban local bodies. This could be either a perspective plan, which means it is a vision document, or a development plan, alternatively also called a master plan. It is a statutory plan, which means the outcome of this planning procedure is a document that has various rules and guidelines which every stakeholder needs to adhere to. If the urban area already has got a perspective plan, the development plan will be guided by the same but, it not only looks into broader proposals for that particular area but proposes detailed strategies and physical proposals for that particular urban area. For example, the entire area may be divided into certain zones; certain areas may be reserved for certain land uses; or the urban area may be divided into different kinds of land uses like areas for the development of residences, commercial establishments, etc. following a sustainable strategy. Landuse and transportation are also integrated into the planning process in this plan. Landuse and transportation are very much linked and when they are done together, it results in a more sustainable plan. If one is aware of the transportation challenges when we design land use, we will design land use in such a way it does not create those transportation challenges or if transportation interventions are done in certain areas it will improve the potential of that particular land use. Thus, integrated land use and transportation plan, considering economic

and social needs, user perception, and aspirations of the people with the available resources at hand, is the goal while preparing a development plan for a particular urban area.

Development plans on the other hand do not specify exactly what sort of infrastructure needs to be in place. It may determine the lack of, or, inadequacy of infrastructure, but will not include the detailed plan for that particular infrastructure. That is taken up in other plans. In the case of development plans, the planning period ranges for a period of 20 years. In some cases development plans have been also done for a longer period (thirty-year period) but, is undertaken in multiple phases. The phases could be either of 5 years which is the standard as it marks the term of a government and with each government the priorities of development change. Shorter period phases also have been found.

So, the development plan is the document which is prepared for different urban bodies and which acts as a guide for the future development of the urban area in terms of land use, transportation, socio-economic development, infrastructure development, protection of the environment and sensitive areas, and the economic development of that particular urban area.

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Local Area Plan:

A development plan explores the gap in infrastructure and provides details of how the land use and transport should be developed for an urban area among other things. But once land use and transportation is in place, the next step is to determine the kind of infrastructure that needs to be built. The task of actually taking up a particular area and determining how the plots should be divided, or, how a detailed land-use plan for that particular zone should be, the kind of infrastructure and services to be provided along with the detailed design of those infrastructure services are all part of the local area plan. Since the local area plans are more specific, the

planning period for a local area plan is generally smaller and ranges from 5 to 20 years. It can also be taken up in phases as well. Zonal plan, Ward committee plan, Town planning schemes are different kinds of local area plans. Local area plan also constitutes plans for area redevelopment. For example, the selection of brownfield areas and developing these areas at high density. In addition to local area plans, there are also certain other kinds of plans which are undertaken in urban areas. For example special-purpose plans, annual plans, and projects.

Special Purpose Plans:

Special purpose plans are designed for a certain purpose in mind, for example, the development of an industrial area. An industrial area plan is developed only keeping in mind the provision of industrial infrastructure so that industries can move into that area.

Annual Plans:

Annual plans are variations of the local area plans where planning is done for a very short period of time. The projects in an annual plan include individual infrastructure preparations, for example, deciding on a sanitation network or a sewerage network for a particular area.

So, these are the different levels of plans that are undertaken in an urban area. Development plan, perspective plan, and a local area development plan can be developed altogether at the same time for an urban area. But all these plans are disjointed, which means different state agencies will develop these plans. Similarly, every urban local body will develop a plan in its own way, with a specific vision, purposes, aims and objectives, and so on. But there has to be some control, otherwise, some plans may ignore certain things which might be a necessity in today's context. Therefore certain national-level policy and national-level guidelines are required to govern various kinds of plans.

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National Urban Transport Policy (NUTP), 2006, 2014

A national level framework to guide urban transportation planning at state level.

- Evaluation of plans for financial assistance.
- Parity of plans and their objectives.

Integrated Land Use and Transport Planning

- Prevents sprawl and guides peri-urban development
- Helps decide on transportation and other urban infrastructure investment decisions
- Helps in travel demand management (reduces trip length, travel time, efficiency)
- Guides the city form and land use pattern (Transit oriented development)
- Multi modal transportation system (motorized, non-motorized, private and public transport)

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National Urban Transport Policy (NUTP), 2006, 2014.

When talking about national-level policies, the National Urban Transport Policy is the most important and useful document in the context of transportation planning. But, it is also important to understand that transportation planning cannot be done alone. Transportation and land use planning is done together and the national urban transport policy also considers this relationship. National Urban Transport Policy is a national level framework that guides urban transportation planning at the state level. This particular framework helps not only with parity of the plans and the objectives for different urban areas but also in the evaluation of certain projects or certain plans or deciding on what kind of financial assistance should be released for a particular urban local body. The central government or state government evaluates different projects or plans for an urban local body by considering adherence to national policies.

National Urban Transport Policy has been developed in 2006 and then revised in 2014. This policy categorically states that there is a need to integrate land use and transport planning they cannot be done separately. One of the primary benefits of this kind of integrated planning is that a more guided peri-urban development can be envisaged which results in the prevention of urban sprawl. Another benefit is that an efficient travel demand management of an urban area can be achieved.

Travel demand management covers a lot of transportation aspects for an urban area like; trip length, travel time, efficiency of movement etc. It also refers to different policies and guidelines which help in reducing trip length, reducing travel time, or making the entire travel pattern of the city efficient. Therefore, travel demand management is a very big component of the

National Urban Transport Policy and it could be only achieved if integrated land use transportation planning is considered.

Integrated land use and transportation planning helps to efficiently manage travel demand and hence it is called a travel demand management plan. Similarly, the urban form and land-use pattern can be efficiently controlled using integrated land use transportation planning. One of the examples is Transit Oriented Development which is a component of the National Urban Transport Policy and guides city form and land use pattern and is a part of integrated land use transportation planning. If very high-density development is developed along transit corridors, it becomes easier for people who are living around a particular station to avail a transit facility or to move from one location to another. Non-motorized transportation such as walking, bicycling is also highlighted in the National Urban Transport Policy. An integrated land use transportation planning can help in increasing the number of people using non-motorized modes by reducing trip lengths or trip times. Also, there are various modes in an urban area for which we require a multimodal transportation system and interchanges. This together results in a very efficient transport network along with a very efficient land-use pattern for a particular urban area.

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National urban planning guidelines:

'Urban Development Plans Formulation and Implementation' (UDPI), 1996 by Institute of Town Planners, India

'Urban and Regional Development Plans Formulation and Implementation Guidelines (URDPFI)', 2014 By Ministry of Housing and Urban Affairs

These guideline could be used as a reference for urban planning and infrastructure development by Planning Organizations, consultants and state government.

Comprehensive Mobility Plan (CMP)
Connects statutory land use plans with transportation projects like an elevated ring road or a metro corridor or a BRT system.

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National urban planning guidelines

Along with national transport policy, national urban planning guidelines are also present. These town planning guidelines have been prepared first in the year 1996 and known as Urban Development Plans, Formulations and Implementation (UDPI) guidelines. It was created by the Institute of Town Planners in India (ITPI). In 2014, it was overhauled by the Ministry of

Housing and Urban Affairs, and the new guideline is called Urban and Regional Development Plans, Formulation and Implementation (URDPFI) guidelines. These guidelines could be used as references for urban planning and infrastructure development by different planning organizations, consultants, and state governments. Also, these guidelines can be used as a helping guide to understand the possibilities of development and ways to take care of the different challenges in an urban area. In addition to national transport policy, national urban planning guidelines also show a way to develop integrated land use transportation plans for urban areas.

Comprehensive Mobility Plan

Comprehensive mobility plans talk about the techniques, tools, and different kinds of transportation projects that need to be undertaken. It connects statutory land-use plans or development plans with different transportation projects that could be taken up in an urban area. A comprehensive mobility plan is a document that specifies how a mobility plan or a transportation plan could be taken up for an urban area and how it should be integrated with different components of urban systems such as land use, demography, economy, building use, etc.

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The slide is titled "Planning regions" and is part of an NPTEL Online Certification Course from IIT Kharsiapur. It lists three types of planning regions:

- Administrative (District Regions or Metropolitan Regions, ULBs)**
- Investment Regions (manufacturing zones, industrial and freight corridors)**
 - Primarily based on potential to attract investment and subsequent economic development
 - Infrastructure gap identification and provision of last mile connectivity to regional and national highways
 - e.g.,
 - Delhi-Mumbai Industrial Corridor Project
 - Chennai-Bangalore Economic Corridor
 - Bangalore-Mumbai Economic Corridor
- Special regions (environmental and culturally sensitive areas)**

The slide also features a small video inset of a man in a suit and glasses in the bottom right corner, and the NPTEL logo in the bottom left corner.

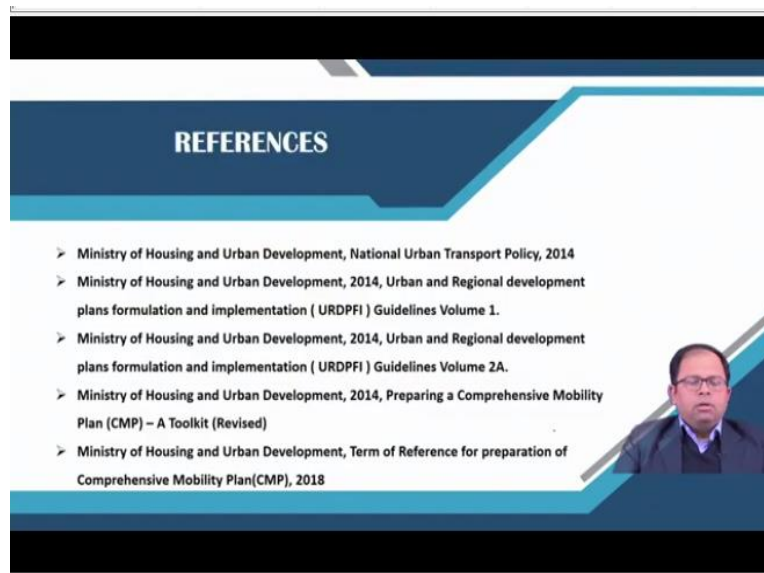
Planning regions

The planning region or the spatial area is very important in the formulation of different plans. Plans are generally based on administrative boundaries. For example, a plan can be for a district, a metropolitan area, or an urban local body. On the other hand, plans could be prepared for different purposes and also for a different zone like an investment region. Investment region

plans are developed for areas that are connected. For example, there is a highway and along the highway, there are certain urban areas with different opportunities of investment for manufacturing hubs, industrial hubs, or logistic hubs. These kinds of regions or zones are called investment regions. These regions are primarily based on the potential to attract investment and subsequent economic development. These investment regions contribute to an area's economic growth and are also responsible for pulling up the economy of the surrounding area, the state, or multiple states. The planning process of the investment region follows the standard steps mentioned earlier while stressing upon the infrastructure gap which is most important to bring in investment. The identification of the last mile connectivity issue is also important. For example, if we are developing a certain area, we must ensure it should be connected with the highways, national highways, or the regional highways. Some examples of investment regions or corridors are Delhi-Mumbai industrial corridor, Chennai-Bangalore economic corridor, Bangalore-Mumbai economic corridor. While deciding on the planning region, a spatial region like an environmentally sensitive area and culturally sensitive area are also considered.

Spatial regions could be also an environmentally sensitive area including ecologically challenged areas like habitat for wildlife or culturally sensitive area including areas with certain kinds of tribes that do not want to mix with the mainstream development.

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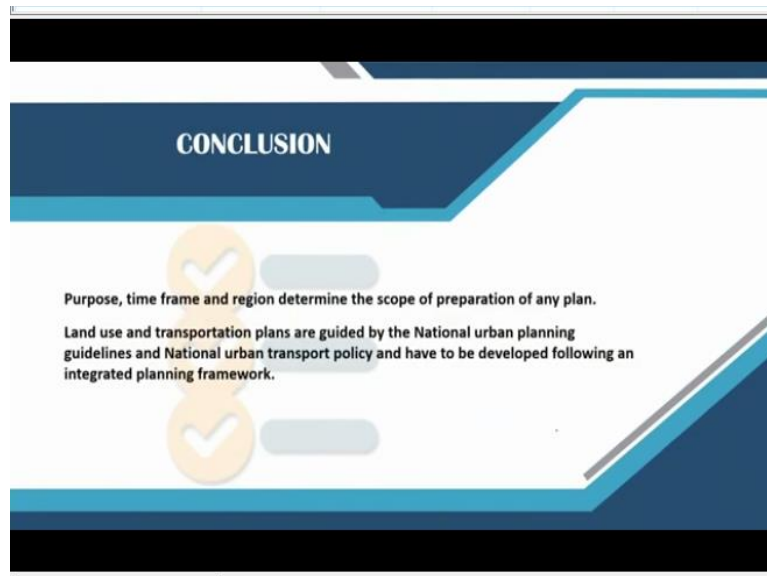


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- Ministry of Housing and Urban Development, 2014, Urban and Regional development plans formulation and implementation (URDPFI) Guidelines Volume 2A.
- Ministry of Housing and Urban Development, 2014, Preparing a Comprehensive Mobility Plan (CMP) – A Toolkit (Revised)
- Ministry of Housing and Urban Development, Term of Reference for preparation of Comprehensive Mobility Plan(CMP), 2018



So, to conclude this particular lecture:

Purpose, timeframe, and region determine the scope of preparation of any plan.

Land use and transportation plans are guided by national urban planning guidelines and national urban transport policy and these have to be developed following an integrated planning framework.

Thank you.