Urban Governance and Development Management (UGDM)

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Lecture – 38
Traffic and Transportation Management- 1

Welcome to lecture 38 in this lecture we are going to discuss a very important element in your urban management that is traffic and transportation management. You might have seen that whenever we work in any urban areas or cities the first problem which is cited by the people for any planning process or otherwise that is a traffic problem. Because most of the cities are having congested roads, lack of public transportation, lack of other transportation modes.

And over all the transportation and traffic is unorganized and unplanned and as a result people suffer a lot. So, if this is a problem and you are working in the urban sector definitely it is a very important task that you know the features of the traffic and transportation and some cases. So, that when you work you can tackle the problem or you address a problem in a better way. So let us see in the traffic and transportation management.

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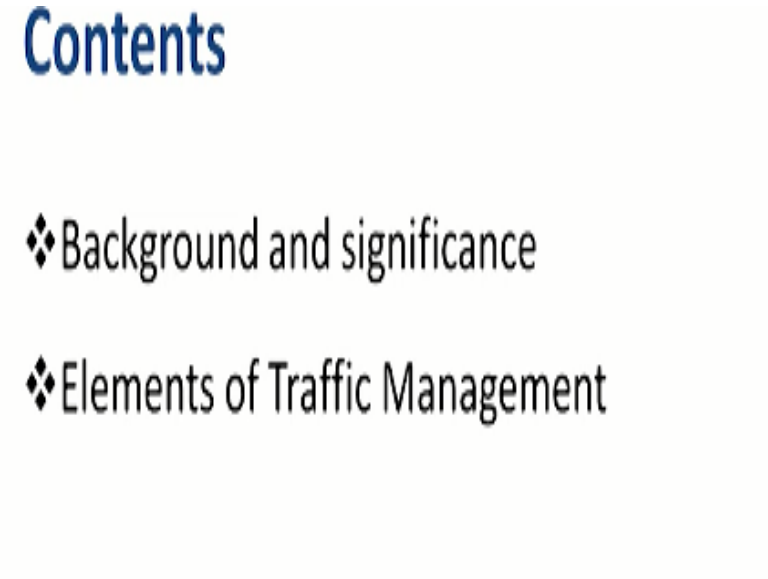

So, the background and significance will be discussed to todays lecture and some of the elements basic elements will be discussed in todays lecture. The next lecture we will discuss the we will show some practices so that you can understand. So, today we will have some theoretical

discussions on the overview of the traffic management. Now in 74th amendment act you have seen that the roads and bridge and the traffic is also in included in the 18th.

18 work of the schedule but the reason why the traffic is not addressed in a better way because the urban local bodies they do not have the adequate capacity to understand and to make a plan for it and to develop the roads and infrastructure or the public transportation. Except few larger cities who already have the prior public transportation and recently they have been doing some other modes of the public transportation like metro rail etc.

This secondary or third tire or the lower or small medium towns they lack all this facility. For this for this reason the government of India time to time they have taken many initiatives and actions to improve the traffic and transportation sector. Apart from the codes the improvement of the codes and standards they have taken national urban transportation policy. They have taken so many actions.

So, this is the significant and the background for the transportation another important feature in this time is that since all the cities are growing phenomenally and their except they are facing the migration from the neighbouring village or neighbouring areas as a result the concentration or the pressure on the urban road is huge. And mostly our 90 more than 90% of the areas are organically grown.

And those are having narrow streets or narrow roads so unless a proper planning proper organization in a systematic manner is done with an efficient traffic management team and tools in place. You cannot address the traffic and transportation problem so let us see the elements of the traffic and transportation management.

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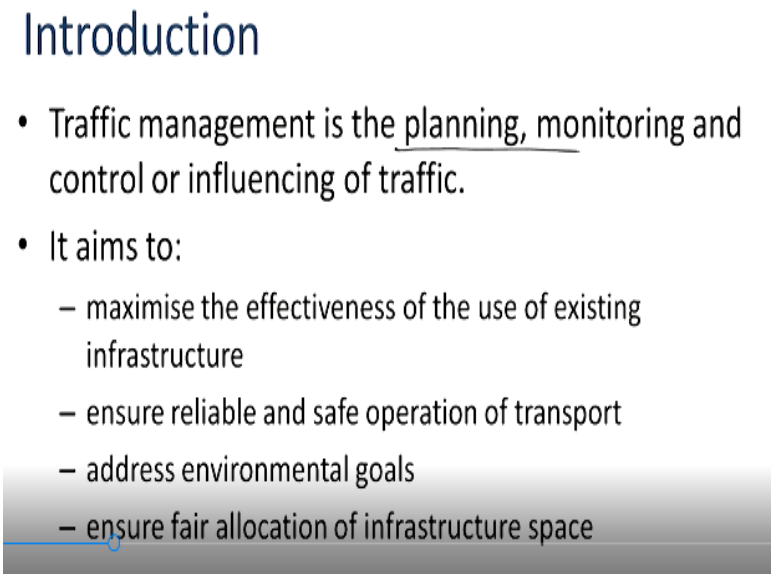

So, traffic and transportation is the planning ,monitoring and control of the traffic. So, there are two three elements one is the planning how we can plan you can foresee the requirement. The type of requirement diversity of the requirement of the city and the traffic. And you can plan for it you can give the provision for those and then you can monitor the development and the traffic and you can control the flow or the effect of the traffic.

That is what is included in the overall traffic management word. And it aims to maximize the effectiveness of the use of existing infrastructure this is applicable for our existing city. Ensure reliable and safe operation of the transportation. So, this is applicable for the public transport so basically here the term is operation. You have seen that many municipalities are many cities they might have the public transportation but it is very inefficient.

Because of their lack of knowledge or skill to operate that public transportation in a better way. So, that is also required so next is the address environmental goals because of the unplanned traffic and transportation system eh the cases of pollutions, congestions are there and this amounts to a bad environment undesired condition in the environment that also need to be at this through the traffic management.

And also it ensures fair allocation of the infrastructure space. In your cities how much space is allocated for the in the road? How much space is allocated for the differently abled people are

handicapped people how much space is allocated for the poor? How much space is allocated for the children or the senior citizens. Can a senior citizens or the children they can walk freely in your city?

Can they take public transportation easily? Most of the cases the answer will be no the most of the cities in India we do not have dedicated pedestrian path. If the pedestrian path is there it is either inadequate in terms of width or the quality or it is discontinued after some time it is discontinued and people cannot take that pedestrian paths to reach to another destination from another origin point.

So, those are the problems occurred and as a result there is a frequent conflict in the road space between vehicular traffic and non-vehicular mode vehicular traffic and non-vehicular traffic like pedestrians. So, as a result there are accidents there are undesired conditions casualty etc. So, these has to be addressed through the traffic management.

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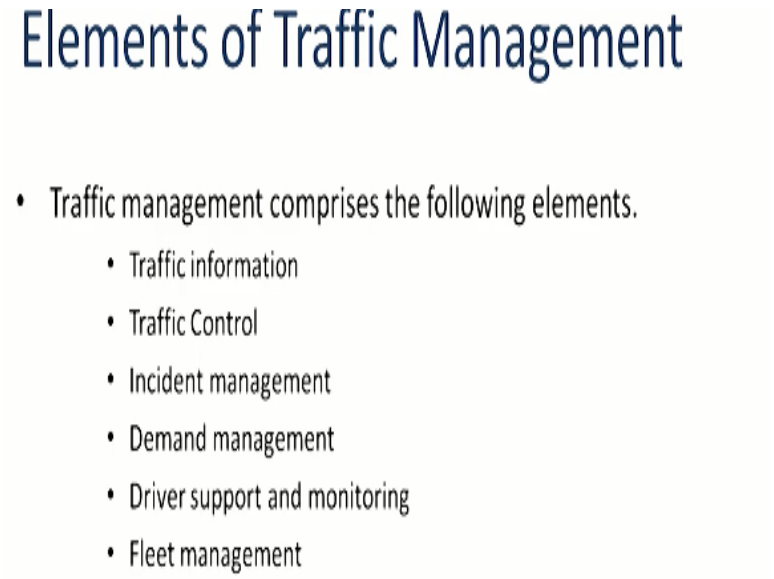

Now let us see the elements of the traffic management there are six elements which we covered within the traffic management. First is the traffic information second the traffic control incident management, demand management and driver support and monitoring and fleet management. You can understand that demand management patterns to the planning, the incident traffic control and information all these are basically real time management.

And this is also part of planning and capacity building and also the fleet management. Now let us see one by one how this affects the traffic management.

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The traffic information is very important when you come to your streets you see that you want a convenient transport mode for you. But you do not know what kind of transport modes are available on that city. So, first is the information the type of the modes available to that city through the online or the other media that has to be available for the common citizens before they come to the street.

Number one that is number one number two when they come to the street the level of information in terms of the way findings or the signals or the writeups would be there as per the codes and standards. So, that they can understand they can identify the right kind of mode and they can choose from that. You can see some of the pictures I have shown that this picture showed the message for reducing speeds because construction ahead.

They can show the bus information like that what kind of buses are available starting from the time and the platform there could be information in the road which are there in a Indian road. So, this is only indicative in nature so these information are required in our Indian cities. So,

information for road users before and after the travel. That is what is required and this information not only about the navigability or the mode.

It is also required that information regarding the ticketing and regarding the fare regarding the interfaces regarding the origin destinations and the interoperability of the different modes. For example if a person want to travel through bus and then get down and take another mode like metro rail what is the interface between these two mode? In practical cases we have seen that in cities like New Delhi or any other cities from metro rail to the suburban rail.

Or from metro rail to the bus sometimes it is difficult to identify that where to go how to go so that navigability is important that can be ensured through the right kind of information and the way findings. Before they travel and after they travel and during the travel also they can be available. Second is the traffic control now by and large the traffic is unorganized and irregular and they need to be controlled in a better way.

In terms of showing their control signs some the control signs the dedicated parts the traffic management instructions which can be shared hourly for the vehicles and non-vehicular transportation. So, for example when your city faces tremendous traffic during the peak hours there could be situations like you had to you have to divert the traffic through different ways. You can make the traffic one way you can make several strategies could be taken.

So, those strategies could be for controlling the traffic need to be intimated to the people through various medias.

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And also on ground in this picture you can see that a traffic police is managing the traffic by using various kind of notation. So, this may not be sufficient so this kind of real time information in the road so real time physical information info and also some other proactive information is required. In todays time we use various Apps for taking hired vehicles so this kind of technologies also can be used to give the appropriate information for controlling the traffic.

And if we can do that the most of the problems can be managed. So, for controlling the traffic there are methods like channelizing he traffic, segregation of the vehicle or non-vehicular mode. Making the one way or the diverse multiple way of the circulation making a dedicated path for some particular traffic. Those kinds of arrangements are done for the controlling the traffic.

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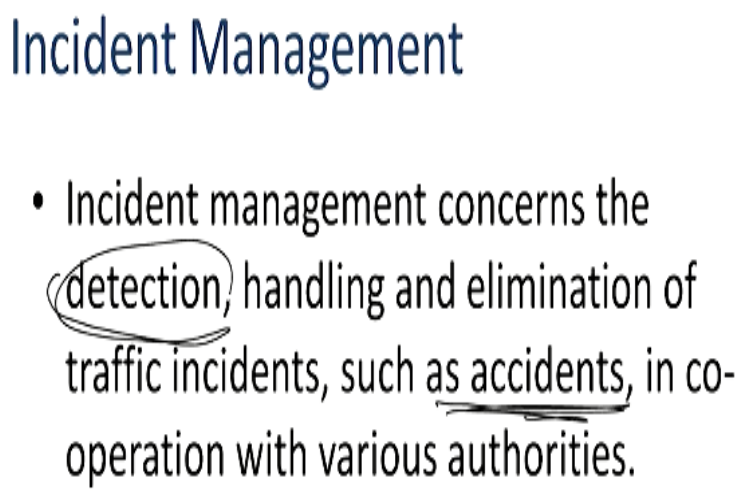

Second is the incident management apart from the controlling the traffic there could be undesired incidents like say accidents. So, for the accidents it is important to detect the accidents how you handle the accident and how you eliminate the accident. In most of the cases we have seen that in Indian cities mostly if there is an accident it takes lot of time to for the team who rescues the people or who manages the situation.

So, every urban local bodies or municipal corporation they can have a dedicated team who can work in integration with the traffic police altogether. So, that they can act accordingly so there need to be an integration between the traffic police municipal authority and the health system. So, that the incident can be better managed and another part is that apart from the accident there could be a incidents like disasters or the sudden urban flooding.

All those kind of situations also create lots of traffic problems or sudden high amount of rainfall. So, those kind of situation also sometimes create havoc traffic jam and congestion. So, those kinds of situation could be a better managed by the team if there is an integration and adequate knowledge and skill level. The next is the demand management now demand management means if this is 2018 then you can you estimate the requirement of the traffic for the future.

So, in demand management we basically try to estimate the future traffic based on the projected population and then we try to understand the nature of the traffic from one zone to another zone and then allocate the transportation mode.

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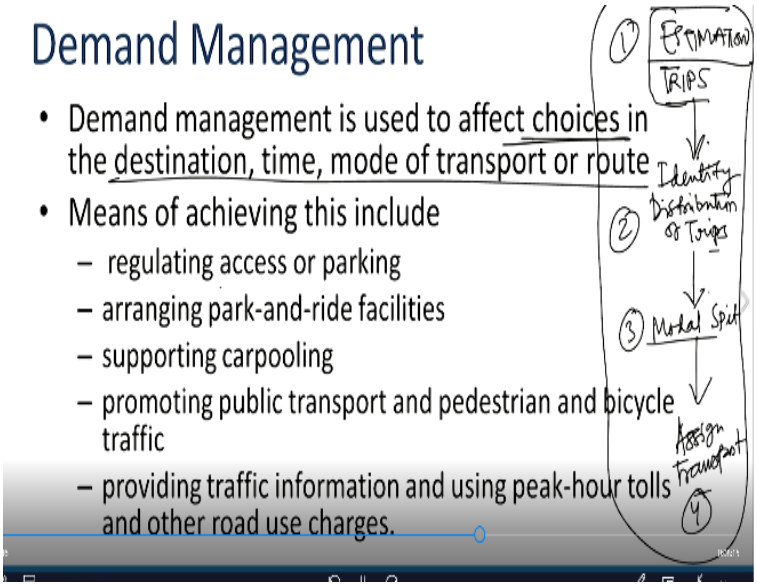

So, basically in the demand management we will identify the choices and destination time and mode of transport or route. And as I have told that in the demand management it is the estimation of the drips because trips is the trips are the smallest unit of the journey from origin to destination. Then so we can estimate the trips then you can identify the distribution of trips. Then we can identify the what kind of modes are there.

And how those modes can be splitted into various categories. For example how many trips will be allocated or the bus how many trips will be allocated for the sub urban train or metro railway or how many trips will be allocated or required for non-motor transportation. And after these we assign the transport means so in this stage this is stage one two three and four. So, in this four stage basically we are estimating the trip generation.

Then trip distribution model speed and assign the traffic so this is called four stage traffic demand modelling. So, this is done by the expert person who are basically traffic and transportation engineer and planner. So, those can be those kind of people can be consulted or

can do this kind of job in a better way. So, if you are working in the urban areas so this action should be taken.

Then within this there are various aspects you should consider like regulating access or parking. In our cities we will find that the carriage way is often covered by the on street parking. And on street parking affects the effective carriage way of the passing traffic. So, if we can manage the on street parking in some of street parking in a dedicated parking zone those kinds of mechanism can be taken.

Then arrangement of park and ride facilities where people can come they can park and ride some facilities like amenities or facilities like commercial areas all those. Or the public facilities and they can go from there. So, park and ride facility should be there for all public buildings or public communities. Then carpooling facility in a modern cities we discourage the private vehicular ownership in a greater extent.

The main objective should be to encourage the public transportation in terms of the metro rail or the light rail that is the tram or the bus or the suburban railways. So, that the transportation can take a large amount of people in an effective manner. Apart from that there could be the carpooling mechanism where a single car can take most of the more number of people. So, that the people average number of people on a particular vehicle is more.

So, that the road space is less occupied by the number of vehicle in terms of the vehicle density. So, those kind of mechanism is there nowadays most of the taxi service or taxi providers they also provide the carpooling service. Similarly for the operation of the government vehicle or the business vehicles the city can take a strategy on the carpooling. The promoting public transport and pedestrians and bicycle traffic.

Now in our country the main problem of the public transportation is that the public transportation is done by a transportation company then bicycle and non-motorised transportation like rickshaws the rickshaws are not controlled. Some of the cases it is controlled by the unions and

the pedestrians are neglected. So, as a common citizen you will never find an interface or a user friendly interface between the pedestrians standing zone or the walking zone.

Through the nonmotorized transport to the public transport that is the problem in most of our cities. So, it needs a integration at the organization level it needs integration at the special level and then providing the traffic information and using peak hour toll and other road use charges. That road is a very costly commodity even though as a public authority you are taking road tax but during the peak hour during the busy hour if something if on street parking is there.

That has to be given a huge amount of penalty or huge number of parking fees has to be charged. Otherwise a city cannot afford offering or allowing on street parking or on street activity during the peak hours and that can also generate some amount of revenue for the cities as well. So, traffic management and revenue augmentation both can go hand in hand if we can create innovative methods of traffic management using the incentive and incentives.

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So, demand management we have discussed four stage demand management. So, basically here it is the park and ride your choice and parking management that is also important. I have just shown few photographs just for your creation of interest you can go through various other online sources.

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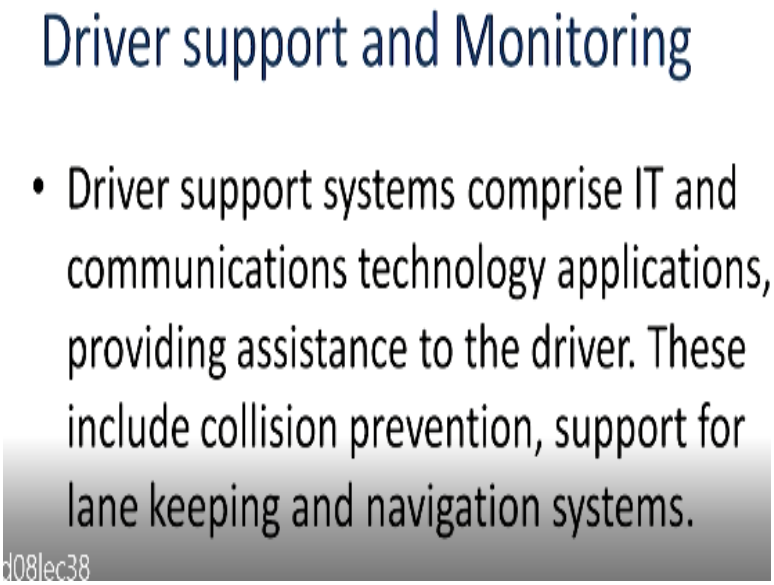

Then this next part is the diverse support and the monitoring. Now driver support system now in our country the drivers they get the driving license and they come to the road and they hardly get any kind of further training or the awareness or counselling in future times and as a result there are cases of the undesired behaviour of the drivers. And drivers because of their hard driving or un disciplined driving there are cases of accidents and the deaths.

So, that we can avoid if we can use the IT we can use the communication technology application we can assistance to the driver and this can prevent the collision. It can support for lane keeping and navigation system. So, one part is that as a protective measure as a preventive measure you have to give the training and the counselling to the drivers. And another part is that to control real time the drivers behaviour and the navigability and the lane driving.

You have to make a systems of penalties or controlling using the IT and the computer applications.

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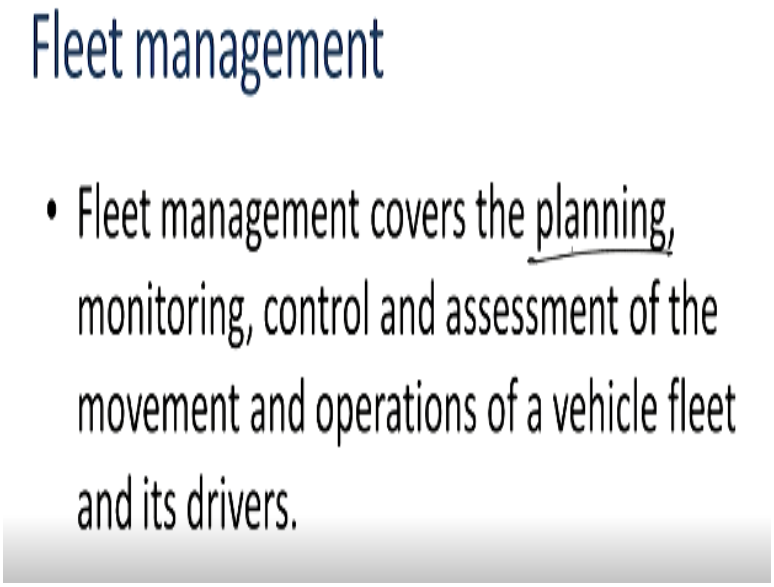

Then fleet management the fleet management is basically is the planning monitoring control and assessment of the movement and operations of the vehicle fleet and its drivers. Now most of the transport companies in India they are suffering from the lack of fleet management. Most diverse problems are there either fleets are not managed properly, not maintained properly, not operated properly.

So, you need significant amount of capital to purchase a certain amount of transferred vehicles. But how you use this vehicle in a multiple way in a rotational basis and you repair operate those maintain those in a proper way. So, unless you do this a country like India a nation like India cannot afford buying new and new and transport vehicles without a repairing in a sustainable basis.

So, in municipalities if you are working in the urban sector or corporation and you are planning to make your own transport system. So, please think about fleet management in terms of operation and management and its own sustainability if you really plan for a fleet management for a public transport. So, these are the salient points we discussed in our lecture about some overview or some salient points about the traffic management.

Because traffic management in our cities are very much significant and because of this we face lot of public image also for our cities. Whenever any foreigners or any prospective investor they

come to cities and areas they see the congested areas traffic jam signals failures and all those problems are there and as a result they get a wrong image of the cities whereas our cities have immense potentiality in terms of the revenue augmentation.

In terms of their culture and the tourism potential but unless we improve and fix the traffic and transportation we cannot do anything.

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In the next lecture we will see some of the practices how good practices can be there to improve either public transportation, transportation planning traffic control, fleet management drivers behaviour everything. So, we will see some of the practices so that you can get some idea and apply in your own area. So, with this I thank you very much for attending this lecture.