

Site Analysis and Planning

Lecture 13

Welcome to UGC Lecture series. Today's topic is about Site Analysis and Planning. Unit 5 - Site planning and Site layout principles. Lecture 13. Subject code - AR 6512.

Presentation Outline - At first we are going to be introduced to this chapter. Then we will move on to preparing a site plan. Then we look into organising land use with a site.

Preparing the Site Plan

First, how do you prepare a site plan. An overall master plan is prepared for the site incorporating all design elements. This provides a framework for all activities that will take place within the market. Here in this whole presentation, we are going to take the example of a market, we are going to compare each and every design element a market space might need. A market is one of the best examples to understand what are the different site principles and site layouts that have to be followed. The following points should be covered -

All relevant design information obtained during the previous stages should be gathered together. First hand information and all your site planning and research you have done, everything has to be segregated and noted down before you begin designing. The site design should be organized to reflect the -

The road system inside the market should be designed to maximize efficient circulation. When you start your site planning, you must make sure how is the crowd going to come inside the market from the main roads, how your crowd is going to get dispersed to various places and how they are going to go out. This comes under road systems, this is addressed within the site. We need to take care of public transportation, public movement and private movement, how goods and services are going to come inside and how water is going to come inside and go out of the site. We need to take care of drainage and sewage treatment plans, how things are going to be taken outside of the site.

Supplementary uses, such as public spaces and landscaping, should be incorporated into the site plan. While making these improvements, we should make sure we have public spaces for people to gather within and for people to move from public spaces to private spaces and also we have green spaces as breakout spaces while designing your site. The site plan should be finalized. Changes made during the detailed design of buildings and infrastructure should be incorporated. When you are making a site plan, there might be a lot of design changes that you make. While you make your design changes, you also need to make sure your site is getting changed. Initially you might have planned for your building to open on one side but while

making your design, you might come up with a new chain saying there might be one more entry to your site on the other side of the building. So you must ensure you have access to the other side as well. You must make sure this goes hand in hand.

Preparing the site plan. Site development principles - the next stage after choosing the site is to prepare a draft master plan. This is a method of organizing the different uses on the site and should incorporate all the needs of the users and take account of the factors that influence the management and operation of the market. We must understand what are the development principles that you are going to address while you are designing for a market space. You must understand what is the need and what is the call you are going to address. We ought to make sure it influences the whole management and operation. A good plan reflects these factors well and provides the maximum benefit for the minimum investment. When you are designing something, there are end number of opportunities that can be followed, but you need to make sure you are choosing the best one with the minimum cost, that is the ideal design solution for every aspect. A bad plan can hinder the market's operations. At this point, the plan will only be tentative. When you are preparing the plan, it has to be tentative, so it can be flexible to change and the development to make the maximum benefit to the space you are going to design.

Market development is often an ongoing process. At first there may be an open market in a street or on a piece of vacant land with temporary stalls. This may be followed by the construction of simple sheds. When you are taking market as an example, initially there might be small stalls that are temporary sheds and eventually as the market gets a lot of people coming in, lot of people are getting attracted to use the market, the temporary stalls will get converted into permanent market settings. This is a continuous evolution process. Assuming sufficient land is available, the market might gradually provide more specialized facilities, justifying the provision of covered market buildings. As the market develops, there might be different classifications or the market can be specialized to certain activities. Say for example the market might be completely just for flowers, just for vegetables or meat market or it can address all of these together in one space. It is a continuous evolving space.

Here, initially it is just a temporary space and as it attracts a lot of people, it then changes to a permanent building. A small rural market might start with the building of a perimeter wall and provisions for paving and rubbish collection facilities. Covered stalls might be built when the resources are available. The site plan will need to take into account this evolution. When you are making a site plan, you must be sensitive that it is prone to development. The space that is being provided for one shop will eventually increase, might occupy the next shop as well and

become one huge shop. As Designers we must ensure it is all in modules, improved together as one x to two x and it does not affect the overall planning process.

Initially, lack of resources may mean that it won't be possible to meet all the needs of the users, but provision should be made so they can be accommodated in the future. Even though there might be lack of resources such as funding or if it does not have enough amenities, we must always be able to improve it in the future, designers should be sensitive while designing so that these improvements can be incorporated in the future. Imagine if the place just has public transportation system, it should have a space that can be used in the future as private parking space. For example, there are three shops that can be replaced somewhere else and the place that was initially occupied by these three shops can be used for parking.

Gather design data - It is necessary to gather all the information that has been assembled during the previous stages. The social, physical and institutional factors that need to be considered in preparing a site plan are; site analysis maps showing the geometry of the site, its boundary, whether it is flat or sloping and the positions of vehicular and pedestrian access points. These are basic research data, it is very similar to what we have discussed in our earlier presentation. It is first hand information. Where your public transportation is located, what is happening around your site and if your site has all the amenities, all this data has to be gathered first.

Maps showing the surrounding land uses and infrastructure facilities such as; main drain, sewers, overhead power lines, adjacent buildings and bus stops. Since it is going to be a market space, it is going to attract a lot of crowd and generate a lot of sewage. We must be sure that the sewage can be taken out of the site. There should be provision for that and we must ensure that there is electricity on the site and we must ensure that it doesn't affect the adjacent buildings and the adjacent buildings don't affect the new market proposal. Since it is going to be a market, since public movement is going to happen constantly throughout the day, we must ensure that is close to your public transportation systems.

Tabulation of the areas of buildings require the number of users' spaces and lists of any special facilities that may be required. Including environmental impact mitigation measures. When you are making a proposal, you must make a tabulation as to how far as these amenities present and what can be done to improve it in the future.

Organize Land Uses

The purpose of this step is to reflect the views of the users on how the activities on the site might be organized for maximum efficiency, which can be done in the following stages - zoning

land uses, grouping sales outlets, temporary and small-scale vendors. Taking market as an example, we must ensure the activity pattern based on the type of shops within the market. For the users, it becomes very easy to buy their things and they don't get lost when looking for something.

Zoning land uses - the question of segregating assembly and retailing functions is a difficult issue. Few rural assembly markets are used exclusively for assembly purposes and many assemblers are also retail traders. Farmers bringing their produce to assembly markets often use the markets' retail facilities as well. When you are making zoning land use, this can vary between each market type. There might be spaces to which, farmers may bring in their goods and sell them to the people who are going to finally sell it in the actual market, where the public are going to buy. There are a lot of transition spaces. We must ensure the facilities provided for public usage, for the farmers and retailers are all different. It can be together when it is a small market, but when it is a huge market, we need to segregate these services and facilities. The mixing of assembly and retail functions in small markets can be viable, particularly if the functions are separated by time. For example - with assembly taking place early in the morning before retailing starts. We need to understand at what time are the goods going to come in and what is happening from the time goods come in to the time people are going to come inside the market. From markets, people usually bring in vegetables and flowers around early morning say 4 o'clock, people come into the market from around 8 o'clock or 9 o'clock. Before that, they keep segregating all the different categories and we must ensure we have space for all this as well.

Another zoning issue is whether specialized uses should remain in a general market or are better located elsewhere. For example, it may be preferable for a meat market to be located adjacent to a slaughterhouse. Within a market we must ensure that everything is zoned together and everything is within a communicable distance. So, if you are going to keep a meat selling point, it is good if it is near a slaughterhouse. You cut the meat and it is easily taken to the slaughterhouse and it is sold out there. The different sections of a market can be set up as follows - fresh fruit and vegetables retail trading areas. temporary sales areas for producers and assembly traders. Meat, fish, poultry and egg sales. Sales of grains and spices, Sales of cooked food, Other non-food sales, such as clothing and household goods. General circulation areas (internal and external) and Other uses such as storage, administration and public toilets. We must list down what are the different activities and pattern of sales that is going to happen within the market. We need to design in such a way that all these are grouped together and it's not getting located haphazardly so that people don't just buy what they want and get out, it has to pull the crowd until the end of the market so that they get to see whatever is available and then they get to buy what they want so that it is beneficial for the sellers as well as the users.

Grouping Sales Outlets - The direction from which most customers arrive influences the location and grouping of stalls. Customers often come from a main point such as a bus stop or from the direction of a more densely populated area. You must know from where can your market be accessed, how are you going to group your shops within your market space.

It is preferable that stalls for products that people buy on an almost daily basis such as roots and tubers, fruits and vegetables, be located away from these approaches so that customers can be drawn into the market. As I said earlier, these products that are used day-to-day have to be kept far away from the entrance so that people are drawn until the end and they can see everything else that's present. If retailers are grouped by type of product, competition will be greater which should be beneficial for consumers. When you are going to group your shops according to the products being sold, it is beneficial for the buyers. If you are going to buy a vegetable and you've asked for the price at different shops, you will obviously opt for the one that's cheaper. Hence, it develops a competition between the two sellers and it is much more beneficial for the customer who's buying it.

Temporary and small-scale vendors; small-scale retailers or farmers often operate in the area surrounding a market, causing congestion and competing with the permanent retailers, as consumers may find buying outside the market quicker. There are a lot of temporary moving carts or vendors whom we usually see along the outside fringe wall of the market. These people create competition for the ones selling their products inside the market because when you cross the market and when you need to buy only one item, it is easier for you to buy it outside from these temporary vendors so that we don't need to get into the market and get your stuff. These temporary vendors have to be addressed very sensitively.

However, it is not desirable to remove such small-scale traders as they could lose their means of livelihood. We cannot completely remove them because even their livelihood is dependent on this small trade they are doing. These temporary vendors and producers sometimes operate during limited days of the week or for a limited season. What can be done is, we can restrict the number of days in which they can sell their products. For example, they can use their temporary stalls only on alternative days of the week or they can sell only during weekends. Such type of regulations can be made so that it creates a balance between the permanent sellers as well as these temporary vendors. Ideally separate spaces within the market should be provided for them and daily licenses issued. We can maybe allocate space within the market so that they do not takeaway the opportunities of permanent sellers, they'd also have a good space and also get daily licensing. With the licence they can use the space for one day and

when needed, they can get another license for one more day. This can be the design solution that planners can ensure is getting executed.

Plan Vehicular access and circulation - easy access to the market is essential for efficient movement of goods and people. The best form of access is for public transport to be provided with a stopping point at the front of the site and for the service access to be at the site of the premises. With a small rural market, this is achieved by providing - 1. an access road to one side of the market. Since a market space is going to attract a lot of crowd, we must make sure it is very close to or have a bus stop right in front of the site making it easier for the public to use the market and go away. Since market has different commodities to offer, we must also ensure we have good service roads that connects the market to the city so that the products or the commodities can be transported and can be brought into the site. 2. A perimeter road around the market site i.e the typical market square. So, if you have a back road that can be used completely for services, it is easier and does not interfere with the public movement.

For larger markets and internal road system which has neither shortcuts to other destinations nor dead-ends (cul-de-sacs), could be provided. If it is a large market, we should also be prepared to make a plan for internal roading systems. A road running through the centre of the market area i.e effectively creating a street market causes the most congestion and is not a recommended option. If you have a market area and you are going to create a huge vehicular movement road, people are going to stop everywhere and will begin to buy commodities in the market. This is going to create a huge traffic congestion and this is not good for people who just want to pass the road. You must ensure, the road is free from traffic congestion.

Parking - the basic layout of a rural market will depend upon physical site conditions, the level of investment and local cultural preferences. Example A - the simplest solution is a street market with stalls either on one or both sides of the road. This is really only suitable if the market is not on a main road. You must ensure we have parking not only for the users but also vehicles that bring in the commodities so that it does not create congestion.

Example B - A traditional solution is to locate facilities (open sales area or covered stalls) in a central square or village green, with a road system preferably around the edges. It is easier to put in all the sales that is going to happen at the centre. We can create a vehicular movement around the market so that only people who want to come inside and get the commodities will have a parking space, park their vehicles and get whatever they want. It does not interfere with the normal vehicular movement or road systems.

Plans for supplementary uses - Public space.

The market should provide an atmosphere favourable to selling. For larger markets the circulation system is usually best arranged so there is a 'hierarchy' of spaces, with one or major trading areas, off which there are minor spaces serving other functions. We must also ensure we have public spaces to which people will come and shop at smaller shops.

Location of Facilities - Facilities that serve all market users, such as toilets, rubbish bins and boards that give price and other information, should be centrally located so that they are easily accessible. When you get into a site, you must know where are the things available i.e whatever you look for. Say for example, you are entering a site and you are in search of vegetables, this can be satisfied by having proper sign boards, pricing and directions at the entrance itself so that people don't have to roam around just to find the shop. In large markets, such facilities will need to be provided in several different locations. If it is a small market, these location and price details will be kept just at the entrance, but if it is a huge shop or a huge market, you can keep everything depending upon the zoning you do.

Users around the fringe of the market - it is important for a market to be a lively place in order to attract customers. Spaces should be allocated around the edge of the market for business activities such as small-scale shops. We must be sensitive to what is going to happen around the market area as well. We must have space for such type of movement or for temporary vendors to sell their commodities. Seating accommodation is a common feature on the fringe of traditional market spaces, for both traders and shoppers to relax. We must also have seating spaces since in cases where it is a huge market, walking along the market and shopping simultaneously, should have seating spaces not just for the public but also for the shoppers when they get a break time for people to relax and communicate with other shoppers.

Spaces are often provided for cafes and cooked-food stands, which should be concentrated at junctions of roads, and paths in order to maximize trade. Portable stands or small carts are normally used. When you are selling things like ready to eat foods, etc, they have to be located at the heart of the market or where it attracts a lot of crowd. If the rate increases, people will get divorced actions to relax and enjoy the whole process.

Let's summarize what we have learnt in the whole presentation as learning outcomes. First we saw, a brief summary about preparing a site plan, what are all the thought processes that have to go inside. We moved on to look into Different design criteria to be followed explained with market as a case example. We started with location, what are the planning principles, how sensitive we have to get in order to address each and every design element.

Importance of organising land use even with a site, explained market as an example. We saw how zoning is important within a site.

Questions - Summarize the importance of a site plan. What are the different site layout principles that have to be adopted during the site plan. Explain the important facilities a master plan might require in order to satisfy its user with a case example. What are the important land use principles to be followed on a site? Thank you!