

The lakeshore versus the hilltops and the valleys and so forth were in a large part a matter of the decision institution that characterizes the body - those institutions were in a constant evolutionary process. The real estate was determined as much by politics and sociology as it was by investment finance and the logic of business.

As a result, real estate here at the University always retains a very multidisciplinary view as opposed to other schools where real estate eventually gravitated to the finance department of the school of business and all things were presumed determined by the present value of capital. We continue to retain the traditional Wisconsin view that real estate is not a commodity per se but, in fact, it is a representation of an institutional process that's relatively complex - that our cities merely are reefs built out of the secretion of skeletons of earlier decisions and those those skeletons have political and social and economic, as well as geological origins. And that man really is the only animal that builds his terrarium around it as he goes. And real estate is really the business of building that terrarium and maintaining it. And, therefore, we are really concerned with the life qualities, as well as, the work qualities of the society which we are attempting to house with our real estate. That gives us perhaps the hottest ethical content of any artifact of

manufacturing process that we have. And it also gives us the highest level of complexity in terms of the interaction between that terrarium and all of that which lives within it.

Your textbook, on the other hand, and most real estate textbooks and language that you hear elsewhere talk about something called highest and best use. Highest and best use is that use which maximizes the wealth of the individual - classic laissez faire, 19th century economics. We know for a fact that doesn't work very well and, therefore, one of the things that we hope to train you to do is to think in terms of two other terms, which will require considerable expansion as the course goes forward. And one is going to be called the most fitting use.

The concept of most fitting use is that use of the land which produces the most significant economic surplus while at the same time having the least adverse impact on third parties - economically, environmentally, culturally. It is obviously a normative ideal - a goal toward which you are striving. But modern problem solving doesn't let you _____. First of all, define and identify the ideal solution, you'll never know whether the current solution, the temporary solution is moving you in that direction or not. The guy who invented penicillin - is his only problem was - excuse me, the guy who invented DDT - if his only problem was to get rid of mosquitoes, he did a hell of a job. But, again, in a larger sense on this total problem he

probably wouldn't have moved in that direction because with that solution came far more problems than he had with the mosquitoes to begin with. If he had a better idea what the ideal solution was in terms of insect control he probably would have moved in a different direction in terms of the solution. So we need to have first of all, a normative ideal - where is it we're trying to go?

Realizing that we're going to fall short of that because either our technology or our politics or our decision process or topical shortfalls of resources at a particular point in time don't allow us to make that all in one jump. So then we'll fall back on the so called most fitting use to what we'll call the most probable use.

The most probable use recognizes that in the short term and relatively shortfall, conclusions to many of our problem solving.

But at least that's moved in the most probable use looking toward the most fitting use. We should not close the door on our eventually arriving at the most fitting use. So our terminology here will be, first of all, to identify all of those elements in the solution which lead toward the most fitting use. And then how do we evaluate what we can accomplish now in accomplishing the most probable use.

One element, in terms of real estate, that seems surprising I think to most - after all, you've all been standing on real estate all your life, you must know all there is to know about it

- is the complexity of the problem. And Patrick Monehan, the Senator from New York, who is quite an analyst, put it forward this way - he was talking about housing policy. He says, "We've never learned to be particularly bluntfull about the task of running a complex society. The essence of tyranny is the denial of complexity. It is the great corrupter, it must be resisted with purpose and energy. What we need are great complexifiers."

So this course is going to be common sense made difficult by complexity. And, hopefully, in the process, you will 1) gain a better appreciation of those that put real estate together, 2) perhaps be more sympathetic on their failures and more appreciative on their successes of the urban environment, in which you will spend most of your day.

The old concept of highest and best use productively valued as really to be simply a self serving product of the National Association of Realtors. It really has some very deep historical roots. Cultures and society from the beginning of time have become civilized as they have learned to grapple with the allocation of the benefits and responsibilities of land. That certainly is almost always the beginning of some sort of legal system, is how do we allocate the benefits and responsibilities of land? In North America the first hint of private property came from the Indians along the St. Lawrence estuary who had no concept of property whatsoever - who were as close to passive as

you could get in terms of how to live with nature and in some sort of natural rhythm. But they found that as the French introduced fur trading that there were those among them who tended to overhunt the territory and kill off the breeding stock so that, as a result, there was no adequate regeneration of the fur bearing animals that were in demand by the French. And, therefore, the Indians actually had to divide up the territories among their various family and private structures in such a way that they could only hunt for certain fur bearing animals within certain boundaries. And if they abused that recourse, then that tribe, that family unit, was out of trading materials for the next time around. Relative to firewood, relative to food, relative to all the other things that the forest and the natural environment provided, they still had no sense of property. But they found that in order to have administrative responsibilities for the resource that it was necessary to delineate turf. A lesson that was relearned from Mesopotamia and the Babylonian Empire went to considerable expense to bring water for the land. And found that it was necessary to allocate certain fields to certain families to use the water properly. Because if they didn't, they didn't eat. And that was the best way to allocate administrative responsibility for the resource. So that private property rights really grow out of the need of society to allocate not only the benefits but the responsibility of resource

management. And ironically, that's where real estate began as a subject area. That's what Healy and Carmon were interested in. How do we control in the cheapest fashion the responsibilities for the wide use of our resources and, obviously, a major resource being land and that which pertained therein. And so we're really looking at real estate in that effort. As most of our decision processes are still trying to balance off the responsibilities and the rewards for wide use of the assets - because it's in the public interest to do that with the least amount of administrative hassle.

Now highest and best use throughout history, societies and certainly in the European areas in which our country was first settled had highly structured land use procedures and allocations. And we'll look at those in the second or third lecture in terms of the value systems that were at work in determining who got to live where, and who got to farm where, and who got to do whatever it was they did at a particular location.

That presumed, however, that you have 1) a very static set of values that could be passed on from generation to generation so that it sustained itself over long periods of time. Second of all, by the very nature of the fact that our sewage systems weren't very good it presumed a relatively static population because otherwise the sewage problems and the disease that went with it simply overwhelmed the capacity that they had to deal

with it and illness very quickly brought the population down to a level that could be absorbed by the natural landscape. And the third element was that technology was constant. The way we cut stones didn't change very much. The way we cut timbers didn't change very much and therefore the city beautiful, really built over multiple generations pretty much looked at the finish as it was planned to look at the start even though it spanned several hundred years in the building. Boston and many of the traditional eastern cities grew over slow, long periods of time and yet came out looking like they had been all been done by Disney planning department in a relatively short period of time.

And, given that, you could have a consensus about land use and land gardens. Now come to the new world and suddenly the cultural stability that determined what the long term value of the city beautiful were were gone. Instead we have tremendous cultural diversity. Second of all, we no longer had population that was static - we had population that was dynamic. We had to absorb increasing numbers of people at a relatively rapid rate and their social roles were no longer very clearly established by an outer controlled society. We had inner controlled people who were pursuing their own objectives and their own motivations as the Lord gave us ability to see it. And finally we had tremendous changes in our technology. The cultural revolution struck shortly after the founding of the new world and we began

to see changes in our communication and our transportation system virtually every fifty to one hundred years, which drastically altered where we could go, how we could get there in terms of the costs, and so forth. And what it is we're going to have to expect of - our communication, transportation and our industrial network in terms of support. And so the three basic cornerstones of a land use consensus that controls society until the discovery of the new world, were gone. And the only thing we could agree on was 'them what takes the most, got to use it for what they wanted'. And if the steel mills could use the lake shore of Cleveland, then they got to use the lake shore of Cleveland. This was really the historical origins of laissez faire - highest and best use concept.

The only value system that remained was essentially those who could create the greatest economic surplus on it could afford to pay the most for it. And therefore the steel mills and the industrial areas and so forth often pampered some of the premier areas that, were we to have an alternative way of going about our cities, design and lay out and so forth might not have happened.

By the turn of the century, by the late 1800's and beginning 1900's we realized that what was working. That we were creating urban areas in which there were tremendous conflicts among the users both in terms of what was fair, what was healthful and what was safe. And what we really needed some sort of regulatory

framework to regain control of this laissez faire process of urbanization and industrialization that was going on. It wasn't until 1954 that the federal government made it a matter of policy that they would subsidize urban planning and each city could have a master plan as to how it should grow, and where it should grow and what it should look like in 20 or 30 years. Not only should there be a master plan but there should be a capital budget as to what capacity the community had to achieve those planned goals. That's 1954! That's only 32 years ago that we began to recognize that there had to be a new consensus about what our urban process should be and how it should work and what the ultimate product should be. And we're beginning to see the results of that. Baltimore which had to be the pits in 1954 is emerging now as a beautiful city on the east coast with virtually total redevelopment in its downtown core. Downtown Boston which had to be virtually inaccessible in 1954, now draws more people for recreation than Disney World on a year-by-year basis. But that only happens over 30 years time. So there's been a quiet revolution in real estate which is really what we want to talk about in this course. The concept of fee simple ownership in which you could do with your land as you damn well pleased in the early 1900's has moved to the point where any ownership of real estate is a trusteeship for public purpose. The State of Wisconsin Supreme Court says, the land belongs in very small part

to those who were here yesterday, a small part to those who are here today and a larger part to those who are here tomorrow.

There is no inherent right to develop the land if it comes at the expense of the public health and welfare. That's the solution.

That is a concept which your forefathers, who carved the land out of the woods, and stocks of trees and said "I conceived this piece of land out of the wilderness with my own sweat and my own blood and it's mine." It's moved to the point where we realize that land is a collective resource. Not a shot was fired

_____, socialized basic resources of our country and we have continued to do that in a democratic process that allows you to interact with the decisions that are made about how your land is used, and about how your cities will be built, and how they will look and whether your neighbors should have chickens in the back yard. Incredible statement of the democratic mind and the mythology of land and real estate versus the reality of land and real estate is what this course is going to be about. Thank you. See you on Monday.

_____ is coming along with the syllabus and all the details. We'll get underway with a couple of announcements. One - the reading materials for this week's quiz section on zoning and the building envelope and so forth are out of sequence in the

study kits - you'll find them at the back of the mimeograph pile starting about page 640 something. So if you're wondering where that set of materials for the problem is, that's where they are for reasons best known only to Bob's Copy Shop I guess. Second of all the Real Estate Club has its first meeting tomorrow night at 7 o'clock in the room right next door in Room 22 and our guest is Jim McFaddon - Kenton Peter's associate - and the subject is the convention center design alternatives for downtown Madison which should be fun. And, in addition, they will be talking about the summer internship program. We typically have about 35 or 40 of our Real Estate students scattered across the country in various forms of summer internships and we'll explain how that works and I believe all of that will start at 7 o'clock in Room 19. We'll do our guest speaker first and the internship elements second. And I think you'll find the, if you haven't already found, the arguments about the convention center in the newspaper a fine topic area for anyone interested in real estate. So that'll be tomorrow at 7 o'clock. And to give you some further information as to what the balance of the semester's programs are going to be. Young lady with her hand up. Yes, ma'am. Question: This may seem like a really trivial point, but it's really not obvious to our people. It would really help if people would come early to fill in seats in the center, not allowing the luxury of having a number of empty seats around them for those of us who

can't come early. It really causes problems. All right, we'll write a compact. Any other questions, statements, announcements? Anybody missing a syllabus at this point? OK, we'll get underway.

Real estate began sometime along where some Neanderthal rolled a rock and cut out of a cave and created a space unit that was artificially delegated to the void around him and in the process created an enclosure to house some kind of activity. And to give that activity some sense of closure, defensability, warmth, etc. ultimately he learned to paint on the wall to provide to some status and esthetics. But, essentially real estate grows out of that experience as artificially differentiated space with a fixed reference point to earth. It begins first of all as cubic and then we add a fourth dimension, time. He may have occupied it for several moons. Today we have perhaps, somewhat more sophisticated calendar, but we're always talking about a space/time unit. Now in the abstract we talk about space/time but when we talk about specific products we're talking about a room for a night at a hotel. We're talking about square foot by the year. We're talking about apartments by the month. If we do an ice arena we're talking about ice hours for a rink for a hockey game. Or, we're talking about even so many frames at a bowling alley - are still space/time units. And, as a result, the basic product of real estate is space/time. And

there is a great irony there because we're always so concerned in picking the walls and the dirt and the things which seem so tangible and yet the ultimate product of real estate is space. Space designed to enclose and enhance some kind of activity. And the efficiency with which we do that, of course, continually improves. We have moved a long way from the mountain necessary to enclose the cave, to relatively thin curtain walls to enclose a much more efficiently shaped piece of space to a point where the Germans even have very tent-like structures in which the mass of the structure is minimal relative to the total volume of space enclosed for festivals, world fairs and other types of events such as symphony orchestras in the summer and so on. Even if we talk about a wilderness park or whatever, we're still talking about artificially delineated space. Congress saw the line around hundreds of thousands of acres and said, "We will not touch that for a century or two centuries." Or we put Alaska or large portions of it into a permanent preservation area. And, obviously, it's artificially delineated. It depends, obviously on the nature of the legislation and how we draw our lines and how we define our space and to what degree we can violate the air space above it. And, for that matter, whether we create parks below water for scuba divers. We're nevertheless creating artificially delineated space.

And that space has developed some rather unique characteristics. When we draw a survey line and we define a square lot, let's say, on a two dimensional surface. In fact, you are presumed to own to the center of the earth, were you to take a ray off each corner of that lot you would send them to a point where they converge at the center of the earth and move into the air as high as man can make use of that space. And so when you own a lot, you really don't own just a surface, but you, in fact have a technical claim to the volume below that surface and the air volumes above it. So, at some point when the airplanes begin to land too low on the envelope approaching the airport, they are in fact encroaching on your land and you can sue the government for adverse possession of your air space. And at some point if Chicago decides to put a storm water system 500 feet below the earth to carry off major storm water problems and so forth, they have to condemn that area well below your space. And one of the great ironies of the Mount St. Helen's volcanic explosion in Washington was, if you'll recall, there was a little resort area called Spirit Lake made famous by a man called Harry Truman that got buried in the mud. And, when the explosion was over, Spirit Lake was now 700 feet higher than it was before and a half mile to the South of where it was before. In fact it was directly above the subdivision that was, at one time, along the lakeshore. Now the Department of Insurance of the State of

Washington ruled that the cottages had been destroyed as a matter of fire and, therefore were fully covered under their fire insurance but the lot owners were still a little sore about the fact that it was going to be very difficult to sell their lot which initially and novelly appeared to them to be 700 feet below the mud. And the State of Washington thought it necessary to drain the water off of Spirit Lake, which had no outlet any longer, and lest this cause another mud slide into the river system, and, as they began to lay pipe across the land to get to the lake, some bright attorney representing the owners of the subdivision said, "wait a minute, that lake is on our land, we own it. And, in almost any other situation, the lake bottom is always owned by the state, it was never, in fact, in private ownership. But, in this instance, the lake bottom was a platted subdivision in which they had title. And they said, "you can't drain our lake unless you buy our lots first." Well, what's the price of a lot? And, initially the state's attorney said, "well that's ridiculous, your lot is 700 feet down." "Well, no it isn't. It's platted on a surface that happens to be 700 feet below the top. But, nevertheless, if we run our mythical lines up the corners of the lots, and so forth, we own all of the volumes of mud that are on parked on our lot and, therefore, in essence we have, in essence, a new surface to our lot and you're running your pipe to take the water off of our surface of our

lot. And, the State of Washington had to buy their lots for \$1,500 apiece in order to quiet the title, as it were, to Spirit Lake.

So when you begin to think about real estate, think in terms of space/time. And, that that space/time is a relatively unique kind of commodity. And that only after we begin to add improvements do we begin to create attributes for that enclosure that enhance its suitability to house a family or house a business, or enclose a store or create some kind of germ-free environment suitable for the production of some pharmaceutical drug, as the case may be. So space/time is our product even though we spend a great deal of time with some things called walls and floors and ceilings and so forth. It is simply a way of defining geometric spaces to enclose an activity.

The history of man is about a thousand life times of 40 years each, man has lived in caves primarily for about 750 of those. So, already in one sentence we have explained 75% of the subject of real estate and this course is on the balance of the 25%. The utility of the cave as an economic good, as I said, was its ability to house an activity. Obviously, the mountain provided a certain amount of air conditioning or control on environment. The solidity provided some kind of defensible space and so forth. And simply the technology of building has always been moving toward providing the same sense of shelter and

character as the cave both physically and emotionally but trying to do it with a great deal less bulk. In fact, virtually every technical improvement in building science which has survived is those kinds of materials and things which have reduced the weight and bulk of the structure. Think about the evolution of the structure in the U.S. which began with heavy logs and so forth and it only went to 2 by 4 balloon framing. It was lighter, easier to ship, easier to work with, more flexible and more moldable. And if you'll look at the history of downtown Chicago we built building initially with big solid brick load bearing walls and columns and it was too heavy for the ooze on which Chicago is built. And so we moved to light steel internal framework and outside brick bearing walls and then to a total steel frame and then the steel frame was very light curtain walls using various kinds of laminated materials in order to provide the same insulation and weather control and climate control that the caves used to provide but with a lot less weight so that we could go higher and create more usable space for the amount of ground area that was occupied and so on. And a very small increment in usable space per floor can be a very significant element in the value of the building. Think about going through a wall let's say like this which is built with approximately 12 inch block with another 4 inches on the outside. That's 16 inches thick at least. If we take 12 inches off that wall, all

around the perimeter of the room, how many square feet of space have we created? And if we're in downtown Chicago and usable space rents for \$25 a square foot. That's a sizable piece of change per year. And extrapolate that out over 30 or 40 years and by a technological innovation of a 4 inch thick wall with the same insulating and safety characteristics of the 16 inch wall, we've modified our structure significantly. So, think in terms of the space/time enclosed - how efficiently we do that, as becoming a very significant element in the technology of real estate.

Now, man-made improvements really represent the manufacturer of artifacts, if you will. Certainly real estate is no different than any other major manufacturer of capital resources. Certainly a good part of the manufacturing process is unique in terms of the bulk and weight of the final product and so on, but, nevertheless, it is a manufactured product to that extent. But it's also a service. Real estate is a highly unstable element, if you don't think it's unstable, just leave your windows and doors open one of these nights and notice the amazing organic difference to your plumbing system and your heating system and how rapidly the building starts to deteriorate as a result of rain coming in and ice beginning to build up. It requires constant attention. Someone once described real estate as having

the glide angle of a brick. Therefore, it is almost always a combination of a service and your manufacturing product.

Now, if we define space between all of our various improvements from survey marker to our ultimate structural element, how do we define time? Time of course is the product of our legal system and we have two major categories in real estate - a so called free hold estate in which time is at the option of the owner and a less than free hold estate in which time is at the option of the contract. So if you own your house, you can stay there as long as you wish until you choose to sell it subject to certain limitations under public policy down at the bank. But on the other hand, if you rent the home you're there from month to month or you're there for six months or you're there for a year - some type of contract or social custom provides a time limit on your benefit and possession of that real estate. So we have free hold and less than free hold estate.

The definition within that time then further has to suballocate who benefits, and who is responsible. And real estate is a very elastic medium in which we begin to define benefits and your ability to sell those benefits back and forth with very, very fine lines of distinction. So that we're working in a very plastic fluid medium. Most people look at real estate as something rather static. If you go kick it and it doesn't seem to go anywhere, your foot tends to have the lesser of the

barn and so forth. And yet real estate as we will see becomes a very elastic medium. I can convert real estate into virtually any kind of money contract I want and any degree of benefit that I might want. The fine art of that a couple of years ago was practice in what was called the Payhon Agricultural Syndication in which the Payhon Ranch wanted to develop much of its undeveloped land in orchards and irrigated land and so forth and it wanted to be able to finance that in the most favorable way possible. And so it technical sold its land to a syndication that provided the money to create these orchards and tiled fields and irrigated lands and so forth because the tax law was very very favorable in allowing you to write those off as expenses of that time. And therefore you got great tax shelter going through to those who provided the money - in fact, you could write it all off in five years. The only right essentially that the owners got under the fee, subject to all the covenants that controlled their use of the fee was the right to take the tax losses. Any other benny that came along was still in the hands of the Payhon Ranch. And yet it was so artfully crafted by the lawyers that it represented a sale of the title which was all that was necessary to transfer the depreciation rights to the investor. And as a result, by selling the shelter for, say, fifty cents on a dollar of shelter, they were able to finance half of the development without any hard dollars being put out by Payhon Ranch at all.

The balance of course was financed with debt. At the end of five years they had a clause that they could buy back any interest which appeared to the benefit of the fee holder for an MAI appraisal of the property. Well, how in the devil do you figure out what there was to appraise. There was virtually nothing there, other than the right to receive further losses of which there weren't any. And so for a very nominal price they bought the title back. But for that very short period of time, whatever tax benefits were under the code were available to the nominal holder of the fee. So we can carve up this interest in real estate into extremely sophisticated combinations of benefits and responsibilities under the law.

The law, of course, is a reflection of our political machinery and our legislature which in turn are expressions of the values of the citizens that are passing out legislation. And as we have suggested since 1900 there's been a very quiet revolution in the nature of the private interest in land. And that's one of the confusing aspects of studying real estate. We still talk about a fee interest in land, but the fee interest in land today is not what it was five years ago, nor is it what it was twenty years ago, and so forth. And as a result while the language tends to remain static the substance of this language - the meaning of the language is constantly shifting in real estate. And, therefore, we tend to talk about things in old

English that King John might have had in the Magna Carta, but I don't think King John would recognize much of what we trade in real estate today. In fact, one of the major arguments in the law right now in real estate is how much real estate is real estate. For example, the major case that we just argued in New Jersey - Quakerbridge Shopping Center is a million three hundred thousand square foot shopping center in which it is governed by a unique contract among the five major department stores who say they will stay open for thirty years, operate under their brand names, provide six thousand units of parking, contribute to the merchant's association - on and on and on - creating a unique marketing franchise opportunity in something called an operating agreement. And then they lease space between the department stores to smaller stores who want to play a part in that total center development. Now along comes the state of New Jersey that says, "Hey, wait a minute, that whole deal is worth 70 million dollars and that's what we're going to tax it for on real estate.

And our attorneys are coming back and arguing, "Wait a minute, friends. The land cost us so many dollars and it cost us all together 35 million dollars to build the center. The other 35 million dollars is because of the unique business risk and management and marketing characteristics of the operating agreement, and the operating agreement is personal property and there is no personal property in New Jersey subject to tax." At

what point does the personal property and the operating agreement become part of the bundle to the right to real estate? We're not quite sure, nobody is quite sure as to when you transcend that interesting difference between the bundle of rights which are inherent in fee real estate and the bundle of rights that you acquire when you buy a real estate business - they become merged as a public census and it's very difficult in many legal cases to decide where one stops and the next begins.

Ironically, the private rights to real estate are those which are left after the public has defined their interest - a seldom known reality in real estate. The U.S. Constitution reserves, first of all, first right of claim on productivity of the real estate through the real estate tax. And as Justice Holmes, at one point, observed the power to tax involves the power to destroy. You can create a real estate tax which is equal to the total productivity of the real estate and sometimes do. First claim on productivity goes to the public via the real estate tax. That grows out of the old tenure logic in which the yeoman has to provide a certain percentage of his crop to the landlord and the landlord had to provide a certain percentage of that to the noble and so on.

Secondly, the constitution says that the public has the first right of control - that your right to use is always a right to propose, but the public can dispose through the police power.

The public can provide infinite to ad nauseam detail on how you can use your property and when you can use your property and if you can use your property at all for certain kinds of things. The police power is noncompensatory. If the planners paint you green for open space and Charlie over there red for apartment house. Charlie just won a fortune and you just lost your butt. There's no compensation for that. That's police power. If you have a filling station which depends on left turn and they put a median strip down the boulevard and nobody can make left turns, tough luck Charlie that's police power. That's considered to the betterment of the health and welfare of the community and as long as it falls under the police power provisions of the constitution, no compensation.

And to the degree that you do have any vested interest in the land, that may be identified or perceived by the courts, government can always reacquire it by the payment of tax through the process of eminent domain. Therefore, private property is defined by what's left after the government has determined how much to tax, after the government has set the police power rules and after the government has decided what right's to reacquire through eminent domain. Since the taxes are steadily increasing and can be expected to do more so under the Reagan administration, and two police powers are spawning at an incredible rate and because the frequency with which we apply

eminent domain even to parcel takings is also increasing, private property has to be declining steadily. And as we mentioned in the earlier lecture, Wisconsin regards private property as a trusteeship in which you enjoy the benefits for having taken over the custodial responsibilities for society.

Now a real estate project is really a cash cycle enterprise.

In systems engineering parlance today, an enterprise is any organized undertaking - any effort to set about achieving a certain goal in a rational systematic way is an enterprise, whether it involves one of you or a dozen of you or thousands of you. And because we are in a money economy, most enterprises are cash cycle enterprises. Which means you begin with some kind of money in the bank, you acquire raw materials and services, you have goods in process, ultimately you have sales and accounts receivable and you're back to cash again. The great majority in cash cycle enterprises are intended to break even, only a minority are even intended to be profit taking enterprises and of those that intend to be, only a minority of them are. The State of Wisconsin is a cash cycle enterprise as is the University of Wisconsin, as are you as individuals and as households. And the one thing a cash cycle enterprise has in common with all other cash cycle enterprises in our economy is that if you don't balance the checkbook on a regular basis, you self destruct. The number one rule of any enterprise in a cash cycle situation is to

survive. Solvency. And that's true whether we're a city of Madison, or the University of Wisconsin, or an individual household. That becomes the basic ground rule by which some kind of agreement can be accomplished among and between all of the various parties that may have a vested interest in a real estate transaction. We have a fixed point against which to negotiate, which is solvency and survival of the parties at interest.

Now, a real estate project, as I say, is an organized undertaking as an enterprise and generally requires a great deal of expertise. It's all done on expertise. So the real estate business really includes any expertise involved in a real estate project - architects, engineers, lawyers, planners, finance people, leasing people, property managers, etc. All of them bring to bear some form of expertise on the project. Now the project ultimately will be a space time product with some service component and it will always have a corresponding money/time structure. So we begin in this course with a truism that $\text{space/time} = \text{money/time}$ and that's a reversible equation. You tell me the amount of rent you got to spend and I'll tell you how much space I can find for you that's warm and dry in a given semester. And, by the same token, if you bring to me the capital budget on the Taj/Mahol, I'll tell you what the rent structure's got to be in order to justify the capital and services and so forth necessary to go into to creating that enterprise. Give me

a space/time requirement and I can give you a budget, give me a budget and I can tell you how much space/time you're going to get for the money. It's a reversible equation. $\text{Space/time} = \text{money/time}$.

The real estate business expertise is always involved in that transfer and money is the energy transfer system. So the real estate business is any business, any element of expertise, involved in that interchange between money/time and space/time. Now, once that becomes apparent some rather interesting things occur. First of all, virtually all of the profits that are in real estate are in the sale of expertise. Even the expertise of how to get a log converted into two-by-fours or how to get rock converted to cement is nevertheless sale of expertise. There are, therefore, a whole series of profit centers in real estate in the outlays and the one reason that people control the real estate enterprise is to control the outlays. More money is made above the net income line in real estate than below it, because each expenditure in a real estate operation is revenue to somebody's expertise - whether it be the leasing agent or the insurance agent or the contractor or the lumberman or the cement maker or whomever. Each outlay in a real estate enterprise is revenue to somebody's expertise. And, ironically, one of the major reasons for controlling real estate is to be able to divert, obviously, some portion of those outlays to your

expertise. Therefore, the only definition of ownership that works in explaining real estate is trying to identify the degree to which you have power to divert cash to your benefit - legitimately, obviously as the _____ etc. Fee ownership is the ability to divert cash from the real estate enterprise to your benefit. We'll come back to that theme again and again because there are so many subtle ways to do that.

But one of the elements that falls out of that reality is the fact that the public is one of the major owners of each piece of real estate because of its ability to divert cash flow from that real estate. The ability to assess a real estate tax and collect it, the ability to charge fees for the use of public services, the ability to require that developer, for example, to set aside \$1200 out of each lot sale to fund the public park system or to build schools or do any one of a number of other things, exactions as they're called on the development process, indicates the degree to which the public owns a piece of every real estate product. And that's bankable. The public can borrow on that ability to divert cash flow in advance. We'll be looking later at something called tax incremental financing - which you'll hear a great deal about in Madison. And what it really says is, "Hey, me as the public, if I build a parking ramp for you and you build the office building, I'll take the real estate taxes from that office building for the next 15 or 20 years to

amortize the investment I put in the parking ramp. It is to my interest as a city to create jobs downtown and people who will shop at the stores downtown and to keep the spending power downtown by making discrete investments which help make your investment work better." If I build a convention center for you, I can charge a room tax for 9% of the room value and I can have shoppers in the stores which will support the rent values which, in turn support the real estate tax base of my community and I can borrow on that. So we're not talking about something abstract. We're talking about a bankable interest in each assessable property in the community. So again, fundamental principle - the degree of ownership is the degree to which you can divert cash flow to your benefit.

Now the real estate process really involves the interaction of a whole series of cash flow enterprises. And if you look at the circular drawing in your thing - I was in my early compass period here - we have three major groups. The space consumer group at the upper end of the area, the space production group and a public interest structure group. It's much like that says "the big wheel stayed up by the grace of God" if that's the top - that's the drive wheel, demand for some kind of space. Traditionally we were only interested in the space user group - those who were going to rent or buy space in which to enclose their enterprise, their household, their store, their industrial

plant. But in the last 20 years, two other groups have come up of virtually equal power. One we're going to call a collective user - those who see a real estate decision as affecting their cash cycle but who operate politically to accomplish that.

Instead of being in the market place as tenants or buyers, they operate collectively through the political process to accomplish the kind of real estate they wish to see accomplished. We'll look at that later when a citizen's group says in Palo Alto that we want more green space and that we want to maintain low density. The fact of the matter was, they didn't want to share their tax bonanza with any other residents. Two-thirds of the taxes of Palo Alto are paid by the industry in the Silicon Valley. And, as a result, you can live in Palo Alto and enjoy enormous public benefits in terms of education, libraries and all the other good things and hardly pay anything for it. Why would you want to allow more residents into to share that so that 50% of your costs rather than 80% of your costs were being paid by somebody else. The collective consumer suddenly got holy and said we really need to maintain green space on the western edges of Palo Alto. Hooray for conservation and _____. The collective user operates to a point today where virtually all real estate, first of all, depends on the entitlement provided by the collective user. If you can't sell the older person in the planning committee in your ward, the chances are you're not going

to get a building permit to do what it is you want to do. When a taco parlor wanted to go down on Williamson Street, even though all the laws in the world said they could do that, the neighbors said we don't want it because it's not an ethnic taco parlor and they didn't have to put one in. The collective users.

And the third group we're going to call the future users. They have a great deal to say about what gets done today too, although they don't know it. Future users really are of two types. The relatively smaller group is the one represented by the Sierra Club who says that the children of tomorrow should have the right to screw up the world just like we did and therefore we ought to save a little piece of it for them to screw up. That's not the folks I'm worried about in this case. We're talking about a much larger group of future users who are going to be the next users for what we build. Because virtually everything we build today has such a short useful life that, in fact, it will go through three or four or five cycles of reuse by new groups. And unless we anticipate that flexibility and adjustability, we are going to waste a great deal of our resources. For example, the Towers Building on State Street - classic example of an architect coming in at a point when housing was in short supply for students and saying, "I know what the perfect place for them will be, it will be a tube that is about 9 feet wide, 7 1/2 feet high and 30 feet in from the corner to the

window. And in that tube we're going to have two metal desks, two metal closets, two metal bunks, two metal chairs and a shared bathroom with the unit next door. And we can build those really cheap." Northwestern Mutual said, "Look at that, you dummies over there at the State, you don't know how to build a dormitory.

We can do it for 40% less than the State can." And so distribute to architectural and systematic construction went up - highly specialized, highly focused on what the student residents might require as an architect's perceives it anyway. So then the students came home from Nam and said, "Hey, whaddaya mean we have to live in dormitories until we're 21. Whaddaya mean we've gotta have house mothers and hours and no drinking in the dorm, you gotta be kiddin." And the University with a stroke of a pen said, "yea we were kiddin. Live any way ya want." Well, the last place they wanted to live was in the Towers. Now the architect had been brilliant. He said, "you know, we'll build the walls out of concrete and while we're building the walls out of concrete, they might as well be structural, right? no sense wasting all that concrete without making it structural. And, students don't weigh all that much so 75 pounds per square foot floor load is great adequacy and you know if we cut every floor by about 10 inches in height, we can get one more floor before we reach the maximum height allowed on that site which is controlled by a Madison ordinance which says no building can be higher than

the base of the columns on the Capital dome. And they did it. It was beautifully engineered. Only one problem, nobody wanted to live that way. So, of course, naturally in the state capital the first try is, "Gee, it doesn't work, we're going bankrupt, let's sell it to the State." And, of course, the State dutifully comes down and looks at it and says, "Gee, guys we'd really like to buy this for office building, but we need 150 pounds per square foot to handle all our file drawers, the number of lumens isn't enough to shed any light for bureaucratic performance so we'd have to put in a dropped ceiling, more light and that means only little people can walk around in there." They say, "Let's convert it to apartments, well the room shape is a little - goofy so we're going to have to knock out the wall - no we can't knock out the walls because they're load bearing. So you go around in a circle and the highest and best use comes out perhaps as a breakwater when Madison becomes a deep water port. Now don't laugh, Madison could have been a deep water port if we'd only had legislators like they get down in Texas and Tulsa. They can a dig a canal from the Gulf all the way to Tennessee for a deep water port and fund that pork barrel with _____ and Baker or they can get the boys down in Texas to make Tulsa a deep water port and, yet, they're hundreds of miles from anything that looks like water. And we're only 80 miles from Lake Michigan and we're a deep water port. So what do we get? We get honest, well

meaning, intellectual, liberal Congressmen and can we get any graft? No. We still believe in democratic government - a great handicap to our shining state. Anyway.

And the Towers Building is a classic example of no consideration of the future user at all. Said, "hey, wait a minute, maybe tomorrow we don't need that kind of space, maybe we need a different kind of space." So the more generic, the more flexible, the more opportunity that we have to convert our space to the next use, the longer it will maintain its resource value.

Down in Newport Beach which is certainly anybody's dream of where it will come true, I guess, they built industrial buildings a few years ago with 22 foot high ceilings. Now the average industrial worker can't afford to live in Newport Beach any more and so those buildings only five or six years old that have survived and maintained their value are the ones that got converted to office buildings by putting another floor right through the middle of the industrial space. The charm of the old New York brick warehouses and so forth downtown is their total generic flexibility of simply being space fine cubes in which we continue to re-engineer the interiors to adapt to the places for textile manufacturer or clothing industry or apartments or artist studios or whatever the need of the moment may be. So today our space consumer group you really have to keep your eye on three groups: 1) what's our collective consumer going to think about

this and will they get entitlements to do it? 2) what's the next use going to be have we closed our door dramatically on virtually any other reuse of the project because it has a relatively short social life as it were? and 3) finally can our space user afford it? Can he afford to rent it? Can he afford to buy it? Does it provide what he wants, where he wants at a price he can afford?

The space production group are those which are involved in creating the real estate projects on the site. It doesn't have to be public, it doesn't have to be private - they're simply involved in creating the product on the site as opposed to the public infrastructure group which creates off site elements of the total product - the water system, the street system, the fire department, the police department - all of which are necessary functions which have to be provided in one form or another often have collective economies of scale which are better to be done off site and then the water is piped to the site or the sewage is piped away from the site or the streets system brings them to and from and so on. But it's just as much a part of the real estate.

If in fact you don't go into an urban area and you have to go out into the hinterland, you have to create all of that for yourself. For those of you who travel up and down interstate 90 probably see from time to time that the White Gear Company plans along side the road, on the east side of the road, and in front of it is this marvelous pond with fountains and swans tootling

around and so forth. And everybody says, "isn't that sensitive of them to provide that kind of rural aesthetics." That's got nothing to do with comfort, the fact is there is no water system out there and to have a decent fire insurance rate they have to have so many gallons of water above surface in order to feed their fire system and you can't get it all plugged up with algae and gum and muck so you got to aerate it to keep the water clean.

You got to have a little swan paddling around to eat the debris in order to keep the water quality up to a point where you can pump it around the outside of the building and bring it to the point where the fire is. It's all part of their insurance rate.

In this case the off site services that might have been provided in an urban environment, have to be created on site. So there's a great deal of flexibility in terms of the infrastructure that may go on site or off site but we make the distinction that if it's off site we're talking about a collective kind of business which may be the water utility or the bus company or the recorder of deeds, all aspects of government and so on. But if you don't have that off site, then you're going to have to create it on site. Fire engines, security service - you name it. In fact, at one point when Connecticut General moved out to its SOM designed glass box in the hinterlands of Hartford, CT they were devastated to find out they were losing all of their key employees because the key employees couldn't do their convenience shopping during

lunch. They we used to going to the shoe repair or handling the various domestic matters during their lunch hour. They, in fact, had to convert the first floor into a retail shopping center so that there was a sportswear shop for the ladies and a shoe repair shop and a liquor shop and a delicatessen and all of the other things that they normally did during their lunch hour. And then they had to add a bus besides that would ferry people down to the major regional shopping center so they could do the kinds of things they used to do in downtown New York City during their lunch hour. If that infrastructure isn't there to support, the on site isn't going to happen. And sometimes that gets very subtle. For example, we were involved in a case out in Seattle in which they suddenly realized that there was one beautiful little truck farming valley just on the edge of Seattle that was known for its strawberries and its other kinds of truck farm production might be becoming encroached on by estate type development and become a residential area, and so they decided they wanted to save it and they would buy all the development rights and allow everybody to remain as a strawberry farm and compensate them for the loss in value because they couldn't sell to subdividers who were going to create single family homes. So when they got into it and analyzed it, they discovered, due to their sadness, that that point had already tipped over. That there were not enough strawberry farms in the area to support a

packing house, which was necessary to provide an outlet for marketing it. It wasn't there in sufficient strength to support an agricultural supply organization that provided the fertilizers and the seeds and all of the other technical support. And, in effect, it was no longer possible to have an economic strawberry industry because the infrastructure necessary to supply it, and support it, and provide a market for it had already evaporated because they had moved beyond that critical mass necessary to support that kind of economic base. So you need to look at all three of those elements - who our space consumer group is, what kind of public infrastructure do we have and what space production groups do we have. And the one thing they all have in common is that they are organized undertakings on a cash budget.

And whatever solution you find must be able to allow each of them to survive at their cash break even point at the very least.

Now, the solvency is only the first point of departure. Obviously to continue simply to break even is a somewhat discouraging effort and, therefore, we generally need to provide some sort of surplus so that the managers of the enterprise gain credibility with those to whom they report. The mayor who could provide a surplus in his city budget will obviously have considerably more political power than those who end up with a deficit. And the same is true whether you're running a hospital, or a university, or your own checkbook at the end of the year.

Your spouse will allow you to control the checkbook another year if, in fact, you have achieved a surplus. So, cash is the requirement to enhance the credibility and efficiency or reputation of efficiency of the manager. So we need solvency as a base point, we need a cash surplus in order to create stability of the organization and credibility of its managers with those to whom it reports - whether it's the board of directors, the board of trustees, the city council or any of the broad elected constituencies if you're running a little co-op on Langdon Street, the management better well produce a balance on the books and a little cash surplus if they're to retain control into the next fiscal period.

Beyond that, we have, of course, we have the larger social issues of are we using our capital and our cash efficiently. Only after we've achieved survival, only after we've achieved credibility, if you start to play intellectual games that says are we optimizing, are we doing this efficiently? In this day and world if you can just survive and make a little to set aside for the future - you're optimizing baby - no matter what they say across the street. Internal rate-of-return is an intellectual exercise which has almost no relevance to the management of an enterprise. All it says is, "gee, I wonder what my ratio of repeats to outlays is over time" and obviously, there is no final point that represents nirvana and final success for the

enterprise. You'd obviously like to be able to see if you could tighten up the enterprise and do better. While all of the intellectual conceits of capital pricing theory and so forth are simply targets by which we begin to motivate and measure performance but are certainly not the objects in and of themselves. The object of any enterprise is not profit. Profit makes possible the other goals of the enterprise, generally the life quality of management. It doesn't matter if it's a university or a private enterprise. Profit is not the object. It is the means to the objective and the objective is to enhance the life quality of those who run the enterprise. That's why universities are run for faculty, not for students. After all, if we were profit minded, we'd take much better care of you in a sense that we could keep the surplus from your tuition. Since that doesn't work in a public university, universities are run for faculty - they're run for chancellors - they're run for administrators. The number of degrees that we produce is simply a by-product of the attending to the life quality of those who would like to live in Shangri La.

Now, the concept of highest and best use that we addressed in the first lecture simply presumes that we were going to maximize wealth. It was one of those internal rate of return things and it was so narrow that it was simply trying to maximize wealth for the property owners - laissez faire, 19th century

economics. But it taint so. Because of the democratic process by which real estate is created in dialogue and in stress between the consumer group, the infrastructure group and the production group we do move effectively towards something called most fitting use. Most fitting use is the optimal reconciliation of effective consumer demand, the cost of production and the fiscal and environmental impact on third parties. That can't always be measured in financial terms. It has to be measured in terms of esthetics and satisfaction, as well as respect for other interests. The reconciliation ultimately involves some kind of balancing of who pays and who benefits. Now we're going to come back to that theme again and again as a way of providing you and me some way of dissecting all of the heat and sound and fury of the real estate process and try to get behind the scenes and saying who pays and who benefits.

The most probable use that is recognized is the fact that we fall short of our ideal. The normative and that we eventually have to respect short term considerations in terms of technology, pressures on the consumer, or the actors that are involved in the decision process and that while we take aim on the most fitting use, we achieve the most probably use. And the most probably use is where we begin our analysis. How do we begin to identify the most probable use of a piece of ground or a piece of real estate.

And then we move out from there in terms of the larger issues involved. Bring your lecture notes to class next time.

OK, a course in problem solving. If you want conflict of resolution, it's my view that the university education can not only teach you to enjoy more about what you see about you, but indeed perhaps something to provide mechanisms for the conflict resolutions that will be needed as you move into the outside world. And real estate is really the battleground of virtually every major issue of our time and our society is a manifestation of one point in time of our weakest and our strongest points as a society and those battles continually are fought out over the development of each building. Can you imagine what would happen if General Motors had to produce each car by going down and getting a specific building permit from the city council and having the virtues and not such attractive features of the car open to discussion all over again and perhaps one of the council members saying I bought one of your automobiles and the ash tray didn't work and by golly I'll never give you another permit. And, now the city councilman is sitting there saying I lived in one of your apartments and you didn't change the washer fast enough and I'll be damned if I'm going to let you have a permit to build another apartment building. But, nevertheless, that's what the real estate process goes through. Each decision is

another cycle through the public process of decision making.

And, everything that can involve the social attitudes and conflict and viewpoints of our society, whether it be by class or by region or just by vested interest of the individual making the decision, manifests itself once again in the real estate process.

That's what's fun about teaching real estate, in it allows us to preach on virtually every major issue that it can find at any particular point in time. And, the fact that anything gets built at all is a minor miracle and is a statement of the strong mindedness and willfulness of the ironics that we call developers in our society. But, nevertheless, the real estate process is critical. If we can not understand it, if we can not control it, and if we can not devote it to creative purposes, we, as an urban society, fail. And we are an urban society, there's no two ways about it. And, therefore, we need to understand the process so that at some point you can react knowledgeably to what you read, knowledgeably to what you participate in, and can do that without the paranoia that really doesn't permit you to tell your friends from your enemies so far as the terrarium about you goes.

Now in judging whether a real estate succeeds or doesn't succeed, there are probably several different models that we could follow. One, of course, is the physical model of the manufacturer of an artifact in which we tend to talk about some sort of template which represents the context, within which

something is supposed to operate, and the form that we're going to give the ultimate solution. The artist initially talks about the physical form but in real estate we could extend that form into our legal arrangements and our financial arrangements and even the software of our organizational characteristics. But, in any event, context becomes all of those things which are given or all those things which are uncompromisable goals that we must have. And form are all of those options which are available to the designer in which he attempts to accommodate that context and solve a problem. Consider, for example, if you were trying to judge something so simple as Indian pottery spun off a potter's wheel and we were trying to determine whether it was attractive and successful as an artifact or a vase. It doesn't really matter if it's pretty or not. If it was intended to boil water and it had to boil water over a mesquite coal and someone was expected to lift it off of those coals and pour it into some other vessel and you need a certain amount of water to cook a certain amount of food, and so on. That becomes part of the context in which that has to operate. And, if in fact, the clay in the certain part of the southwest as a coefficient of expansion that limits us to certain forms and certain thickness of the clay, because otherwise the heat transfer will be unequal and cause it to crack open and split before we in fact have achieved the water, that becomes part of the context in which the

artist must operate and control the curves and the form that he can provide that pot and get a thickness of the walls that it may have and so on. And if the glaze that we require to hold water from sinking into the vessel and so on, has certain characteristics and limitations, that becomes part of this context. Now, within those elements there may be certain elements of choice. So you only judge whether in fact the artist has succeeded in this complex problem of spinning a pot that we can then glaze and temper and use for boiling water. If it works, if it does accomplish what that artifact was expected to accomplish, and so in real estate we begin the same way. How do we define the context within which a particular real estate solution is expected to operate. And then what were the choices that that real estate decision maker could make from an array of options and now can we judge whether, in fact, that property works within that context. If it does, we can talk about it as a successful project. If it does not, no matter how attractive it may be, no matter how many awards the architect may receive, no matter how many dollars the developer can make, it's still a failure as a real estate project if there is a significant misfit between the form of the solution and the context at which it was expected to operate. So I'll give you these two very simple little illustrations. A number of years ago we had one of our summer interns working for Charles Shaw out of Chicago who had

just done Lakepoint Towers, which was a very successful project, and it was proposed that he build an office building over the Roosevelt Street Station. The Roosevelt Street Station I think is the second or third one down going south from Randolph Street on the Illinois Central. And the premise was that Mr. Rubloff had been so successful in building office space over the Northwestern depot in downtown Chicago that any office building in which the individual could get off the commuter train, take the elevator upstairs, and avoid the cold, wind, and the rain of downtown Chicago must ultimately be a success. That was the hypothesis. Now, when he gets down there and Mr. Shaw says, "Gee, Michael I'd like you to prove this project is feasible, meaning that the present value of the receipts are going to exceed the costs. And Mike takes it seriously and he figures he really wants to know that and so they survey all of the people who ride the Illinois Central. Well, they all turn out to be Indians rather than chiefs. There isn't anybody riding the Illinois Central who signs the lease - who gets to make it, based on role in the decision making process. They call it the lower income community and so he comes back and he tells Mr. Shaw and he says, "Golly, they all think it would be a wonderful idea but there's none there that can sign the lease. People who sign leases ride by car." So he then goes out and takes a survey of the cars turning off the outer Drive onto Roosevelt Drive and he

gets three hundred brand new automobile license numbers and sweet talks one of the girls in the motor vehicle department into giving him the names - half of them are corporate owners who provide them as a perk to the exec. And the other half he gets the names on and he queries them and they say, "Sure." Turns out they live in Wilmett and Lakeforest etc. etc. to the north. They wouldn't ride the train on a bet, they don't think it's safe and they all park in the building in which they're currently renting office space and pay \$50-\$100 a month for that privilege. And, they all knew where the site was and they really weren't interested because it wasn't in the Loop. And so he goes back and tugs at Mr. Shaw's coat tails and he points out that the architectural program has no parking in the building whatsoever because the premise is that everyone will arrive by train. We now have a significant misfit between the expectations of the consumer and the form of the program that's being advocated. Well, Mr. Shaw says, "Don't worry about it son, we're going to get the overspill of demand from the Loop." And, of course, he says, "Gee, that's right I forgot about the overspill." He goes on and he adds up the amount of space coming out of the ground in the downtown Loop which is about ten million square feet at that point in time and does a calculation as to what rate new space is being absorbed into the office market which is about a million square feet and that suggests the overspill theory won't work for

ten years, that's as long as nobody else starts a building. So he tugs at Mr. Shaw's coat tails again and says, "Explain it to me again about that overspill. The statistics here indicate that there's about ten year's supply ahead of you in the Loop and why would anybody come way out to Roosevelt Drive if they can simply step out the door of their current office and find space down the street. And the building was never built. Notice, he went right for the juggler. It didn't matter how attractive, how original, how creative the concept of the building, there were two significant misfits - there was no demand that was going to reach down to that area and pay those kinds of rents and those that might expect to park their car in the building, there was no design provided for parking space within any convenient point of the building. With that, a multimillion dollar project failed, and \$200,000 worth of blueprints get dumped in the incinerator and it's all over. Context, form and we want to look really at the ensemble. Is there a fit between the proposed solution and the template of events and characteristics and elements within which you must work.

That in some ways is a very physical, static concept of measurement of success. Today the enterprise engineer talks instead in terms of power. We were talking about enterprise before and enterprise is any organized undertaking of individuals. And the industrial engineer says that an enterprise

in terms of its configuration and its behavior at any one point in time represents a negotiated consensus between two general sources of power. The power outside the organization to impose its will on what it will have that organization do and become. And the power within that organization to push back and decide for itself what it will be and what it will do. That's a much more dynamic statement really, about how our American process works. The city council has a view of what downtown will be like or the mayor has a view of what downtown will be like. And he can push to accomplish those objectives. And the development fraternity within that context can push back and say, "Wait a minute, that isn't going to work or this is going to work" and so forth. And each environment is very distinctly different. Minneapolis and St. Paul both have outstanding development records and yet St. Paul has a dictatorial mayor system that if you want it done you talk to the mayor and if the mayor likes it, it shall be done. Where Minneapolis has a very strong city council, weak mayor situation in which the power is with the council and you have to be very careful to maintain your communication lines open into that political sector in order to move in the direction in which you may want to take your development firm and so forth. And, of course, there's all forms of power. The consumer that we were talking about, obviously, has a great deal of say in what he wants and doesn't want and so

forth. And obviously the collective system who are operating politically have something to say about it. And those that are trying to anticipate the future and have some vision about what it should be and what we could be in the future, have something to say about it - all with varying degrees of power at various points in time. All of those begin to impose on the development process. So we begin to judge a real estate project or those that are involved in the real estate, we really have to put into context at any one particular point in time what kind of forces were arrayed against them with their vision of what his project should be. And then, what kind of forces internal to the organization were they capable of applying.

Let me give you an example. The University of Wisconsin would like to develop a golf course, presumably because we are the only big ten school that doesn't have one. That logic is lost on me, but for the moment let's assume that that is a good thing to do. And so they bought land out here on the west side of town to do that. Then they said, "Gee, what we otta do is help finance the golf course by selling some residential enclaves around the outside perimeter of the golf course and then people will pay a premium for open space and the green space and so forth and so on. And all of a sudden the environmentalists come and say, "You idiot, that hilltop is the prime auto baan area in the state of Wisconsin. It has the longest autobahn history and

is in a major flight pattern for birds because it's one of the high points in Dave County flanked by water on one side with Sugar Creek to the west and corn and good things to eat on the valleys on the other sides. It's a high water recharge area and we shouldn't tamper with that and so forth and so on." And somebody else says, "Gee, that's a bad example to set for urban sprawl." And forces come out of the woodwork from all over. The University Foundation very well meaning, very innocently stumbled into that but, as an organization they're intended to make friends for the university. Their primary function is to attract support for the university. They can't go pick a fight and say I won because I got fifty-one percent of the vote. Because forty-nine percent of the people that are mad, are still going to be mad at them the next time they knock on the door for money. They can't take on that kind of outside force and so they have to cut back and say, "OK, no residential, we'll build the golf course. We won't go through the main part of the woods, we'll nick the corner of the woods with our fairways etc. And we will set up our water systems to enhance the high water recharge area rather than encroach on it and so forth." So the outside forces are winning - they're shaping the golf courses to be consistent with environmental and conservation and preservation aims simply because the agency in this case, can not, because of its character in terms of its fundamental mission of making

friends, and also just because of the people that are in it. The people who are in it are very nice people. They're in a university environment in which high levels of sensitivity to the environmentalists and conservationists and so forth are socially appropriate things to be in favor of. Whereas, if you get a developer who is a little more single-minded and purposeful about what he is going to do, he says, "hey, enough is enough, you want a park you buy it, you're not gonna steal it from me." And he takes on the world head on and maybe a little more adroit politically and so he wins 51% of the vote and he goes forward and he doesn't care if the other 49% don't like it. You're not running a popularity contest. So the nature of the enterprise, the nature of your ability to push back and decide what it is you're going to do as opposed to what the outside forces decide you're going to do has a great deal to do with the final outcome of the result. And quite often, of course, when you get everybody in the community telling you what to do, you end up with something that looks a lot like a camel. A committee project in which nobody was in charge. Most of the good real estate has always been done by single-minded individuals. There's almost no good real estate done by committee which does not bode well, obviously, for the convention center. I think that is why real estate is dominated by personalities who have long since forgotten whoever put U.S. Steel together but we still

talk about Trammel Crow and Gerald Hines and Mr. Rousa and so forth. Real estate is almost always dominated by a strong personality, some have more sensitivity than others to the current issues of our time but, nevertheless, is a highly personal creative product of a very creative neurotic. There's nothing wrong with being a creative neurotic - our society depends on them. But on occasion they obviously are fairly irritating to work with.

Now, given that as a basis, there are really only two problems in real estate, maybe three. One is a site in search of a use. I have a piece of ground with a little old building on it, what am I going to do with it now? The alternative is - I have a use. I need to find a site for my factory, a place for my store, I want to locate my family someplace, and so forth. So I have a use in search of a site. And the third problem which has only been relatively recent is I have a lot of capital that needs an outlet to fund pensions forty years from now. How do I find a place in real estate or, since there's not enough space in the stock and a bond market for it. So I really only have three problems. A site in search of a use, a use in search of a site or capital that would like to use real estate as a temporary repository until it's needed for some future use.

And we're going to begin with the first of those problems which is a site in search of a use, although, typically that's

not the way to begin. Typically, we're much better off to be given a use in search of a site. We're much better off to define specifically what kinds of things we need at a particular piece of ground or building and then go find a match for that particular need. But, we'll begin with the other problem first, a site in search of the use so that we can begin to understand a little bit more about what is real estate. What kind of attributes are we looking for?

And with that, we'll switch over to our lecture notes number 2. Move down to Roman Numeral II if you would, item B. In analyzing a piece of property, there are five basic sets of attributes which combine really direct us toward the most powerful use. The first, obviously, are the physical attributes of the site and the improvements, we'll talk about those further in a moment. Sometimes called the static attributes.

The second are what we call the legal political attributes of the property. The legal elements depend, of course, depend on what kinds of rights and responsibilities you get. But today, nine-tenths of our law which controls real estate, is in the administration of the law. The commission which applies the rules, the land planning group that approves the plan, the city council which votes the permit and so forth. And so I really can't talk about the law without talking about the administration

of it. And that becomes a political process. And so we really talk about the legal/political attributes of the property.

The third element is what we call the linkage attributes and this is perhaps the most critical concept of location that we have. I'm sure you're all going to go home and say, "Gee dad, we're taking a real estate course, and dad's going to say, and you can hit him if he says it, 'Aw, there's nothing to real estate, it's location, location, location. Big Deal.'" "Then say, gee dad, what's location?" "Well, it's a place where longitude and latitude cross." "Oh, that will get me an "F" in the course." Location always exists as a relationship of the user to something else. It has nothing to do with the longitude and latitude point. And we'll see that linkages have to do with the interrelationships of the establishments at a particular location - it is not inherent in the location itself.

The fourth element that we're going to talk about is dynamic attributes. Dynamic attributes are those which exist in the mind of the beholder. Status - gee I want to live in Maple Bluff. You know, it's ironic, if you go to the historic library there's a wonderful dissertation by some student who graduated about 1922 here and he had to do a dissertation so he analyzed Maple Bluff.

He said it was doomed to failure. It was a packing house on one side, there was swamps on the other, there was a rail line that went right through and the road going out there was full of pot

holes. Nobody in their right mind would ever go to Maple Bluffs.

Now, of course, if you have to be in high society, you have to go to Maple Bluff - no doubt about it. And I can always remember one of our mayors complained about the fact that the developer of Cherokee was in an area in which the water table was relatively high and was afraid that if the Yahara went any higher that basements would flood. And he was shut up when the developer showed him that the mayor's own house was in fact about two feet lower than anything in Cherokee and his basement was much more likely to flood than anything out there. And he did see any objection to his house in that locale. But, in any event, dynamic attributes have to do with those things which are in the mind of the beholder - the esthetics, the status, the anxieties and so forth. And, finally, we have environmental attributes - the off site environmental attributes. What will happen off site if we develop the site. Where will the storm water go? Will we pass or reflect heat to the building next door and screw up their air conditioning system. Or will we intrude in terms of additional exhaust fumes, and so forth, in terms of an air situation or will the traffic pattern become unmanageable as a result of this additional element. So if you want to talk about the environmental attributes of the site. What are its limitations in terms of its capacity to handle a new site.

OK, let's begin then by cataloguing some of the elements of the site. We often refer to this as site reconnaissance. So if you are considering purchase of a particular property or as a feasibility analyst you are called in by somebody to figure what am I going to do with, now that I own it sort of thing. You would begin with this type of catalogue of attributes and begin to see what it is we have that's positive, what negatives do we need to neutralize and, maybe, what it is that prevents us from using it all together. Obviously size and shape and the total area becomes a significant element. Size has to do with the efficiency of the site. Interestingly enough, for example, in the areas originally colonized by the French, they worked on a very narrow but very long band of land. If you look up as you fly over Green Bay some time, notice that at the mouth of the Fox most of the land seems to be very linear running inland. Everybody was to get a few feet of the Fox and then they had a cross section going way back up into the bluffs. Well as the traditional US geographic layout is a very square - one square mile divided into smaller 40 acre sections, 160 acre sections and so on. Well the shape determines in many ways the efficiency of a site. If you have a site on State Street that's 22 feet wide and 132 feet deep, there's not a lot of area for window space and not very efficient floor layout and you don't really want to go very high because most of the space will be taken up by

stairwells and elevators and utility runs relative to how much window space you get. And, as a result, you probably are going to stay on a very low rise basis. On the other hand, if you can buy three more lots next to you and end up with a piece that's 88 feet by 132 feet you can get a much more intensive use of the site - there's more window space, and so forth. So size, shape and lot area have a lot to do with the efficiency of the improvements that you can place on that site. And we can go through that illustration ad nauseum.

By the same token, what you can do with it is going to be impacted by topography - is it flat, hilly, etc.? What kind of soils do we have? Obviously there are areas in which the soils won't support much of the structure. Look at Los Angeles with its heavy rains and expandable soils and suddenly you're \$200,000 mansion turns out to be a mobile home moving down the slopes to the next neighborhood. Geology has a tremendous amount to do with the success of cities over time. New York City and its high rises is made possible by the fact that Manhattan is essentially one big solid slab of granite and as a result you can tunnel and do all kinds of things and carry tremendous weight on it and as a result it lends itself to the tallest buildings in the world and so forth. Take away that kind of geology and you now have seismic problems, let's say, in San Francisco or in other parts of California, it dictates an entirely different type of

construction and a much more significant lid on height and so forth. The geological history of many communities is a very fascinating aspect of it. If you'd seen the city of Madison's geological history in Mullenhoff's History of Madison book, I think you'll find it, fascinating to find since most of you are living in some aspect of a lake or whatever of a few eons ago. But, in any event, geology determines a great deal of the characteristic of the city. Anchorage, Alaska, for example, the commercial areas are built on nodes of gravel that poke out between the basically frozen tundra that's around it. And there are many lots in Anchorage which you can't build on because there's an ice layer that's still buried down in the peat someplace that, were you to put a building on top of it, you would gradually melt the ice and your ice would settle gracefully into the ground until the third floor was the first floor. Geology, therefore, becomes a significant element. Just one more example, a steel mill didn't pay much attention to that, had one of these huge hammer presses of multithousand pounds to stamp out car roofs. And, they did initial boring in, limestone, that's where we'll build it. They built the plant, put on the press and the press pounded itself into the ground because the first layer of limestone was from the last geological era but below that was a peat base from the previous geological era which was over another limestone base, which was over another peat base. By

putting it over that kind of ground, it was simply not able to carry the vibration and impact characteristics of the press and it was necessary to pick the whole thing up and move it about 500 yards to where the geology was capable of supporting the plant. Ironically, that could have been discovered by simply taking thermal photography from a piper cub with a 35mm camera because that peat still radiates more heat from that particular point than would be the more stable rock formations that would have supported it. So the geology becomes a critical attribute whether you're talking about a farm field or whether you're talking about a building site. Slope stability for obvious reasons, bearing capacity of different soils varies widely and there's a course going on presently with Gerhardt Lease called soils for land use planning over in the soil department which for real estate people is a critical course. And, as a matter of fact, I can remember a couple years ago being called by an attorney who was representing a client who was suing one of the graduates from the University of Wisconsin who he had sold a lot to a client to build a home on, and the home had graciously settled and cracked, broken up and had various little problems and the issue was that if he was a real estate major at this school, had he ever had a course in soils, if so, he should have known better and therefore was publicly liable for having sold somebody a lot that wasn't buildable. So, as a result, real estate becomes a very eclectic

field in which all of the various sciences and disciplines begin to bear on the success and efficiency with which you operate. Septic suitability - two-thirds of the state of Wisconsin is unsuitable for septic tanks and yet most of them use septic tanks and with more or less undesirable results. Potential for subsidence - for example, Florida is really built largely on water soluble lime stone stump and there are sheet flows of water through Florida which erode much of that limestone and leave large limestone caves underneath which, as long as you only have light flora and fauna above, are perfectly capable of carrying themselves and then you locate a house on top of that and suddenly it falls through 30 or 40 feet down. Most of the lakes in Florida are the result of subsidence of the soils as the limestone below was moved away by the water flow. And, various areas - Pennsylvania with their coal mines and Florida with its water soluble problems and areas for example, all of San Jose's downtown is gradually sinking because the nature of the soils there is such that the water is trapped under an impervious surface or above an impervious surface and they are pumping that out for irrigation. And, as a result, gradually the soil compresses, as they become dryer and now downtown San Jose is a couple feet below the water level of San Francisco Bay at high tide. Downtown San Diego, as they pumped out the oil under the naval base over the years has sunk to a point where some of the

naval base has to be diked to keep out the ocean at high tide and so forth. So, subsidence, is a very real problem in many different areas taking a variety of different forms.

Water table is a critical element for several reasons. One, obviously, you don't want it coming through your basement. A couple of years ago it was necessary to get the Corps of Engineers to set the average height of Lake Mendota a foot lower because most of the houses on the east side of Madison and so forth, basements were below the mean water height of Mendota and therefore, constantly had six inches of water in them which meant that water level was exactly level with the water level of Lake Mendota. Almost all of the area starting with Tenny Park and coming this way about four blocks and then going all the way around the lake, in fact, had basements that were below the level of Lake Mendota. And it was necessary to reset the height of the lake in order to keep the basements dry. So a water table, for a variety of reasons, is a very significant factor. The presence of wells, whether they're permitted, whether they're desirable and so forth.

Streams and ponds, not only the existing streams but the old streams - where were the streams in the last glacial? For example, when West Town Shopping Center was built the developer came out and bought all three sites that could have been potentially shopping centers - or at least put options on them

for negotiation reasons. And, the first farm which is the northeast corner of Mineral Point and the Beltline was often regarded as the front runner shopping center site on the west side. The fact is, though, that Lake Middleton, the last of the glacial lakes during the last glacial age had its major outlet running through the Frisch farm, and as a result there are deep peat deposits along the old stream bed, well below the level of the ground which would have all had to be removed before you could build a shopping center on top of it. The developer knew that, the seller of the site on which West Town is built didn't, and as a result, sold at a considerably lower price than they might have otherwise obtain because they geologically had the only site suitable and capable of carrying the regional shopping center in that general area. So, it pays to know what you're doing and to know the territory and to know what was there before as well as now.

Another good area of that is along west Washington Avenue starting about at the old railway station, there was a stream that came out of Lake Mendota and wandered across toward Regent Street past Madison General Hospital. There's a couple of lots along Regent Street which have only parking lots on them because the peat is so deep you could not afford to build a commercial building on that site at the moment particularly about at the intersection of Mills and Regent. So you really need to know the

territory and what was the geological history of that particular area.

Storm water swells. There used to be a time when we figured we could build anywhere but we found it isn't nice to get in the way of mother nature and therefore we want to keep our flood plains and our storm water areas flowing naturally with a minimum amount of obstruction to simply get crushed by the water pressure of a hundred year flood line.

Shoreline edges. We've discovered that for much of what remains of our natural environment, that the critical elements are the environmental edges where water meets the land, where the hedge grow meets the edge of the field etc, etc. - where the woods meet the field. And these edges need to be preserved. And so in southeastern Wisconsin regional area of Wisconsin, it has been determined that 25% of all soil land edges will be in public ownership by a specific date and our land use regulations provide for acquisition of those edges or neutralization of those - in the building process you're not allowed to cut trees down to improve your view - just as in Florida you're not allowed to cut down the mangroves and the cyprus trees along the water's edges in order to improve your view. They're critical to the environmental balance of those edges and the shore land edge as well as what is called the bulkhead line set by the US Corps of Engineers is a critical element of knowing how far out into a

river bottom you can build and what jurisdiction may have control of your land.

Floodplain designations. Only recently have we gotten reasonably good maps of the 100 year floodplain lines. And, most of the disasters that you read about in terms of floods moving through urban areas is because those were always disregarded. People built their houses let's say in Rapid City South Dakota where we had a major disaster, I think, two years ago in the hundred year flood plain. So it's not too surprising that when we have that unique hundred year storm that the water comes pouring through the neighborhood. So, it's perfectly predictable that's where it's been going for hundreds of thousands of years.

If you look at it carefully environmentally you could have proven that beforehand. Spring Green, Wisconsin is built almost entirely in the flood plain and if it weren't for the fact that the Wisconsin River now is virtually controlled by its dam systems and so forth, it would periodically go under the water. Plus the little town that they just moved out here along the Kickapoo. Pardon. Soldier's Grove classic case in point where they could have spent millions of dollars building dikes and dams and so forth to keep the water out of the town - they found it was just cheaper to move Soldier's Grove over a few hundred yards and create a new downtown and get it out of the way. And now it is illegal for a federally regulated lending institution to lend

on structures which are being built in the floodplain unless the community is involved in certain flood control programs and is setting various standards for that kind of location.

By the same token we may be interested in the flora and fauna which are on the site. Sometimes the trees and the vegetation enhance the marketability. In other cases it maybe so unique that we don't want them to build on it at all. That it is the last breeding ground of the monarch butterfly as one developer discovered out in California recently. Why the public will simply build a line around that 50 acre ravine with its unique spawning characteristics and say, "Thou shalt not touch".

And suddenly 50 acres just dropped off your usable land area. The development of the Madison south side along the Yahara and along the Mud River. The developer bought what he thought was 400 acres of development land. By the time they defined what was in the water wetlands area, he lost about 150 acres although there was no history of anybody ever seeing it underwater, it nevertheless was characterized by water-related plants and little critters that crawl around in the mud, and as a result, it was deemed to be wetlands area and unsuitable for development.

Not only are we concerned with the natural constraints imposed on the land, we're also perhaps very much interested in the man-made constraints on the land - concealed utility easements, old foundations, old railway lines and so forth which

all tie into our land use regulations in one form or another.

Interesting piece of ground out here at the intersection of the Beltline and 12 and 18. The client, a number of years ago said, "Gee look I just bought this nifty 100 acres out here, what do you think?" I said, "I think you ought to get your money back.

There's a sewer line that runs east and west across there that goes out to the Holiday Inn number 2 and the public golf course and you can't build over that without building a very elaborate concrete bridge over it with tunnels so they can repair and service this without having to have you tear your building down.

Running north and south of it is a high pressure gas transmission line and you're not allowed to build within 50 feet of either side of that because they have a bad habit of corroding and blowing up. And, furthermore, you're not allowed any access on the site from either 12 and 18 or the Interstate and therefore to get there you've got to drive a mile and a half down highway 51, make a left turn and cross four lanes of traffic, drive a mile south on 51 make a left turn to cross another lane of traffic which happens to have a lot of tank trucks going by, drive a mile and a half east, turn left and another mile north and you're there!" Not exactly a convenient retail area. I asked them if we could in fact default on the mortgage but unfortunately it was drawn up by an attorney that I had representing me too and there was no defaulting on the contract.

So as a result, he owns a very nice peat bog. Proximity is not location. Proximity is not accessibility. You can be right across the street from something but if the traffic's too heavy, nobody is going to get across.

Old utility easements, one more example. The Fauerbach Condominiums built in an area in which at one time there was a railway track siding coming along the back of what is called Machinery Row and our ordinances state that you can not build any closer to the lake than the previous existing improvement line. Well, the people that bought the property were using a different rule which said that you could use the average setback of the adjacent building. Well, the adjacent buildings were quite a bit further down the shoreline because most of the nearby buildings had been torn down. And they thought they could build much closer to the lake than they could. As a result they lost most of the land that they thought they could build on - it was no longer feasible to be a hotel and they took a bath on the site by having to sell for condominium development and the setback on that project was determined by the old rail line which everybody had ignored because the rail line had actually abandoned the easement so that technically it wasn't there but the physical track was still there and that defined the buildable area of the site.

Old foundations may also be of significance. Sometimes, positively. For those of you who have been to San Francisco - perhaps saw the Cannery which is a specialty retail tourist area in the Fisherman's Wharf area. The reason they retained the old brick walls was that by using the old brick walls, it was a remodeling project and, as a result, they weren't constrained by the very tight floor area ratios that had been imposed on the area. They could get a lot more usable floor area onto the site than the law would have permitted had they built a new building.

So by retaining the old brick walls and building a whole new building inside of them, using poured concrete and so forth, they qualified as a remodeling job. The same is true on the left end of Lake Mendota. You buy a cottage and you remodel it and you can be much closer to the water than if you tore it down and started new at which case you'd have to be 75 to 100 feet back from the water's edge. So, quite often, the fact that there is an existing improvement which can get you around one element or another of a land use control factor, may be a plus rather than a minus. In another case, that same improvement may be a negative factor if it's an old landmark and they won't let you touch it.

We also have access points. Where can you get on and off the site. How much space can you have, how many lanes can you have? Again, the old Frisch farm out on the west side, which was thought to be a prime candidate for shopping center development

was only allowed, by the highway department, two lanes of access onto the Mineral Point Road. You can not handle the traffic created by Christmas shopping with only two lanes of traffic. Two lines of traffic waiting to get onto the main drag would be so incredibly long that it would snake through the rest of the project. You need, obviously, multiple lanes to move 2,000 cars an hour on and off a site, for the Christmas shopping period. Hence, it did not have adequate access even though it was immediately adjacent to some major streets.

You may be interested in what kinds of private right-of-ways go through the land. And, quite often those are what are called floating easements and they can be devastating because you have to provide access to the guy behind you and yet nobody ever negotiated exactly what route they could take to get there. And that gets to be very messy. But when the First Wisconsin bank building was built on the square, there was an alley that came down the middle of that block to the Tenney building and the Tenney building owned the easement to the alley. The owners of the Tenney building decided they wanted to sell, the building was getting old and obsolete and so they sold the Tenney building to the First Wisconsin for almost a million eight. So that the First Wisconsin could get control of the easement over the alley and then they extinguished the easement so that they could build a building over the whole block and then they sold the building

for a million three. So it's \$500,000 just to get rid of the easement that cut the block in half. And so those are very critical problems that you need to be aware of.

Site improvements such as paving, retaining walls, pedestrian paths, culverts all tell a story to the real estate analyst in terms of what the possibilities are and what the potential legal problems are on that particular site.

Is the site a landmark or not? Has it been designated as a historical landmark. If so, what constraints does that impose on the use and renovation and the responsibilities on the owner to maintain that landmark in an attractive fashion. What about the historical site feature? Gentleman up in LaCrosse has an interesting problem in that he bought 200 acres for an industrial park adjacent to the train company's plant only to discover that it is the richest area of Indian artifact probably in the Midwest. There was a major Indian encampment for centuries and virtually every square foot is loaded with arrowheads and pots and all kinds of things for the Indians and nobody will let him turn a shovel of dirt on his industrial park. They said he is expected to warehouse those artifacts for the anthropologists indefinitely. And, though he hasn't quite figured out how to solve the problem, he would like to give the land to the state historical society and at least get a charitable deduction for it, but the internal revenue service says, "for what, the land's

worthless as it is." We can't give you deductions for something that's worthless. And there they sit. OK.

So much for at least the kinds of things we'll be looking for as we do a site reconnaissance. But there will also be improvements on that site of various kinds and we need to look at the improvements of that site again in a very systematic fashion.

And we're obviously bouncing off the mountain peaks today, but simply to sketch for you the kind of detail and the scope of technological awareness that the analyst has to have. Looking at a building, what kind of foundation system does it have? Is it floating, is it built on pilings - so forth and so on.

Structural system - structural system are the bones of the building - is it steel girder or is it poured concrete or whatever. This can be very intriguing. For example, one of the reasons Carley's bought the old emporium store was that the foundation and structure were designed to carry at least seven more floors so that the building immediately had expandable characteristics to exploit the market if there was one. What kind of floor system does it have? Not only are we interested in the floor loading capacity - how many pounds it can carry - but can we deliver utilities through it? All of you have been in office buildings where you punch a hole in the floor and there's the telephone line or the electric line or the other services that you may want and that floor system may determine what you

can do with the building and it may mean that you can't do anything with it. For example, a number of years ago we did a study for the Federal Reserve Bank in Chicago which they're now acting on. We had to tear down about half of their building because the only way we could put the file drawers and the computers in was to cluster them around the columns. As soon as you got half way out from the columns it no longer had the capacity to carry the weight of modern office machinery and equipment. The ceiling system today is really the delivery system for all manner of things - light, air, and heat and so forth. And that ceiling system may also control a degree of privacy that you have in the building. Will sounds move up to the people upstairs or will the people upstairs banging away on the floor make life unbearable for the people in the room below. One man's ceiling is another man's floor so to speak.

The roof system - today the roof system becomes a critical element. Not only are we concerned with the insulation of it to prevent heat loss, but how much clear span do we need? Notice that in this building where we want a clear span auditorium they've had to pull the auditorium out from under the main building so that the girders and trusses above us can carry the weight of the roof but don't have to carry the weight of any additional building. You will see hotels organized in such a way that the main ballrooms and swimming pools and clear span areas

are pulled out from under the rest of the structure in order that the floor loads and the ceiling loads can be done in the most economical and efficient fashion.

Well, we're interested in the exterior wall system. How does that work to make the building function. Want to see how not to do it? In fact, if you want to see how not to build a building at all, just look out the window at our building to the West there, what is that? Van Heise - classic stupidity - incredible stupidity for building a building. First of all, you've got the building has its broad side to the East and the West so the sun pours in on the East driving the air conditioning system absolutely bananas all morning long. About the time you get it balanced off, the sun's now on the West broiling everybody on the West and leaving everybody on the East on the cold side. You're supposed to turn your building the other way so that you don't have that problem. You don't have vertical fins on a building, they don't do any good at all except for the architect's psyche. If you do, you put them horizontally across the South so that when there's the right height or the right depth in the summer the heat is shielded off the windows and in the winter the heat gets in the windows and helps supplement the heating plant. That building was designed to be four stories shorter than it is. The architects felt it was aesthetically undesirable to see it break the skyline behind the dome or top of

Baskom Hall when you were standing on State Street. It was respectful of the city of Madison's law that no building should be higher than the face of the columns on the dome. But, there was a bright Republican lawyer by the name of Jeris Leonard from Bayside, which tells you something right away, and he was on the building committee. And he says, "Gee after you put all that money in foundations we ought to build a building as high as we can go." And the architect tried to explain to him that that wasn't all there was to it. He says, "If you're going to build a tall building, build a tall building." So they did! They added, you know, three or four floors to the building. Well, what you don't understand is that when you do that, you now need another elevator shaft which goes to all of the floors and you need wider stairs to handle more people to be evacuated from the building. You need fatter columns to carry the weight. You need more utility space to run the water up and down and so forth. The result of adding four stories to that building was simply to add about one and a half floors of usable space because everything you've got on the top floor you lost on all the floors below it as you provided service and access and so forth - classic stupidity. But, that doesn't seem to bother architects of university buildings.

We'll come back to this and pick up again on Monday.

In alphabetical split so that half of you will be here and half of you will be nearby in order that you can spread out and have plenty of elbow room, etc. So, anyway, that will now be on Monday, February 23rd for the 6 weeks exam.

We had started to talk about the subsystems that characterize our buildings and we had talked a little bit out the foundation and structural floor systems and ceiling systems, I believe, and were coming down to the roof systems, exterior walls and so on. And were, I believe, commenting on our magnificent lab specimen next door Van Heise. And, Van Heise doing virtually everything wrong is a very expensive piece of lab equipment for the real estate department and the exterior wall system, as we pointed out, not only faces the wrong way but the fins run vertically when they should run horizontally in order to control the heat load and the sun load. We began to look inside the interior wall system also becomes a significant factor. Can it be relocated, reallocated and so on, or is that locked in? As you'll recall we talked about the Towers Building down on State Street in which the inside wall system is poured in concrete and is load bearing as well as dividing up spaces so that you can't ever alter the interior layout. And that's almost always a fatal mistake in a building because the kinds of activities that it was intended to house when it was designed and built probably aren't going to characterize that building for its full useful life. At

some point we change the way in which we do business or how we organize our activities and it would be nice to reorganize the building. So that many office buildings have totally movable wall systems which may be reallocated from time to time in order to recognize that different departments in the business are growing at different rates or shrinking at different rates or more space needs to be allocated to storage and computers and so on. We need to look at the interior wall systems and how free form is that, and how flexible is it.

Horizontal circulation has to do with lobbies and corridors, and so on, while the vertical circulation system has to do with stair wells, elevators and escalators. And these become critical dominant factors in controlling the usefulness of the building. They do not happen by accident. Each building such as a school building and commerce building as we're in, is first of all analyzed in terms of what is called station capacity. Station capacity essentially has to do with how many people are going to be in that room. Obviously, a lecture hall of this type has a very high station capacity with about one person for every three or four square feet of floor space. Whereas if we have a faculty office with 120 square feet allocated to one faculty member we have a much lower station density per square foot of floor area.

Obviously then, to organize a building in such a way that we can use it efficiently we want to put our high density station uses

at grade so we don't have to move people vertically very far. If we do have to move them vertically very far, escalators move a lot more people than elevators but they move them a lot more slowly. And so as a result we may use escalators to move large crowds for one floor or possibly two floors in height but after that we're depending more on elevators for speed. The problem with elevators of course is that 1) they're very expensive to operate and 2) people want instant travel, and every time you move an elevator through a floor, you're obviously creating a hole in the floor that isn't useful for anything other than the elevator shaft. And the more elevators you have, the less usable space per floor you have and the cost per elevator determines really how much usable space you have to have per floor. So if you have a relatively small narrow lot that, let's say, has 5,000 square feet of net usable space, you really can't afford to put two elevators and two stairwells to serve that area before the cost of vertical transportation to get you there, exceeds the rental value and the use value of the space once you're there. And so there are some very distinct linear programming types of trade offs between the number of elevators, their capacities, their speed, how high you can move in a certain period of time and so on. It's a very complex problem. In fact, we run seminars for our graduate students and do a whole day just on elevator economics in terms of what that means. Not only are we

concerned with how many and how far they can go but where are they in a building? For example, if we are looking at one of the old department stores in downtown Madison for, let's say, conversion to another use. Department stores like to pull their elevators into their inside rear corner so that you have to walk through the whole array of displays on the first floor before you get to go to the second floor. And that works out very well for department stores and, in addition, of course they're using their elevators to move merchandise up and down so they want their elevators back near the loading docks for their trucks and so on.

On the other hand if you want to convert that to an office building you're going to waste an awful lot of space getting people back to the elevator to go up to second floor office space. Your corridors will be too long, the lobbies will be too big and what's more is they're generally around the corner and therefore you have a securities problem. So look at that the next time you're downtown at, let's say, the conversion of 14 West Mifflin which was a department store. Their elevators are way in the back and you use up a large portion of the first floor just providing corridors to get there. And then you have a securities problem when you get there because you're out of sight of everybody and it's a wonderful place for a mugger to lurk or whatever. And as a result, it doesn't work well. So a building that has the elevators in the wrong place for office use might be

very useful for department store use and so on. On the other hand, as you notice, 30 On The Square, they have a security problem because their elevator was right next to the Walgreen's store and the Walgreen's sort of tended to attract the wrong crowd and whenever they needed a little more money, they tended to go to purse snatching in the office building and they could just step next door into the office lobby and go up to the office floor really unobserved. So that had to place a security guard in the lobby of the elevator lobby in order to control who gets into the upper levels of the building. So, the interrelationship here between the vertical and horizontal circulation has a great deal to do with the efficiency of the building. Now for example, take this building, if all of you were expected to exit in an emergency through those doors in the back and out into the hallways, the hallways would have to be twice as wide as they really are which means less useable space. So if you pull your major lecture hall out from under the building, the first thing you do is you simplify your roof system in as much as you have a clear span roof across this kind of space that doesn't have to carry any building above it. Second of all, by having these doors which dump outside immediately you can reduce the size of our station capacity of our horizontal circulation system and our corridor system. Since this building was built, they realized that when the doors swing out into the corridor, that you really

don't have the full functional use of the corridor - you're likely to lose your nose or your front teeth as the door swings open. So now the Social Science Building, built by the same architect but built several years later, across the street, chose the current state of the code in which the door when it swings out, swings into a small foyer and goes up flush against the wall and does not intrude into the circulation pattern of the corridor. Because now they do not give you credit for the width of the corridor if, in fact, the door swings into that portion of the corridor. So to make the building more efficient, it's necessary to recess the entrance into the classroom, let the door swing up against the wall and then you get full credit for the horizontal circulation system, which means then that it can be narrower than it would otherwise be. Therefore you have more space and usable classrooms. So that, you know, these kinds of elements begin to control the design's system.

Furthermore, under our fire codes, no point in the building can be more than 75 feet from an exit or a stairway leading to an exit. So that begins to determine the configuration of the building for how many stairwells you have. So if you end up with a very goofy shaped building, you may have to have three or four stairwells where two would have done just as well had it been a more efficient layout. In grading those types of escape systems, once you leave a room in a commercial building there must always

be two routes of escape so that you can zig or zag and not find your only route of escape blocked by fire or whatever other catastrophe may be taking place. Therefore, you will find a lot of buildings going to a great deal of trouble to create that second egress. Whether it be your apartment building which has to have a jump platform at the back door because it doesn't have a stairwell close enough to the apartment - the apartment has to have two ways out and so forth. There gets to be some very major design constraints on how you lay out the building.

This then leaves the life safety systems. Life safety systems may be something as simple as having a jump balcony on a window that allows you to drop eight feet to the grade or whatever, sprinkler systems and so on. But they get more subtle as soon as we move into high rise buildings, for example, you have to have air pressure systems in the stairwells that maintains the air pressure higher than the air pressure in the building so that fumes, in the event of a fire, can not move into the stairwell. So the stairwell doesn't become a flu in effect for the fire. And by the same token, if we have a big atrium building like one of Portman's famous hotels with the great safe multi-story atrium in the center. That requires some very tricky ventilation so that in the event of the fire, there is a fan in the roof that have tremendous suction power and will move all of the smoke straight up so that if you have a fire on the first

floor you're not asphyxiating everybody from that point above. Instead you can suck that right out through the roof of the building with very powerful fans. That becomes part of the life safety system. Obviously, we are not only concerned with sprinklers and how the water gets to the sprinkler system and whether it can be interdicted by explosion. We're also concerned with the kinds of material. Are the curtains fire proof? Are the rugs fire proof? Do we have fire proof door jams on the hotel so that a fire coming down the carpeting of the corridor can't leak under the door into the room and so and so on and so on. How high can a building be? In many cases and many communities the building can not be higher than the reach on their aerial ladders of their fire engines. Universities don't have to abide by that, and as a result if you're up in the tower on the top of Ogg you're well beyond the reach of the fire towers here in Madison - that's a comforting thought. But, universities don't have to abide by city codes - everybody else does - but, in any event life safety systems become a very complex part of a major building. And, in many cases, in many cities, there is that life safety system which is suspect in many of our larger buildings.

HVAC systems have to do with heating, ventilating and air conditioning. Obviously that has a great deal to do with what kind of climate you can maintain and what do you do with how many

bodies are in the room. Where do you go with the cigarette smoke and how do you make it a comfortable place to work and so on.

That could be a very subtle thing both in terms of work and in terms of shopping. Claustrophobia is the number one foe of the willing shopper. And the major cause of claustrophobia is temperature and humidity. And as a result at a shopping center you want that cool central mall high ceilinged, you drop the temperature as you come out of individual stores along the mall.

You have water running to give you that acoustical pause over noises which are irritating and which also provides a certain soothing effect and you're constantly trying to create an environment which tends to defuse the claustrophobia of the average customer.

Site circulation. Next time you're out on the shopping center look at Hilldale's shopping center's site circulation system. It is something less than desirable. The site is a little shallow and as a result notice that in order to get onto Midvale Boulevard from Hilldale Shopping Center, you have a deep qua line which means the cars come right up against the edge of the shopping center. They circulate around the shopping center right at the edge of the building. In order to control that they put in what they called sleeping helleachment (?) which are those asphalt bumps which will knock the bottom of your car out and so on. But it would be much more desirable to have a perimeter

circulation system keeping the cars away from the shopping center where the traffic doesn't separate the shopper, the lady shepherding her small children into the center, and so forth, from her parked car. So if you look out at, let's say, West Town Shopping Center notice that there is a perimeter road system that keeps all of the circulating traffic out at the edge of the site and those things that contribute to it like tire, batteries and accessories, the drive in bank, the fast foods, outlet, the kinds of things that are high frequency, short stay generators are all out at that perimeter road. And then the internal aspect of the shopping center is a very jagged perimeter. So that you're constantly making right and left turns and can barely move at 5 miles an hour. That will discourage you from 1) speeding and 2) discourage you from trying to drive around the shopping center by driving up against the edge of the shopping center - it's much more convenient to go to the perimeter of a site and then go around the center that way. That's what we mean by a site circulation system. How do you get on, how do you get off, how to keep the cars and the people separate, how do you keep the trucks and the passenger cars separate and how do you do that efficiently and comfortably?

And finally we have what we call social control systems. Social control systems really have to do with the fact that much crime and much vandalism can be controlled simply the way in

which we design our buildings. We'll talk about social disorientation more later. But for example, if you were going to look at the Madison main library you would see that the lady on duty at the front desk car control, who's coming and who's going, who's going in the wash room etc. with a minimum of personnel keep track of what's moving in and out of the building as opposed to, for example, there's a very handsome, but nevertheless, very difficult to control Ag. Library here on campus. Until they began to bring some of their other entrances under control they were having chairs and everything else vanish right out the back of the building over to the dorms because they were not able to maintain some semblance of observation on the activities that were going on from a single point by a single individual. So social control has in part to do with how well can you self police the building. It also has to do with such things as visibility into the building at off hours, for example. If you drive by Memorial High School some time, if you look into the plate glass windows on the front they're right lined up with the hallways going all the way through the building. It makes it a see through building so the squad car going by at 2am in the evening and park in front of that window for a moment and detect any untold or unexpected movement within the building. And the same is true of the Alvium Art Center and other buildings of that sort. It creates points of visual access from outside that will

detect, at least on a random basis, movement and lights and other activity that shouldn't be there at that particular point in time.

At the same time you can create very subtle psychological barriers that people will not enter an area which might otherwise be legally accessible. Look at the Capital Center some time. The city in its wisdom decided that the square in front of the townhouses in Capital Center is essentially public land - a public park. Now that doesn't make the people in the townhouses feel very safe and secure if anybody can just sit down in front of their window and stare back and so on. So notice that the entrances to that are very carefully sited not obvious to the eye for one thing. And then second of all there's a concrete arch over it which creates the idea that you are now penetrating into a zone which is not truly a public zone. You're creating a sense of enclosure, a sense of turf that means that the flight zone of those that are there for antisocial purposes is being shut down. And the more you can hint at the fact that they are now moving into an area where they are not necessarily welcome and at home and they lose their anonymity, the more you can begin to control antisocial behavior in that area.

By the same token if you create a building that is relatively hostile to the occupants such as Ogg Hall, with its unfortunate acoustics and some of its problems in terms of narrow

halls and so forth, is a relatively claustrophobic building and people learn to hate the building and, as a result, it has a much higher vandalism cost than say, for instance, Elizabeth Waters which has wider halls, higher ceilings, less claustrophobic, which generates a much friendlier relationship between its occupants and the building which has the lowest rate of vandalism on campus of the buildings. So that while it may appear in some cases that the building is less than efficient because it's ceilings are a little higher and its halls are a little wider and so on, the fact may be that in terms of its operating characteristics it is more efficient because it does not generate an anti-building reaction from the occupants. That could be controlled by design and by a sense of space and light and so forth.

Another simple social control system - next time you look at a parking ramp - the stairway coming down the parking ramp are always encased in glass so that no one entering the stairway in a parking ramp can feel that they are now trapped with a mugger or some unknown force working within the stairwell. It's always under the observation of the passers by on a simply random basis and you never have the sense that you were alone and isolated from civilized society. And that's not an accident. That's part of the social control system built into the real estate.

OK. So much for the physical attributes for the moment but, nevertheless, it becomes a very subtle set of subsystems which the real estate analyst begins to review, inventory, determine the pros and cons of a particular structure and that, in turn, begins to decide what it is we can use it for. What is the most probable use of this combination of systems and for that matter, which of them may have to be replaced or altered or modified to make it useful for the kind of activity that we have in mind.

The next set of constraints then I will call the legal/political attributes. And the legal/political attributes have to do with multiple levels of control. And your lecture notes perhaps aren't as neat on it as I would like them to be, but I think you can begin the hierarchy at the federal level or at the very local level. And what you may want to do is just write on the back of your lecture notes a hierarchy something like this. The first element of control is in the deed. The deed for the parcel may contain private covenants which say you can never use this for the sale of food and supplies or you can never use this for anything but park etc. That becomes a form of control through private contract. So the deed is the first level of land use control.

The second level of control we'll call the district. The district may be simply a subdivision association and that all forty lot owners are subject to a neighborhood association and

the neighborhood association has a committee in charge of architectural review and another one in charge of landscaping plans and so forth. And so your own small association within that little neighborhood district will control. On the other hand it may be an urban renewal district. Everything from Francis Street to Brook Street and for a depth of two blocks off of University Avenue is an urban renewal district. And that urban renewal district had a plan which was set twenty years ago and any alteration of that plan would require the consent of not only all the parties in the district, but all property owners contiguous to the district, which makes it pretty hard to change. So that's the second level of control - a district or subdivision type of area.

The third level would be the community - city, village whatever. The city will have a long list of ordinances. They are generally grouped in terms of land use ordinances - zoning maps and so forth, building ordinances - which control how it shall be built and so forth, housing ordinances - which define really the quality of the space created (minimum inhabitable areas), subdivision ordinances - which may have to do with how we're going to subdivide real estate, create new subdivision and plats, carve up buildings and parcels and so on (long list of those).

Then we move on to the state level. The state level will again will almost always control all buildings in excess of 50,000 cubic feet. Will be subject to the state industrial code in terms of how they will be built and so on. Indeed, they will require that any plan be submitted by a licensed engineer or architect. But there will be other forms of state control. The State Highway Department for example will control any access onto a state highway. The Department of Natural Resources will control any property within 1,000 feet of a navigable stream and a navigable stream in Wisconsin is anything in which you could float a log down at least one month out of the year. And there may be other forms. For example, the State Aeronautics Commission will control land uses around an airport and on and on and on and on.

At the federal level there are, again, a whole hierarchy of controls. Some of them are indirect through our financial institutions. The fact that the Federal Deposit Insurance Corporation and the Federal Savings and Loan Deposit Insurance Corporations can state what is an eligible piece of real estate for collateral will control land use. If they decide they will not finance mobile home parks, that controls the use of mobile home parks. If they decide that buildings can not be financed in a flood plain, that has a very distinct impact on what you can do with a flood plain and so on. So that the standards that control

our lending institutions ultimately control our land use. By the same token, we can have direct control of our land use by the kind of lending programs that the federal government may have. If the federal government wants to encourage let's say dispersion of industry into smaller towns, they create a loan program which provides non-market interest rates to industries, buildings and small towns or they will create special financing for industrial parks in small towns or they'll create special loan programs for those that will build sewer systems and water processing plants in small towns in order to encourage dispersion of the population away from major metropolitan centers.

And finally, of course, you may have direct control through the Office of Environmental Protection Agency, EPA. The EPA comes in and says I'm sorry your community has now reached the acceptable level of pollution and that if you build this automobile plant, you will have exceeded that, or if you build this regional shopping center, the traffic congestion will now cause the exhaust and particulate level of pollution to exceed our acceptable standards. Sorry you can't build that shopping center there and so on. And so, for example, Oklahoma City, before they could have a new automobile plant which they very much wanted for the economic base - they had to get all the other industry to reduce their pollution output by ten percent so that there was adequate reserve capacity for pollution that was

introduced by the automobile plant. So, as a result, the federal government can have a great deal of control of the land use on particularly large projects such as shopping centers, industrial plants and so forth. The Corps of Engineers is notorious for their land use control along any waters that are navigable for trade of one form or another and they will have very specific requirements about how you will go about building your project and are not always very rational or amiable to negotiation.

So we could begin to look at a hierarchy starting with the deed, moving to a local district or neighborhood, moving out to a community, then into the state, from the state into the federal and create a very, very elaborate hierarchy of control. There are some areas around San Francisco Bay that have over 80 levels of land use control agencies controlling a single land use decision. By the time you have moved through all of the various elements. Even in Minneapolis, for example, as I was telling my friend Frank Dunbar explaining that they looked all over the country to find the most complex regulatory district they could in order to build, in order to have enough challenge for their organization. And they found a little area along the river at St. Anthony's Bald in Minneapolis. Many of you have probably been to St. Anthony's on the Main or seen the project called River Place. They had forty-six different agencies controlling the land use legally plus the Catholic Church controlling it

simply on principle. Once they had blocked out their initial land plan, they discovered that their tallest condominium tower threw a shadow on the steps of the Catholic Church in the neighborhood during December and the priests argued they already had enough trouble getting people to church without having the steps icy out in front. So they literally had to move their condominium a certain number of feet in one direction in order to bring the church door out from underneath the shadow on December 21st or they would not have had the support of the board alter person in getting final approval for their project. The land use controls not only can be official and designated through some sort of enabling power, but may be unofficial but, nevertheless, very real in the political sense of gaining the necessary approval for the project. Want to turn that page for me. Thanks.

Once we have these inventory of constraints and opportunities we can begin to define what we'll call the alternative potential uses for a particular site. And these alternative uses then are the possibilities that need to be examined further in our analysis. For example, if we were to look at a little old building on the Square which is now called, I think, The Atrium 25 N. Pinckney. In looking at that building initially you would have found that it had been a high style women's shop for many, many years which utilized only the first

floor of the building. The reason was that on the second and third floors was an atrium that cut across the full width of the building - built in 1885 in a very beautiful Italian style of atrium. But it cut the building in half and as a result the front half and back half of the building didn't have two stairwells, two routes of entry. And the atrium represents a fire hazard of slew which would require 4 hour fire walls under our current code. In order to resist the flu effects of a fire etc. and yet the building structure wasn't strong enough to carry that. So as a result they had only used the first floor since around 1920. The developer in going back and looking at that said, "Gee, what we ought to do is find a way to save the architectural character of the interior, but nevertheless, but get some kind of reading on the code." That became, then, a major element in signing the reuse of the building. What can we do consistent with the code? How can we gets the codes interpreted to allow us to retain the architectural atrium in the center? And eventually the state industrial code ruled that it was a not a conforming, but that it had been there since prior to the code and, therefore, was grandfathered in and they did retain that present use. They then had to modify the use of the downstairs to provide small shops rather than large shops - since the boutique rather than the department store is the characteristic of the retail market on the Square. So the

developer looking at that in terms of alternative uses could have said well, 1) I can continue to use it as it has been used with a single seven thousand square foot retail store on the first floor and abandon the 2nd and 3rd floors, 2) I could subdivide the first floor into smaller retail and continue to abandon the second and third floor, 3) I could subdivide the first floor into small retail and convert the second and third floor to let's say, office space, and 4) I could convert the second and third floor to four townhouses which would permit me to have a two story unit, but as I came out of the unit on the second floor, I could provide then two routes of escape from that point forward. So the developer looked at that then as his four alternative courses of action with the existing building and he always has the fifth opportunity of tearing it down and starting with a vacant lot and carrying forward from there. So that begins to identify alternative courses of action that are suitable for the building.

And looking at the legal controls he found that the city would not issue a demolition permit to tear the building down for fear that it would reflect badly on all the money they invested in the mall. So, now you have a legal/political constraint that says, you're going to end up going to the Supreme Court to get a permit to tear it down. That's not a very realistic course of action, so that drops out. And you know that 7,000 square feet won't rent because it's not available to rent for three years and it

has been vacant for that whole time so that's not a very good alternative course of action. So eventually it gets down to saying, "Gee, can I put office space on the second and third floor, or apartment space?" The apartment space is a much neater solution because it doesn't require you putting in additional routes of exit because you can have a two story apartment and come out on the second floor and just have two stairways down, one to the front and one to the back and provide the two routes of escape. But at that point, just as he was about to buy it, Madison was going to have a rent control referendum. And the developer says, "No way am I going to provide residential real estate in Madison and be vulnerable to rent control, so I will go the office route." And now, given the office route, how do we solve the life safety system problems and everything and the other vertical transportation problems and so on. So, notice that he begins to move through the alternative courses of action and chooses one which seems to satisfy most of his objectives for the building consistent with the legal constraints and so forth that are on it.

So now, if you'll look at today's lecture notes, at the very back there's a little chart. As we're moving down that step chart so that our property attributes, physical and legal begin to identify some alternative courses of action. We're going to look at linkage and dynamic in just a moment. And that defines

then a building envelope and an orientation of possible alternatives and then we have to say, "Gee, of those alternatives, who needs it? " We need to know the market for it.

We need to look at what are the general market characteristics and then specifically what are the micro markets. Are there any specific tenants out there? Are there any specific types of tenants out there? What's the neighborhood think about this and so forth. And from those which have a market demand, we now weave down to a selected number of scenarios for the property. Once we have those scenarios, now we begin to look for solvency.

What kinds of scenarios can we make work, in terms of revenue versus cost. And we'll come down to those which are acceptable from the private standpoint. Then we have to say, "Gee, there's several from the private standpoint, are they a good idea from the public standpoint." And we'll look at the infrastructure tests. Can we handle it in terms of the traffic capacity, and the sewer and water capacities and the fiscal impact - is this a good idea in terms of our tax structure and so forth. And if we can find then one of the remaining alternatives that also is consistent with the community's goals, now we can move into the final aspect which are the investment tests which say, "Gee, how do we polish this one up in order to get the best return on our capital and the best risk position relative to our possible default and so on." So we're moving down that ladder over the

next series of lectures. With that we'll flip over to today's subphase of the lecture and begin to talk about linkages.

Probably one of the most critical concepts in real estate are linkages - the physical, and mental and commercial ties that relate one establishment to another. Urban land economists have talked about an establishment as any kind of activity that could go on at a particular location. A household is an establishment.

A tailor shop is an establishment. The capital is an establishment. The University, looking over the entire university property, is an establishment. A particular use of organized folks doing something is an establishment. And the critical element of real estate relationships are the linkages that exist between establishments. Now at one time you all had to be within shouting distance of one another, but now those establishment linkages get more subtle. We can have a local call rather than a long distance call. We can have the fact that we can drive to the local super market in three minutes or five minutes or bicycle from the dorm or whatever. Each of those elements is a way of causing some sort of interaction between one establishment and another. And these elements of interaction we call linkages. Linkages are the heart and soul of demand for real estate and the essence of the concept of location. Location has nothing to do with longitude and latitude. Location has everything to do with the networks of linkages that particular

establishments require or benefit from. Anything which improves the convenience and accessibility of one establishment to another enhances the value of that particular location. Anything which detracts from it is called friction. Friction - heavy traffic is friction. If you have to make a left turn across three lanes of fast moving traffic, that's very real friction. If you have to walk a long distance down an unlighted sidewalk at night, that's friction, just from the anxiety it creates. Congestion is friction. Cost of travel is friction and so on. So in evaluating a particular real estate opportunity, we're really interested in evaluating the linkages that it may have with other activities and what kinds of cost savings would be involved in friction that would be capitalized into the value of that property. For example, think of the condominiums along Michigan Avenue facing the lake which sell for several hundred dollars a square foot. Where does it get that kind of value? It only cost us maybe a hundred dollars a square foot to build it. How come they can sell it for two or three hundred dollars a square foot condominium? Well, what they've really done is they've capitalized into that the convenience of being able to go down the elevator and be downtown close to work, close to shopping, close to the recreation, as opposed to spending an hour of your life every morning and another hour every afternoon on the expressway driving back and forth from the suburbs with all of

the stress and the wasted time and so forth that's involved.

Suddenly people are willing to pay a big premium to be downtown.

It's no different than Langdon Street. How come he can get a buck a square foot for a crummy little apartment on Langdon Street as opposed to paying 50 cents out in the suburbs. And, obviously, the difference is the cost of friction. It's so much easier to roll out of bed and fall into class or into the adjacent party or State Street saloon or salon as the case may be than it is to have to find your way to the bus or motor out to the perimeter and so forth at the end of the day and thereby waste time and money and so forth. So as a result, you are able to capitalize much of the savings in the cost of friction into the rental differentials that characterize the real estate.

Now, analysis of linkages moves best by starting with a particular establishment or location and moving out from that perimeter. But, by the same token, if we have a use in search of a site, what are we really identifying before we search for the site? By identifying for that establishment, for that use, a specific set of relationships which is critical to its successful and efficient operation. We're saying OK this particular industry has to be close to a railroad system, it's got to be close to certain kinds of raw materials. It's got to be close to certain kinds of employment pool etc. It needs to be close to certain kinds of customers and we begin to set up some sort of

equation which says here are the critical attributes we must have, here are the attributes we'd really like to have, and here are the attributes which would be fine but are negotiable - we may not really need them at all.

Now, in starting with our discussion of linkages the initial linkages are physical. Physical networks of various kinds which tie us to other sorts of activities. Simple basic stuff like sewage lines, stormwater runoff and so on. Where do we get our water, where do we get our electricity, where do we get our telephone lines? Where's the point of connection? Does it have the capacity and where is it going? We need to know, gee, where is our water line going to come from for both use of the water within our particular processor and perhaps fire. And what's the water chemistry? Is it compatible with what we want to do? Heilman's presumably couldn't make its beer just anywhere. Coors needs obviously a mountain stream running through the plant. Energy Sources - what's the price of electricity in a particular area. Can we get gas? Can we have steam? Can we have solar energy? What's the capacity of our suppliers? All of these are physical connections.

And now we're interested with sidewalks going by and now if we're in Minneapolis, are we on the skybridge system? - that becomes a linkage. Are we adjacent to the TV lines. Many subdivisions now on the east coast not only provide hot and cold

water in the trench going by, but also provide cable TV. In some areas of New Jersey they're experimenting with having garbage lines that move the garbage from one building to a collection point using pneumatic air tubes - it's a Swedish system that was initially used out in Disneyworld in order to move things. So there's a variety of kinds of services that we can bring to the site by pipe and wire and roadway and sidewalkway and skybridge and tunnel and so forth. And, if you've been to Toronto there's an underground pedestrian system which is very handsomely done, connecting virtually all of downtown and making a very significant impact on what is a desirable location for an office building or retail store and the subway system similarly has very significant points of station access and so forth. Indeed, one of the significant things in developing the subway systems in San Francisco and Washington DC was trying to anticipate where was the station going to go because wherever the station went could create a tremendous amount of value for the land immediately around it and the more that the transport authority could own that land before it announced the station was going there, the more it was possible to finance the subway station with the capital appreciation in the land around it. So, as a result linkages becomes a very critical element in terms of the physical network servicing a particular site. And once we move beyond the physical linkages related to that, in some ways, are what we will

call the public service linkages. For example, where will the fire and police departments go and where will they not go. What is their service district. Where can you switch railroad sidecars on your side track for free and where would you have to pay a demurrage(?) charge in terms of having the freight car drop off and picked up and how many days it's on the track and so on.

For example, a uranium processing plant lost track of that in Tennessee and just the cost of having somebody drop off the cars of uranium ore, allowing them to stay on the side track for several days and then picking them up again, made the plant virtually noneconomical after a while in terms of the extra charges. So you need to know where those kinds of zones are and where will you go from there. And sometimes that's political. There's a wonderful failure of a shopping center down in LaSalle, Peru that I use in the real estate finance class. And, it was discovered after the shopping center was built that it was outside the police and fire service zone of LaSalle, Peru and all of the rival merchants then were furious about this new shopping center being built and taking business from downtown, sat on the fire and police commission so they wouldn't change the zones. And by not changing the zones, they did not have city fire protection. That was a violation of their fire insurance which was then suspended and a major element in their mortgage, of course, is that you maintain a certain amount of fire insurance

on the property or you're in default on the mortgage. So all of it led up to default on the mortgage and the shopping eventually failed for several reasons, one of which was its inability to get fire insurance because it was outside the service zone. Quite often that's a reason for putting a shopping center in. When West Town and East Town were built they were both outside of the city of Madison. But, because shopping centers are such bad fire risks, it's critical that they have municipal water in order to have an acceptable fire insurance premium. And the only way you can get municipal water in this town is by annexing to Madison. So, as a result, the city was able to capture the tax rate represented by the shopping center for the benefit of the City of Madison rather than the suburbs. If you're not in the zone, you'd better be in the zone and that may mean some very significant reorganization, and so on. But on the flip side of that, for example, the telephone company on Middleton is General Telephone, not AT&T. And AT&T has the City of Madison district, but General Telephone has the Middleton district. When they annexed the shopping center into Madison, AT&T sued to say that that was now their customer and the court said, "Phooey on that, General Telephone has already gone to the expense of running lines in and so forth, it's their customer." And this is why you have Middleton numbers on the west side of Madison because it was annexed out of Madison but it was part of the General Telephone

district. So that got into the interesting problem of then our subdivision, for example, up in Applewood Hills which was mostly doctors, AT&T has the medical telephone service to call doctors and so forth, and General Telephone didn't. And, as a result, doctors didn't feel they could live in Middleton until we finally got General Telephone to add a medical call service that was compatible with AT&T's. And so the linkages get very very subtle here in terms of how the services are delivered and whose service district it is and what the costs are going to be and so on. So we'll pick up on that next time.

The only problem is really to establish the initial premise of our course that real estate is space time and space time equals money time and the first thing you need to do is establish what is the potential envelope on a given site. What kinds of set backs are required. What kind of height elements can you have? How many floors can you have, and so on? The space envelope gets to be a very complicated process. And in New York, for example, the shapes of most of those buildings are not architectural accidents. They are fitting a very carefully defined optimum spatial envelope. And many zoning ordinances provide very elaborate bonuses so that if you're willing to leave a bigger plaza and open space at grade level, you might be permitted to have a higher building. If you were to permit an arcade through the center of the block so that pedestrians

wouldn't have to walk around the building, you might be given certain other bonuses in terms of additional floor area ratio in the building, and so on. Ultimately, in most urban areas it takes an architectural firm to program into the computer all of the different options for a given site, in terms of the spatial envelope. Then to select that envelope which is best for the purposes at hand. Once you've established the maximum amount of bulk and mass and floor area that you can have on the site, other factors will begin to fine tune how much you really do put on a site. For example, how many elevators do you have to have to go so high. You may be able to go 2,000 feet, says Mr. Trump, to have the tallest building in the world, but if all the floor space is going to be occupied by elevator core, there's really no net advantage to that. And so, obviously, there are some fairly elaborate linear programming models which then begin to carve down on the spatial envelope maximum and arrive at the optimum combination given various trade offs that you may want. How much window area do you want relative to floor area? For example, the optimum depth in an office building is that the space probably shouldn't be more than 30 feet deep from the window into the corridor and you have obviously two sides, double loaded corridor, you need about 68 to 70 feet max. as the width of the building, regardless of what the optimum or maximum space might be on the building. So we're starting to play with the game of

the spatial envelope. And computer programs are typically used in the more complex urban environments. Here in Madison you'll see that the number of variables is relatively limited but there's always a key constraint on how much space you can put on a given site. It might be the number of parking units you have to have per thousand square feet of floor space. It might be the optimum amount of floor space that you can service with one elevator. It might be a maximum height limit imposed by the adjacent uses. It might be a setback imposed on the lake shore by state environmental concerns, whatever. But every site has a critical limit. And it might be, as I say, the going units that you can have - you have to have a thousand square feet of land for each apartment building. That puts a cap on how many apartments you're going to put on there. It might be the parking units. It might be a floor/area ratio. We want you to get some sense of the options that needs to be considered in exploring the development potential of the site. So the first step is to be able to start understanding what the codes said - fairly simple spatial envelope issues in terms of how much bulk can you get on a specific site under the City of Madison code.

So we are now defining space/time. The next step then will be to move to a simple statement about money/time. Then we'll start moving the time dimension on you and start doing cash flows over a five or ten year period, given a certain spatial

configuration and so on. So behind the problems there is some edges holding it together.

We were talking about linkages relative to the physical networks which are supportive of a specific site beginning with the obvious utilities and street scapes and sidewalks and so forth. It's important that one always remember that those are dynamic elements and the character of a linkage is that it ties you to something else - that it goes somewhere. And that it's important to analyze where does it go and what happens when it gets there. For example, let's say we're talking about storm water. We could say, "Gee, we have a creek going right by the side of the site, we'll just tilt the parking lot a little bit toward the creek and the storm waters will run off into the creek and the problem is solved." Wrong. The question is, how much capacity does that creek have for storm water which formerly was absorbed naturally by the site and now, of course, hits an impervious surface and runs off. It may be it is necessary to create your own controls on how much goes into that system. Two types of controls for example: 1) the IBM building out on the Beltline here is that contemporary concrete three-story building sitting up there on the side of the hill. And that particular site was a bypass for years because it sloped into the arboretum. And the feelings was that if they created a parking lot, that you would get the oils and the other chemicals dripping off of

cars and salt from the ice control systems, and so forth, filtering into what was supposed to remain a natural relatively unaffected environmental system. And the architect, in order to solve that problem, discovered that the city storm water drain was on the east corner of the site, not the west corner of the site. And to make that site developable, you completely regraded and tilted it so that all the parking lots drained east and into the city storm water system. And, therefore, the natural run off of a parking lot system don't enter the arboretum. So here's a linkage that's critical but now the question is how do I get my lot to flow in the direction of that particular linkage? Second example, in Milwaukee on the far north side is a boundary really to Milwaukee County called Faery Chasm. And Faery Chasm is essentially a storm water collector for virtually all of the northeast corner of Milwaukee County. And the water running through there now, as a result of all the development, is causing further erosion. So a shopping center developer proposes to build on the corner of Brown Deer and the Port Road, a fairly snorky specialty center with a Sacks Fifth Avenue and that type of thing in there. And, the planners looked at it and said, "Gee, if we paved that area with a parking lot and so forth, so runoff into Faery Chasm is now going to exceed its capacity to handle that, and therefore we'll have to design the center in order to retain so many acre feet of drain water or snow melt on

the site for controlled time release so that it can follow the natural surge of a storm down the Faery Chasm network. That meant that the parking lot had to be sculptured so that the outer peripheral became water ponding areas. The roofs were built up with extra heavy duty girders to carry almost a foot of water inside the parapets on the roof and so on. And it very quickly became unfeasible from a financial standpoint to hold or retain on the site the water necessary to control where the storm water went. Notice it's not only important that there was a system to take the storm water, but it was also important to know, what was the capacity, where was it going to go and when was it going to go. So you have to look at the sewer and water and the sidewalk and the traffic and so forth. Not only the fact that you have proximity thereto or that you even have physical access thereto, but you have to understand what is the capacity of that? And, where did it go to? You have an industrial system that puts out a certain kind of waste. For example, Oscar Mayer puts out very hot water. Well, hot water doesn't work well with an anaerobic sewer processing system. So one of the problems you gotta do is say, "Gee, if that hot water's going to run down and be too warm when it gets to the sewer plant, that causes other problems in terms of foaming detergents, and so forth and so on, therefore because of where it's going and how it's going to get there, we

have to cool water, pull that heat out and bring it down to a temperature that's simpatico with the anaerobic sewage process.

North Lakes development in the northwest sector of Milwaukee is a classic case in point. The Menominee River goes through there - the Menominee Creek, depending on how you rate that I guess - and they assume that that would be an acceptable storm water exit. The problem is that most of that creek has been channeled all the way through Wauwatosa and all the way through downtown Milwaukee so they have a very limited capacity. And North Lakes would have exceeded the capacity of the channel downstream area, thanks to the corps of engineers and the park builders and so on. As a result, it was necessary to build the lakes into north lakes in order to retain on site the storm water and provide a controlled release into the Menominee River system.

So you have to look at the availability of these physical networks, not simply as a static factor that they're either there or they're not, or you have access or you don't, but, in fact, what is their capacity, where do they go, do they have capacity on the other end to handle it? And, if not, it's not going to do you any good. If you have sewer line going by your property but it's already at capacity, you know, forget it. You're not going very far with additional development. A good example of that is the Langdon Street redevelopment a couple of years ago was hamstrung for several years because people felt that if they

expanded the sewer capacity, you would get more buildings like Wisconsin Hall. And, currently, the Langdon sewer was just about at its capacity - particularly on Sunday morning I guess after the beer fest - and as a result, there was a big fight by those that would like to keep a low density development in that area to retain the existing sewer capacity even though it was approaching the inadequate in order to put a lid on any further high density development in the area which is essentially what happened. So, you need to look then at those networks in terms of their capacity, where they come from, where are they going. The same is true of traffic flows, pedestrian flows and so on. Quite often you misjudge pedestrian flows. For example, between the Dearborne Street station in Chicago and the main banking loop, you have heavy pedestrian traffic counts and so many retailers thought ah haa, here's the place to locate my store with all those people walking by the store front. The problem is they only do that two times a day, once in the morning on their way to work about 8 o'clock and once in the evening when they're hustling to the train at 5 PM. As a result, their retailing needs are very limited. Maybe a bottle of wine to the little lady, maybe a corsage, particularly if they're running late and so forth. But they didn't stop to buy suits, they didn't stop to buy, you know, the type of shopping goods that located there initially. You really had to know where were those folks coming

from, where were they going, therefore what was the character of their needs and so forth at that particular point in time. So you need to examine the flows within any kind of network servicing the site in terms of the exact characteristic relevant to a particular use.

Once we move from the network servicing the site, the next thing is to understand what are the contiguous properties. Who's on the lot next door? What kinds of folks do they attract to the area? What kinds of services and needs do they have? And that may be a plus, that may be a minus. If you have a fireworks plant in a lot next door, that may adversely affect your fire insurance premium. A classic case in point, Tenney building. The Tenney building suffered significant vacancies and a relatively bad image. The front door faced the saloons that were across the street with their various fleshholds etc. and you were likely to be accosted on your way into the Tenney building. One of the ways of turning the marketing of that around was to turn that whole building around so that the front entry is now coming off the plaza next to the First Wisconsin building or coming directly off of the Pickney Street and you're no longer having to go into the area in which the approach zone is negative. So that you change the linkage from essentially a main street address to a bank plaza address and that's significantly alters the marketability of the property.

Contiguous property ownerships are also keys to whose vested interest you might be going by developing one type of property or another. For example, the classic occasion in the deed restrictions is the location of the Lutheran Chapel on the corner of Lake and State, on the corner of the mall. That property was vacant for a good many years and next to that where the bookstore is was a very quaint romantic looking little Lutheran Chapel primarily used for June weddings and the bookstore was on the opposite corner with the library expanded. It became apparent that Lafollet Book Stores thought they would like to move into the Madison market and give the boys a little run for their money and a little competition. So the university book store and Browns and a number of others organized a consortium that bought the vacant lot on the corner and gave it to the Lutheran Church subject to a deed restriction that said it would never be used for the sale of student supplies, typewriters, barber shops, drug supplies. You could tell exactly who gave the money by looking at the restrictions. Then along came the university and said, "Sorry guys, we're going to push you off the corner and we want you to go over to the University Square Shopping Center and be the anchor for that urban redevelopment on that block." And the book store didn't want to go. And they didn't have any place to go except the vacant lot across the street which they had already killed with a deed restriction. Now, things are great, wonderful

- "We'll just get all our friends to remove the deed restriction, and then we'll build our book store on the corner." Well all their friends did except for one contiguous property owner, called Brown's Book Store with a say me too for a long time as a competitor who are now happy to say sayanara and good-bye and we'll anchor this corner ourselves. So they wouldn't remove the restriction. So now where's the land without the restriction. It's in the middle of the block where the chapel was and the Lutherans wanted something that was more appropriate to a student ministry than romantic June weddings and so they sold the old chapel to the book store to locate their building IF the book store would build a new Lutheran ministry on the corner, which they did. Now the presumption was that they could deliver books from on the street or from the alley. Well, two presumptions were wrong - the university made that a mall and allow no deliveries across the mall and the alley turned out to be owned by the university, not a public alley and the university's policy was that they would not allow a private owner to benefit from public property and therefore, they couldn't deliver from the alley either - which is wide as a big garage door in the side of the Lutheran ministry which allows the trucks to drive across the property to load into the book store. So you need to know, who's my contiguous property owners. Who's there to say nay to what I want to do or object to a zoning change or are they in line to

benefit by it. If I can bring everybody into camp and there's something for everybody, obviously I won't get much more more cooperation from the adjacent property owners than otherwise. So we need to know who are the contiguous property owners, what kinds of uses are there and what does that bode for whatever proposal we're going to make.

The third type of linkage is now moving away from the site toward the immediate environs. And really, it says, "OK, what kind of resources are nearby that I need to draw on." It may be, for example, student health which is very important to the restaurant business or it may be underutilized labor that would like to work in an industrial factory as well as perhaps farm their 80 acres and so on. And so it's no coincidence that some of the major furniture makers are in small country towns where there is a underemployed labor pool of people who are manually dexterous and so forth who can farm their 80 acres and work in the furniture plant, and so forth, at the same time. Maybe there's other natural resources. Maybe we need timber, maybe we need a special kind of water. Perhaps we simply need fish. For example, a number of years ago in doing a feasibility on a major resort proposal for Door County, the lender wisely said, "Gee, this is being designed for fishermen to take advantage of the resurgence of sports fishing in Lake Michigan." How long is that linkage going to be there? What is the long term prospect for

the lake trout and the salmon and so forth in Lake Michigan? Will the nuclear power plant gradually make a cooling pond out of Lake Michigan have an adverse affect on that? Will the virus affecting the lake trout and the rainbows and the brown trout eventually wipe out the fish population again. Will the lamp come back and so forth. In other words, if the resort is tied to a critical resource such as fishing, how strong is the fishing over, at least the term of the mortgage on the resort? And, in that case the answer from the limnology lab came back positive - that the sports fishing would remain and the real problems were not the water temperature but certain problems with the Lampree and viral infection of the brown trout. But, nevertheless, you want to begin to look at what is the resource pool on which I've depended and how stable is that pool? How long is it going to last? Obviously, if we build a cannery, we want to know how long is there going to be a vegetable crop there. If we're going to build a meat packing plant, how likely is it that we're going to be raising pigs and sheep and so forth. It becomes part of the infrastructure necessary to support that. And, again, quite often that resource on which you're dependent may or may not be there.

Beyond that, of course, there are all types of institutional elements that we might depend on -employment centers, in terms of office and industrial places, school systems, their alternatives,

retail services, health systems are becoming more and more predominant. For example, in Palo Alto Stanford's Hospital has a special program to teach geriatrics, gerontology to their medical school residents. And they will make out-patient calls. As a result, within a district of about two miles of the hospital is a favorite place to locate elderly independent housing because they receive very excellent medical care at a very low price as part of the overall training program of the Stanford University Hospital. So, there would be a very useful linkage which can be marketed to a particular segment of the population. Columbia, Maryland, as we'll see at the end of the semester, features, among other things, a house call medical support system that comes as part of your fee in a residence in Columbia. Quite often this type of software of a service component becomes critical. It may be a security system. That operates in a certain territory. There may be a private security system that operates within a certain territory. You maybe have to be, as we mentioned the other day, in an AT&T telephone system because that's what's compatible with other elements that you have your neighborhood. It may depend on waste disposal services, recreational services and so on. The demographics of an area may a great deal to do with the linkages characteristics of your enterprise. And they can be dramatically different. And finally, of course, you want to know what the relationship is to

competitive alternatives. If you're a motel, how close are you to the off ramp coming off the interstate. Is it possible that there will be a series of intercepting sites which will have first crack at the tourist who does not have a reservation and is likely to take the first decent looking motel that he sees with a right hand turn once he gets off the off ramp. That becomes a linkage. How tied are you to the traffic coming off a specific intersection and, therefore, how close do you have to be to it or how do you control it so that you can capture your particular share of the market? So the linkages begin to move from a physical network to immediate, adjacent and continuous property to resources and then to institutional elements which contribute to the total infrastructure on which you're dependent. So linkages can be highly abstract relationships to population groups, age groups, educational levels and so on. And they can be very subtle. If we're doing a car wash we probably want to be in a group of relative young, swingle, living in apartments where there isn't adequate hose bids to do their cars. Their cars are one of their prize possessions and they tend to go to the car wash more often than folks that own their own single family home and have their own hose bid and probably have a couple of little kids to wash it for them rather than having to do it themselves, and so forth. So, as a result, that car wash thing becomes very, very susceptible to its convenience to or linkages to a specific

demographic population housed in a certain kind of unit and with a high percentage obviously of car ownership so that that becomes your trade base. We could expand on that as the semester goes that the essence of location is your ability to define a network of linkages that supports a certain establishment. The establishment being the occupant of the space. The network of linkages being all of those relationships that are critical to its choice of space. And, once again, location therefore exists really in the priorities of the establishment and has very little to do with the geography and longitude and latitude of a particular point.

Dynamic attributes have to do with things which are in the mind of the beholder - which are emotional responses in many ways to a particular site or its environs and which, nevertheless, affect the decision-making behavior relative to real estate. You have the image conditioning of the approach zone. You can have a very handsome new apartment building, but if you have to go through a really slummy, threatening area to get there, you probably won't go there and if you did go there, your friends wouldn't come to see you. And, therefore, the approach zone becomes a critical element of romancing the buyer. And, that approach zone can be several miles long or it may be only 15 feet long. If you bring somebody to the new home that you're trying to sell them and they get out of their car and have to balance on

a two-by-twelve over a pile of mud that's soup and construction debris to get to the front porch, the approach zone has already established a negative attitude toward that product and they'll probably pick it apart. On the other hand, if the flowers are blooming and the grass is green, and they're waltzed up a blue-stone walkway and they have a handsome front porch, all of the codes and vibes that are coming at them are very positive and they will have already decided that they like the place and will find other reasons to support that judgment. I know of office building developers, for example, in Phoenix that have a spray that smells like fresh cut grass and they spray that every morning along the sidewalk so that virtually all of your senses are enjoying that and they have double padding under the carpeting when you go in so it's like walking across the everglades. Everything is built to a tactile and even, as I say, aroma and color and texture are all establishing the approach zone so that once they've waltzed you into the bare office space you've already decided to like it. Trammell Crow does a beautiful job of romancing you through the door of the potential office. Once you get into the office, it's pretty much run-of-the-mill drop ceiling materials and pretty much run-of-the-mill carpeting and the window hardware, and so forth, they haven't spent a lot of money on, and so forth. But you don't care and you don't notice because you've already had a positive mind set

as a result of the approach zone. Visual factors - obviously, heights and view and potential for controlling your sight line. A beautiful job of that is the Fauerbach condominium down on Williamson Street where if you were to have seen that site before they developed it, you stood in the middle of it and you had the coal yard on one side and the rail track going by and a slummy scummy old industrial building next to it called the Farm Hardware building and so forth, you would have never believed that people would build and buy prestige housing. So that whole unit is focused to capture the southern exposure over the lake. When you're standing in the building you can't see the power house and the coal fields, and so forth. And it's been designed so that the sound characteristics of the MG&E machine for shaking coal out of coal cars can't be heard by the residential units and so forth. And, again, to control the visual factors they would not allow the city to retain ownership of the shoreline so that they could continue the sidewalk up from the park onto the next park further up because as you had people intruding into the back yards of the townhouses along the lake shore their anxiety levels would have been increased and their privacy would have been encroached on and they would not have paid for that kind of lake shore view in that instance and so they've done a very nice job of controlling the visual aspects so that it is all positive -

that it's always a reinforcement to the domestic security that people want when they spend that kind of money for a unit.

Prestige and status, obviously, address - whether or not you're at Maple Bluff or not and so on. By the same token anxiety is created in a variety of ways. Sometimes it's a security element - it's too dark, you feel people are lurking in the shadows and so forth - but anxiety comes involved much more easily as a result, as an example, of confusion. Drive on a shopping center site and not be able how to figure out where the entrance is. You're somewhat embarrassed by that, that creates a certain stress level, and pretty soon you don't go back to that shopping center. You don't intend on embarrassing yourself again, particularly in front of your kids or whoever - "Hey, Daddy you're going the wrong way!" Or if you're going to romance the lad or lady in your life, and you have to cut across three fast moving turns in the left turn to get to that little romantic hideaway, by the time you're there one of them is shouting, "Look out for that car, watch where you're going." And pretty soon the romance of the moment is lost and she's thinking he drives like an idiot and he's thinking boy is she a nervous Nellie. The evening is ruined and it's still part of that anxiety factor that interferes with whatever the real estate is supposed to perform. So you have to really begin to analyze real estate in terms of

whether it contributes to that anxiety factor or tends to control all manner of stress and confusion.

Noise, obviously, is one element. And there is actually for the FHA location of apartment buildings, a noise pollution manual that determines whether the decibel count is acceptable relative to residential life, normally not acceptable or totally unacceptable. And, there's a fairly technical analysis of the site. And as you get closer to noise common like railway tracks and high speed highways, and so forth, there are different setbacks and different design specifications that would be required to control that noise so that within the unit it falls within a normally acceptable level. Otherwise the premise is that the stress characteristics will hurt the marketability of the apartment unit.

Prevailing air currents - certainly want to be down wind of that little sewer plant out there at Oscar Mayer. Or, for that matter, the sulfide paper plants in northern Wisconsin. There may be airborne pollution of one form or another. One of the classic reverse stories, of course, is the phosphate mills in Tampa. And, there was a Ph.D. dissertation done with the expectation that they could prove that, in fact, the phosphate stuff blowing across Florida in the Tampa, St. Petersburg area was diminishing property values. And so they laid out where the dust was going, and so forth, and they analyzed property values

and they found significant - the sales prices were steadily increasing whenever the orchards sold or whenever the old homestead sold down wind. And destroyed their dissertation premise that property values would decline under the phosphate dust. Well, they didn't look far enough because if they had researched it, they would have found out that properties were being bought by the phosphate companies as the owners threaten to sue. And in order to save them from the suit it was cheaper to buy the orchard, and run it as a corporate farm than it was to take on the public notoriety of being sued for it. A good example of a classic academish not understanding his own statistics.

Political images, obviously, can be created for and established for an area. You can see that all the time when somebody proposes a certain public project and immediately the residents organize and you always got the lady standing there with her baby in one saying, "they want to take my home." OK. Immediately attaching a negative value factor to the project. Or the little merchants say, "What do they expect a little guy to do." Classic case in point, is the old 600 block here on University Avenue. Under the urban renewal rules the city was obliged to find alternative points for each of those businesses that were there to operate and so forth. And so, of course, every time they found one why the merchant would find something

he didn't like about it. Well, the truth was the city had already bought their buildings from them, given them hard cash for their facilities, and then allowed them to stay where they were, rent free - all they had to do was pay for the heat and electricity - until such time that they could find another place.

And they stayed for ten years, who wouldn't, you know. And so no matter what the City showed them - won't work. Can't do it, you're trying to bully me. And periodically they go to the Cardinal or the Badger or Isthmus with somebody and they would run a big exposé on how the city was pushing these little businessmen around and Guedens (fish market)(or Gaydon's - I'm not sure correct spelling - or Geudens) and the rest of them would all sit there and chuckle quietly to themselves because they had had free rent for ten years. So, you can create positive or negative, you know, attributes through the political process for property. And, a classic case of that is that weedy little corner on the corner of Park and Johnson streets right next to the Zoe Bayless Co-op there. I don't know how many of you have strolled through the people's park lately, but back in 1969 that was a really hot issue, you know. The students rioted and said we're going to make that open space and green space and environmental edges for the birds and bees and so forth and that's the people's park and now the university can't touch it because it's got that negative political image that if they go in

and strip it, they're in great trouble because they're obviously violating the bird sanctuary, and so forth. Another classic case - watch this thing that comes up on the university convocation center - a building sitting right in the middle of it is an old railroad townhouse series. I think it's on the corner of Francis Court and I forget what the cross street is, I think it's Lake Street, but maybe it's the next one down, and there's about six old townhouses in what were called railway flats. They were built for the brakemen and so forth at one point or another. And they had done some history and they had been allowed to deteriorate until recently they were kind of patched together and restored. But traditionally the editors of the Cardinal and that whole crowd, you know, and W. Faye (?) have always lived there. And we've got a whole bunch of people living there that are kind of left over from the 60's. Now you watch, the university is going to go in and bulldoze it and build a convocation center? You wait, it's going to be a ten year fight if they go in there and I'm betting the university loses. That's just a classic case of a political image being attached to something that totally alters a reality of the practicality of a situation. And that is a dynamic attribute that goes with that piece of real estate. And if you buy into that baby, you're taking on that little problem and you're going to have to figure out how to solve it.

Finally, of course, we have historical values which can be legitimately attached to buildings. They can be landmarks in terms of the history or homes of highly respected citizens and may represent architectural format that is important to preserve and we have creative mechanisms by which we can begin to institutionalize that kind of dynamic attribute to the building.

Throughout the city and the downtown areas you'll find buildings with plaques between the sidewalk and the curb indicating that this is a landmark structure representing a certain character of design, a certain personage which played a part in Madison's history. And those buildings can not be torn down, they must be maintained by the owners and they must have their architectural integrity preserved. And so that it represents local blessing and a liability if you're one of those who won that award - being a landmark building as you have significant responsibility imposed on you with very little compensation by the city other than perhaps reduced real estate taxes to reflect the fact that the marketability of the building has been greatly diminished by the burden of the responsibility of maintaining it. And therefore all of those elements are what we would call dynamic attributes to the real estate. Those which exist in the minds of the holders and in the civic psyche, as it were, relative to its buildings.

Now, the last category of attributes we call really environmental attributes. But they're environmental in the very broadest sense of off site impacts. Now some of those off site impacts can be physical. We've already talked about the storm water runoff and so on. We've already talked about the contamination of air as a result of another industrial plant and so on. More subtle, perhaps, may be the impact of a change in the sun shadows and reflections. There have been a number of suits in which an architect has built very handsome contemporary buildings with reflective glass that reflected all the heat into the building across the street grossly distorting their air conditioning costs and were sued accordingly so that fairly elaborate steps had to be taken to neutralize that reflection. There may be encroachments of the project on limited supplies of flora and fauna and animal life of one form or another. And, as we said it could be encroached in historical treasures of one form or another. There's a tract up in LaCrosse, a case of a train manufacturing plant. Several hundred acres bought to be an industrial research park, only to be discovered to be the scene of the largest and longest Indian encampment in Wisconsin history loaded with Indian artifacts and therefore, untouchable in terms of development. Now what do you do? You just paid a couple of thousand dollars an acre for a couple hundred acres you can't do anything with other than to give them to charity and Uncle

doesn't give you a tax deduction so a one to one split on your investment.

So that would be the physical impact and environmental impact. So we also have the social impact of a particular property. What about the displacement of residents or neighborhood units. What about whether the project contributes to social integration or creates barriers to social mobility. One of the things that we're concerned with in land use from a social standpoint is maintaining what we would call heterogeneity of land use. When we talk about social disorganization a little later we'll refer to a very classic book called The Death and Life of Great American Cities which points out that the cities are socially stable when you have mixed land uses. If you have all office uses for example in a given part of the city, obviously, the city is occupied 8 to 5 Monday through Friday and then is vacant and you create a tremendous social vacuum which attracts a great deal of those less socially desired character and it becomes a crime sink and a social sink because it has really been abandoned for parts of the week and parts of the day by organized society. Therefore, at some point we probably don't want to build another office building. At some point, another I, II, III or IV in the same immediate area would be very unfortunate for the area because now you have three or four square blocks of nothing but state office buildings and it

becomes a vacuum on weekends and holidays and in the evenings and so forth. What kind of contribution does it make to the overall regional plan? Certainly we're having a big rhubarb in the city presently as we're trying to redevelop downtown with some sort of convention capability. Should we permit motels to develop on the west side of Madison that would provide a competitive facility. Should the county be allowed to develop the coliseum at the same time that the city is trying to develop downtown. At what point do we build regional shopping centers which will squash retailing at some other point. This becomes then the social and economic impact off site.

Fiscal impact, of course, is going to have a great deal to do with what cities will allow and won't allow. The first level of course is how is it going to affect real estate taxes. Most properties will increase real estate taxes. That's not the question, the question is how does it affect the expenses of the community? If we build a mobile home park, we'll probably have a relatively low increase in real estate taxes but a very high increase in service cost. We'll have lots of children in elementary school. We'll have lots of people that are elderly and need of support services of one form or another. And therefore, the fiscal costs of servicing the residents in the mobile park may greatly exceed the public revenues generated by that service park. On the other hand, if we alter our land use

mixes in such a way that we did, for example, a mobile home park and a shopping center. The shopping center may produce a high real estate tax revenue but very, very little servicing costs. And by matching off those kinds of land uses we can create fiscal solvency for the community. Part of the impact that they have on government revenue as we'll see later, there are various kinds of use taxes, sales taxes, fire dues, return of state revenues for certain kinds of situations that may make certain kinds of development highly attractive to a community or unattractive. And then what are the secondary impacts ultimately on a community where certain kinds of development takes place. Perhaps our school system is adequately sized now, but if we add another subdivision we're going to have to build another elementary school and everybody's real estate taxes flowing to the school will rise.

And finally we have certain social, ethical factors in the stability of our urban areas. What's the impact on supply and demand. Everybody thought the IDS building in Minneapolis was splendid unless you owned another office building in downtown Minneapolis. In which case, it drained the area. The classic misapplication of public funds was the International Trade Center in New York City. It was totally subsidized by the public and drained tenants out of many other office buildings in New York which then had their real estate taxes greatly reduced so that at

the same time that the Trade Center didn't pay any real estate taxes to pay for the services they required, they were destroying the tax base for other sectors of New York City. Now, obviously, it's not a very bright thing to do. What's the impact, for example, of financing the grocery store on the back side of Capital Center and subsidizing that rent factor with public funds and causing the old buildings down on Main Street and the Bavarian Market up on Fairchild and so forth, to get plowed under simply because they're paying market rents while somebody else is being subsidized. So there's obviously a fair play element in the kinds of development which you might encourage. What's the stamina of the sponsor? Can the sponsor of the project take the stress of the project? We've talked about the university trying to build the golf course in the face of certain environmental threats. What's the vulnerability of those individuals to secondary political pressures and counter attack. Classic case, the paper company attempting to convert some of their land into recreational use in northern Wisconsin, Have to deal, in terms of subdivision and recreational land use, with the same department of resources that regulate their flow of paper liquors into the Fox River Valley. And the government is not adverse to taking their recreational development and holding it hostage for their cleaning up the river - which may or may not be productive relative to the state overall. In any event, finally there may

be potential uses that require some sort of political consortium so that we can have a private/public partnership in the execution of those projects. We'll look at some of those further.

As we begin, then, to analyze all of these various attributes that constrain what we can do and what we can't do, we're obviously moving further down that step-like diagram that's on the back of your lecture notes and it's really to lay out the subject matter of the course. What time is it by the way? How many minutes do I have? Two, all right. I was about to hand out the next lecture outline, but I guess we'll do that on Monday. In any event, the complexity of the real estate processes being suggested to you by the types of attributes which we need to inventory and provide a reconnaissance on, and the process of defining what is the most probable use of a particular site at a particular point in time? And we'll come back to that again on Monday.

The _____ Scholarship Program which gives away, I believe, four \$3500 scholarships and for undergraduates has an equal number of \$1500. And we generally have several of those here on campus every year. The application date is growing to a close and I haven't seen too many of you come in yet because I generally have to write a short essay, you know, exploiting your talents and values and virtues and so forth. I believe it all has to be in on the 15th. So if any of you are planning to do

that or have the application form that you have been procrastinating on, now is the time. For an hour's worth of work to pay off, the \$3500, that's probably the best hourly rate you're going to see for a long time.

The lecture today is perhaps, in some cases, you may seem a little remote and abstract from real estate but it really is the framework on which much of the course, and as well as the tradition here at the University of Wisconsin is built. Any time we make a decision about anything there is the implicit process, to oversimplify it, really begins with a pile of information of relatively unsorted, unstructured character and from that we abstract out an identification of what our alternative courses of action might be. And those alternative courses of action, lead, obviously to a variety of consequences with different degrees of probability. And those consequences may or may not be particularly desirable. Even the late Woody Hayes used to describe football decisions - when asked why he didn't pass the football more often, he says three out of the four alternative outcomes is bad. Obviously, applying the advanced decision theory out of faith and that's true. When we look at most decisions and we look at the consequences, quite often three out of four alternative outcomes is bad or at least unacceptable by some standard or other. That standard shifts, of course, in terms of the acceptable payoff matrix if the coach is about to

lose his job and he has to get a touchdown on the last play of the game, he may go for the 90 yard touchdown throw although the payoff probabilities are relatively low. It's all or nothing, his job or whatever. On the other hand, if he is a couple of points ahead, he may go for the three yard plunge and accept the probability of a very low payoff because there's a low probability of fumble and a low probability that his players won't forget the play and the count and so forth. So that he should be able to execute it, use up the time and stall until he wins the game. But, nevertheless, at any given point in time, there is a series of choices that you can make. Each of those choices has alternative outcomes. And those alternative outcomes have different degrees of acceptability to the decision maker at a particular point in time.

The issue, of course, is how do we construct what the degree of acceptability is at any one particular point in time. And so on your little flow chart there, there is a really critical element is in the lower level. How do we express our value system and convert it to some sort of decision process? We can begin with values which are essentially truisms. To make money is good, is a value judgment - almost a truism. Most people agree with that, and so on. But it doesn't do much for a decision process. We can say to make 10 percent on our capital is good and we have come up with a more clear statement of our

objective but that is still not a very good decision process because 1) what is a return on our money? What represents, or what should be included in that 10 percent. Is it just simply cash available from the project or is it cash plus tax savings, other income plus profit centers to our contracting company plus what salary and wages that our employees are able to make and so forth? What represents a return? By the same token what represents capital because it's the money we actually put in the project, the money we could lose if the project didn't succeed. Is it our own money? Is it the bank's money? We need, obviously, a whole series of specifications or standards by which we begin to make operational the objective of making 10 percent on our money. So we move from a value statement which is truistic or moralistic to a statement of objectives and then we begin to define very carefully what are the criteria, standards or screens by which we can determine whether in fact we have met those objectives through a specific course of action. And that essentially is what much of the decision process is about. And how do we correctly identify the critical value systems that are at work and then convert those to objectives and then criteria by which we can decide whether in fact we have succeeded. For example, a couple of years ago the radio station at the top of the hill here, White Foot, went out and relocated to the suburbs and the building was purchased by a local developer to be

converted to a professional office building. And the neighborhood rose up in arms and said that they didn't want commercial in the middle of a residential area. The radio station had been there for 50 years and the neighbors had been there for 20 years, but that was irrelevant. They did not want commercial with their residential area, which is nominally a good concept. We don't want to make excuses if there is an interfere with the domesticity. But, when you got right to it, the basic value judgment that was concerning them was that if there was commercial development of the building, the woods around it would be chopped down for additional asphalt parking. And the thing that they characterized their neighborhood was as a wooded suburban hilltop and they did not want that intruded on. That was the value system. So they said fine, if that's the value system, the objective then is to save the trees. Which of your alternative sources of action saves the trees. If you pursue your own recommendation of making it all single family lots. Let's lay out a plat on that piece of ground and find out where the trees are relative to where the lots would be, and then where would we put a house on each of those lots. And virtually, invariably, by the time you put a house on each of the lots, you'd cut down most of the trees on the lot. So that if you are advancing the residential subdivision for homogeneity state, you were, in fact, defeating the fundamental value system for which

you were fighting in the first place. On the other hand, if we place land use controls on the developer and say, "Hey, wait a minute, you can't expand your parking to a point within 75 feet of the property line in any one direction, as those woods have to be preserved permanently and the greenbelt. We can continue to conceal the existence of that office building. We'll maintain the visual character of the neighborhood and you will, in fact, accomplish what you wanted to accomplish. So quite often the land use decision is obscured because people provide what appears to be a conventional and appropriate course of action which, if pursued, in fact, produces exactly the opposite result of the underlying value system. So whenever you get into a debate, a contest of virtues in conflict, as it were, you really need to find out if there is, in fact, a common denominator value system operating and simply hasn't been articulative but has been implied by perhaps a half baked solution that's been put forward and so on. So we need to go from a value statement to an objective, to a set of criteria or standards by which we judge whether in fact the proposed decision accomplishes our purpose.

Now, where do those values come from? Obviously there are many levels. We have, obviously, first of all the value of the space user himself which he can express by his choices in the market - particular style of residence or a particular location characteristic or a particular level of attractiveness. He can

do nothing which is a statement in itself. That's always a legitimate decision. Or he can make an explosive social statement about what he thinks his building should accomplish or what his real estate decision should account. A space producer is really reflecting his values. What's his trade off between quantity and quality. What's his trade off in terms of the kind of folks he wants to work with. What's his tradeoff in terms of sensitivity to the political conscience of the community. All of those things represent value statements by those who are decision makers. He either feels it's important to implement the goals in an entity or he says, "Gee, I'm not very good at that, therefore I'll only build what they tell me to." If they say that single family zoning on that site and the building has got to be a little box that has so many feet set back on all sides and so forth. That's what they want, that's what they get. I won't challenge that. On the other hand, others will say, "Hey, wait a minute, that doesn't make any sense at all. If what you really want is a community that has this type of appearance - you want to save the trees and so forth, a better way to do that would be as follows and he may argue for it and argue a long time for it.

And, it's those kinds of people ultimately that are expressing the state and the value about their willingness to push for excellence as opposed to their willingness to accept the current standard. And quite often the people who are the most mule

headed and obnoxious etc. are often those who are most committed to excellence. Admiral Rickover may have been an SOB of classic proportions but, nevertheless, he was willing to pay the price for excellence. And so quite often he is expressing a value system in terms of his impatience and in terms of his continuing pressure for reform, and so forth.

Political infrastructure also reflects value systems at work. Should we have housing downtown or a convention center or should we have lower taxes or higher services and so forth. There's always a value statement by various segments of society.

As a result, institutional economic bureaucracy really began in the 19th century - right after the turn of the century which really grew out of the argument that economics was simply a by-product of social organization and a statement about social values of the political collective. And therefore to understand economics you really have to operate in the social value system first. And this is why it is termed institutional economics and it's why land economics really grew out of this tradition. That economics is a by-product of social dynamics and the social dynamics are really a way of expressing the value systems of those that are involved in the decision process. And so we begin with that history and so we don't have a lot of neat supply and demand curves that flow evenly and logically and on a calculus basis. Most of our demand and supply curves are kind of kinky in

real estate and have unexpected little bumps and bulges and blemishes which really represent an accommodation to the value systems that are work at a particular point in time.

Once upon a time those value systems once were easy to identify because they were able to express themselves in a physical clarity in the ultimate architectural and physical plan of the community that we do now. The consensus first of all was probably imposed by the feudal system and most people had to go along to get along so that perhaps the fragmentation of social debate was considerably less. But we also have really a pretty clear statement about what people were afraid of or what people wanted to support. And, as a result, a very clear order exists in most of our western European and, for that matter, Asian community. The interaction of the value systems and the total city building process was pretty clear. It was usually a priority on defense or trade or religion. One of those groups was dominant and their value groups then subjected themselves into the character of the community. Moreover, once that valued consensus had been determined, time moved relatively slowly. technology hardly changed from one generation to the next. So that if you were going to follow a certain architectural pattern indigenous to the area, the people cutting the stone and cutting the timber and building those buildings really didn't change their technology over 3, 4, 5, 6 generations at a time. And so

the last guy to carve a stone for the cathedral carved it pretty much as the first guy had and as a result it looked like the whole thing was built by the same artist at a relatively short period of time. But unfortunately they didn't have _____ fiberglass plants in those days. They were working over a much longer period of time, and yet the continuity, the value systems prevailed and projected themselves forward. The only changes really came where there was an obvious irritation or misfit with the solution relative to the experience. So that after London burned down a couple of times they said, "Hey, wait a minute, that way of building isn't working out real well. Maybe we ought to have stone fire walls and we ought to have building codes which established the minimum level of construction for everybody's joint safety. Maybe we need to set up a different type of sewer problem. We need a different way of delivering water so that everybody doesn't get sick at the same time." And as we began to find a significant misfits between our technology there was an incentive to go about improving the technology. When society became relatively content with their solution in accommodation to their environment, their building technology never changed. So we could look at certain tribal areas, for example, in Africa which continue to build their huts in a conical fashion with mud smeared on the wall, and so forth. Given the limitations of the materials, given the limitations of

their climate and so forth, they had reached what they felt was a reasonably adequate accommodation to their needs and their resources and, as a result, their technology never changed again.

There was not sufficient irritation to make them do it differently. One of the things about our society is that we become more and more easily irritated, more and more anxious about whether we are doing something efficiently or not. And so, to this day, all real estate is still marketed the four basic pains: 1) can we reduce an irritation between your fit to your environment and your perceived comfort level, 2) can we enhance the kind of activity that you want to do. Can we make you a better handball player by building a better handball court? Can we enhance the activity enclosed. Make it more efficient, make it more fun, etc. 3) can we enhance your self esteem? Tendency to change addresses, to get a house that has southern columns in front of it like Gone With the Wind because you feel that's the way you should live. And finally 4) can we improve your physical comfort.

Those four basic motivations really all have to do with irritation levels. Anxiety and stress on the irritation side. Enhanced physical comfort or at least our perceived comfort. And those four irritants continue to drive us forward to do kinds of real estate that if you can make people content with what they have, ultimately there is no further change, because there's no

reason to change. Begin to look now at some of the ways in which value systems control the entire urban environment. One of those is the defense of town of Nardon. Many of you have seen him in the history of urban form books, and so forth, Nardon was laid out in a six pointed star pattern and it was designed around the fear of the cannonades and besiege guns, and therefore, was designed much like a modern gun turret in that at no point does it provide a straight on surface to a cannonball, all the surfaces on the walls are oblique because of the star patterns and the sloped wall patterns and so on. And the idea was to provide no firm impact going directly head on against the trajectory of the heavy cannon ball. The moat was inside the walls so that there if the shot carried the wall, it would then have a field in which to fall relatively harmlessly. Then, within that moat, you then had at the very center of the town, the two most valued properties, the church or cathedral and the pollatso of the noble who controlled the whole feudal area. They were at the point farthest from the possible siege gun or battery that might be assaulting the town. Your social standing then depended on how far from the church you had to move back until you were living over the moat. If you were relatively low in the social circle, your tail feathers were hanging over the moat and the most likely one to be exposed to the first shot to carry the wall. And it was a very, very clear expression of social

structure and the basic fear of the society from this technological innovation called the siege gun. And it dominated every aspect of design and laid out an allocation of land within the community. A fairly simple statement. The Roman military towns like Aoka, which is always been regarded as the prototype.

Remember it had a very clear value statement where you wanted the minimum number of Roman soldiers to hold down a maximum number of provincial primitives and we wanted to impress them with your military prowess, intimidation was essentially the value you were trying to put across and, as a result, the walls are perfectly square so you can man the maximum perimeter with the least number of men. And you came through a gate and the local residents had to go by all the tents of the Roman Legions until they got to the headquarters in the center of the encampment. And the process was, of course, one of intimidation in that you had to parade by all of these happy looking Roman soldiers. Once you were at the center of camp you weren't really likely to raise your voice real loud in protest because you had to figure out how to get out of the camp again with the rest of the crew chasing you and so, as a result, the whole thing was designed to really carry the psychological statement of intimidation and power with the minimum amount of resources. And from that standpoint, that was the value system and that was the objective - they did a very good job of it.

On the other hand, the Incas were a very socialistic society, in which they were simply agrarian, scattered over the hills and valleys of the Peruvian and related areas. And, nevertheless, when they found it necessary to collapse inward and create a mass, their capital cities like Picilapta were really designed to be 1) granaries in which the entire agricultural surplus production was stored for everybody's benefit and would also be a defensive to which they could retreat for protection when others were pillaging through their territory and so forth.

The whole statement and the way the city is arranged is really a statement in government administration of common resources and really reflects a social structure relative to ownership of the crops relative to ownership of weaponry and tools that characterize their particular society. And the entire city is laid out to support those elements or functions. But I think when we talk about Peking, the original Peking was divided up to be a statement of the social structure of the Chinese Dynasty. The Forbidden City was just that, it was forbidden to everybody but a few of the socially elite. Around that was the Imperial City which represented the governmental sources of some standing and around that was the Tartar City which were essentially the citizens that serviced the other elements. And, therefore, as you progressed into the core, you were really making a statement about the social and governmental structure of the community.

The same is true if you look at the Japanese Imperial Palace and others - the arrangement of space is the progression into the community and so forth, is again a statement of your social standing and your political priorities within the governmental process and the value systems that are being reflected there are relatively narrow, but they are nevertheless being articulated in the plan and structure of the area. And the same is true if we look at Amsterdam or Venice, some of the early trade centers in which the priorities obviously were more an exchange from seafaring transportation to barge transportation on the rivers and therefore them that got priority with the merchant's associations that had their warehouses and their wholesaling houses along the canal and adjacent to the harbor area. And in each case the value systems of the _____ that lived there began to develop building codes and building styles and allocations of land among various sectors of society that reflects the priorities of the community. The value system is operating and becomes implemented in a whole series of subtle ways.

Now, it's not necessary that it all be self serving to some political power group. We've become much more knowledgeable in this country about how we make a statement about more desirable collective goals. For example, the Southeastern Wisconsin Regional Planning Commission has been a marvelous experiment in

control proof information. The southeastern group represents 7 counties and it has no political authority to rule on anything at all. It's not going to be there to say thou shall or thou shalt not, all it does is examine the consequences of a course of action. So, initially, for example, as the townships around Milwaukee were willing to accept any kind of growth at all even though septic tanks wouldn't work very well, they simply researched all of the soils very, very carefully in all of the counties and identified which ones would work and not work with septic tanks so when a subdivider came into a town board and wanted to lay a subdivision on top of lands that were totally unacceptable for septic tanks, the town board was fully informed as to the consequences of going along with that when they were already on notice that the septic tanks would fail and the subdivision would be fouled up and the property owners, and so forth, would ultimately come to the township and say, "What are you going to do about this mess? and how are we going to sewer and water, and so forth." In effect, when the consequences of a choice of action can be laid on the politicians and they are aware of what they are doing when they do it, they're fairly unlikely to make the wrong decision since the blame for the consequences can be very directly laid on those who make the decision. If the consequences are not so apparent or are not made so apparent, they can presumably be innocent of the consequences. So

Southeastern Wisconsin Regional Planning Commission simply made it their obligation to always analyze very carefully the consequences of alternative land use decisions by the several hundred political jurisdictions within their borders. So that the politicians were really cornered into doing the right thing since the wrong thing was already readily apparent, in terms of the facts at hand. By the same token, is it then possible to construct a knowledgeable public policy.

If the facts at hand suggest that the edges of where the water meets the land, where the hedgerow meets the corn field, where woods meet the meadow and so on, is the area of critical concern for conservation because, let's say, 75% of bird and animal life takes place at those edges. And we know that as a fact. From that then we can sort out a policy or course of action that says, "OK, tell you what, as an objective we want 25% of all environmental edges under public control by 1990." Now there's a firm statement of an objective from a truism that we ought protect our environmental edges - value statement. Objective: let's have at least 25% in public control by 1990. Now, we move from there to a series of implementations that says, "All right, how do we do that?" Which ones are of significance. Well, first of all we'll state that anybody that has, let's say, shore land for sale gets more than a thousand feet of shore land along a stream or a lake in the county will be put on a priority

list for public purchase by the open space program. Anyone that comes in to subdivide land which has shore land or hedge growth will be required to dedicate at least 25% of its shore land to public access and public ownership as a condition of having their plat approved and their other uses expected. Anyone that comes in with a single house plan will not be permitted to cut trees and encroach on the shore lands that face it within 75 feet of the water. And it says in Florida, for example, you're not allowed to cut on the cypress and so forth along the water's edges. And you could then set up a whole series of screens so that as various events unfold in the future, you now have a decision screen that says, "Hey this is the situation and 1,000 feet being put on the market, this goes into our committee for purchase of open space. Or this plat has to be corrected to meet this standard. We move from a value judgment that our environmental edges are critical, to an objective of public policy that 25% will be owned, to a series of implementations, screens, criteria, standards, policy statements if you will, by which we implement and achieve that objective to advance that value judgment. So we all make our decisions that way in terms of our priorities, in terms of whether, in fact, the next step we take advances that or detracts from that series of priorities.

Now, the men of intellectual stature over the years have often expressed either fear or disgust of the urbanization

process. _____ was afraid of the urban slums soaking up, as he said, with the displaced. Jefferson saw the city as the ruination of the American democracy. That value system pervades much of our urban design. The belief that ultimately domesticity required a house sitting in the middle of a green estate with a long drive coming up to it and so forth. That romantic value system still controls much of our subdivision layout, much of our home design and so forth. We continue to reflect the romance of the English Tudor estate on a little 60 by 120 lot with a couple of plaster timbered roof design and so forth to mimic the English Tudor or English Colonial and you can, of course, always sell the home in a modest priced neighborhood by putting columns on the front porch making it look like Gone With the Wind or something of that sort. That value system of a rural gentry controls much of our architecture and many of the central codes that reflect on our architecture. Only recently, have we seen some values which have contradicted that and said, "Wait a minute, we're an urban society. How do we make towns work, how do we make cities work, how do we can make people in a high degree of density, nevertheless, get along with each other? How do we protect their privacy? How do we enhance their self esteem? How do we reduce the irritation of putting people in that kind of density? When I came out here in 1957-58 they were building the first 4 unit buildings along Midvale Blvd. They have probably the worst sound

control of virtually anything the way they were built - the floor is a drum head and you know as you flush the toilet everybody in the building knows. You've probably found you are living in stuff like that presently. Right? But now that's not true anymore. Our value systems have said, "Hey, wait a minute, you know, a really important thing to reducing stress and increasing self esteem and privacy is providing privacy in terms of noise. And we've built our apartment building very carefully today with a variety of techniques in order to provide some sancracent (derivation of sanctuary) privacy areas for the residents and protect their privacy in terms of control of noise and so forth.

We've tried to create spaces that are self policing in terms of the willingness of intruders to encroach on that and, perhaps, get trapped off their own turf and so forth. So that we see a value system at work and as we gradually modify the application of our technology and we create communities that work better than the plans in the past have. And so value systems do intrude on the decision process and the application of our technology.

Now, one of the things we are working towards very slowly is a way of articulating the various value systems of the citizens into some consensus of the city beautiful. Remember that during the 19th century explosion of our country there was no opportunity for consensus. Everybody came with a different dream of what America was about, what a city should look like, and who

was entitled to what and so on. But it was only 1954 when the federal government was willing to subsidize community planning at the city level, at the village level and at the second class city levels in order that there was a five year long term plan as to where it is we think we are going and what is it that we want to create and how do we treat our citizens with sensitivity so that if we want to relocate a family, how do we do that to make sure that they are relocated into quarters which are not only appropriate for their locational needs, but are meeting the basic standards of clean and acceptable living standards and so forth.

And that's only 1954, that's only 30 years ago in which the community as a country has made a statement about the fact that we really ought to go about building our cities in a systematic way and that it's important enough that the federal government dedicate significant dollars toward subsidizing the planning process. You really have to think about that. Thirty years is not a very long time in history. It's certainly not a very long time in Bourbon Street and yet we have moved just an eon in terms of finding devices by which we can articulate the citizen's value systems. We have to have public hearings on virtually everything and they are the biggest pain in the tail, except for one thing, somebody did in fact ask you for your opinion and you can, in fact, go down and give it. And if enough citizens go down and say this doesn't make sense, we don't need a convocation center

on this site. Or, why should we spend all that money on a convention center that's squeezed between an old city hall and a parking lot, and so forth. In fact, the decision is changed and it is altered and there is a response through the political process to the values that are being articulated by the various segments. And we do hammer out, over a time, a consensus as to what the city beautiful should look like and who's going to help pay for it, and who's going to benefit thereby. That is, truly a remarkable political process. The fact that we have moved from a point in which everyone believes that his home was his castle and that he could do with his land as he wished to a point where any significant change in use today is a subject open to public discussion and debate and hammering out a consensus over a period of time that may take one to five years before the battle is won.

Slows down the process, extremely frustrating to the individual decision maker but, nevertheless, we are creating political institutions which provide some tradeoff between the efficiency with which we would like to achieve our own objectives and the sensitivity by which we incorporate the consensus of the larger group.

That sense of historical process has been advanced by a number of our planners and we're going to look at some of those as the year progresses. Particularly Baltimore's play of handling of that process and Rouse's way of doing that in

Columbia and elsewhere and a couple of other projects as well. But it's not unique to the U.S. A Greek city planner who just passed away just recently by the name of Doc Zadeus pointed out that one of the things that destroyed our city beautiful is this tradition of concentric expansion that the city kind of grows like rings on a tree. And that ultimately the old rings of the center can rot out and choke off the community. Wouldn't it be better if we could have our cities develop in a linear fashion so that we could maintain a central commercial core which would sell the best of our historical architecture, allow us to replace that which was obsolete and still go on as we expanded in a single direction. And as a result, we would not have multiple centers and rings gradually choking off the older part of the city. His concept of city expansion has been applied in many other areas of the world particularly the third world where their new urban centers and so forth gave them an opportunity to do that. Pakistan for example is a classic case in point, Brazil and a number of others - Egypt have all applied some of those principles. And I think it's useful to compare that sense of city's evolution over time in a somewhat linear pattern with a sense of time moving forward in a linear pattern as well.

Now then as we begin to look at the value systems, keep in mind that one of the things we're going to articulate through the semester is a sense of who benefits and who pays. That

ultimately the consensus is arrived at when we can find an equilibrium between those who will benefit by a particular collective decision and those who will have to pay for implementation of that. OK.

I'm going to start off on the next lecture even though you won't receive it until Wednesday.

There are value systems that work and why people begin to concentrate as they do in an urban environment. And one way of looking at that is a series of alternatives, the first of which we'll call scatter. We could follow the Jeffersonian and coined the idea of spraying individuals as far apart as possible over the landscape - So that the people are no damn good, go into your box, no contact whatever. And this means that while each individual has far more land at his control than he can possibly use, the problem is that he's also maximized his total cost of either political action and collectively with someone else or communications. He is at a point remotest from any one of his neighbors and just simply exchanging of commodities or messages or simply words of encouragement and friendliness are very difficult indeed. And so there's a natural movement toward clustering.

Even under clustering, as the second concept, space is a free good. Says the economist, you can have as much land as you want, as much land as you can control. It's just that we'll

consolidate everybody into single clusters. A little bit like compressing data on a computer memory. The ultimate, of course, statement of free good is the father giving advice to his son that he should never buy a lot bigger than his wife can take care of - obviously a chauvinistic a statement, but that has been changed now to never get lawn bigger than your children can maintain. But space up to that point is a free good. Now, obviously it's more efficient than scatter, people are at least closer together. The cost of getting together is less, exchanging commodities and information is less. It's a little bit like having everybody live in Dane County and providing a rural mail system rather than having everybody live across northern Wisconsin. The savings are considerable, but they really can't be attributed to any one individual or any piece of land because everybody can still have as much land as they want for free.

The third step towards a socialization of the urban process is what we call dense cluster. Space is no longer a free good. For you to give up your isolation and control over as much land as you want, in order to achieve a tradeoff with transportation and communication costs. You're willing to pay more and more for land - that's on a per square foot or per acre basis - in order to avoid other costs. Most of the savings, therefore, that are attributable to high density are, in fact, then spent again on

competing for land which provides you the most favorable transportation and communication and exchange costs. Obviously, dense clusters really represent what we're really all about in an urban area. The density is, in effect, driven by the need to find some tradeoff between the linkage efficiencies between all of us and the value of another unit of land. At some point it's cheaper to build a higher building, at considerably more cost to go high, because the next unit of land would be even more expensive. We can begin to build tradeoff models which indicate an increment in the cost of construction for going high plus increment in the elevator costs, is still less than increment of buying enough land so we could build a one story building. At some point it starts paying to go higher rather than to spread out over the surface.

The final element of evolution in that realization is that there are various segments within the society that have better relationships one-to-another than others. Then we have certain categories of land users. We have residential land user who need convenience to retail, shopping and recreation. On the other hand, we have manufacturing and wholesale distribution land users who need better connections to rail and highway and perhaps resources like coal and so forth. And we may have a third set of users that are institutional in character, that need linkages to some other element of the community. As a result, within the

dense cluster, we begin to see uses filter out and cluster in areas of similarity. So that we have single family districts and commercial districts and office districts and industrial districts and, so on. And, again, we're beginning to improve further on the communication and exchange economy by that type of arrangement.

These economies are measured by what we talked about earlier as the cost of friction. And the cost of friction or the savings, I should say, in the cost of friction become incorporated into the land values. For example, the individual who is willing to pay \$200,000 to be in a little condominium down on the lakefront in downtown Chicago is really saying, "Hey, I'm willing to double the amount I'm willing to pay for space, just so I don't have to make the commute out the interstate or ride the train to the suburbs where I can have a lot more land, a lot more roof space, but I would be wasting two hours of my life commuting every day to reach that point. I'm willing to, in fact, spend twice as much money to stay downtown and then have a cottage out at Aspen where I can escape to when urbana gets to be too much for me. But the cheaper, more satisfying solution, dollar for dollar. The cost of friction, therefore, is the dominant element in determining where people locate their particular establishment. And Radcliffe threw away a line in his 1947 urban land economics book that really should be a lesson to

all urban planners and to all politicians. He said, "Ultimately the goal, the value pursued by the urban planner is to make the costs of friction between and amongst various sections of the city equal so that there is no rent differential between one part of town and another." When that's been accomplished then all citizens have been benefited equally by the public investment and infrastructure and communication and transportation, and so on. It's only when the planner fails to make all parts of town equally attractive, that we begin to see first of all a rental differential and then eventually some sort of social differential between those areas. There's a value statement therefore which leads to an objective, which leads then to a set of critical standards or criteria by which you can judge whether, in fact, the public expenditure was, in fact, well made. If, in fact, we can improve the bus service on Park Street and Fish Hatchery, to a point where it's equally convenient to live out on Fish Hatchery Road as it is to live on one end of Langdon Street. The rents on Langdon Street and in the suburbs will be the same. The only reason you pay a ridiculous rent on Langdon Street is because you tradeoff in your value system the time and hassle of taking the bus from some point more remote from campus. So that's a very idealistic statement of what the urban planning process is all about. But, nevertheless, that ultimately is what it trades down to. If we can make all parts of the community,

equally attractive, then the costs of friction are equal, and the rent differentials or the differences in land values just disappear. OK we'll pick up again on that Wednesday.

. . . Commerce Room number 16, there's one other room for you, so that you can see what we're talking about. The real estate club is exploring right at the moment the feasibility of picking up 30 or 40 people and taking them to Washington DC for a weekend. If anybody is interested in that - it would be less than \$200, but \$200 is still a hell of a lot of money. And we also have alternate field trips which will probably go someplace closer like maybe, Columbus, Wisconsin. In any event, if there are those that would be interested in doing that, it would be a super trip and that the real estate development as well as the kind of speakers that we could put together there would be a lot of fun. And that has to be the low traffic period for Northwest Airlines trip so they could give us their ridiculously low rock-bottom price where can put you all in those little plastic cages that your pet dog goes in and get a good price. Not a long horse ride, it's a short airplane trip to DC and back leaving on a Friday morning, coming back on a Monday morning so that we get the best spread as far as ticket prices go. But if you're interested in that, let us know, we're just exploring market testing, as it were, to see whether there is a constituency for such a jaunt. We have to leave a few minutes early today and,

therefore, at the end of my lecture, Dan Knox will hand out your next problem set so don't break and run right at the same time that I do.

You now have in front of you the outline of the lecture that we started on at the end of the previous period looking at the evolution from scatter to some sort of structured density. And all of you were attempting to scribble at a rapid pace at the end of the last lecture is there before you on the first page and I am now on page 2 relative to the preference for a highly structured density. There is, obviously, an economic imperative that moves people toward some element of structured density. But beyond that there is an aesthetic imperative and a social imperative that leads eventually to a much more highly structured density in which other constraints begin to sort out where things go in the urban environment over and beyond just a basic marginal revenue, marginal cost kind of concept. And so about really in the epic of interdependence and know about some sense of what the aesthetic of the community should be. And as we have mentioned earlier in other lectures, 1954 was really the very first federal recognition that this highly structured density was in the national interest and should be deeply subsidized by the federal government. So most of the development really of a professional planning tawdry of planning departments and people who try to anticipate the effective growth pattern of the community and

begin to organize the infrastructure to anticipate that and to go about it in a systematic fashion of capital budgeting and anticipation of the demographic characteristics of the town five years from now, 10 years from now and so forth really began in 1954. The beginning of planning as a legitimate profession really began with tremendous diffusions of federal money at the local level. Up to that time, most communities with a few minor exceptions really had no sense of where it was they were going or the fact that they could control and channel that growth to achieve a more desirable life quality for their community. And that's really not that long ago, 30 years ago is virtually a split second in terms of historical social development time and yet we have gone a tremendously long way. By 1960 we began to really see significant changes in the price and ?? motor that were growing out of the urban planning function. And by the time Mr. Nixon took office we had arrived at a consciousness about our urban ethic so that when Lawrence Rockefeller was asked to head up a 12 member committee to establish a national policy relative to urban development, the committee concluded in (remember this is a republican administration - the old property right fuddy duddies that are only identified with the far right) and Lawrence Rockefeller, of all people, a major banker interest coming out and saying, "when the protection of natural cultural or aesthetic resources or the assurance of an orderly development are

involved, a mere loss in land value should never be justification for invalidating a regulation of land use." My God, that's revolution. Up until that time the idea that my land would be worth less because you zoned it for single family instead of high rise office building and so forth, was regarded as a direct attack on the individual. Now we're saying, "Wait a minute, as a matter of social interdependence, if we're going to get the right kind of patterns in urban area, the community will have the ultimate say in what goes where and how it will be allocated and how that system will work." And, shortly after the Lawrence Rockefeller statement we have the Justice Hallis here in the state of Wisconsin saying that in effect there was no inherent right to develop the land, if it came at the expense of the health and welfare and the general interest of the public. The land belongs in small part to those that are here today and lesser degree to those who were here yesterday and in the larger degree to those who are yet to come. The ownership of land is a trusteeship. If you think about that philosophically and how far you have moved from fee simple title - man is the master of his castle and so forth - to a point where land ownership is simply a trusteeship in which it is to be husbanded as a resource for the future. That is a revolution of the most drastic and radical qualities in which they are still fighting about in South America and Central America and yet it was completed through the

political process here. And so we're really talking today about a highly structured urban density in which the forces at work are not only economic forces but are, in fact, social and political forces reflecting the essence and the aesthetic of what we perceive to be the life quality that we want to achieve for our urban areas. I can think of no other area of manufacturing enterprise because, ultimately, building buildings is a manufacturing process, which is subject to that level of public oversight and control on both an aesthetic as well as an ethical basic. Real Estate is, by far, the most regulated industry in our society and quite rightly so, given the fact that it is the terrarium in which we all live.

Now, let's begin to explore some of the other forces that not only determine what goes where within the community but why do communities locate where they do and relative to one another.

The little drawings that you have there or doodles out of my Roger Price era of some years back, (Roger Price is a comedian that has since died but he would lecture with flip charts and explain very elaborate political concepts with small doodles of that sort) and so to the degree that graphics communicate better than a thousand words, why you can move through those doodles toward a highly structured dense cluster. And the initial driving forces we suggested are really the tradeoff between the distance among the various establishments and the transportation,

communication costs or friction costs that were involved in that.

And yet those tradeoffs became the initial controlling imperative and then we moved toward a more urban aesthetic imperative and, more recently, there are other shifts in our society as a result of larger technologies shifts which are changing that pattern once again. And what I'd like to do is flip over to the next page if I may. Most of that on that outline I think is there. Controls on the next page is what we said the other day and I would like to go down to II please on page 3.

If you had a course in geography many of these concepts are not new to you. Most principles of urban geography begin with these basic concepts. Obviously, there are many different theories as to why communities locate where they do and how they relate one to another. Some of this is historical accident and some of it is obviously a rational and conscious decision as to the economic efficiencies indeed of one point rather than another. And in other cases it's a matter of institutional accidents if, for example, trains traveled at a certain speed in the 19th century and train brakemen and so forth could so far in half a day and then back so far in half a day to where they were then at home, you had to have a changing station and a watering station for the locomotive at a point that represented 50% of a day's travel for a brakeman and train crew so that they could

change and move across the country accordingly. And, as a result, towns got scattered across the landscape representing the range of 1/2 work day on the railroad. And points then where you refueled or at least rewatered the boilers of the train and change train crews and sent the crew back to wherever home was on the train going in the opposite direction. So that, in some cases, it's a rather fleeting technological phenomenon that causes a community to be established and then an agglomerate over time. The variety of answers, of course, are never very simple.

There's always multiple constraints on why a community goes where it goes, but among the predominant ones in the industrial age were first of all the weight gaining process that characterized the industry of that community. If the product which you created gained weight as it approached the market, obviously it was desirable to have it as close to the market as possible. If you made Coca Cola syrup, shipped the syrup to the market, added the water and the effervescent materials as close to the point of utilization as possible, in order to avoid shipping the weight from one point to another. By the same token, if it pays you to make the taconite and knock all the rock off of it and come up with a much more rich ore, that function occurred very close to the raw material and the idea was to reduce the bulk and weight as quickly as you could before you shipped the good. And as a result, manufacturing processes tend

to move either toward the point of raw material production or toward the point of utilization depending on the weight gaining process in the mean time. And that becomes a very significant factor in all matter of urban processes. Prefabrication has never worked out very well in this country because the more you accomplish in prefabbing the house within the plant, the more bulk and weight you have to move and, therefore, the shorter the distance you can move it economically before the cost of transportation has consumed all of the overhead in industrial efficiency of building the house in the plant and moving it out on the site. And so the weight gaining process or the weight losing process provides a very tight trading area within which a particular kind of establishment can locate.

The second element, of course, is that there's a distortion to that through our institutional devices from one time or another. For example, the base price costing in the steel industry, which instead of charging everybody their fair share of the freight weight, tended to average the freight costs meant that plants could be located farther from the steel mills than economics might otherwise have dictated and as that type of institutional friction is removed, why you have some very decided shifts in the location of where things go and whether they want to be close to their raw materials or their market. It's true, of course, that a firm can locate anywhere along a straight line

between their raw material and their finished market if they live in an abstract world but, by in large, their key executives want to live close to whatever enhances their life quality. Remember, we're always talking about an organized undertaking enterprise. An enterprise is typically run not for profit, but to enhance the life quality of those that are in charge of the enterprise. That's why universities are run for faculty members, not for students. That's why businesses are run for the comfort of the executives rather than for the poor guy at the end of the line who is doing the work. We're not suggesting that's the way it should be, but that tends to be the way it turns out to be. And as a result, the natural economics of the firm becomes distorted when management decides that they would rather live closer to the north end of town where home is or where the country club is or whatever, or mama's gotta live in the town in which there's a parochial school for the kids and adequate department store shopping and so forth. There's a tendency then to begin to distort the natural quantitative, economic decision as to where the property should locate if you were using a linear programming process to make that decision and bend it to accommodate the decision maker's bias. A number of years ago when I was first starting in this, I had a chance to work with FANTAS, a factory location service, and I remember we went through the whole drill for an auto parts manufacturer in Chicago whose plant was being

ripped in half by 494 going around the end of the city and he had the chance to decide where it was he wanted to locate. And we went through the whole drill from Michigan City, Indiana down into Alabama and found a town in Alabama where he could locate that would improve his rate on return on capital to an astronomical 40% a year because Alabama was willing to underwrite the cost of building the plant and retraining his work force and on and on and on and on. And Michigan City, Indiana was probably the worst with high unions, high labor costs and so forth, maybe a return on his capital of 10%. And fine, he said, I'm going to Michigan City, Indiana and we looked a little blank and he says, that's where my boat is. He says, "You can't yacht out of Redstone, Alabama" or whatever it was. And he says, "Mama and I can't spend all the money we're making now so who cares about a 40% rate of return on capital." Probably a rational, living, decision, but nevertheless, suggesting that if you take only the economic imperative and the highly quantitative linear programming model it may not result in the location decision of the enterprise and that there are other elements which are attractive from an aesthetic standpoint or a life quality standpoint which begin to attract and agglomerate establishments into their orbits. And that begins the community, of course, of development.

There are also, of course the fact that multiple markets may require multiple warehousing networks that the object, obviously, is to reduce the total aggregate transportation and marketing costs and that we may locate on a fairly complex linear programming model of multiple locations. We have a course here in the quantitative department on location analysis which figures out using linear programming and operations research methods how many fire houses do you have to have and where should they be located in the community, given a whole set of different factors in terms of traffic patterns and incidents of fire, construction patterns and age of buildings and on and on and on and on. And we can have the same kinds of fairly elaborate models in terms of where is the best place to put 12 warehouses to reduce or control the shipping costs of all of our product lines for all of the markets within the U.S. in which we serve. Or we may find other kinds of networking models - very complex quantitative decision.

And there is one case on record of that operations research had to come up with a wrong answer and the marketing firm went out of business and sued their operations research consultant for millions of dollars as the result of a small bug in his program which led to all 12 warehouses being in the wrong place. So that we can get, you know, fairly sophisticated in terms of rational decision systems, just as we can be reasonably flexible in terms of irrational but individual value systems.

Urban areas also evolve in a whole series of exchange processes and that begins to determine the pattern. Do we, for example, are we involved in a coming up the Mississippi by barge, transferring to trains? Are we involved in coming across the ocean in panelized shipping with transfer to truck and so on. And those break points in the transportation system become very key elements in the location of urban development. Naturally as the technology of transportation changes or where those break points work most effectively have pronounced impact on the economic vitality of the community. So New York harbor, for example, with its port authority which squandered its resources at the International Trade Center lost out to Baltimore which invested heavily in preparing for the containerization and Baltimore, as a result, became a very vital trade center on the east coast. And the areas around it as far out as Columbia Maryland, have become major wholesaling centers because of their convenience to that particular break point in the transportation in the Baltimore harbor. And New Jersey's side of the New York harbor, in particular, has been very badly damaged by their inability to maintain their competitive position. So as technology changes, so do the break points. If we used more air freight, obviously, those airports that are capable of international trade and freight handling become more significant in the economic base of the immediate region.

Another type of enterprise is what's called the foot loose enterprise. Foot loose enterprises simply look for life quality.

After all, you can take the entire annual production of microchips from a given plant and ship them anywhere you want in a piper cub and it isn't really a function of transportation costs on that kind of product - or for software such as blueprints and designs of complicated equipment. You can locate that anywhere that the talent would like to live. So all of you I'm sure are aware of the story of the magnet computer company based in Chippewa Falls, WI because the resident genius in design of magnet computers chose to live in Chippewa Falls, WI. There's simply a life quality factor which allows you to market that community to certain kinds of selected industries. And that's becoming of course a major element in the competition between communities today for new industry. Can we find a foot loose industry that is not anchored by economics to a particular location in terms of raw materials or technical pools of talent or whatever. Because really, when you get down to it, it is only the foot loose industries that can be relocated from one community to another. And who are the targets for economic base competition among cities.

The way station theory is another traditional pattern. Of course the classic one is the California mission cities all the way up from Mexico to San Francisco and each of those whether,

Santa Barbara or Los Angeles or, you know, all the way up the coast, each one was one day's horseback ride from the previous one. And the churches were located at the terminal point of a day's travel and provided the inn keeping function as well as a settlement function in the development of Mexican California. And as a result, in fact, rather even spacing up the coast of California has determined its current location of major communities. But the way station function continues to change and many people have lost their shirt as they get caught in that technology. When we had two lane highways the number of hotels and inns was relatively high. It was necessary to serve your driving across the country sort of thing. When you went to interstates suddenly you could travel two or three times as far each day and as a result the way station got considerably spread out. And as people moved away from trains and could now travel by airplane and go to Washington DC and come home in the same day without having to use a hotel there, the character of the way station function has changed and the critical points of termination for travel are constantly shifting. In any event, each of these kinds of elements begins to identify historically why towns started where they did. And what agglomeration and capital investment is made there the cost of relocating to achieve a more desirable place to be becomes something that is very very difficult to overcome and if we continue to stay where

they were historically, even though it might not be the very best place to be. Dallas, Texas is a classic example of a town which has certainly no reason today for where it is where it is other than that nobody can afford to leave - too much invested in infrastructure and buildings and so forth and so they hustle to find very good reasons to stay. Singapore is a classic case in point, it does not have any recourses whatsoever. In fact it has to import its water from Malaysia in an aqueduct that comes across the little water area between it and the mainland. And therefore exists entirely on trade and has to simply hustle to continue to support its independent city/state existence. And if I suppose you were to do it differently, you might not have located there at all. But historically now it's at the significant navigational track through that particular area. Fairbanks, Alaska is another classic case in point that if you were to do it again, you would never do it there. Probably if you picked an area for a community that had nothing going for it other than the fact that there was a lot of gold in the riverbed at the point at which Fairbanks was initially established, you have to pick Fairbanks. The weather is rotten, the mosquitoes are the kind you keep out with a chain link fence. It is grossly humid in the summer. It has a frost ice in the air which you get to inhale in the winter. There is just nothing attractive about Fairbanks and it's just one of those nice places to be from. Yet

now that it's there, it continues on partly under its own momentum and those who can afford to typically motor out five or six miles from town and live in the next valley over where the climate is considerably more accommodating to man than Fairbanks itself. So quite often the historical accidents simply perpetuated forward because the capital investment becomes an unacceptable write down to relocate. Occasionally communities have a chance for a second guess. Little Soldier's Grove here in Wisconsin located on the Kickapoo only a few years ago had that chance for a second guess. At the time that it was built, it was built adjacent to the water for mill development and electrical development and transportation and so forth and periodically got flooded out by the Kickapoo and finally it was cheaper to relocate the town to high ground than it was to build dikes and levies and a water system that would keep the floods off the main street. At that point the U.S. Corps of Engineers paid everybody off so their remaining values of their downtown properties and allowed them to build new in an area that was better adapted. And very seldom does the opportunity for a town to second guess where it is it should have located in the first place come along.

Assuming then that the urban clusters make some kind of sense and that they are spaced out between themselves according to some sort of economic logic at the origin, the question that remains, of course, is; how do we want the highly structured

pattern to begin to evolve? Obviously, there are some kinds of uses that are relatively incompatible with others. Stink of oil refineries and sulfite paper productions suggests that they will be relegated far from the suburbs and hopefully well down-wind of the residents. Another dimension, of course, is the kind of density that people would like and would find useful for their enterprise. At what point would you rather live in a high rise apartment building than a single-family detached home and what kind of ratio of people per acre is most comfortable and accepted. And that changes with society and it also changes with opportunity for alternatives. The communities, most of the major urban areas have sociological topography maps indicating the relative density at different points in the community and that density by property type. Industrial buildings would have a certain density of employees per square foot just as residential units would represent a density and a more residential characteristic area, and so on. And quite often value patterns in the community follow that topographical sociological density.

The more people that are willing to be at a particular point at a particular point in time, typically the higher the value of those areas. So that the land underneath the Empire State Building or the Sears Roebuck Building typically has a greater value than, let's say, the land under the 2-story dental building in the suburbs. And we can begin to shape that topography of

value and, through the planning process, alter it, if that's what we wish to accomplish. And, by in large, most of our second tier cities have a gradual showing topography of density while most of our first class cities have a rising topography of density. The major viable entities like Los Angeles or Chicago or New York and even Denver have very high density points evolving as more people want to be at a relatively central point. And maybe they need multiple nuclei within the community. In effect, density is becoming a three dimensional concept rather than simply a two dimensional concept of your original little doodle. The urban land economist, of course, was always assumed that the separation of land use is both desirable and one of the objectives of that highly structured density land use. And yet we're beginning to see that perhaps some of our standards of the urban efficiency are questionable. Efficiency is usually taken to mean that the aggregate expenditures have been reduced to the community by some configuration for the community. We've reduced our internal transportation costs or whatever as we mentioned the other day. Franklin says, however, that real efficiency is when there are no longer any rental differentials from one part of town to another. That the number of choices available to the consumer that are equally satisfying is so great that they are unwilling to pay a significant premium to be at one point or another in the community. That ability to satisfy the diversity of choices and

preferences of the citizenry is perhaps a better measure of efficiency than what the ultimate cost of the transportation system is or whatever. We can begin to set up different value judgments as to what represents an efficient, structured density for development. For example, we could look at fiscal profit and we will later on in the semester. Let's assume we're a subdivider and we have the choice of doing all single family homes or some single family, some townhouses and some garden apartments. Single family homes tend to produce the most children per household. People tend to move into the single family home during the child rearing period. They tend to start out in an apartment when they don't have any children and maybe as they move toward retirement, they go to a single floor townhouse or something of that sort where they don't have the yard to maintain and so on. Well, if you're the community and you're looking saying, "Gee, how many kids can I handle in my elementary school system or my junior high school system and so forth." And the developer comes in and does all single family homes, it may be very efficient for him and maybe very attractive for the home owners, but it may be a fiscal disaster for the school board who is now not able to handle all of those children without temporary classrooms and without raising of tax in order to finance additional building and so forth. If one of our measures of efficiency is to permit the government to provide its

services in a stable and fiscally solvent way, then we begin to change the kinds of densities that perhaps the market would have suggested or perhaps tradition would have suggested for that particular area. And we would encourage the developer to have a mix of garden apartments and townhouses and single family homes so that the tax base created by the garden apartments helps pay for the kids that are coming out of the single family homes in the same general school district. And so we begin to change our definition of efficiency from one of simple transportation economics to the larger service package that we may want to provide. Social integration may be something that is very, very important. In fact, probably one of the most critical issues that is before us in the next five to ten years relative to real estate is the gradual social disintegration of our urban core because of the unwillingness to finance higher educational costs at this point in time. A very, very false sense of efficiency. We probably should have teaching ratios of one to three in our urban core - one teacher, three students. Our big money isn't willing to do that. The chances are very good that the cost of that 15 years from now may be the entire value of their real estate. Keep in mind that currently somewhere in the neighborhood of 25% of all the babies born last year were born to mothers of 18 or less who are dysfunctional as a parent. It doesn't take very much knowledge about child psychology to have

some sense of the hostility and frustration and isolation of those 20% of our children 15 years from now. The real urban efficiency may be to invest heavily in the educational system today so that those who were left out of the system won't burn the rest of it down around our ears fifteen years from now. Our perception of what is efficiency in terms of urban layouts is becoming much more sophisticated than a simple linear programming of transportation costs between raw material and ultimate market.

Flexibility, obviously, is a critical element in measuring efficiency. Probably absorbed changing life styles. How do we absorb the fact that more and more of our population will be over age 65? That we'll find it more difficult to drive longer distances? That we'll need additional supportive and personal services during their elderly period? What kind of arrangements can we make to accommodate that changing demographic pattern or will, in fact, parts of our cities become obsolete because there aren't enough people in that age bracket or with that set of needs to require them? For example, Shorewood Wisconsin in the 30's built the premier school system probably in the country. It attracted people from around the world, to look at their campus plan high school and their elementary schools that were integrated neighborhood by neighborhood into it. But, Shorewood was a very nice place to live. And after everybody's children grew up and went on to live their lives, the parents continued to

stay there. But there were no more children to take advantage of that tremendous public infrastructure in place. And, as a result, a number of the elementary schools were closed and converted and there was obviously tremendous under utilization of a fine plant. Now Shorewood has moved through that life cycle with the elderly and again younger families are coming in. Now the school system is inadequate because the capacities that were there have been converted or removed. How does the community become flexible so that it doesn't under utilize its infrastructure and then find itself short of the same kinds of services and infrastructure as the demographic cycle shifts within that community? So that becomes a matter of efficiency and locational preference and so on.

And what about control and external costs - noise, industrial pollution etc. A good classic case in point was Oklahoma City a couple of years ago wanted to have a new General Motors plant - the environmental protection agency ruled that Oklahoma City had all of the particulate pollutants, elements in the air that it was acceptable to have and that, therefore, they couldn't introduce another increment of pollution from the General Motors Plant. They thought it expedient to go back on all of their other industry and enforce very strict standards of pollution control so that they dropped significantly the actual elements in the air that were obnoxious and left a sufficient

absorbing capacity to allow General Motors to build their plant without exceeding that which was regarded as an acceptable level of pollution. That becomes a level of efficiency by creating economic base and creating jobs and creating new tax base for the community.

Then, finally, there may be a desire to create a certain life quality - a somewhat romantic image of the good life. Certainly that's something that's transpiring on the Square presently with the planting of trees and providing of any number of sitting areas and the various kinds of European bric-a-brac that make street life in Europe or the more romantic parts of Denmark and the Netherlands part of the American street scene. And, again, perhaps no economic imperative to do that other than simply a romantic hope that we can recapture the textures and sounds and ambiance of another area that, perhaps, grew up accidentally to be attractive and now we try to recreate that on purpose. Not certainly an exhaustive list for measuring urban efficiency but we're suggesting that we're moving away from the quantitative methods that perhaps dictated a highest and best use in terms of absolute wealth maximization toward a more sophisticated set of standards of efficiency for that highly structured cluster that meet a variety of tests of how well we're doing and whether we're, in fact, moving in the right direction. And most of those tests are qualitative. Most of those tests

are concerned with life quality in one form or another and this is the way that we begin to evaluate them - the city beautiful.

With that I'm going to quit for today. See you Monday. Dan Knox is going to take over and I'm going to run down to a meeting and fight for the convention center on the Square.

And, obviously, is an argument that is based on equal money time and money time equals space time, the drive wheel, the energy, if you will, is money changing hands. And the question of course is what causes money to change hands at a certain location? And that has to do really with the employment function or service functions of that community. And the key premise that we're going to be looking at and which really is the key to much of the debate that you see in the newspapers as between cities is this basic key proposition which you should write on your collar or your cuffs or whatever. And that essentially is that the level aggregate of demand as reflected by income, output, employment which we're going to call "y" is the sum of household consumption for food and everything else, household investment, such as building a home or remodeling, business investment, government consumption, government investment such as building schools or infrastructure of one form or another, plus all the net spending by people living outside the city, in effect coming to town to spend their dollars or sending their dollars along with you to school. And, of course, we'll call "net" as the

exports of dollars in exchange for things relative to the import of dollars. And therefore the basic community's income is $y = CH$ the household expenditures, household investment, IH, business investment, government consumption and government investment and finally what we'll call our export/import balance. And if you have to import everything, essentially the income of the community is going to be the balance of the exported goods and services. We'll think of Prudo Bay, for example, in which there is only one product going out, that's oil, that's the export. And that export of oil pays for everything that goes on in Prudo Bay and those people's incomes, however, are not really spent there although there are some convenient outlets for food and minimal services like barber shops and so on. The great majority of their income is spent then outside of Prudo Bay. So typically towns begin with a virtually pure export base and often related to exploitation or resource base - a copper mine, an oil well, limestone, whatever. And ultimately, there is enough net income brought into town that stays in town that you begin to build a service base around it in terms of baking the bread there instead of hauling it in or providing some level of recreation in town and so forth. But we begin then with a really, virtually a pure export economy. And the only way a town can grow or even survive is for it to export goods and services and import cash. Otherwise, all it's doing is taking in each other's wash and

there's always somebody who will do it for less and somebody starts saving money and you have a gradual leakage out of the system and a gradual running down of the system. So notice what happens when a mine closes at a mining town in Colorado, there are a few people that linger on indefinitely and perhaps run a saloon out of nostalgia, but the rest of the town goes away. And that's not just unique to the old 19th century. If you ask our mortgage guarantee companies in town what their biggest problems are, it's in Colorado and Wyoming where the oil shale industry was coming on strong, they started to build a couple of new towns and when the oil shale industry shut down because the price of oil came down and didn't justify it - supply of water wasn't adequate to produce it at a reasonable price, people simply handed over their keys to their brand new homes to their local lender and left town. And you now have some very fine cities out there with one or two custodians wandering around waiting for the next boom in oil shale. So we begin with that basic premise - that we have to import cash and export services and the degree to which the town can grow is that we have some sort of net balance that stays behind.

Those elements which import cash and export services are called our base industries - our economic base industries. Now they are the town builders. They are the ones that attract capital into that community and provide that net surplus to

invest within the community. Now, at one point life was fairly simple, we have a resource industry like oil, it's clear, we're shipping out oil, bringing in cash and so on. Today we're much more subtle about it. An insurance company that is bringing in premiums from all over the country and hiring the local clerical work for us to process it and handle the claims and do the administration and so forth, is economic base to the degree that its number of people employed in that business exceeds that which is average or typical for a community. So in Madison you could have a barber shop at the Inn on the Park, which gets 75% of its business from travelers, is really part our economic base industry in that it's importing dollars from people that earn those dollars somewhere else. They spent them here and then go on about their trip. On the other hand, if you have a barber shop far out in the suburbs, that would be a service industry because virtually none of its customer base is coming from out of town - they virtually all live in close proximity to the barber shop or the local grade school or whatever.

Now, therefore, we really need to look at what we call basic sector activities to find out whether the drive wheel of the community is moving forward with force or gradually running down.

And then we want to look at the nonbasic sector. Those are all of the service activities or town fillers which are prompted by the demand of consumers for diversity of services. Initially

those services are quite simple, often related to weight related items. For example, if bread doesn't travel very well, obviously, you'd have a baker nearby to produce fresh bread. Once Gardener Bakeries figured out how to pump enough air into a loaf that it can survive virtually any kind of trip, it becomes cheaper to create it at central points. Notice what has happened with the growth of the interstate system, better semis, bread which had total resiliency to virtually any catastrophe, we can produce virtually all of the Gardener's type bread right here in Madison and ship it all over the state. Whereas at some time in the past each town was dependent on the local bakery and a variety of other services of that kind. And so there's a constant shifting because of our technology, because of the kinds of goods that we have and so on, as to whether a good is a service good or whether it's an economic base good.

And, of course, the strategy of any community is to capture as much of the economic base as possible. For example, one of the hot issues is going to be that you're going to be very much involved in, is whether the university should shut down some of its junior campuses and concentrate those funds on providing for the influx of students to Madison and Green Bay and Milwaukee and other major campuses. And you're going to find tremendous resistance in the legislature to any sort of reduction in these other campuses. Well, why? Because essentially a university

campus is an economic base item. And if all you got going for you in Bairabou or Stout or any one of the other smaller towns, is, in fact, a government payroll that is being subsidized by state tax funds drawn from the entire base, and it employs people who then, in turn, spend money in the local stores and so forth and bring students who spend money in the local stores, that becomes a key element, maybe the only element of economic base in that community. And when you're asking the legislator from that area to say, "Yea, we'll close that because it's good for Madison." You can guess what the answer's going to be. You're talking about life blood at that point and as a result, tremendous resistance to anything which would, in fact, cause the economic base to contract. Even though from an institutional standpoint, university standpoint, it might be better to concentrate our resources on a somewhat more reduced number of campuses. From the standpoint of the decision makers who are talking about undermining their economic base in their constituency, that is not a good idea at all. As a result, economic base elements become critical factors. How should we treat Oscar Mayer? Oscar Mayer is our single largest base employer in the city of Madison. Now we can be very tough with them and say we don't like the smell of the slaughter works and we think the chemicals they're putting in the sewer system are unattractive and so forth and so on. And what's more we don't

approve of a roll back on worker's salaries and so forth. But a firm that is now national such as General Foods and now their corporation on top of that can say, "Fine, you don't want it, there's a lot of other communities that would love to have an economic base of 2,000 primary workers and knows what that will do for economic value, growth and home sales and everything else in that community." And, as a result at some point you have a Mexican standoff between those that control economic base and those that would just wish that it would cleaner or that maybe the workers would be less rough or whatever.

The nonbasic sector activities are also a function, obviously, of the income, education and demographic characteristics of the community. Down in Huntsville, Alabama where a large part of the early missile program was concentrated a very, very high educational level. As a result, Huntsville invests heavily in their school system because they have largely a constituency of people who have Ph.D.s who want their kids to have an equal education to what they received and so on. And, therefore, the infrastructure package in Huntsville is very much tilted toward the high education, college bound type of market. And the stores and the line of goods are very much tilted towards that upper end. Where if we're going to create an oil shale town and so forth, you may have a blue collar level oil land roughneck and so forth where a couple of good country bars will take care

of the educational and recreational needs of the community. And, so obviously the way the service industries grow up, becomes a reflection, in part, of the kind of folks that are in the basic sector activities.

Now, if the community becomes overly dependent on a single basic sector activity, it's very, very vulnerable. And, of course, many communities today are very tied to the defense budget, for example. Where was it? Last night on 60 Minutes, you have a classic example of a boon doggle of a tank and personnel carrier being built in a California town in which FMC is the major employer. And the fact that the thing is loaded with bugs and it's probably not a really great idea at all, is irrelevant. congressmen come in and say, "Well, we'll solve the problem eventually, but we're not going to shut down the plant. We want to keep those people employed and we'll keep building an inferior product simply to stabilize the economic base." And if the congressman sits on the right committee in Congress, he's capable of throwing that kind of economic base into his constituency. Which is why Wisconsin does so poorly, we have a lot of honest, fairly able congressmen trying to doing the job right and as a result, don't do much for it, in terms of economic base. The congressman from Oklahoma can have a canal dug from Oklahoma City to the Gulf of Mexico and make Oklahoma City a seaport. And we all paid for it. And similarly, in Mississippi,

and so forth, they've been able to dig a seaport canal from the Gulf to the Tennessee River, and so on. And national heroes like Mr. Baker are going to fund that sort of program but our congressmen don't seem capable of that kind of graft and, as a result, Wisconsin is the lowest state in the country in terms of federal help to its economic base. Not maybe a good thing in some ways is that we're not, therefore, dependent on the mortality of our congressmen and senators for our economic stability. On the other hand, if you're in Seattle Washington and 25% of your economic base is Boeing and Boeing doesn't win the contract for the next bomber, you got a real problems. And, as the result the political game is played obviously to be damn sure that they get the contract in order to sustain their economic base because the economic base sustains the price of a single family home in that community and is the prize spring of virtually everything else that transpires in that community. So when we're talking about economic base, we're talking about really a gut issue.

Virtually any kind of a graft, anything is fair in securing economic base for a community in order to sustain its lifestyle and its aspirations and expectations for its security. Consider for example, should a company be permitted to relocate its economic base? Norge for years was located in - what's the little town in Michigan on the coast there, I can't think of the

name of the town but, Norge was the principal employer building refrigerators, stoves and a variety of appliances. And they were highly unionized, their work force aged, their cost per hour was creeping upward continually and a little town called Zenith, Arkansas right out of Fort Smith said, "Gee, guys we'd love to have your plant down here. We'll build you a one-floor plant has all of the latest innovations in terms of material handling and so forth. The state will train folks from Arkansas how to operate the machinery and build refrigerators and washers and dryers and all that type of thing at a much more competitive cost. And so what do they do? They simply say, "Oh I know Muskegon." So they said, "Fine, when the union contract comes to a vote in June, we're closing the plant and moving to Fort Smith, Arkansas." They had worked that out very quietly with Fort Smith and the plant was ready to go. They took the executives with them that they wanted, the foremen and designers they wanted and left Muskegon without its economic base. Well, if the town wants to pick up and move with the job as they might be permitted to, under labor law, who are they going to sell their house to? Who's in a position to buy a home if 20% of the major workforce are out of work? What's happening to the price of the home relative to the mortgage? What's happening to the little storekeeper who's dependent really on that last 50 guys that walk in his store, really provides his total profit - everything else

goes to cover his fixed charges and now he loses those 50 people.

Who's he going to sell his business to? What's going to happen to the clerk that he employed and so forth? How do you gradually trench in a graceful sort of way because all of the elements in that town were driven by the cash flows created by that payroll.

Because as we'll see in a moment, there's a very significant multiplier effect as those payrolls from the economic base drive through the community. Why should Janesville, for example, General Motors be allowed to move a pickup truck production thing to Fort Wayne and invite the people who for three generations have lived in Janesville to pick up and go to Fort Wayne if they'd like to keep their jobs or cross their fingers and hope that maybe GM will find something else for the GM plant in Janesville to do. Now we have to have mobility of capital presumably to get efficiency of that plant. By the same token, our accounting systems don't take stock of the secondary and tertiary impacts of that kind of move on the revenues and balance sheets of all of the establishments that are related to it and dependent on that economic base employment. In any event, economic base employment is the heartbeat of the community in terms of its ability to sustain what it has and its ability to dream about what it could be. And for every community there's a relationship between that basic employment and its nonbasic

employment and, furthermore, between that nonbasic employment and its total population. There's some sort of multiplier.

For example, you might have two nonbasic service workers for every one in the economic base. As the community grows even more diverse in its tastes and broader in its base, that ratio spreads out. For example, in Chicago the ratio is closer to one to three. At that point in Chicago you can have folks that do nothing but say provide hairstyles for poodles and provide stores that equip the residential domestic cat with virtually any type of cat food and equipment that a cat could imagine. Well you can't afford to do that in a town of relatively limited population and so forth. The diversity of deeds and talents and so on, simply isn't there. So as the town matures the ratio of ancillary service employment to the economic base employment begins to expand. And the typical ratio is somewhere over 2 to 1 - 2.2 to 2.3 to 2.5. Every community has its own particular ratio because it's at a different stage in terms of its economic growth and diversification. Now that means that for every new dollar we can bring in by finding new base jobs, presumably we can begin to expand the other employment. And, by the same token, if we loose 100 jobs at Oscar Mayer and we find no additional 100 jobs in other base industries, gradually and almost imperceptibly the community will start to slow down and the number of dollars pulsing through the various businesses and

establishments in that community will also begin to shrink.

Therefore, we first want to look for that base multiplier - the relationship of base employment to service employment.

By the same token, we want to begin to look at the demographics of that community because of its age and characteristics and so on, to find out what the relationship is of total employment to total population. And so if we look down to IV there and we start out with the basic employment ratio here is 1 to 1.5 and that in addition, the base employment to total employment therefore is a 1 to 2.5 and the total employment to total population is 1 to 2, then a change in base employment will change our total base population by a factor of 5. So for every additional base job, ultimately our demographic move will increase by approximately 5. Five hundred employees in new employees at Oscar Mayer as a result of improved sausage demand or bologna at the university perhaps, you can calculate the resulting impact in population which will occur over maybe a one to five year span. For example, when Chrysler went to Belvedere with their brand new plant, initial impact on Belvedere outside from a few more saloons and maybe another grocery store was relatively quiet. People drove to work from 50, 75, 100 miles away but as they became convinced that the job was here to stay and that they liked that job better than perhaps whatever their agricultural employment had been or their job in a small town.

They began to think about moving to Belvedere. And so the third or fourth year after the plant opened you began to see a spurt in home construction. And then as people began to perceive there were more families in the area, then there was an increase in supermarket construction and other retail services. And then pretty soon dentists and doctors started to move into the community to service the increased population base that was there. All of that took a certain amount of time so that it's not an instant transformation. But the process is realizing that as that economic base begins to build, you can forecast with a fair degree of reliability where the population will be three, five and ten years hence and begin to plan for it in terms of providing the proper infrastructure and school system and other obligations that will be on government. By the same token, when you begin to look at a proposal and scale it the other way, I can remember a couple of years ago being a planning charette (?) in Anchorage, Alaska for a project called the Tudor Center which was approximately 70 acres. And the general partner of the land owning partnership had decided that office buildings were certainly financially viable and that, therefore, you should make more of them. And had figured out with his designer that you could put a million two thousand square feet of very high grade office space on this site and they artfully crafted a model and a very elaborate blueprint and so forth of the whole thing and then

invited a group of us in to critique it. Well, this was supposed to be like a three day session and the conversation died after about five minutes because it went something like this. Yours truly said, "Gee, a million two hundred thousand square feet - if you have 200 square foot per worker that means we're going to have 60,000 new office folks in Anchorage over the next ten years. What percentage of your population are office workers now?" "Well, maybe 20 percent." "Gee, that's really neat, that means you gonna have 300,000 people coming into the employment force if 20% are going to be housed in offices. And if that's true, and if they all come from families of 2 1/2 persons per family, those 300,000 workers really mean that we're going to have something like 750,000 people move to Anchorage in the next ten years. That's really exciting. How many people do we have now?" "Well, we have 160,000 on a warm day." "Don't you think maybe we maybe go into housing if we're going to have to take care of all of those people before the snow comes?" There had been no thought at all to look at what the interrelationships were between the aggregate demand for office space and all of the other implications to the community. They simply said, "Gee, the square foot of office space will make me a dollar and a half a year, how much would a million two hundred thousand square of office space make for me?" Just make more of them, you know. How can you lose? So you have to really go back and scale the

character of your real estate to the character of your economic base and the service industry which will result.

Now, as we begin to apply that principle then, we can also see what the political stakes are in attracting a new General Motors plant to your area or hopefully stealing somebody else's company to your town and so forth. And it really doesn't matter at what scale we're talking about. Madison is fighting hard with Middleton to attract industry to Madison's industrial park so they build on our tax roles rather than Middleton's tax roles and by the same token, Madison and Middleton were sulking when Oscar Mayer introduced their new chemical extraction plant in Wannakee.

While Wannakee obviously was gloating at the tax base. And there's a continual tug of war between the university in Madison that would like to attract new research firms to Madison and the Milwaukee industrial base that says, "Why in the hell do you have to have specialists in robotics or steel working when you don't have any industry like that in Madison, that's all located in Milwaukee." Pretty soon the regents are fighting the state itself as to where they should locate various research labs relative to the economic base and so on. And so that interesting work goes right up the scale until the north is fighting with the south and the U.S. is trying to keep General Motors inside the boundaries and General Motors is trying to leak over into Mexico with encouragement from Mexico, of course, to create new jobs on

the other side of the Mexican border and so on. And so the issue really is jobs, because often those jobs we finance everything else that we want to do with the city beautiful.

Now, obviously if we have some understanding of what those dynamics are. If we spend some time studying them, why 1.) we can begin to anticipate direction and character of the community's growth. We can begin to scale the need for new space to house offices, or retail, or housing populations. And we can begin also to formulate a growth strategy for our community which will hopefully stabilize our economic base and perhaps avoid the roller coasters and the panics that characterize the one industry towns. So if we look at, for example, Wichita, Kansas a few years ago - totally dependent on the light aircraft industry. Cessna, Beechcraft and Piper were all located with their main manufacturing plants in Wichita. Now, obviously it would be desirable for Wichita to see them grow. But, on the other hand, if corporations suddenly start to pull in their belts and adjust to a recession, the first thing that goes is the corporate plane. And when the corporate plane goes, so goes Wichita. And so their growth strategy was really was to find those kinds of industries that were totally unrelated to corporate capital spending for relatively marginal kinds of items like airplanes. And they had succeeded in reducing the light aircraft industry from say 55% of their economic base to about 15% of their

economic base with tremendous stabilization of their employment base, by the same token, making it much more attractive for the individuals that were lending money. For example, mortgage lenders in the early days of the mortgage guarantee business got badly burned in Wichita when the light aircraft industry shut down, engineers had to pick up and move away. Homes went for sale. Retail prices of the homes fell and suddenly the mortgage guarantee industry owned hundreds of homes in Wichita and really it had no real market to sell them in. So that, as a result, interest rates in Wichita went up. There was a higher risk to lending on a single family home in Wichita than there would be in a more diversified economic base. And the lenders that were there obviously wanted to get their funds out to some area with somewhat more stable in the repayment record, a little more predictable. So by stabilizing the base, they also made it possible for everybody to borrow money to buy a home or to make plans relative to their little business - a more acceptable, less risky kind of enterprise. Maybe you saw that famous cartoon in Seattle when Boeing was at its low ebb - there was a huge billboard up on Interstate 5 that said, "Will the last man out please turn out the lights." Not true with Seattle any more. Seattle has done a fine strategy job of attracting different types of industry so that they're not dependent on Boeing. Now certainly Boeing is still a big factor, but still less than 20%

of their total economic base. That really requires, obviously, coordinated effort by all of the citizens.

Texas, for example, analyzed each community as to what it does best. For example, San Antonio is well known one for a large labor pool, largely Mexican Americans at a relatively low cost and a long history in medical research because of the major military hospital, and so forth, that are in the area. And therefore San Antonio's growth strategy is built around further medically related kinds of industries that may be labor intensive in terms of drug research and medical preparations and so forth and if somebody comes to Texas, if they don't get everyone pulling them in 47 different ways, the state of Texas and all of the communities in Texas try to pitch San Antonio. On the other hand, when the new computer labs were being considered Austin is the center for silicon chips research and computer research and that area and, as a result, the governor and Houston and Dallas and San Antonio all pitched in to say what do you want in Austin?

They weren't killing each other for the contract. And Houston, obviously, is very much related to petrochemical industry. Dallas is very much related to some light manufacturing but more banking and financial elements and so forth. And so there's a coordinated strategy which, rather than cutting each other's throats to pieces as they fight over the prospects of another economic base element, they worked in a concerted way to put it

in an area which has a tradition and a growth strategy relative to serve them. And the growth strategy is integrated. When they took the computer, cryogenics labs for the third generation computers which is a consortium of all computer makers in the U.S. so that they can afford to compete with the Japanese, told Austin, the first thing was the state said, "What can we do for you?" And they wanted certain kinds of state investment aids in terms of creating the facility. And the university said, "What can we do for you?" And they said, "Well, for one thing, we would like peer research at the university that was coordinated with our efforts." And the university instantly created 20 one-million dollar endowed chairs for support of that particular effort. And, you can march right down the line. The City of Austin said, "What can we do for you in terms of facilitating this?"

Now notice what happens in Wisconsin. General Motors would like to encourage a robotics engineering section here and we have some very capable people in the engineering section so they give \$450,000 to the engineering school to enhance its robotics staff and if that isn't a clue as to what General Motors would like to see us doing as a state, I don't know what is. So what do we do?

So we go out and say, "Wonderful we'll give you \$2 million shares in robotics so that we can pursue a research in a pure research base that supportive of what you're trying to do in the

practical apply area." No, no, our heroes come out and say, "Hey, we're going to do a \$35 million dollar athletic center to house the hockey team which is already housed and the basketball team which is sort of housed. Isn't that terrific?", you know. And General Motors says "What, what kind of decision is that?" General Motors maybe ought to convert maybe to the production of skates and basketballs. So that we really have no growth strategy. And I think Governor Thompson has pointed that out very well. We have like six different agencies gallivanting around the world selling Wisconsin but none of them know what the other one is doing. A growth strategy relative to jobs is the critical underlying base element. We've got to address that problem first or nothin' else is going to work.

Obviously, once we have some sense of what that strategy is, then we also have some sense of what kind of public infrastructure we need to support that. What kind of school system are we going to have to have. Where Lockheed for a long time was the center for metal repeating (?) machine tools because it had such a fine technical school teaching the operations of the most sophisticated kinds of milling machines and lathes and all of the other types of equipment on which a highly refined metallurgy industry was so dependent. There was a direct interrelationship between the technical school system and the industry in Milwaukee. And that occurred to a lot of people to

put their plants in Milwaukee where they could get that kind of support. Here we have the same type of support to a degree between MATC and the community. What do you need? Do you need computer operators or do you need beauty operators or do you need food and resort management types and so forth. That kind of integration at the technical college level is critical to the state. And yet, we see a university here at the University of Wisconsin trying to remain aloof from that. Trying to say that, "Gee, everybody really wants culture and we'll put all our money in the liberal arts department and if you want to go to the School of Business, tough luck, you know, try the tech school." There's obviously the idea of a growth strategy with the state of Wisconsin has not percolated yet through the consciousness of a good many of those that have to do with university administration.

Finally, when we first begin to look at economic base we realize that it does not appear over night - do we need to encourage our sea industries? Do we need to encourage those little firms? - because most of our growth in the last ten years has not been among the biggest employers but it has been, in fact, among the little employers. The guy with the idea that hammering out in the back shop of his garage some place and comes up with a new universal widget of one form or another. One of the reasons that New England probably is the driver's seat in

terms of our current post industrial technology was two factors; one, a banking system which under the leadership of First Boston said, essentially, that a loan officer could not turn down a loan application from someone who was in high tech research development without permission of the senior officers - now that's the reverse of us, here there ain't nobody going to stick his tail feathers in his sling, he's going to say no first and, you know, the loans we didn't make are the best record we have for our local banking system. In New England they were willing to gamble at a time when they were on the ropes - when their industry was, obviously, moving south of technologically obsolete and they gambled on the little firms because that was going to be their future. And second of all they had large amounts of industrial space that was vacant. And, as a result, they were able to lease a little corner of an old woolen mill and allow the firm just to grow all the way down the first floor and then come back across the top floor at very very low housing costs - cheap, cheap, cheap. _____ University is currently sponsoring an industrial park up on the west side in which the idea is not to produce the cheapest space, obviously, but the most expensive space possible. It's run by an architect who gets paid by a percentage of cost. Come on guys! There has to be a growth strategy and you have to observe economic development and what's working in other areas, aggressive banking, low cost operations

in terms of real estate taxes and space costs and so forth, if we are going to alter or stabilize our economic base.

By the same token skill mixes change and we have to anticipate today in a future shock society and the necessity of retraining many of our people. Much of what Milwaukee has done so long for so many years can be done equally well by a good many companies around the world and we can't export machine tools any more that are necessarily competitive any more with those from Germany or Japan and so forth. We need to find other ways to harness that talent, that expertise, that craftsmanship and invest in that convergent process on an ongoing continual basis rather than simply in a flurry of crisis from one recession to the next. We have to anticipate that as our base ratio changes, so does the need for certain kinds of retail space, service space and recreational kinds of things. And, finally, by the same token, as we do that, we have to recognize that there is a natural aging process of the population which goes through a cycle and that we have to facilitate that process. For example, consider the little community of Monona here on our east side made up of primarily working folks, many of whom who are now reaching retirement age or are well past retirement age and still living in single family homes. Economic base development there in the development of the community may be involved in perhaps providing elderly housing, congregate housing that their old

residents could live in and having the City of Monona buy their homes to facilitate liquidity and give them some additional investment funds and then resell that home to, let's say, a young family with children at a discount. And as they resell that home and bring in young families with children, now they have a new children child base to support their elementary school system and to perhaps support their retail store base and so forth in the lines that the elderly would not necessarily support. In other words, it's critical that the community maintain its demographic mix and yet there's a natural tendency for a community to age or perhaps become a whole series of young families with nothing but children under the age of six and adjust all of their facilities to that only to find out that by the time they've made their adjustment the kids are all now 15, and so on. And so it requires a great deal of skill and finesse to match the public and private effort relative to what's going on in terms of the economic base. OK. I gotta quit there today.

. . . essays at the end. He still has the old fashioned idea that students should be required to write and use the English language, capital letters at the beginning of sentences, periods, spelling is always appreciated and you'll probably get some credit inadvertently for handwriting or, otherwise remove credits for that as the case may be. But, it's an old fashioned

idea that came out of my background in Cambridge, and I haven't gotten over that handicap yet.

The subject for today really is the social disorganization of potential for staying in the real estate process. And there are, obviously a great deal of behavioral issues other than economics in the determination and character of the city. And as Mr. Churchill has said and we pointed out earlier, "First we shape our buildings and then they shape us." That's true both as the individual structures begin to determine behavior as Ogg Hall tends to be claustrophobic and tends to generate the highest level of vandalism on campus, let's say, compared to Elizabeth Waters which is more spacious and otherwise nominally less efficient in its spatial allocations but, in addition, in terms of the total neighborhood of the community is affected by its layout and its format and how people perceive the spaces and enclosures around them. So that truly we are building the terrarium and the terrarium begins to interact with its residents to determine, really, the stability and the character of the social entity contained. But whether we're talking about the individual family or we're talking about the neighborhood or whether we're talking about some larger social unit. And that may affect not only our basic social behavior, but our political behavior as well and the degree to which we participate in our governmental processes and the degree to which we identify with

various political elements. There have been any number of books on the sociology of space and certainly the beginner in real estate is urged to take a look at some of those. Some of the best known are The Hidden Dimension by Paul who also wrote The Sign of the Language if any of you are into sociology and The Hidden Dimension really has to do with the cultural differences in terms of how much of a spatial envelope people expect. The Euro cultures, for example, enjoy being jammed into small areas and whispering your ear and it's real vague. The English are brought up early on in group kindergartens and, as they say, begin to cultivate what T.S. Eliot referred to as his inner garden - the ability to be alone while being in a crowd and sort of becoming relatively introverted into themselves. And the Americans, on the other hand, are very territorial, they want a lot of space around them - more and more, you are permitted to have your own room from a early age on and you become very sensitized to any encroachment whether it be noise or visual or simply somewhat claustrophobic spatial attributes of too much warmth or not enough air movement or whatever the case may be. Defensible Space by Newman is another book that we'll look at. Newman himself was kind of an irascible character, but he came across a computer data base based on all of the public housing in New York City which had spatially identified all the different types of social misbehavior that had gone from rape and muggings

to minor league vandalism and then he then went back and correlated that to the design characteristics of the project which led to that type of thing occurring where and at the frequency at which it did. And, came in with a great deal to say about the redesign of housing complexes to control and minimize that kind of behavior. And one of the more basic folks which really alerted and sensitized people to the kinds of spaces we create was one called Community and Privacy by Shirmiaff and Alexander. Christopher Alexander was, at that time, a student of Shirmiaff at the Harvard School of Design and Christopher Alexander has gone on to do a number of things in design theory which have become more and more esoteric as he grew older. He's currently at Berkeley. But Shirmiaff was more of a practicing architect and was really concerned with how we zone our spaces and our buildings in order to achieve certain social controls in the process. And so looking at that book initially which came out of the mid-1970's we really want to talk about the domains of urbanity initially and then begin to analyze buildings as you go into them and see if they don't have this same hierarchy -

whether we're talking about a single-family home or something more elaborate such as a school of business or a public library.

To see whether, in fact, the progression that you move through isn't essentially the same kind of spaces that are identified here. The first is essentially what we would call urban public.

These are the places in total public control and ownership. Certainly the highway, the roads, the paths, the parks and so on in which anybody can enter at any point in time within their rights and can take the benefit of those kinds of space. Nobody has a proprietary claim on those spaces and, therefore, they tend to be vulnerable to whatever kinds of activity that may go on there.

The urban semi-public kinds of zones are areas of special public use where there is some control of entrance - the city hall for example, courts of justice, public schools, public parks, hospitals, transportation things like bus stations, airports in which your access is reasonably public but nevertheless controlled. There may be certain areas you can go freely, other areas where you go by permission and other areas which are excluded all together. Parking lots, garages, stadiums, theaters all have an element of qualification to them.

You can't pass this point without your ticket. You can't enter this area without a security badge etc. While they're all in the public interest, nevertheless, there is some degree of control of entry and certain limitations on the kind of use both in time and in character.

Then we move into what we would call group public. The meeting ground between the public service and utility area and the private property that requires joint access. For example,

consider the problem, how do you handle the meter reader. Where do you put the meters so that he can come on your land and read the meter - without having to go into the basement or enter the more private parts of the house or building. And, what rights does he have to enter those areas and move on and so on. What about garbage collection? How do you handle the garbage collection area? Is there an area in which the public garbage man can encroach or do we simply solve the problem by saying you're going to have to move your garbage out to the apron along side the curb which is public property and in which they need no particular permission to encroach. It looks kind of messy but, on the other hand, it is a fairly simplistic answer. What about utilities control? How does the utility company get to their transformer? Think of a subdivision, for example, and let's say whenever you put a lot to the transformer should you have the transformer at the back of the lot buried in a utility quarter if the truck has to come in now he gets to back down over your rose bushes and your hedge and so forth. Or do you put that transformer out on a little pad right along side the street whereby a service truck can come by, lift the transformer off the pad and not do any damage to your side yard or encroach on your back yard and so on. How do handle those kinds of interchanges between the public sector and the private sector.

Then we have what we'll called our group private area. This is an area that is really under the control of management acting on behalf of the tenants or some other occupants. For example, let's assume we're building a medical office building. There's a reception area which is a group public area in which anybody can come. But at that point you're sorted out and those of you that are going to x-ray or the blood lab and so forth are sent to one waiting area, somebody else is going to some other service are sent to another area and now what kind of interaction do you want between the staff in that medical building and the patients? Patients may have a very sensitive personal problem and they don't really want to really be observed going in to see their family Psychiatrist and so forth. Do you have a relative access and egress for that patient that maintains his privacy relative to all of the other friends he might meet in the reception room at a particular point in time? And do you want the patients and the doctors to be able to observe each other or do the doctors have a separate circulation route to the treatment room and so on? Is it important that doctors be able to visit with other doctors out of earshot of the patient or are the doctors going to be discussing personal cases in the hallway where they can be eavesdropped on by someone with really no need to know and so on.

Certainly a very interesting problem of how do you channel the circulation within the building to protect the privacy of the

individuals to the extent appropriate to what's going on. How do you control let's say the antisocial group from coming in? How do you position the control counter at the library in such a way that they can observe anyone who's leaving with books they didn't check out or going into the bathrooms and so forth to harass people or for whatever other antisocial activities that may go on and how do maintain some element of social control over that? That becomes part of that whole group/private layout in such a way that a minimum level of observation achieves a maximum amount of security. What about playgrounds? what about laundry? A real problem in a major apartment building is laying out a laundry in such a way that it doesn't become a trap for the individual who wants to go down at 3 am in the morning and do their laundry and yet being isolated and all alone vulnerable to mugging or any other type of other unpleasant encounter. How do you open those up so that there is what the sociologists call the random incontentination of social contact that polices that on a more or less accidental but, nevertheless, effective way because of the people going by. What about storage? How do you handle that in such a way that it is private and yet it can be observed and so on. You know the chicken wire storage cabinet in the basement in some ways is, obviously, a violation of your privacy but, on the other hand, is a marvelous way to provide a very quick view of security in that area and to really observe who is there

appropriately and who is there inappropriately because of the visibility of each of the storage rooms and the content. The chicken wire may be cheap and look a little shabby but, on the other hand, in terms of its social control it's a very effective enclosure for that type of space.

Finally what's the family private area. Obviously, there are certain areas that once you are within the home are family areas - such of the living room, family room, kitchen, communal family activities of one form or another. And areas that are shared such as bathrooms and so on. And finally you get down to the individual private zone - the room of one's own that is the ultimate sanctum from which you can withdraw and get away from the family and the noise and the stress and the other elements. Now each building has this kind of hierarchy which may be very, very apparent or may not be as apparent or maybe the building doesn't work well because it doesn't have one of these critical elements. For example, the performing arts center that they spent all kinds of money on - was a fancy New York architect. They had two problems, one, there was no way to get the garbage in and out without bringing it through the lobby and second of all there was no wall between the men's room and the ladies room. That's obviously a refinement that doesn't affect them in New York but obviously created a problem here. So as a result our

zoning was not quite as appropriate as it might be in terms of the activities that go on within an area or whatever.

Now, how does this begin to affect the design of buildings. Well, for example, looking at apartment buildings they discovered the hard way that if you had a rise apartment building with children in it, the first problem was that nobody identified with the playground - it was a nonproprietary area and therefore, anybody could drift in from beyond the perimeter of the property and the parents were never sure who was there with their children, whether they were there legitimately or otherwise and as a result, the playground wasn't used with a sense of family security. And if you asked people what they wanted they really wanted low rise apartment buildings and they wanted their children playing right outside the window where they could see them instead of playing with any one of ten thousand kids within a mile of the place, that they were playing with two or three or four or six kids that came from the immediate families around them. So you began to design the project from that standpoint. You could create psychological barriers that would tend to encroach on the flight zone of those with less than socially acceptable objectives and you could exclude them. You can hint by the design of the building where they shouldn't be, and you should make the intruder uncomfortable to have penetrated that far in and then not be aware of what his flight zone is should he

be discovered. The same would be true on an apartment building in, where you have a long corridor and 50 doors are accessible to anybody who walks in off the street. The opportunity for the burglar to "jimmy" one of those doors while somebody is at work and away is relatively high. And then again, if you design your residential building so there's only four or six doors on a corridor from an outside entry, virtually all of those residents in those six units know who each other are and often know who their regular friends are and, therefore, those who have legitimate reasons for being in the corridor and who's the interloper? Who's the intruder? Who's there without legitimate reason? And it becomes a self policing kind of turf which then establishes a social control inherent in the design itself. By the same token, if you open up that stairway with glass windows to the outside so that anyone in that stairwell is observable from outside, and you go to an open railing so there's no place one can hide without a hint of, you know, to those coming up the stairs so they won't be taken by surprise and so on. You begin to control all the activities in that stairwell there very tightly. As a result, begin to critique a building to see how it evolves, how it bridges in from what is openly space to that which is totally private space. These become heated issues often in urban planning. For example, the Fauerbach condominium on Williamson Street when it was initially programmed, the city

moved to continue the lake trail that comes along Law Park and continue around the lake on Monona to link up with several parks that are further to the east. The developer widely refused to let them do that. Many people thought that that was a rather narrow minded view of life. But the fact is, if you make the front lawns a public park, then those whose sliding glass windows on their living room open up onto the lawn in essence have absolutely no control of who is sitting outside their living room window looking back in. And they have a great loss of security and control of the environment and the neighborhood. Anybody's welcome for any reason and, as a result, they won't buy those kinds of condominiums. You need to, perhaps, set the building up on a podium to create some sort of clear distinct line between that which is public park and that which is the first floor of a residential unit. The Capital Center townhouses were required by some of the bright lights in our city council to have the center plaza public space so that technically anybody can wander in there. Notice how carefully they have hidden the stairwell that go up to the area to create a concrete arches over the top and try to give all kinds of physical signals that, OOPS, this is semiprivate space, you're not welcome unless you live here and so forth. But nevertheless, the fact is that the security problem in the townhouses is a very real one because if somebody wants to sit in front of your sliding glass window and look in the door,

your only option is to close the curtain and that, obviously, is not a very good design characteristic for that particular project. But you always get these, you know, bright-eyed liberals that say that since we paid for the parking lot underneath the building the public should get some benefit and we're going to make that a public park. Well, I'm sure that if it was in their neighborhood, and somebody said, "Well, we paid for the street, and there's a vacant lot there so we're going to build a public park next to your house in your back yard," that they would scream just as loudly about encroachment into their privacy. Begin to critique urban spaces. Begin to see whether they work in such a way that they control, provide safety and comfort and a sense of security to the individuals that are affected or whether, in fact, they do just the opposite and begin to encourage antisocial behavior because of their layout and so on.

Well, when you get to look beyond the building, you begin to look at the neighborhood in general, there's probably no better primer than Jane Jacobs very famous book, The Death and Life of Great American Cities. And her basic premise was that cities are self policing as long as there is a variety and diversity of human activity going on. That socially unacceptable and undesirable behavior typically occurs in social vacuums where there is no activity and there is not a sufficient number of

people to imply social control and discipline. And she uses as one as one of her examples, Philadelphia, which, when it was laid out by William Penn, had a capital square in the center which, still to this day houses the famous city hall of Philadelphia. But then there were four additional squares which were to be residential in character around that. And over the years those squares, obviously, since the early 1700's have evolved very differently depending on their particular use. One of them has become entirely devoted to office buildings and, therefore, is what we call a time ghetto in that from 8:30 on Monday morning until 5:00 on Friday evening is a very active vibrant place to be. But immediately upon quitting time, everybody leaves and goes someplace else and, as a result, there is virtually nobody in the area. And, as a result, the center of the square, the park has become quite a center for social deviance and social outcasts in reference to real estate development. Because there is really no social activity going on over the larger part of the week. The opposite is - one of the other squares by which was obliterated by a traffic circle so there's a beautiful old fountain in the center which you can't get to unless you want to cross about 8 lanes of traffic moving at the maximum speed without tipping the car over - so that's lost. But the very famous Britton House Square survives and it survives as one of the most attractive and viable areas of Philadelphia because of

the diversity of uses on the square. There are hotels, apartment buildings, some retail, there are condominiums, there are office buildings, there's a little theater. And, as a result, these different activities take place at different times of day and there's a constant flow of people on the sidewalk and through the square. And, as a result, it has a very, very low street crime rate. There's almost no incidence of street crime since the general flow of activity itself controls and polices the behavior that takes place there. And, as a result, it's also, therefore, a very attractive place to live and to go, because you feel secure and comfortable there and gradually it has modified the neighborhood all around it. While the old townhouses and so forth have fallen into great disrepair, it became an area for its reputation and remodeling and renovation of the old houses. And, as a result, the impact of Britton House Square has spread out over many, many square blocks around it to create a very stable and desirable residential neighborhood, ironically, that has no exclusives going in it at all. It is desirable residential very much because of its heterogeneity. The fact that you may live next door to the office in which you work and the grocery store might be just down the corner on the first floor of your apartment building and just down the way to the restaurant or hotel or small theater and so on. And what's you're really doing is you're attacking the 20th century American planning idea that

we have to have zones of use. And this was all single family residential here, we painted that light green, and this was your retail strip here, and we painted that some other color and this was the office and this would be industrial over here and so on.

And the tendency to come up with one use classes for our land gradually led to a type of segregation which was not only social segregation or economic segregation in terms of whether you could afford it, but, in fact, led to a ghettoization of the uses in time so that we lost that ability to naturally police the area by having large levels of social activity at all hours. Langdon Street is a relatively safe street to be on because there's people out at virtually all hours of the day or night in one way or another - coming home from the saloons or library or classes or fraternity parties or whatever, and so on - and that's a good thing. Those streets that have activity on them are the ones that you feel safe on and the way you encourage that kind of activity is, obviously, to have diversity of use. Hence, for example, the great debate in downtown Madison. The fear that downtown Madison would wither away led the state to say, all right, we'll build all of our new state office buildings downtown. Well, that brings lots of people downtown and that helps folks in the luncheon business and so forth, but it is very much a time ghetto when GEOFF or JEFF (It's an acronym for the government office buildings but I'm not sure exactly what the

acronym is.) one, two and three are closed the number of people on the streets and on the Square are obviously drastically altered. If we allow certain kinds of uses like retailing to drift away or we allow other types of uses that contribute to say evening activities or weekend activities and so forth, we gradually reduce the vitality, diversity, safety and security of that area. And therefore we really need to overcome our traditional concepts that if this is all residential it's safer because that really isn't true. The same is true to say, "well we put all of our industrials here because industrial is obnoxious" - really isn't going to the gist of the matter. Some industrials make good neighbors, some industrials doesn't make good neighbors and we need to have a degree of sensitivity in our planning process.

The other illustrations he points out is that a lot of the traditional laymen's myths about what constitutes a slum really isn't so, North Boston, for example, has some of the highest densities, greatest diversity and some of the oldest buildings in the country and yet as a social entity it works extremely well. There's an old Italian neighborhood in which industry and retail and residential are all mixed up in lots of old buildings and yet always in the window some place is grandma rocking who is looking for her grandchildren on the street or who knows when she's seen old so-and-so that he's dangerous for the kids or is about to

break into somebody's apartment and so forth. And the result is that because everybody knows everybody else there's a very high degree of social stability because you lose your anonymity in that area very quickly. And what is required really for socially unacceptable behavior is anonymity. Because if people can identify you in the process, obviously, very quickly you're apprehended and inconvenienced as a result. Indeed, in many of the new towns - and we'll look at it at the end of the semester - one of the real problems that they've had with the young teenagers is that having been there only a year or so they're anonymous. They don't have the same sense as someone who's lived in a small town all of his life that when he goes into the butcher shop, the butcher knows, "Oh, I knew your dad in high school or I knew your grandpa or we shared a fishing shack with your uncle Louie" and so forth. All of those little networks and webs that create identity and destroy anonymity are gone when you move into a new town and the oldest resident has only been there four years. And therefore you don't have the who begot what and who kind of system that creates 1) a pride and sense of belonging, a proprietary vested interest in the community and you take away all of those kinds of social restraints that are so subtle and really a part of the brick and mortar ultimately and you have the society breaking down. So even if you have a high income area like Columbia, Maryland which is virtually all

yuppies and has one of the highest college education rates in the country, you also have one of the highest delinquency rates in the country because you have not been able to establish that very subtle sense of proprietary interest and identification. You have not been able to remove the anonymity that is critical for social control.

The physical design, obviously, of buildings we've talked about before and we won't belabor that again. Let's talk a little bit about the psychology of the group spaces such as a shopping center. Retailing ultimately is a very simple strategy.

The object is to get you to return often, stay long enough that you gradually increase your average expenditure per visit.

Obviously, anything that contributes to the frequency with which you visit the shopping center or anything which contributes to your sense of satisfaction at having spent some money at the shopping center increases that average expenditure per visit.

Now, what kinds of things would discourage that. Anything that would discourage that type of thing, obviously, is not in the long term interest of gross sales at the center. Now, the first element of the person that comes in is that you need some sense of arrival. You need to know if you're coming off the expressway, "how do I get from my off lane into the front entry of the center?" and therefore, it should be highlighted in some way with a boulevard entering something other than just stop

lights - perhaps a pylon with the signature of the center on it - some of those pylons get to be fairly original, some are old water towers, some are maybe silos and they converted a specially center in Rouse and so on. You need to be able to tell the driver quickly, within a few seconds of time, yoo-hoo the entrance is over here and you can pretend to know what you're doing so that the kids in the car aren't concerned like, you know, daddy you're on the wrong side of the road and all of the cars are coming at us at 60 miles an hour and so forth and it kind of takes away from the fun. So you gotta feel like he knows what he's doing. Now you've got him on the premises and as he comes into that little boulevard entrance he's got to say, "Gee, what end of this damn thing do I want to be on?" You know, it's several blocks long. So you have some really goofy architecture with high fake walls that says, "Over here's Penney's and over here's Gimble's and over there's Sears and pretty soon you've got a pretty good sense of the general layout. And the entrances are highlighted with some really extreme architecture. If you're looking at it aesthetically the entrance to a Sears Roebuck is about as ugly as you could possibly design it. But, on the other hand, it does get the message across. It's not a little subtle, little violet hiding behind the bushes. It's saying, "Here's where you come in, park as close to this entrance as you can get," and so as to immediately reduce the confusion. Compare

that to somebody coming up to a building that maybe architecturally - win all kinds of awards - but the rhythm of the architecture is such, you're not quite sure which way the door is in. You're not really quite sure if you're supposed to be on the east side or the west side of the building. You're not quite sure where am I supposed to park to be close to the entrance and so on. Once you have confusion, that is stress and anxiety. And once you have that kind of stress and anxiety that underlying the person's self esteem, pretty soon you don't want to go there again. I'll find someplace else that's easier, someplace that doesn't quite so overwhelmingly confuse me. And, as a result, they begin to reduce their frequency of visiting.

Now, we got on the site and we're going to park the car and now the businesses is - they're cutting kitty corner across the parking lot and there's a car cutting kitty corner all around them as well. All discipline breaks down. Is that the kind of thing you want to get into? No. You begin to find other places where the parking is more carefully controlled, the lanes of traffic are more recognized and observed by all the participants.

Now we've got the car parked and we want to usher the kids across the street into the center. As you're walking down toward the center and you got cars whistling between you and the center and they're moving right along - they've done their shopping, they're on their way - and how do you get the kids and the

packages and so forth, across the way. Obviously, you want to discourage cars from getting between those who are now pedestrians and the center. So you design the center with a loop road around the outside so those people who want to get to the back side or the east side or the west side have a way to go without separating the pedestrian customer from his intended goal of getting in the door. You also take those kinds of uses which are, say, high frequency short stay things - like your deposit windows at the savings and loan and the bank and your fast food areas and your tire, battery and accessories types of garages - you put those out at the periphery. Keep those kinds of short term visitors away from the longer term shopper. And now you take the shopping center and you divide it with all kinds of little corners so that there's no way you can go more than four miles an hour around the shopping center perimeter, so it discourages you from trying to make any kind of distance along that route at all. It kind of encourages you to get out the perimeter route flow as quickly as possible. And if they don't do that they put in what sleeping policeman - a sleeping policeman is one of those big tar bumps, knocks the bottom out of your car if you're going more than three miles an hour. Notice they're doing everything possible to give the advantage to the pedestrian and to condition the motorist to get out of there, to move out to the outer circular perimeter area. If the site's the

right shape, it works very well. West Town, for example, works very well that way. But notice Hilldale. Hilldale site was too small and as a result the cueing lane coming in off of Midvale goes all the way up to the store building because that's the only way you can feed that many cars out of a single lane on the Midvale. And, it had to invent other exits onto that center. So your approach zones aren't all that clear. And the movement of cars on that site is not good in terms of the general sense of safety of the people who are coming to shop there and so on. And compare that, as I say, to West Town or East Town in which the perimeter road is much more elaborate.

Now, we've got them inside. And now what do we need to do?

Well, first of all we need to make them feel comfortable. We don't want them to have to walk too far to get where they're going. And so we control the humidity and the temperature in order to release that claustrophobia. That interior mall with the high ceiling is a tremendous release to your claustrophobia.

You come out of a small shop and suddenly your ceiling doubles in height, sunshine comes in the clear story and you begin to take the pressure off that was beginning to build up while you were in the back corner of that little shop with the low ceilings and the groups crowding in on you and some confusion because you don't know a woofer from a tweeter and the clerk is looking at you a little oddly and suddenly all of a sudden you decide you

want to retreat into somewhat more free turf. By the same token, if it's a different kind of merchandise in a high tech society that you're not familiar with - if you had to walk through a door and have it closed behind you, and then sort of smile weakly at the clerk and say I'd like to see a personal computer please. You know, tremendous sense of insecurity. You don't want to have to have a confrontation right away and explain that you really don't know 16 bytes from 8 and so forth. And so you really want to edge in, so you paint a stage front door with the whole front of the store lifts up and you can kind of edge inside a lane and pretend to be looking in the first counter while you get your courage up to go a little deeper into the store. And nobody really has to pester you at that point, you're kind of invited in. And the good shoe store puts one left shoe out there on the front stand and pretty soon they've led you down the primrose path so that you're halfway into the store. It's all done very carefully articulated so that you can get over your shyness of being in new turf or being perhaps in a store that you think is too expensive for you or that's too high tech for you or whatever the case may be in terms of your insecurity. But, now, again, once you have accomplished that and you have set their mind at ease, how do you handle the other side of the confrontation? What if you don't like the other shoppers. Well, one way to do that, of course, is to have wide enough turf out of those malls

that you really have a great deal of space around you to call your own. And then to suppress the noise, you create, in effect, white noise with fountains, with music by Musak and a variety of other things which begins to fuzz the noise, perhaps the language that you don't like of other folks in the center and the children crying and so on and you begin to be - creates kind of central envelope around that customer in terms of what he can see, in terms of color and so on. We move very quickly from industrial surfaces in the late 1960s in which we had terrazzo and metal ceilings and rather hard plastic _____ around you to virtually all domestic materials. It's carpeted, you use small brick patterns and you allow a lot of wood patterns. Notice what's happened in the department store where they have gone from this massive display of merchandise in which you can see across four acres of merchandise to enclosing it all in, creating small boutiques, giving you the feeling that, gee, the only person the clerk really cares about is you and you've discovered this small intimate little spot within Gimbles that nobody else knows about.

And that old element is _____ on the staging of the presentation of merchandise in order to control your behavior, make you receptive to that sale. This is what we call social control. And it's a positive kind of social control, rather than necessarily having to do with crime and so on.

The family private areas are critical in terms of design. There's some very fine books out on simple single family home design but any number of the features are critical to the success, believe it or not, of the marriage - for example, the master bedroom. The master bedroom, obviously, needs to be private and quiet and enjoy auditory privacy as well as visual privacy from the kids or pretty soon that relationship between the couple breaks down. By the same token, the kids needs to have some place to be able to retreat at some point and to get away from their siblings, as well as their parents. And you may need just intelligent conversation areas. You don't want the living room to be the main traffic artery because just about the time father and son are having a little private conversation, two brothers and a sister come traipsing through and break it all up and that opportunity for quality time is lost. By the same token, if the kitchen and the family room become the control point - the design of the home should really reflect that value system. And builders are getting very, very good at understanding what kind of statement a home makes to the value system of those who buy it. A number of years ago I was lecturing in Denver, arguing that appraisers really didn't know much about the home market because they didn't stand around listening to buyers after they left the model home. One of the places you really learn about the building business is standing

around and trying to look innocent in the parking lot and as husband and wife get back in the car, the wife will say over the top of the car, "Did you see that five bedroom house and white carpeting. They don't know anything about children. Obviously, that builder's an idiot." Well, I was the builder they were talking about! I was an idiot. That was the code that people got, I had a five bedroom home, beautiful home, but white carpeting - with five kids in it, that's not going to work. You immediately have to remove the carpeting and come back with something that is much more consistent with the type of entity you're trying to house. But by the same token, George Writer who was the builder, and was one of our distinguished graduates came back and he said, "Look, I'm building in the Denver market. That's about 15,000 homes a year. Me, Charlie and one other builder he named, are doing 2,200 houses a year in this market in the \$100,000 to \$150,000 price range which I dare qualifies as sensationally about the subject. I'm getting the guy from the head shop, Charlie's getting the button-down collars, and Herby's getting the pendletons. He was then able to profile each of his family units in a social unit simply by the clothes they wore. Those who made a statement with their clothes bought the high style modern home, typically had the foreign car and made a statement with their house. And most of his advertising was directed to that social group via a direct mail that he garnered

from the charge accounts at the high style men's and women's clothing shops in the Denver market. On the other hand, the button down crowd was really the accounting type that says, "Colonials always held their value in Boston and I better get a colonial even though I'm working for Arthur Anderson in Denver."

So there it is, you know, beautiful New England colonial with the Colorado Mountains right behind it. And the third guy in the pendleton, he's the kinda guy that would come in the house - the living room is 12 feet square and if you don't like him, he doesn't like you, you get to sit in the living room. But if he does like you, you then you move through the living room into the family room which is about 45 feet long, mom's in the middle cookin' up brownies, there's three dogs running loose on the place and the pop-up camper's in the back yard with kids playing in it for a play house. The lawn probably needs a little cutting and so forth, but, you know, that's his style. The whole structure is reinforcing that set of codes, that source of values and making that family work as a unit and not fighting with the family style or being, in some ways, counter sink. As a result, family life, the way in which, even in public housing they have found, for example, in certain ethnic areas, which are matriarchal the whole family unit is the kitchen. Mom runs everything from the kitchen and so rather than having one of these tiny little apartment pullman kitchens in which there are

no windows and so forth, it's imperative to open that wide open.

The kitchen becomes part of the whole living room area and everything operates out of that control. And as a result, the family unit works much better simply because of the reinforcement of the design of the space to the kinds of values and activities that you want to express there.

The private spaces for offices as well as for homes become critical. There are a number of new offices buildings which aren't doing very well among the medical folks that they were intended for because they leak sound over the top of the partition. And who wants to be at his friendly psychiatrist in one office while his next door neighbor is at the pediatrician in the next office and they're listening to the sound come over the top of the partition and so forth. Privacy of all forms is a critical element.

In addition to looking at how the building contributes to the family unit or the work unit and the work location there are obviously other by-products that we create inadvertently - some unacceptable or undesirable social consequences. For example, the wonderful FHA loan program which took hold immediately after World War II gave everybody the opportunity to have a single family home in the suburbs, but one of their basic tenants was that homogeneity of the neighborhood was a critical element to sustain the value of the home. And, therefore, all of the homes

were virtually the same price. In those days they were maybe \$16,000 to \$17,500 with your choice of features and so on. But the house, of course, gave almost no opportunity for a statement of individuality and virtually everybody was in the same age group, same social group, same educational level and so on. And, as a result, we encouraged a kind of social disintegration in this country that had not characterized our residential neighborhoods before. Pretty soon kids could grow up their entire lives and never see an elderly person on the street. Or perhaps they were identified with different classes and different colors and different backgrounds all together. We had homogenized the American suburban scene to a point which really led to a good many of our misunderstandings and difficulty of the 60's and 70's simply because the value systems had been so smoothed out. And yet it grew out of the perfectly virtuous program which said that everybody should be assisted to the ultimate in buying their own home. But we have certain rules about where you can buy, what it's going to look like and how much you can spend of your income to purchase that home and so forth. The unwillingness of mortgage lenders to lend what they perceive to be declining neighborhoods. Neighborhoods which are going out of style, the houses are old, not very well maintained and so forth, suddenly begins to be counter productive and the neighborhoods really do decline because there's ability to

regenerate and remodel and readapt those spaces to current lifestyles or current work requirements. The change in loan restrictions can lead to sudden price inflations. A couple of years ago they ruled that a veteran could buy a four unit and pay up to \$70,000 for it in the state of Wisconsin lending program. Instantly all of the four units in the state went up to \$70,000 because brokers knew that that's what they could sell them for and so get them financed by a veteran. The result was, of course, that you had to raise the rent in order to cover the payment and so now you have a very fine stock of housing in which the rents rise above which simply to cover as a lending program which, in itself, certainly had no intent of doing anybody harm.

They were trying to help a certain group start to build a savings program and an equity. By the same token, if we begin to scatter our housing units throughout the community, maybe we'll get a better assimilation. Rockford, for example, was one of the first communities to have a public housing program in which the duplexes were scattered on scattered lots throughout the community in the hope that rather than create some kind of social impact of what was clearly recognized to be subsidized housing or subsidized welfare families, in effect, was built to the standard of the neighborhood and the hope was that the residents would be more quickly assimilated and would pick up the presumed desired middle class values. And, in many ways, it has worked and in

many ways it was made possible by the computer. So as the property management problem became one that was manageable from a monitoring standpoint, which was not possible, they had no computers and no two-way radios. The tendency, however, has been to perhaps move away from concern for how our building and how our clusters of buildings and how the agglomeration of our cities begins to affect behavior or reflect value systems that are relatively short term in character. And, we quite often lose sight of that in judging the success with which a building works or a project works in evaluating the architecture and in evaluating the ongoing operating characteristics of the project.

Certainly Ogg Hall and Celery and so on, they be complimented in terms of efficiently housing a large number of students in a relatively attractive way if you look at it from the exterior. But if you have to live in Ogg Hall with its acoustic problems and its relatively tight quarters and relatively low ceilings and so forth, perhaps it's not anywhere near as successful as Elizabeth Waters which from an aesthetic standpoint probably isn't going to win any great prizes, but from a livability standpoint it may be very, very successful. We have to be able to gauge the efficiency of our city building, not only in terms of what it does for the economic base or what it does for return on investment, but what it does for the activities or the social stabilization for the folks of live there, or whether in effect

it contributes ultimately to the social disorganization and antisocial behaviors of the residents. OK. Pick up again on this another day.

. . . space employment and the fact that as industry is free to chose where it will locate, it is ultimately is a conservative factor in the case and character of our community and the little piece on the sort of real estate tax system will become more relevant as we complete the lectures for the next couple days on the real estate tax and the outline for the real estate tax lectures will be in your hands as well.

We've been talking about the cash cycle of the various parties involved - the consumer, the producer in May we'll begin the first look at the cash cycle to the public infrastructure so that we can begin to talk about the simultaneous _____ that need to be solved in terms of revenues and benefits to the infrastructure versus the consumer versus the producer of the real estate. And certainly the majority of the cash cycle for the public infrastructure of the city and the school board and so on begins with tenancy of the real estate tax. And, to some degree, today I'll also call users' dues or exactions. And, to some degree, and certainly to lesser and lesser degree on federal grants. But the real estate tax today provides more than 80% of the base revenue for a local community. Unfortunately, the real estate tax is probably one of the most controversial, least

understood taxes in our system. There's only one federal income tax - and that's confusing enough - at least it's standardized. And there are about 50 state tax jurisdictions to which one must accommodate and understand. But relative to real estate there are over 14,000 real estate tax jurisdictions - typically none bigger than a county and in many areas, no larger than a township. And in each of those areas there is an assessor and a system of sorts which is somewhat mysterious _____ black box and which is often run in a rather unprofessional basis so that the result is obviously a good deal of friction between the property owners and the assessment process. The lack of standardization, the lack of skill, is compounded by the fact that, the unlikely income tax, the taxpayer doesn't get to compute his tax. There is some mysterious process by which an assessed value is attached to his property and another mysterious process by which a mill rate is determined. And, lo and behold, at the end of the year a tax bill arrives that says, "you owe "X" dollars." And the taxpayer 1) is quite sensitive to that and 2) has really very little perception of how that number was derived and so he's immediately suspicious of it, since he did not participate in it. And the third element, of course, is that by and large politicians don't like to fund a collection of taxes. It's something on which they're dependent, but, on the other hand, neither do they provide an adequate administrative budget

to collect it. And of all of the various tax systems, probably the cost per dollar of actual revenues, in terms of administration is lowest, in terms of the real estate tax, relative to any other type of tax system that we have. And as a result, we do not have a cadre of well-skilled, well-trained and well-compensated tax assessment people and there tends to be a sink going on in which those best able to do valuation and real estate analysis, and so on, gravitate out into the private sector and find more lucrative ways to employ their real estate skills, leaving behind a bureaucratic system which is less than average talented skill. There are some dedicated assessors and there are some jurisdictions which are very fine, but out of the 14,000 they represent a minority. Ninety percent, of course, of the taxpayers believe that if the assessment value placed on their property is less than they believe the property is worth, that somehow they're getting away with something. That if the assessed value is \$80,000 and they know their home is worth \$100,000, they don't say anything. They say, "Ha ha, I beat the system. Those guys don't really know what they're doing. They don't know what my property is worth. Presumably I'm getting away with less than my full share of the tax." And, as a result, the largest number of people don't squeak because they don't realize that the assessment value may, in fact, be deliberately intended to be less than 100%. The real critical element is

what's the mill rate? There are two elements to the real estate tax. One is the numerator in terms of how much revenue do we have to raise from the tax? How many dollars do we need to run the schools and the fire department and the police department - all of the other agencies that have been on the real estate tax?

That revenue is divided by the total assessed value of all the real estate in the tax jurisdiction to arrive at the dollars per thousand, or the mill rate which will be assessed per thousand dollars of value. Once upon a time we talked about mill rate which were essentially one one-hundredth of a penny. And we talked in terms of a dollar. So that if you had two mills per dollar, that essentially was two-tenths of one percent tax. That got to be a little awkward so we typically express our tax today in dollars per thousand. \$38.25 per thousand as the tax rate. And the thousand is the assessed value figure. Now, the assessor may, in some jurisdictions, try to make that assessed value figure 100% of market value. In the state of Wisconsin, that's what they are instructed to do by law. They don't always achieve it. And, therefore, it tends to flow around 90% or 95% as a matter of fact. In other states, however, they use what they called an equalization rate that says, take the market value of the property, multiply it by 60% or 25% or 30% and that's the assessed value. So the fact that the assessed value is quite different than your perception of what the value of the property

is worth, it should come as no surprise, it was intended to be that way. But notice what happens if you cut the value of 100% of market to 50% of market, the only thing that happens is that the mill rate doubles. They haven't gotten away with anything at all. The mill rate simply doubles. You always have to look at it in terms of the ratio of total dollars collected over the assessed value. So that basic function of a real estate tax assessment is to establish your pro rata share of the revenues to be raised with the real estate tax. The number does not have to be a true replication of market value. It simply has to arrive at a fair and equitable pro rata distribution of the tax burden among each property owner. So if your property is worth \$40,000, his property is worth \$80,000, and you're the only two properties in the assessment district, you're going to pay one-third of the total assessment and he's going to pay two-thirds of the assessment and no matter which set of numbers you have, as long as you arrive at that relative incident of taxation, it's a fair tax. So keep that in mind as we begin to develop that assessment system.

Now, today we're not going to spend much time on the numerator. How do we arrive at the budgets that people want to raise with a real estate tax. We'll be talking about that as the semester progresses. But, we have attached to your handout, a couple of for instances. The city of Madison's 1986 budget and

what proportion is raised in real estate taxes. A little letter of explanation from the mayor that comes with your tax bill. Also, a little letter of explanation from the school board that comes with your tax bill. So Barbara Arnold explains, you know, why are we raising our tax and so forth and so on. Notice they're serving more students, federal aid is less, the school population is more complex in terms of state requirements to handle the disabled student and the student with disability learning problems and dyslexia and so forth and you have to have multiple types of programs for all those kinds of things. And so then she goes through and explains where your money went and why the increase, and so on. Well, obviously, there's a number of these various tax jurisdictions which will accompany your tax bill. But it will give you some idea anyway as to where the numerator comes from.

We're going to spend the rest of our time today talking about where the denominator comes from. How and why do we set up a system for determining the assessed value of each property on the tax role in the community?

The historical origins of the real estate tax, really, date all the way back to medieval England in which all of the land was owned by the king who then, in turn, bestowed the use of it on his dukes and lords and then, in turn, bestowed the use of some of that on the yeoman. And in exchange for the use of the land,

they had to pay rent. And if you'll recall from your English history that ranges from any where a rose, from the house of Rose to the king, to some percentage of the crop, and failing the crop, why you had so many months of service to perform for the king, generally as one of his soldiers, but maybe as his road builder or bridge builder or tallis builder or whatever. And it is called a socheage rent although some people even feel they are being soaked even today. And when the US was initially discovered and founded, as you'll remember, the great trading companies really owned the land. The king gave the large grants of land to the trading companies who, in turn, leased the land to the colonists. And the colonists were expected to provide various types of products from the indigenous area in terms of whether it might be tobacco or timber, or whatever, as really the payment for that. And as they evolved and became a more sophisticated colony they were allowed to work that obligation off by working so many days on the roads or so many days on public improvements in one form or another. And so there was a basic tradition of the fact that the land tenure system required you to take a certain part of the productivity of your farm or a certain number of days of your time and contribute that to the public pot. And, of course, the revolution broke that tenure system and said, "no, you're going to own your own land, you're no longer a tenant on the trading company's land. And the

trading company is no longer beholding to the king, etc." Those were abolished by the nature of the revolution and it was one of the major reasons for the revolution and the result was that while the tenure system that had created the soakage rent was gone. The tradition of financing local government, based on the agricultural productivity of the property owner, or, in certain case, of those that did not have farms, let's say the blacksmith and the merchant and so on, so many days of his time, remained as the basis for financing local government. So it really comes out of that historical tenure, tradition and continues on to this day obviously much more elaborate, as our economic system became more elaborate in the process. But the development of cities and the fact that we could no longer say that, "all right we will assess you so many cords of wood on your wood lot and so many bushels of grain on your feed lot and so many animals on your pasture and so on." We obviously had to find a new common denominator for allocation of the tax base. And they came up with what was called the ad valorem system. In effect, establishing a value for each property, summing those total values, and using that as the basis for pro ration. So if your building was worth one percent of the total value of all the buildings in the village, you paid one percent of the real estate taxes that were to be raised for that particular tax entity or community. Now, initially that was done on a very hit or miss basis. It became a

scandal in the east coast, of course, in Tamity Hall and Philadelphia and so forth where for the right payment, for the right individual, your property dropped off the record all together and others, obviously, undervalued and so on. So that by the end of the nineteen century, the real estate tax system was in shambles. And it was a highly discredited politicized type of tax and there was a very real effort in the Northeast to correct that. And one of the leaders of that was a gentlemen named, Summers, who was an engineer out of Milwaukee and Minneapolis, a city engineer, who came up with certain basic principles for establishing a tax assessment system that really prevails today and which really provide a standard accounting whether an urban area has a truly legitimate assessment system or not. Summers wanted, first of all, to get the political interference out of it so that the number was as objective and fair as it could be. And, second of all, he did not want it to be too discretionary, because once the number became too discretionary, there was too much opportunity to influence those who had the discretion to exercise. And therefore he wanted a fairly arbitrary, mechanical, industrialized kind of systems that would churn through a certain number of objective kinds of things like square footage and how many fire places there were, and so on, things that could be factually established in order to arrive at a value.

And so the first element was to separate the assessment from the municipal budgeting function. The assessor has nothing to do with the revenue raising. Now that's a very important thing to remember. The assessor has really nothing to do with the revenue raising. All he's doing is establishing a base number by which the revenue needs, determined by others, will be pro rated among the taxpayers. That's his function. That function gets compromised when as in the City of Madison the assessor reports directly to the city finance director and treasurer. That was not the intent originally under Summers. You don't want a tax field board say, looking at the owner of a major building and saying, "We know we're too high on his assessment, but he can afford to pay it." That is not an income tax. That is a tax on the productivity of the land and building. Whether you like it or don't like it, whether you think he is too wealthy or not, and so forth, should have absolutely nothing to do with the system.

Second of all, you want to define as I say, a mechanical procedure which will always consistently arrive at the same number under the same set of circumstances on the property and reduce judgment calls to a minimum. Third, it has got to be simple enough that the public itself will understand the system as well as the field men who are applying it. The staff isn't going to be that well trained, that bright, etc. and therefore you've got to have a simple system for them too. And, because

it's simple, it's possible for the citizen to defend himself against what he feels to be an inequitable assessment - very Jeffersonian in concept. The citizen should be able to go before a jury of his peers, plead his own case, without the lawyer, without the accountant, without all the elaborate expenses of a typical judicial system. And, in many ways our system has accomplished that very well.

Fourth, it was obviously to recognize that the assessment was not to necessarily to protect the actual market price of a particular property, although it will certainly be evaluated in terms of how close you come, but it was in fact to establish this base number for allocation of the revenues to be raised from taxes.

Now, what are the duties of the assessor under that particular process? Well, the first thing the assessor is charged with is creating a map of the community which identifies each property entity and, at the same time, identifies certain key characteristics of that property relative to let's say the paved road going by, sewer and water services available, the zoning characteristics, etc. And the maintenance of that assessment map, itself, is a major task. There are probably in the city of Madison alone over 100,000 property entities to be tracked on and as everybody makes their real estate deals and one guy sells a foot off of his lot and gives somebody else a wider

driveway, gives somebody else, you know, leases the back of lot for open space conservancy, and so forth and so on, these hundreds and hundreds and hundreds of transactions that take place year have to be identified, the map adjusted and the data base, if you will, corrected to reflect this dynamic process of gradual subdivision that takes place in the urban area. So that's a major responsibility and becomes a major data base which, if done correctly, can be useful for not only for assessment purposes, but planning purposes, market research and a variety of other elements to either the small businessman those, for example, a little builder in the northern part of Milwaukee.

The first thing I decided I could do was garages. By going down and going to the assessment roles, I could find out who had garages and who didn't. I took their addresses down and mailed them a little letter and see if they would like me to build them a little garage. It can become a market research tool, it can become a planning tool and so forth. Different states have different degrees of privileged information controls on the data bases. But the trend across the United States, essentially, is to make the data base created by the assessor, public knowledge.

The state of Wisconsin is one of the slowest to accommodate that, but it too is coming around. So, as a result, that data base becomes a key element which can be purchased and partially self funding today as a result of the computer and various kinds

of access devices via the computer to various levels of detail. Now most people can get detail about the outside of the home, the size of the lot, and so forth. Many jurisdictions still retain privileged information as to interior fittings. They don't want a broker sitting there saying, "gee, I wonder if they've got built in whirlpool and subzero freezer and so forth. Gee, here's one that comes with a sub zero freezer. We'll wait and drive up the van when they're gone and haul it all away." Obviously, there's some limit as to how much, you know, information you want to provide to anybody that has access. Now, once we have the basic map, the next thing we need obviously, is to begin to develop then a system for valuing first the land, and second of all the improvements to the land.

Drop down to roman numeral III on page 2. In Wisconsin, the agricultural block has been very jealous of maintaining control at the very local level of the real estate tax. As a result, we have slightly more than 1,100 assessment districts and probably no more than 50 of those have people who were trained to be appraisers and who were trained to be assessors. Most of them were simply elected on the township level based on the good ole' boys school of politics. Wisconsin has tried to pass legislation which would consolidate assessment at the county level, which is where it is at in the states with the most advanced systems, such as California and New York and others. But again, the farmers

fear that if farms are assessed at full value which is not a problem right at the moment, obviously, that they will end up paying too much of a real estate tax. Wisconsin law does permit consolidation at the county level if you have a referendum. And if you do that the state will pay most of the tax costs of the county. Kenosha is the only county to do that and Kenosha does have a superior system relative to most of the counties in the state.

The third element is to state, in terms of providing some standardization, creates a so called tax assessment manual which presumably provides a minimum standard of procedure and performance to the local investor . . . (tape broke - had to splice it) . . . the manual prevails or is only suggested as to what the assessor might do. However, there is a continual war in the court between the taxpayer, the local assessor and what the state manual says the local assessor should be doing. Because the complexity of industrial appraisal is beyond the skill level of many assessors and because the philosophy of many assessors was to soak the rich to benefit the poor and they regarded the corporate taxpayers as the rich, many corporations found it expedient to leave Wisconsin rather than try to carry the real estate tax that was being imposed on them. And so a couple of years ago the state took over responsibility for taxing industrial properties and business-type property. And the result

has been, of course, horrendous to certain communities. For example, West Allis, Wisconsin was dependent largely on the assessment of Allis Chalmers, Kerney Trekker, _____, Chain Ballasts, the heavy industry paid most of the taxes in West Allis and the possessor was an elected individual, and he obviously realized that the executives of those companies didn't vote in West Allis, there were a lot of home owners who did and so the more that got loaded on these major, heavy industry corporations, the better off you were, since less tax was paid by the home owners and that was the kind of situation where the state stepped in, just cut the assessments to much much lower levels and economics came along and wiped out Allis Chalmers and certainly reduced the economic power of the heavy industries in their area. With a tremendous shift in the taxation toward the single family home and so on and even today in West Allis, the assessor is still fighting in court about the legitimacy of the state's assessments and whether in fact they're too low on the industrial properties, too much attempting to maintain our heavy industry base by favoring them, as it were under the tax law. But, in any event, the state has taken over for industrial real estate, wherever it may be found. But in any event, the state has taken over for industrial real estate wherever it may be found.

The statutes established 7 categories of property. One is agricultural, second is industrial, third is commercial, fourth

is residential, fifth is retail, sixth is mining and the last is conservation areas. We'll talk about the significance of that categorization a little later. But we'll start initially talking primarily about residential properties as a way of illustration.

Once the assessor has developed his tax parcel map, each property is given an identifying tax parcel number and that tax parcel number is, in fact, a spatial code as to where that property is located and its general characteristics. So the first two numbers are the township, the next two numbers are the range, then the section, then quarter section and then if it has been platted as a subdivision lot it will give you the lot and block number. And the last number of course is the ever present check digit to see if there has been any errors in the first series of numbers. And this tax parcel number has to be brought up to date as of January 1st. The month says May 1st but the law has changed since that was typed, so it's January 1st. And by that time, all of the streets, all of the subdivisions, all of the changes in ownership have been recorded. Then for each tax parcel number the assessor prepares a tax card and that tax card is going to detail the critical pieces of information that the assessor needs to arrive at his value. While tax cards are public in most states, they are still private in the state of Wisconsin. Only the property owner or his agent can see what, in fact, is on the tax card and can review it for accuracy. The

only information in Wisconsin that's available is the assessment placed on the land, on the improvements and the total assessments on the property for each year that it's kept up to available to immediate public review.

Now, the assessor is then told that given this data base he is expected to value the property at the highest price in which it be sold to another user in the normal course of business. That's a very innocent appearing line. Seems, reasonable, fair and so on. But ask yourself, wait a minute, hold everything here. What if we had to sell the Sentry insurance building in Steven's Point as of January 1st. Who needs \$100,000,000 estate?

Grossly, inefficient building, beautiful building. Grossly inefficient - has 350,000 square feet of usable area out of a million square feet of surface. No that's cheating a little bit - part of that is parking ramp but nevertheless, it's still not a very efficient building. When they spent \$100,000,000 to build that, American Family produced the same amount of work station space out here on the east side of Madison by highway 51 and 30 going out of town for about \$10,000,000. So you get some sense of corporate largesse there. OK? What would it sell for to the next user? It doesn't help us to hypothesize that Century Insurance Company would leave on January 1st and would be able to sell that to another user. That's a pretty tough problem. It's not hard to figure out what a single family home that looks

pretty much like every other single family home on the block on which we have multiple transactions every year - what those will sell for. We certainly have enough comparable sales when you need to adjust for differences in units and reproduce what is the most probable price at which it will go to another user.

Now other states don't necessarily follow that. They say whatever you need paid for it baby, is it. If Sentry wants to pay \$100,000,000 for that building - They're a one-time user, they're the market for that building and therefore we'll charge you \$100,000,000 - New York State for example out of what is called the Seagrams Rule says that if you're dumb enough to spend that kind of money there must be some element of productivity that we don't know about that should be taxed. That was based on the Seagrams Building in New York City in which, at the time which it was built, was the most expensive building all time office building in New York City. And the reason for it was Mr. Promta (?) had a daughter who had just graduated in architectural history from Brandies University and he was building sort of a standard office box. She said, "Oh Daddy, how can you do that? It's so ugly," and so forth and nagged the poor guy to a point where he finally spent twice as much on the damn building as anybody else in town. And once he got it up, the assessors came in and said, "Hey, if you want to spend that much money on an office building we're only to happy to assess it." And he tried

calling and he said, "Wait a minute, that's not fair because if I was going to rent that to somebody else like all the other buildings around me I would only get \$X dollars per square foot, and therefore it would only worth so many dollars and not what I paid for it." And the New York Supreme Court said, "We've never known you to make a bad business decision and obviously there's a lot of publicity value in that quality of a building and employees are happier working in that type of building. So you have less turnover and so forth and so on. So that it probably was a good business decision, we just don't see it all adding up in terms of rent dollars." And just about that time a study had come out on the Lever Brother's building which showed that was true. The dramatic architecture improved employee productivity, reduced employee attrition and turnover, and produced a great deal of publicity because everybody wanted their new car taken with that building in the background or whatever. And publicity is the game for consumer products like bourbon or soap or whatever and so the New York City Supreme Court said, "No, if you spent that much for it, you are a market of one for that kind of package and therefore that is market for that building." So the Wisconsin rule isn't necessarily the rule followed by everybody but it does create a very interesting problem for the assessor. What will this building sell for to another user? Now, that works two ways. If you got a really good buy and you sold it

from a senile old lady who didn't know what she was doing when she sold it to you. That price doesn't set your assessed value either. It does if you come in and say, "You got a really good buy and that house was worth \$100,000 easy and you only paid \$60,000 for it. And he can assess you \$100,000 of course, if he can show that that's normally what it would sell for. So it's a two way street.

Now, the courts have determined that the preferred way of determining value for assessment is by market value and by market value comparisons. Assessors of course resist that because it's a fairly difficult thing to do as you will see in a moment. But at least they begin to feign or try to at least imitate the the market process. In order to set up the assessment system the first things you do is divide the properties among those seven categories and then within those seven categories, try to identify those that you could call class buildings - buildings which are of sufficient, repetitive character, particularly homogeneous that we could come up with one formula for the whole group. And then what falls out are the buildings which are sufficiently unique that each one must be visited by the assessor and appraised individually. Now, to the degree that we can have them fall out into particular classes or clusters of properties of a high degree of similarity. We're beginning to discover that we can use a variety of statistical and mathematical techniques

to produce very reliable estimates of value without having to go through a more individualized objective process. But for the larger buildings it's still a very subjective analytical process of one of a kind sort of a building that has to be analyzed with respect to its revenues, operating expenses and its future resale price. Now, if we are looking at class buildings you could look at what we call the tax manual. And the tax manual was divided into two parts; land and buildings. There is a tendency to move away from this in terms of let's say single family homes because people say it's really silly - you can't separate the land from the building - the value of the land is still vacant when it isn't vacant is obviously going to distort your result. But, let's take a look at the traditional way, then we'll see to accommodate the computer they're starting to move away from this and value the total property and arbitrarily allocate something to the land just to make the problem easier and more manageable.

Traditionally they would establish what is called a unit foot of land. A unit foot was essentially one foot of frontage in the depth of the lot. So in downtown Madison which subdivided initially to be 132 foot deep lots and 66 feet wide, a unit foot would be 1 foot wide and 132 feet deep. And in the good old days, the assessor and a couple of the local real estate hot shots would walk down the street and establish what a unit foot was worth along each block of commercial and residential land.

Now obviously not all lots are 132 feet deep and not all lots were inside lots, and so it became traditional in appraisal to set up some tables that would adjust the unit price according to a mathematical curve. So they had what they call depth tables. And a depth table really said, "Hey 50% of the value of the lot is probably on the front third of the lot and another 40% of the value of the lot in the next third of the lot and then whatever is left can be attributed to the deeper part of the lot. But the closer it was to the street the more valuable it was and they would construct a curve and that depth table would then be applied to adjust lots that were not 132 feet deep. And we therefore had an automatic way of correcting for differences in depth. By the same token, if your lot was on the corner as opposed to the inside of the block, the premise was that a corner lot was not as desirable for residential purposes because the back yard now had less privacy - you had more sidewalk to shovel and so forth and so there would be a corner lot factor for residential lot that would reduce the apparent value of a unit foot. And on commercial properties they said that to have a corner lot was more attractive. And therefore you had more visibility and more store window space and people could walk by and more access to merchandise and so forth and so on. And so a corner lot factor in a commercial building increased the unit foot value of the lot. And they would go through a whole series

of attributes of that sort. Whether it was flat or sloped down, the depth of the corner lot, depending on what kind of zone you were in and so forth. The assessors then could simply go through then, count up the number of unit feet in a site and adjust it for differences and presto you have the value of the land. And anybody that was fair minded that went through the process would arrive at the same number. It could be replicated no matter who the assessor was, in fact go through the computation. That was the critical element of the system. The opportunity for very much discretion simply wasn't there. And therefore the opportunity for graft, simply wasn't there. And the opportunity for error wasn't very much there either. You could agree if the taxpayer felt he'd been a little over or under underassessed, he could come in and go through the same series of steps and arrive at the same number as the assessor. It was a very important part of the system. It has led of course to a whole series of myths about property. There is still those who believe that corner lots are more or less valuable than inside lots and that lots which slope one way or another are more or less valuable. Lots that are more or less deep don't lose their value so that the utility company coming along the back of your lot and taking let's say, five feet for a hidden utility line is probably going to argue that their assessor or their appraiser that the depth table is still true and that the back end of the lot isn't worth

as much per square foot as the front end of the lot. So a great deal of the mythology of real estate grows out of these traditional applications of the assessors manual tables which were designed for the convenience of the assessment process and not necessary because it was a very scientific measure of the values phenomenon that it was addressing.

Relative to the improvements the manual also provided for virtual photo identification of different classes of property. And you might have, first of all, different types of construction - wood frame, masonry, reinforced concrete, bioresistant steel frame buildings. And you would, as the assessor, categorize the building, turn your manual to that particular section, and then in the manual there might be a dozen or two dozen photographs of typical kinds of structures in that category. And you would say, "Ahhh, looking at the building I've got and looking at the photograph this comes out to be picture "E" and I now will look at it under the table that go with picture "E" and find out what the square foot and cubic foot values of that particular factor are. So the only discretionary call I had was to really decide the category of structure within a class of masonry or steel or whatever and at that point then he was led into a a second level of the system. And generally what they did was they specified a typical building of a single family home of a class three, for example, might be presumed to have one bathroom, one kitchen, one

fireplace, hot water boiler, no air conditioning etc. And he would then go through his inventory of building attributes and would say, "OOPS, wait a minute, the one I'm looking at has two bathrooms, now what do I do." And the manual would say, "What you do if you've got a second bathroom is you add \$1,500." And then it says if you have air conditioning on an auto furnace, instead of hot water heat, add \$200. And so for all the variances between the structure and the the standard structure of the class, the assessor would add or subtract for the presence or absence of that feature. And at the bottom of his worksheet he would then take the net total and arrive at the assessed value for the improvements. And he would do that for each building on the property - the garage, the house, the barn, the chicken house and so forth. You can go through that little system and come up with a number. The result then was a very, very objective kind of process which could be replicated or duplicated by virtually any assessor. There were very few discretionary calls to make, if he had any questions on his income tax, the addition of, you could go in and appeal that type of error.

Now, today statistically we're beginning to find that we really don't need all of that detail, that there are probably a dozen variables that will allow us to predict differences in price between one single family home and another, with a high degree of accuracy using set theory and statistically theory and

computer methods of analysis - then we only need another 40 or 50 variables that are there, not so much to predict the value of the house, but to make the taxpayers feel that the differences between his property and somebody else's property have been fully considered. So there are some variables today which are used for actual prediction of difference in value, and other variables which are simply there as a psychological comfort so that when somebody says, "Did you consider, the assessor can say, yes." The fact that it didn't carry very much weight in his decision is irrelevant. He can simply answer positively yes, I considered that and the model takes that all into consideration. And it's pretty tough to argue with a computer model that looked at 60 variables to say the value of your home is \$185,000 plus or minus one. And so as a result, we have computerized this process to a great degree and, particularly for single family homes and class property.

Now, let's assume that the notice arrives and you're in shock because it says that it's worth \$100,000 and that you're going to owe \$2,800 in taxes this year and you thought it was worth \$80,000 and had budgeted accordingly. Today you would have essentially three steps to the appeal process. The first thing you can do is just go down to the counter of the local assessors and ask to go through the assessment with the fellow who did the assessment on your property. How did you get at that number and

what did you consider? What is it you think you know about my property that I don't know about my property and so forth? And just find out if the tax card is correct. If the dimensions of the property are correct - all the basic numbers. If you don't find any arithmetic or factual errors and you still think you're over assessed. You can ask for a review by what is called the Board of Assessors. And three other assessors in the office will get together and review the assessment on the property to decide if they would have concluded the same as the individual who, in fact, was assigned in the assessment of that property. If that gives you no satisfaction, then the next thing you can do is appeal to the tax appeal board in the community. The tax appeal board is one of the most marvelous elements of citizen participation in government that I know of. It consists of seven citizens appointed by the mayor to represent a cross section of the community. They typically are not paid for their services. They typically represent a student, and a realtor, and a housewife, and a small business man, and a farmer, and whatever.

And they go and listed very carefully while you as a taxpayer say here's why I think I'm overassessed and there are certain rules to the game - you have to indicate that you're at least 10% apart from the assessors, you're not arguing over the last 1 or 2% difference in the system which isn't that accurate - second of all, you have to show that you've been treated unfairly or

unequitably relative to other similar property in your area and three, that there's perhaps a theoretical error in the appraisal system that doesn't apply to your property. And the appeals board can then make an adjustment to your tax and instruct the role to be corrected accordingly. Even if you come in a year later and argue about last year's tax and they decide there was in fact an error, the reduction would be applied to this year's assessed value even though the error was a year old - so there's some opportunity to catch up as long as you can discover what kind of an error was made. At that point, if you decide you still ain't been done justice by your peers, you have two alternatives. One alternative is to appeal the process itself through what's called tersiory - it goes to the circuit court. And the circuit court reviews the record you made at the tax appeal board. In other words, there's no trial in the traditional sense of you again going through your spiel and the city going through their spiel, all that the court does is read the record that was made at the appeal board level. They can read the appraisals that were submitted, any other types of documentary evidence and so forth and the court will decide whether, in fact, the assessment was done illegally because of some failure to observe court precedence or procedure that was used or wasn't used or a fact or a critical piece of information was neglected or overlooked. If they decide it was done

illegally, it simply gets sent back to the appeal board for review and another decision. Now, obviously that can get pretty circular - the appeals boards knows about a point because you challenged them in court and now it comes back in their lap, they'll find another reason for doing the same thing they did before, you'll spend a lot of legal money and a lot of time and so forth that you may not get from that appeal board a fair review. You'll simply go through the motions and frustrate the tertiary board.

The alternative is to go for what is called a de noble(??) proceeding. A deal do(??) proceeding means we're going to start from scratch. We going to go into court and we're going to have a jury and we're going to go through the taxpayer's appraisers and then the community is going to present their assessment and the jury and the judge can decide what is a fair assessment on the property. That is obviously a much more expensive, time consuming operation and there are certain limitations as to what kinds of property and property owners are permitted to do that. Basically the little property owner is permitted to do that, the large property owner is not. Nevertheless, it is a very participatory system. It's designed to allow the person to be involved in the process and most home owners represent themselves at the board of appeals. Most home owners select their own data and go down and argue their own case and it works very very well,

by in large. Where it doesn't work is where there's a big fat high target so if you own the biggest hotel in town and everybody thinks you're making money the appeals board is a little reluctant to roll back their assessment when it knows that every time they roll back the assessment on a large property, the total tax base of the community is reduced and therefore the mill rate for all the other taxpayers is goin' to rise. So each time you reduce the denominator the mill rate goes up for everybody and therefore there is a natural political reticence to do anything about rolling the assessments back. And as we get more sophisticated about that, obviously there becomes new different ways to rationalize the assessment process. OK.

The process as described calls for a manual type of property and individual. Obviously, historically was relatively cumbersome and involved manipulation and management. And when the market is reasonably stable and the community is not in much of a growth mode the assessor, of course, is capable perhaps of keeping up with the general level of market activities. Some fairly rapid expansion of the community at the hinterland along the suburban fringes shifts in value in the downtown areas of most communities has meant that the assessor has fallen well behind the marketplace. And, those types of properties which he is capable of tracking in the way of automation and statistical techniques, such as residential properties, are the most easily

maintained at current market value, whereas those properties such as industrial properties, investment plants, shopping centers and so forth, which require considerably more people hours in order to have a current valuation on it, obviously, tend to fall behind. And the result is, of course, ultimately a shift in the tax burden toward those classes of properties where the assessments are the most easily maintained in market value with a falling away of the tax burden from industrial and commercial investment properties less easily adjusted for inflation or for shifting property preferences within the community. The result of that, of course, every once in a while is a taxpayer revolt. California, for example, with its Proposition 13. The homeowner in that essence wasn't angry because the assessor was wrong in his assessment, the homeowner was angry because the assessor was right on his assessment. The last thing he wanted to be told was that his home was appreciating at 1 or 2% a month partly because of land use controls, partly of in-migration into California, partly because land and prices and so forth were rising due to the shortage of lots, and so on for suburban expansion. And what was happening was that the assessors in California became very, very good with the computer in tracking on single-family homes and small apartment buildings and small commercial buildings because it lent itself to sophisticated methods of data management and with that there was a gradual shift of course in

the tax burden away from investment properties toward the single family home owner. And the result was of course an oversimplified and disastrous rule which said, "OK, tell you what we're going to do. We're going to freeze everybody's assessment and whatever it was they paid for their property, we'll allow it to inflate at some nominal amount, say 1 1/2% a year but, again, your assessment won't change in any major way, until you sell the property." And the next person who buys the property will, in fact, have assessed himself because whatever he pays for it is indicative of what the market value should be at that point. And the result of Proposition 13, of course, was to make tremendous windfalls for people who were living in their house for 25 years because the assessment never caught up with market value and yet the individual who moved to California for the first time, bought his first home, was assessing himself right at the top of the market. And so you could have two houses side-by-side in which one was assessed at the \$60,000 that characterized its value in 1965 and the one right next door was at \$180,000 which represented the current market value of the property with a tremendous inequity in terms of the property owners. And that continues to prevail to this day.

By the same token, the landlord who has set his rent based on the expectation that his taxes would be such-and-such and now found that he was getting his taxes rolled back to whatever his

acquisition price, really had no compunction at all in terms of refunding it to the tenant. It was just a tremendous windfall where he had over budgeted for taxes which never came to pass. And yet most tenants now had an escalator clause which said that if taxes went up, they would have to pay the increase. Most people weren't bright enough to negotiate an estimator that went down. So that the tenant never got the benefit of the tax reduction that might have occurred as a result of Proposition 13.

Now, the only thing that happened to California was that by arriving at this over-simplistic method of protecting the home owner against the tax, they drove out of the state virtually all of the capable tax assessors in the state. Up to that point, California had "the" superior real estate tax assessment system.

It was organized by county. It was supervised by a state board of equalization. The state board audited each assessment office at least once every five years - analyzed what it was doing right, what it was doing wrong, came up with a list of particulars and instructed the assessor that those factors had to be corrected by the next audit. And within five years, they re-audited and if those deficiencies in the system had not been corrected, the auditor was out, fired and replaced by the state.

And, as a result, they were making tremendous strides in coming up with an objective, effective, very contemporary assessment system. Once they had destroyed that by simply saying we don't

care what the current market value is, we'll simply adjust it every time the property is bought or sold and allow the other adjustment to occur just on an automatic 1 1/2% - 2% a year adjustment, the demoralization of the assessment staff and the equalization system was drastic. Probably the one benefit that occurred the other 49 states had a flood of applications from California assessors to come into their jurisdictions and perhaps build a new system. So even Madison's assessor is from Orange County, California, and it really disseminated the techniques of contemporary appraisal throughout the country and hence significant improvement in the data management capabilities of assessment offices. Nevertheless, the system still remains somewhat backward in its ability to respond to a very dynamic, quickly changing market in which prices are shifting within the community, the community is growing at a rapid rate, adding additional assessment parcels, and so on. Nevertheless, there is a really interesting career opportunities in the assessment area, particularly if you're moving to a new community and want to learn about the community quickly in terms of its market characteristics and trend and variabilities and so forth - to begin at the assessor's office and to learn how to make use of that public data pool. Certainly that data pool will play more and more role in future market analysis in urban areas than it has presently. We're still moving into that interesting area of

when does the public database become truly a public database and when are we, in fact, encroaching on the privacy of the property owner by sharing with the general public, description of that property and its appointments and equipment and interior finishes. So that you will see a broad array of alternatives state philosophy on that, but generally moving toward the realization that an adequate detailed data base on real estate inventory is really in everybody's interest, in terms of buying and selling there is more efficient market, in terms of equitably assessing the properties and in terms of market research as to what needs to be built or what doesn't need to be built - what kinds of properties are fairly surplus or in short supply.

The other aspect of real estate tax, that is, of course, getting considerably more press and the Union, Wisconsin is getting more press, the question is; what should be in the numerator of the tax? What things should we properly try to finance with the real estate tax? Currently 55% of the tax rate in Madison is the school board. But in California, the Serrano case, set everybody back on its heels, because it said that the constitution guarantees a child an equal opportunity to education and that if you have a community with a relatively low tax base because it's a relatively poor community or undeveloped community or its population density is quite low, it simply doesn't have the resources to provide the same opportunity of public education

that, let's say, a Beverly Hills, California, has in terms of assessed value per child. And, as a result, California ruled in the Serrano case that you could not provide equal opportunity by funding education on the real estate tax and rejected that as a method of financing education in California. There was great fear that that pattern would pervade and the fact that the constitutional ruling would spread very quickly across the country. So Lucy and subsequent governors here in Wisconsin have attempted to avoid that, by providing a state aid school law which, in effect, provides additional aid from the state income tax to those communities whose assessed value per child falls below a certain standard. Now that's the state aid fund dilemma you hear considerable stats on. And at one time Lucy was even trying to go to a point where, let's say, that a community had less than \$80,000 assessed value per child, they would get a certain amount of additional aid. But if a community has, let's say, more than \$95,000 assessed value per child, they had to pay additional money into a state pool that would then be shared with the poorer counties. That was rejected as unconstitutional. You can imagine how Shorewood or Fox Point or one of the richer residential communities felt about putting some of their tax money into a pool to help let's say the poorer counties in northern Wisconsin fund their education program. Tremendous human crying over that, and, as a result, that part of the law was

changed. But, nevertheless, still in Wisconsin the amount of state aid that you get is inverse to the amount of assessed value per child. Now that leads to some rather interesting kinds of problems. For example, if the community is growing, let's say, as a commercial center for a larger area, its assessed value with a new Manchester's Place and new shopping on the west side, and so forth, is going up but the number of children isn't changing and, as a result, its assessed value per child is going up and therefore, it may lose more in state aid than it gains in tax base. On the other hand, if you decide to build a mobile home park in which there's almost no change in the tax base, but you get a tremendous number of children because of the young families at relatively lower, income families to boot suddenly, POW, your assessed value per child drops and now you get more state aid. By the same token if we go into it, you'll see a little later in the semester, special features like a tax increment financing zone. TIF, tax increment financing is virtually the only way a community has currently, of getting special financial assistance to encourage redevelopment or to encourage commercial development of one form or another. But the impact of TIF is that the total value created is included in the state base for determining whether you get state aid or not, or how much state aid you get. But, in fact, the school board doesn't collect any of the taxes on the increased tax base. So, on the one side, the state aid

formula reduces the amount of aid available to the school board because of the increase in commercial tax base created by the TIF program. And, on the other side of the coin, it gets none of the real estate taxes created by the increment in that TIF. And so the school boards are now fighting a gorilla war against the urban redevelopment types of programs which, in a sense, tend to skew the school tax for the benefit of urban development, redevelopment. We'll look at that again a little later, but the significant part here is what are we going to include in the numerator? How much education shall we finance? How much welfare shall we finance? Or should the real estate tax go back to being what it was originally, which was a way of funding that public infrastructure that everybody shared, the road systems, the fire department, the police department, the parks and zoos and those kind of amenities which were really ongoing responsibilities of government that benefited everybody in real estate in one way or another because it enhanced the living quality and so forth of the community. Should we try to finance our education and our welfare and our social responsibilities out of a tax perhaps which can be more progressively focused against the well to-do than the real estate tax. After all, if you have an \$80,000 home and you have a \$79,000 mortgage, you only have \$1,000 net worth, you're payin' the same tax as the guy who has already paid for his \$80,000 home and therefore technically is

wealthier than the first one. So in some people's eyes the real estate tax is regressive when, in fact, it taxes the the total value of the asset, rather than the net worth of the owner. If that's true (remember there's arguments on both sides of that), then we really ought to shift social welfare burdens away from a regressive tax toward a progressive tax system and change the kind of things that are in the numerator of the tax.

Now the alternative to that, and the one which people most generally pursue because it seems to be politically easier, is to find exceptions to what should be in the denominator. Who is it that's going to be taxed? And at what proportion of their value should they be taxed? It's easier to do that than to correct the long standing habits of government in looking to the real estate tax for education and welfare and a variety of the other soft costs of our society. So let's look at lecture #2 of the notes that were just handed out and look at it from that standpoint.

Which properties should be assessed or how much should it be assessed is a perennial political issue in which, of course, the demagogues can find, you know, rich fare for stirring up election issues and presumably advancing their candidacy. Government owned property of course is exempt from the real estate taxes. That's true whether it's federal or state or local county and township schools and so forth. Here in Madison, over 40% of all the land in Madison is exempt, including the University campus

and the Federal installations and the court houses and the state office buildings and so forth. And yet they nevertheless receive all of the urban benefits of fire and police protection and the other city services and certainly the benefit of the street system and so on. So there are a few minor adjustments attempting to provide some equity to the City. State office buildings pay a 15 cent a square foot fee toward the City for services received. Public housing, for example, pays 10% of its gross rent toward the community for its costs of operation and a fee which is called, "in lieu of". A fee "in lieu" is an attempt to regress the fact that the government property may be otherwise exempt. But, Eagle Heights, for example, has to pay so much a child toward the school system. But these are negotiated and the public agency doesn't have to do that. They may be pressured to do that for one political reason or another but, these amounts, once negotiated tend to be a little resistant to change. Very few of them are indexed to reflect inflation or whatever. At one point, it was assumed that university married student housing, for example, would be valued as though it were assessed and then only the school tax would be assessed. But the state supreme court said that was discrimination. You're either subject to the real estate tax or you're not. And Eagle Heights came and therefore they were not able to apply that kind of system, even though they recognized that Eagle Heights produces a tremendous

student load for the city of Madison system. But other governments pay nothing. And, of course, the issue is that reflecting the fact that the government service, in effect, justifies itself and the citizen gets some benefit from it. Or is that perhaps too broad an exclusion? At what point should the University of Wisconsin start paying real estate taxes? Now as long as they call their farms out on the west side, experimental farms, they don't pay real estate tax. They can sit out there on Charmong farms, and so forth and so on, indefinitely. And never pay real estate taxes, never really experienced the opportunity cost of sitting on that land and holding it indefinitely and that leads to a certain inefficiency as we'll see in a moment.

What happens, to a township, let's say, in northern Wisconsin when a sizable portion of the land is taken by the federal government for a military base or for a wild river preserve or whatever. Who benefits and who pays as a result of that? For example, a number of years ago the federal government in what was called the Great Bong Air Force bungle took some 15,000 acres of Racine and Kenosha County for what was to be first of all, a defensive tactical air command base and then they got NIKE missiles and decided they didn't need that and so they made it a B-52 base. And they tore all the top soil off and they built a runway about 2 miles long and then they realized that it conflicted immediately with General Mitchell Field in Milwaukee

and O'Hare Field. And a B-52 doesn't have a very steep angle of climb and therefore, whenever the planes would take off they'd go right through the airspace of O'Hare Field or Mitchell Field and that wasn't really the brightest thing they could have gotten.

And so after ten years of pouring all kinds of money in this thing, they just abandoned it. Now, that was a large part of the tax base of the townships in western Racine County and western Kenosha County. The base for the school board had been just wiped out. The town roads which had been paid for and built by the townships had been assimilated into the government property and it's very hard to put the top soil back on and sell it for farms again. And, in fact, ultimately it was reduced to a wilderness area for duck hunting and bow hunters from

southeastern Milwaukee but, nevertheless, who pays? Obviously, the landowners who actually sold their land to the farm got paid.

But there was no replacement of the tax base for the community who had used that to equitably distribute the cost of services and so on to their residents. Ultimately, after many many years of suit, the federal government was forced to pay an indemnity to the school board and the town board that were adversely affected.

But basically our eminent domain laws don't look at private property as part of the resource of the local government. They compensate the land owners but they do nothing to indemnify the

government for the loss of its revenue base that was inherent in the land system.

Now with the inverse kind of rewards that we have in our state, state aids will almost make up for the fact that the government takes all of those cottages off the tax roll along the St. Croix and makes it a wilderness river again. And the county will get from the state equivalent amounts of aid because of our state aid formulas. But, in effect, the federal government is getting the benefit of the political credit for saving the wild river and the state and the local township citizens are the one who are paying the bill. So it probably becomes, you know, knowledgeable as to who should be exempt and to what degree should they be exempt? And do we have in fact a vested property interest in terms of government's interest in the tax base that should be compensated when another government agency takes that land off the tax roll.

Should government installations like universities or, let's say the Federal Forest Research Lab here, be considered economic base items for which we ought to be grateful, and therefore we give them a free ride, or should they, in fact, be part of the tax base of the City since they get the benefit of our fire department and our road system and our police department and the other services? If, in fact, that's true. How do we determine what the market value of Bascom Hall or the Federal Research Lab

is? Who's to determine what the market value "as is" sold on January 1 to another user should be? Maybe Marquette would buy Bascom Hall as a missionary outpost. Otherwise the market is relatively limited.

Churches, hospitals and private schools are also exempt so long as the property is contiguous to its operating center and actually used for charitable purposes. And then we get some interesting rhubarb. If one of the churches here espouses, let's say, a tenant service group that the city of Madison recognizes as political but not charitable, the church may be taxed on a portion of its premises. When the YWCA leased out a floor of its building to a school from the east side of the state to offer night courses that was not regarded as not within the YWCA's scope of charitable activities and therefore it was taxed on one floor of its building because it was no longer following its edimonsary intent.

We get some very interesting kinds of definitional problems of when do you retain your exemption, when do you lose your exemption? And at what level of government has the right of taxation?

Recently Wisconsin voters attempted to address at least some of the land use mistakes that occur as a result of the real estate tax, relative to farmers and conservation land. Our constitution requires that all land owners be taxed in the same

way. We can not discriminate by those things which we feel should be taxed more or less because of their social benefit. You is or you "ain't" on the real estate tax. It was felt that the pressure of paying real estate taxes on wet lands tended to advance or accelerate their conversion to commercial purposes. That farmers who were paying taxes on their wet land tended to find a reason to fill it in sooner, or plant corn and so on with obvious tegrations to the environmental quality that farmers were on the immediately edge of suburban growth were taxed as though their land was subdivision land rather than farm land. Pretty soon the farm was incapable of paying the real estate taxes based on agricultural production because highest and best use was now considered to be suburb. And the result was, of course, was that you accelerated the farmer's move away from the peripheral edge of the community causing the farm to go out of production sooner than necessary and perhaps leading to overproduction of lots and suburban land with obvious financial damage to that aspect of the business as well. Therefore, the voters stated that, in effect, for two types of land - wet lands and for farm lands immediately adjacent to suburban developments - that it would be possible to tax it on "use value" as currently used rather than on market if it were in fact accommodated to the development.

In California a similar act is called the Williamson Act. The Williamson Act says that if you're willing to place your farm under the jurisdiction of the Williamson Act, that you will be taxed simply on its agricultural production and not on its subdivision potential. But you have to leave it in there for at least ten years and if you take it out of the jurisdiction of the Williamson Act, you have to refund to government all of the taxes you would have paid based on market value for the previous ten years plus interest - and that interest is typically a nominal 6 or 7 percent. So there's a penalty, as it were, if you roll back the regulation and decide to sell to those developments. There's also a roll back in the Wisconsin law which is modeled to some degree on the California law. But, nevertheless, the interest penalties and the roll back is relatively nominal so that there's always the temptation for the farmer to come out from under the special tax category and sell it to that developer who's ready to build a shopping center or whatever. I don't think the voters were thinking very clearly about, you know, the long term policy implications of that - it was passed at the time in which environmental quality at all costs was being considered. And, in fact, the tax revenues lost by the township which had a large amount of wet land or farm land under this act is refunded by the state, from state income tax proceeds. Well, we have to ask ourselves if we abandon the benchmark of market value for some,

then there's a political temptation to abandon it for everybody. Should we exempt the elderly who are living in their homes for their retirement from real estate tax? What about that - the veteran coming back, shouldn't we exempt him? What about houses that take care of college students, after all 15% or more of the gross rent that you pay in Madison is real estate tax and we want you to go to school here - to help you to do that by saying that 1,000 college students that it doesn't have to pay real estate tax. Certainly all of these people are deserving and certainly all of them represent significant voting block that would appeal to political demagogues who maybe get your vote by advocating some special benefit and dip in the honey pot for that particular constituency. And, as a result, we're beginning to erode what was thought of initially by our forefathers as a critical element that all landowners be taxed against the same standard - namely, the market value of the asset - that particular point at which the tax was to be applied. Whether they'll continue to encroach on that with special exemptions remains to be seen. There are backhanded ways of doing it. For example, in Madison it would be possible if you were a relatively low income elderly person living in your home to stop paying your real estate taxes and they would accumulate those with interest as a lien on the sale on the property, so that ultimately when your home was sold at the closing to the next buyer, the taxes in arrears would all be

paid but you would not be considered in default in the mean time.

Certainly solves perhaps the cash flow problem for the elderly individual, but, in effect, it's a very quiet way of causing him to consume the equity in his home and account on _____ really without being aware that they're doing so.

Obviously, a community that is concerned with its fiscal problems of maximizing the revenue in its numerator and perhaps making sure that it also expands the economic assessed value on which that would be collected, is going to have very distinct land use policies as a strategy to advance its revenues at a rate faster than the service obligations which it entails at the same time. So for example, mobile home parks that we mentioned earlier represent a very high service cost to the community with a relatively low tax base. After all the only real estate are the pads and laundry buildings and community buildings which serve the mobile home. The mobile home itself is assessed as personal property with a fairly rapid write-off - I believe it's a 15 year write-down to a scrap value on a mobile home. So it's a set value base declines very quickly and the older and shabbier it looks, the sooner it falls off the tax roles. In fact in Florida, for example, the mobile home isn't taxed at all as real estate as long as the trailer hitch is still attached. So if you ever go see a trailer park in Florida they have very elaborate installations - I mean these things are big homes - but somewhere

peeking out underneath the rose bushes is the trailer hitch. And the fact that there's no wheels any more and it's on concrete footings and so forth, but there's still a trailer hitch and the law identifies that as a mobile home and therefore not subject to real estate tax. And so, in any event, obviously, the community would like to discourage perhaps mobile home parks, and the fact is that Madison does a very effective job of that. We have a very detailed statement of how mobile home parks are to be designed and where these kinds of things to be located at, near to and so forth. But I will defy you to find any spot in Madison that would meet those criteria. And so, as a result, we have not had any new mobile home parks in Madison for a very long time. Technically you can do this but practically you can't find any spot that would qualify. Large lot zoning, on the other hand, is one way in which you can encourage only expensive homes to be built with high tax bases and essentially expensive homes tend to have fewer children and older children and lower service needs and generally don't represent a welfare person on the community.

They would tend to encourage suburbs or subdivisions which track the upper income yuppie and tends to encourage the lower income first time home owner who still has 3 or 4 kids to put through school, etc. and may in fact lose a job and need some service costs and so on in the peripheral community and keep the high taxpayer for homes.

During the days of urban renewal and even today there's a tendency to replace low income housing with luxury housing. You consider Chicago, for example, much of its urban renewal area cleared away the low income, low density types of housing that served a large part of its population and replaced it with high value apartment buildings to attract the middle class back to town because it provided a bigger tax base with a lower service cost and therefore more net revenue to the community.

Cities, obviously, waged war in order to achieve better fiscal balance. The way they can achieve that is to, of course, encourage the kind of investment which creates an increase in the ratable tax base with very little increase in the service charges to the city. To build a convention center, to build a new office building downtown, to build shopping centers creates, obviously, a high ratable tax base but doesn't necessarily mean that you're adding that many more citizens that have social problems or kids that go to school or the other types of expensive services that would be required of the community. And so their growth strategies tend to be what we would call fiscal zoning - attract those kinds of property which increased the ratable tax base faster than the service obligation of the community so that there is surplus revenue available to help finance their existing obligations and hold down presumably the growth and the mill rate for the voting citizens.

Public land use decisions must also be always made to concern, what the impact of a dollar of public expenditure will be relative to the tax base. Madison for years has had that kind of war going on. For example, at the time that the City was considering creating a performing arts center, at one point there was a very elaborate plan for a Frank Lloyd Wright designed facility down at Law Park on the lake shore. All of the area around it was already owned by public facilities such as the state office building, the city Madison Park and so on. There would be no immediate impact on tax base at all. One of the more interesting aspects of putting the city's performing art center in the old Capital Theater on State Street was the fact that by creating that kind of activity downtown, creating that kind of pedestrian activity, it generated a whole series of restorations in terms of restaurants and shops and so forth in that middle sector of State Street which didn't get direct benefit of the student area down closer to the Lake Street intersection and so on. And the result was, therefore, that for every dollar of public expenditure that went into the Capital Theater project, you've probably got at least one dollar of additional tax assessment base around it with which to help fund the deficit operations of the Center. In other words, you want to use your public money to stimulate additional private tax base. Use it as seed money, as it were. The location of Truax - the location of

MATC - at Truax in the middle of relatively low density value land or public land, in that case. There was really nothing to help the tax base of Madison if it hadn't been located along the eastern Washington Avenue site that was proposed downtown. It would have been supported obviously in the rental units in the downtown area and supportive of the shopping is downtown, the convenience foods and all the other types of services that are required by students and you would not have had the rate of decline in downtown Ismus real estate values that were reported, for example, by comptroller Riley about a week ago to one of the Mayor's committees. So you have to really begin to look at public knowledge in terms of their ability to generate equal amounts of private investment and, as a result, ratable tax base.

Government support of new towns can occur, obviously, from time to time, when the government chooses to add government installations to the site and so forth. Some time ago, as a result of the Great Bong Bob _____ was seen in Kenosha County, a blue ribbon committee of economists and land planners and so forth, determined that the Bong Air Force Base should be converted to a new town that would take advantage of this huge two mile long runway to become a tech center really to the aeronautics industry and the light aircraft industry. And perhaps, also to attract other firms to plant sites where those

firms were dependent on air transportation or the ability to move executives from one plant to another around the country and so forth. And just as they were starting to bid for and attract a developer of the new town, Racine and Kenosha suddenly woke up and they said, "Wait a minute, if we had a new town on our borders that has only the best of the industry and can leave all of the welfare problems and the old obsolete infrastructure and the old plants behind, who's going to move there? The folks in Racine and Kenosha are going to move there and leave us with a major problem." And so at that time we had Senator Mulenaro (?) from the Racine, Kenosha district who was, perhaps, one of the most powerful state senators we ever had - chairman of the finance committee - and he with a single stroke abolished the Bong Air Force Committee who had the title and the power to market this project as a new town. And he got the D & R to come in and announce that this was very precious natural cover for quail and pheasant for folks that like to go tramp in the woods and so forth and abolished the whole new town concept. But the obvious thing that was happening was that government was going to subsidize stripping away the best taxpayers out of the adjacent community and, in a sense, make the tax problems of Racine and Kenosha much worse than they were.

Another aspect, of course, is what can we spend public money on to stimulate tax base. And we run into a certain amount of

demagoguery from time to time. For example, let's assume that one of our problems in downtown Madison is that we don't have enough yuppies living downtown in a high income apartment building to support a better class of grocery store and support better convenient shopping and so on. And then if we could have more residents living permanently in the downtown sector we would have a better balanced retail base and service base in that area.

Well, what does it take to get folks back downtown? Well obviously we're going to have to be able to provide apartment house sites at a reasonable cost to developers that's competitive with that raw corn field out on the edge of town. And one way to do that would be for the government to acquire or the city to acquire, let's say, a square block of land along the lake - a number of lake lots. And let's assume for that moment each of those by the time you've torn down whatever was there and cleared the site and so forth, it might cost \$3,000 per room for an apartment or \$3,000 for say a one-bedroom apartment. These old numbers here at \$3,000 are about half of what they are currently.

You'd have to pay about \$6,000 a unit for land and you'd pay about \$44,000 to build a one bedroom apartment. For a total cost of \$50,000 for a one-bedroom. \$50,000 apartment will produce in terms of real estate taxes about 2.8% per year which is slightly less than \$1500. Fifteen hundred dollars revenue to the City of Madison for only four years. We'll give them their \$6,000 back,

you call it 5 years and you pay the interest on the money as well. Not a bad investment if you've attracted a new household back downtown with their retail spending power and with their obviously proprietary interest in shopping and enjoying and making use of downtown resources. But can you imagine what our city council would say if you were giving the developer a check for \$6,000 for each apartment unit that he built downtown for folks that had income of, let's say, more than \$40,000 a year. Such human cry you would never hear. Why are we subsidizing the rich etc. Well, for one reason, we need the rich to support all our other stuff and if we can trick 'em into moving downtown here and rely on their general inertia of not wanting to move again for awhile, why then we'll have created a customer for all of the other amenities and so forth that we would like downtown. But we got a little political viewpoint about who needs help and how do we provide that help and so forth in the way. And as a result, we can't do that. We can't bribe the developers of upper class apartment projects. Instead, we can bribe only those who want to develop homes, let's say, halfway homes for the mental ill or those just coming out of prison and so forth. And everybody says fine, "I'll live in the suburbs and you put them downtown." And then, as a result, nobody else wants to move downtown. And, nevertheless, our value systems are such that socially we feel that we can subsidize those who are down and out without

necessarily subsidizing those who have choices and those who can afford their choices up to a certain point. So we don't look at it as a land use issue at all, we look at it as a social equity issue and the result is that, in fact, we get an unfortunate social consequence.

To recognize the fact that the community has a long term interest in the tax base, we have developed one type of financing called tax incremental financing - TIF. It's really a two stage process. We first identify an area of one or more square blocks that is termed to be blighted. It's in decline, it's in decay for one reason or another. And we make that a redevelopment district. A redevelopment district is then generally in the jurisdiction, at least in Madison, of what we call our community development agency, which really houses all of our progressive activist kind of functions for urban renewal. They can condemn certain parcels to reassemble into larger parcels, they can help finance and subsidize developers that would like to come into the development project. They can bring to bear most of the city resources as part of that development area. Within that redevelopment area they can also create this tax increment finance district. T.I.D. is the district, a TIF is tax income financing the project. The first thing they would do in that district is determine the current assessed value as of a given date. Each of the individual properties obviously has an

assessed value they would add those all up and that's the base. To the degree that they can stimulate new development that will increase the base, over and above the base, the tax revenues that will be generated from that increment will be the burden to a special trust fund. So let's say the value of the block as it stands, is \$500,000. But if they are allowed to build a new office building, whatever, it will now be \$2.5 million. The 2 million dollar increment means that there will be what? - a mill rate of 2.8 per thousand - \$56,000 a year additional real estate tax revenue. That \$56,000 instead of being distributed among all of the folks who have an interest - the school board, the county, the city etc. - will all go in a trust fund and be available to amortize a bond issue and that bond issue proceeds can then be used to subsidize the project that's going to create that increment. A million dollars of assessed value will create approximately \$150,000 of bond value. So if we have a 2 million dollar increment, we have \$300,000 bond value, we can use that \$300,000 to assist that project any way that CDA chooses to do so.

Now, originally, the presumption was that those funds would be used only for public improvement. We'd improve the roads or the sewer or we'd extend a new water system to the area or whatever was needed - maybe do street lights or whatever. Then it was decided that we could also help subsidize it by what are

called land write-downs. Let's assume the developer says, "Gee, I'd really like to build that project but I can't afford to pay more than \$300,000 for this particular piece of ground and the seller wants \$600,000. The project won't work from a numbers standpoint if I pay \$600,000." The community will say, "All right, tell what you're going to do. We'll take the property by eminent domain, pay them \$600,000, sell it to you for \$300,000 and we'll recover our loss out of that \$300,000 TIF bond." Called a land write-down - provides an incentive for a particularly preferred type of development on that block.

A third use for those kinds of funds might be simply to provide additional financing for the developer. The developer says, "Gee I need a million dollars worth of financing and they want to charge me, say 12% interest and I can't pay 12% interest. I can only pay 10% interest." So the community says, "OK, tell you what we're going to do. We'll loan you \$300,000 at 1% they can loan you the other \$700,000 at 12% and the average rate of interest will be exactly what you can afford." So they provide assistance in terms of financing. So there's a large number of combinations and ways in which the city now can be involved in the financing or assistance to the project. Called tax

incremental financing and it's about the only way in which the community can, on its local resources, subsidize preferred

development in an area that needs, or has been determined to need redevelopment.

Other states have become even more sophisticated than that. Minnesota, for example, doesn't even have to sell the bonds. They can simply put the money in the trust fund and then the trustee helps pay the mortgage. So, let's say that you build an apartment building and the FHA says well, gee, the income isn't quite enough to cover the loan. You need to build a project. They'll say, "OK out of \$56,000 the trust fund will pay \$30,000 a year for the first 15 years to amortize the mortgage." By that time, inflation will have moved the rents along to a point where the project can carry itself. So there's lots of different ways in which to use a TIF, but what it really represents is the ability to divert tax roll from a project, is the time of equitable ownership. And the TIF goes as far as we have gone yet to recognize that communities have an equity interest in a property to the degree that it can divert tax flow to get benefits. One way of diverting that cash flow is by, in effect, rediverting the real estate tax to the properties, per se.

The second way is called exaction and that's simply a fee charged to the developer in exchange for his building permit. And that money is then used. For example, in Boston and San Francisco, you want to build an office building, for every 10,000 square feet of office building that you're permitted to build,

you've got to provide an apartment downtown. So that you create places for the workers to live downtown at the same time you create more places for workers to work. And that's called an exaction or fee - again, diversion of your value created by the community's cooperation in issuing the permit to advance or subsidize, as it were, another land use objective of the community.

OK we'll quit. See you on Monday.

First of all a number of social announcements - the exam will go forward on Wednesday as scheduled and I believe there will be a second class room for the exam on Wednesday? It will be posted on the board in front of our room and so forth.

Question: Wednesday of next week? Chief: Yes, it's Wednesday the 1st - April Fool's Day, right? Yes. That's certain.

Madness there somewhat!

Also, the Real Estate Club will meet this Thursday evening at the Union and our guest is Brad Venkowski, one of our alums, who represents Urban Land Interests. And they have, you've probably seen in the paper, they're doing a number of things around town including the Penney's building restructure - just got an option on the Emporium. He'll be talking about targets of opportunity for the small town developers. And his little firm has done very well, Tom _____, his partner and he are both out of our master's program and have tended to work the

small towns like Madison and Warsaw and Waukeesha and other major metropolitan centers of that sort and so he knows whereof he speaks and will be talking about targets of opportunity for the young developer in a small town. And that will be on Thursday. And we'll also have an announcement at that time of a one day field trip to Milwaukee for those who are not luxuriating this by going to Washington DC with the Real Estate Club. That'll be this Thursday at the Union. The room is always posted on the events of the day because they never tell us until morning of the day where they're going to be and it'll be at 7 o'clock, this Thursday.

I'd like to pick up and complete our discussion on the mortgage briefly and then go on into the interest and structure of mortgage lending. And at the very bottom of page 2 of your one-page hand out from the previous thing was looking at the mortgage as a risk management instrument.

Risk, as you've probably heard us say before is really the variance between your assumptions and your realizations. The difference between your pro forma and your actual historical accounting feat. And the mortgage is a magnificent document in terms of society's ability to allocate risk in the future of long term income, and to my modify that instrument to adjust to newly perceived risks. The original premise of a mortgage was that whatever the amount of the debt, it was adequately secured by the

property it was pledged. And so primary concern was on the collateral value. What was the asset worth, if we lent a conservative loan, the value ratio of that, say 50%, that they did in the '20's. The premise was even there was a great deal of price fluctuation in the real estate it was never so bad that you couldn't sell the property for the principal who the interest had accumulated and any charges involved in the process of collection. And, therefore, the primary emphasis was always on collateral. Obviously, the collateral itself has a certain number of assumptions. One, of course, was is the title marketable? And is the property located where it's supposed to be? And has it burned down or blown away before we get a hand on it and so on. And so really the whole closing process of a mortgage became obsessed with weighing off the risk on institutions that were specifically designed to handle a part of the possibility of variance. So you went to the closing and the first thing that was presented was a title insurance policy that said that if the Indians can reclaim most of the eastern state of Maine, we'll give you your money back, etc. If there's any title flaw as you discussed when you're looking at chain of title, why the title insurance company will indemnify the lender for any loss that was a result of his not being able to acquire marketable title when the time came. And then the surveyor went out and he was bonded and he said that the property was properly

situated, the building was set back according to the law and nobody could make you move it and it hadn't flopped over onto the lot next door etc. as is often has occurred. And, therefore, if he's wrong, his bonding company will indemnify the lender for having relied on that surveyor. And then the property insurance guy comes along and says that if the property burns down, blows away or blows up again we will make the mortgage lender a specific named insured under the policy. And, indeed, they developed a unique endorsement to the fire insurance policy called the mortgagee clause that says no matter what the insured does, you as a home owner to destroy it or even burn it down himself, the lender is, nevertheless, covered. So if you open up a fireworks plant in the basement and blow the house sky high, the mortgage lender would be paid even if the owner of the home was not indemnified under his policy under the circumstances and, indeed, might be sued by the insurance company for having to pay off the mortgage lender. But the mortgage lender had an iron-clad, nonbreakable insurance policy so long as he was willing to pay the premium that the owner of the building didn't. And then finally, of course, the ultimate development was something called mortgage guarantee insurance which, in effect developed here in Wisconsin at the MGIC in Milwaukee, which said that if you don't pay as a borrower, the lender will be indemnified by the mortgage guarantee company for the amount of principal, interest and

collection charges that were due. And the mortgage guarantee company would then take the risk of being able to sell the property for the amount of money due or for, at least, recovering the large part of it. And the variance is on the collateral from that viewpoint.

As we mentioned in the previous lecture, FHA, Federal Housing Administration, and the federal government began to turn that emphasis around until we're really actually concerned with the asset. Why don't we lend people 90 or 95% of the asset value and put the primary emphasis on their income - their ability to meet a monthly payment over long periods of time - 20-25-30 even 40 years. And, at that point, the underwriter becomes concerned with your job skills and your job history. What kind of talents do you have that make you employable or not so employable - what's your family situation - if you're unskilled with 14 kids, you're not a real good risk, you know, for a mortgage, sort of thing. And, indeed, they began to modify the rules. How much of a life income should we include in the family income. And, how much of your commission sales should we include when you have fairly erratic income. And gradually the regulations began to evolve which became much more generous and recognizes all sorts of family incomes and all types of variation in that income because of commissions and bonuses and one thing and another that might cause it to vary. By the same token, they began to may

realize that there were reasons for upset on that as illness or accident, perhaps unemployment and, as a result, what kind of insurance programs do we develop for borrowers that would inflate the income? And so now we have decreasing term life insurance which pays off the mortgage if the wage earner dies. We have illness or accident it makes the mortgage payments while the borrower is incapacitated. And we even have unemployment insurance privately available for certain types of skills and so forth as well. And now the lender is beginning to look into the economic base. What kind of community do you have in terms of assessed IT types of employment and how volatile or erratic is that and vulnerable to economic upset and so on. And we're becoming much more concerned with looking at the stability of income flows to the borrower much less in terms of collateral values because it doesn't matter what the collateral's value was when you bought it. The problem is what happens if your company goes out of business and there's no jobs for anybody in town and now what do you do? And, as a result, they're becoming much more skilled in that.

But they realized that many of the biggest losses taken by mortgage lenders in this country since World War II have nothing to do with either the property or the borrow but, in fact, reflected the volatility of 1) the interest rate and 2) the declining purchasing power of the dollar. That if you lent money

on the 25 year basis, a dollar of principal that you got back in the 25th year didn't have anywhere near the purchasing power that you had at the time when you made the loan - and that you had actually lost ground in terms of growth of purchasing power. And to attack both of those problems, we're beginning to create very imaginative contracts which 1) allow variable interest rate contracts rather than fixed interest contracts. Contracts in which the interest rate is indexed to the cost of funds at the Savings and Loan, and provide a spread and are adjusted every six months or a year so that suddenly the Savings and Loan isn't locked into a contract at 6% interest when the market is 12% which has the same impact on the mortgage value as the result would be on a bond which had a fixed coupon rate that was half the current market rate and, of course, most of the bond would have evaporated in terms of its resale or market value. So we're beginning to look at ways of controlling the interest rate risk.

One way is to have relatively short term loans again. We have a lot of loans that are amortized in monthly payments as though they were a 25 year loan but they matured 7, 8 or 9 years - or you have a multiple tier market. I was getting close the other day, for example, on refunding a shopping center in which if I wanted to go for five years, I could get 8 1/4%, if I wanted to go seven years it was 8 1/2%, if I wanted to go nine years - 8 3/4%, if I wanted to go 15 years it was 9 1/4%. But for the same

dollar on the same shopping center, depending on how short a term I wanted, reflecting obviously the lender's expectation that interest rates were going to sail after we got out beyond six or seventh year from where we are presently. And so, as a result, lenders are beginning to become much more sophisticated in their layoff of the interest risk in a transaction and pushing it back on the borrower. Tremendous amounts of wealth were created for the average home owner during the 60's and 70's when they were able to borrow in the early 60's at say 7.5% and then inflation came along at a rate almost equivalent to that so the real rate of interest they were paying was maybe 1.5%. The saver who stayed at the savings and loan and continued to get his little 5% dividend really got ripped off in terms of negative purchasing power and a negative real deal. And the value of all of that shifted to the borrower. And so the premise that you could make a tremendous amount of money owning a home with a lot of debt on it was true in the 60's and 70's. But as that lender began to perceive what had happened and lender's aren't very bright. They don't seem to perceive that very quickly you know. And they get pounded with that for about 20 years and finally the little light went on and they said, "Hey, we really need a variable rate mortgage for a long-term commitment." And for a little while they did that? And now they're right back to making the same mistakes they did before in order to compete for loan deals -

they're making it 8.5%, 8.75% 20-year deals on single family homes and they get killed again. Because, obviously, the interest rates aren't going to stay that low. But bankers by and large aren't the brightest folks in the world. If they were, then obviously they would be on the equity side. And so, nevertheless, the ability to begin to handle interest rates has improved. And now what you can do is speculate on interest rates by using the commodity market. Commodity market now uses Fannie Mae and Ginnie Mae certificates as a way of hedging interest rates over anywhere from 1 to 2 years term. So let's say I was a home builder and I wanted to start a subdivision presently and I would be delivering houses starting six months or nine months or a year from now and I want to be sure that my buyer doesn't have to pay more than 9% interest rate on a home because then he has affected demand to pay the price for my particular product. I can hedge the availability of home loans at 9% a year from now and build that cost of that hedge right into the product of my house. So that as a result I can guarantee my buyer that if he meets the credit department, and so forth, he will enjoy a 9% loan no matter what it is in market rate a year from now or 18 months from now and so on. So we're getting very, very clever and beginning to hedge the volatility of the interest rates that are available to the mortgage borrower so that we can continue to make longer term plans as developers and builders and long term

investors. We still can't do a real good job of looking down 5-10 years from now and hedging that. But they're even instruments now for at least reducing the damage of a rapid runup in the variable interest rate contract that you may be using to financing your project. And some of these deals get truly sophisticated. There's a swap across international lines, they have Euro-dollars or Japanese dollars and so forth. For example, the hot deal right at the moment with General Electric Credit Corporation is to finance your \$20 million office building or \$50 million office building by getting the Japanese to put up the larger part of the money at 6% constant since the Japanese cost of funds is about 4 - a 2% spread as far as they're concerned is wonderful and they don't plan taking the money home so they don't look at the yen risk at the moment and so they'll come in and say, "Well, Gee, out of that \$50 million office building we'd be happy to have say, \$30 million or \$25 million." So GE says, "All right, we'll make a first mortgage for \$45 million and you take two-thirds of it or \$30 million and we'll put up the other \$15 million and subordinate our claim to yours." So as far as the Japanese are concerned it's just like more equity in front of their loan. So they have a \$30 million loan on a \$50 million building and GE has the balance with, say, another \$15 million but they put theirs on a variable rate and cover it with commercial paper. In other words, they'll buy all their money in

the commercial paper market. They get a huge spread right at the moment on it. But even if it sails on them they have an adjustable rate. So, in effect, the borrower has some protection against the interest rate ailing on them, because the Japanese are willing to go 6%, let's say, for 10 or 12 years on their part. GE has a variable rate on the second mortgage but the blended rate is still significantly less than the American market for a \$45 million loan. So what they're doing, in essence, is operating internationally to find the capital with which to finance major commercial buildings. In fact, even the new First Boston Bank is, in effect, collateralized with Euro-dollars that they had on the reserves over in Europe which in turn is banking a loan of Japanese yen, which has then been converted to a bond in this country and that's how they're financing the bank. So they went to Europe, back to Japan and then into the New York money markets in order to finance the bank building at a constant at which they can afford. And all of this built around perceptions of the interest rate and the volatility of the interest rate in different parts of the world.

Ultimate purchasing power of capital has lead to a whole series of hybrid type loans. SAMS are called share appreciation mortgages. And for a while out in California, particularly during the period of inflation, home prices were rising as much as 1% a month and yet the average guy couldn't afford, let's say,

an interest rate of more than 12% or 13% on his home. So the lender says, "All right, I'll tell you what I'm going to do, I'll make you a loan at 12% and then every five years we're going to make up the difference and you have to pay me 50% of the appreciated value in your home." So if you bought a home for \$100,000 and it went up to \$150,000 in five years, you would have an appraised value at the end of the five years. They would say, "All right, it went up \$50,000, you owe me \$25,000". Now if you had let's say a \$90,000 mortgage on a \$100,000 house, at that point you would have to refinance with the same company. They would add the \$25,000 to the \$90,000. You would now own \$115,000 against a \$150,000 property. But in the mean time, his monthly payment was something that he and his family could afford. And he has to share the appreciation. We're valuing two things, 1) it recognizes the changing value of the principal dollars that have been advanced because of inflation eroding the purchasing power, and 2) it provides additional compensation over and above the contract interest rate for the lender in order to compensate him for the fact that there was an opportunity cost of locking himself in at 12% for 5 years when, in fact, interest rates probably sailed higher for them as a result of inflation. So the real rate of return to the lender is higher for both of those reasons.

On the commercial side, we generally don't call them share appreciation mortgages, we call them participating mortgages. Participation mortgages mean that the lender not only gets an interest and principal payment which will amortize the loan over, let's say, 25 year's time. But in addition, gets anywhere from 10% to 50% of the cash throw off from the deal. In other words, the cash available after the mortgage payment. And, in addition, gets anywhere from 25% to 50% of the funds over and above original cost realized on sale or as a result of refinancing the project at some point in the future. So, in effect, the mortgage lender has become a creditor on the down side when all the benefits of the mortgage foreclosure laws for collection of his principal if things don't go well, but he's also a partner on the up side. And, as a result, can offer something less than the nominal market rate of interest because he feels that his real rate of return will be greater as a result of his participation.

Both finally have evolved into what are called convertibles. A convertible starts out to be a mortgage and ends up as being the owner. For example, let's assume that I'm a shopping center developer in Seattle and I'm going to build a \$10 million shopping center and it's going to cost me about, let's say, \$8.5 million real dollars to build and about a \$1.5 million increased value in the center. And I was going to borrow \$8.5 million to finance the project. So, in effect, I was going to mortgage out.

Somewhere during the development process - something went wrong. Either it took me longer to build it than I thought or there was cost overruns or whatever and now I owe ten and a half million bucks and I can only borrow \$8.5 million from my friendly traditional mortgage lender and I got a big problem - 1) it's embarrassing and 2) it's called bankruptcy. And I've put a lot of work into it, it's basically a good center it's just my timing was wrong. I really didn't expect it to take quite as long as it did and the interest rate got away from me or I had an indexed construction loan and the interest rate soared on me while I was under construction and so the whole thing's cost me more than I expected. So I go to my friendly General Electric Credit Corporation and I say, "Tell you what I'm going to do? You lend me \$11 million and I'll give you all of the net income from the project for the first five years." And let's assume for the moment that the project is 90% rented at the time I build it. And then I'm going to renew the leases and at the end of the tenth year, you have the right to either take over the ownership of the center to some proportion or call the loan and make me repay it. Now, we will calculate how much you own of the center by determining that your overall annual yield should be, let's say, 15%. But the net income is only going to provide you about 10%. So the questions is really going to be; How much equity do I have to give you in the 10th year to make up for the count down

and loss of 5% a year on your money while we wait for it to appreciate? And you can work out a formula that will determine what the future value share of the center has to be, to return the 5% interest annually that I can't pay now. So far so good? That's called a convertible.

Now, why would anybody want to do that. Well, 1) the developer gets to keep his center and true, now he now owes \$11 million on a \$10 million center, but he picks up first of all because he borrows more than it costs him - maybe a \$500,000 development fee. So he's got money in his pocket for having to gone to all the work of building the center in the first place, 2) he continues to operate the center and that's worth 5-6% management fee, 3) he gets to release the center as the leases come due at the end of the 3rd year and the 5th year and so forth and to the degree that he can lease it aggressively and raise the income, he will raise the value. So that the value may be considerably greater than the \$11 million he started with at the end of the 10th year after he's gone through 2 or 3 cycles of renegotiation on the leases. So he's getting the leasing commissions in the meantime. And to the degree that the income eventually committed represented 90% occupancy, if he can get the other 10% occupied then that also falls through to his benefit as well. So there's a whole series of profit centers there that he's perfectly willing to keep and gamble that he can maintain a

significant percentage of interest at the end of the 10th year. But notice how we're beginning to divide up the profit centers in the real estate. The operating profit centers are still going to the developer because that's his game. The lender doesn't want anything to do with leasing and management and all of the other elements that are inherent in day-to-day operations. On the other hand, he is interested in the long term appreciation of the asset if, for any reason, inflation causes it to go up or the center is well positioned to take advantage of gradual growth in the neighborhood of additional households and a stronger retail market and so forth. They can participate in that. The long term gains will be shared by the developer and by the lender. And the developer can help himself a great deal by creating value through skilled management. The more he can appreciate the property, the less he has to give away percentage-wise at the end of the 10th year as part of the conversion process. So notice we're getting very, very sophisticated in the way in which we begin to divide up what we would call the ownership position versus the debtor's position. In fact, in most deals today you really can't figure out whether there's a clear creditor here, or debtor or whether they're partners and joint venture partners each taking their percentage in a different way. And remember it's very important for the developer to retain title so that he get's the tax benefits of the real estate. A pension fund, for

example, has no interest in the tax benefits at all. So it's important that they have to structure their deals in such a way - that they appear to be creditors and the other guy appears to be the owner so that the fellow who appears to the owner gets the benefit of the tax losses. And he's willing to give away, obviously, a certain percentage of points to do that. Under the previous tax laws - it was worth about 200 basis points to be the owner rather than the borrower if you wanted to take advantage of the tax perks. Under the new law it's not so at it. OK.

At any rate, the mortgage instrument is rapidly evolving to recognize the shifting perception of risk. Once it had to do with property value, then it had to do with the income power of the borrower, then it had to do with the volatility of the interest rate. More recently, it's had to do with the declining purchasing power of the dollars advanced by the lender. And, obviously, there may be other risks as well. If you're working in California you have seismic risks and you may want to lay off one of your loan portfolio and trade it for properties in Wisconsin where they're less likely to get shaken down and fall into the Pacific. And, there may be other forms of technological risks and sociological risk as well. There's a whole problem in terms of long-term lenders beginning to look at old cities like New York City and you're saying, "Gee, can they really finance the rebuilding of their infrastructure?" or are they eventually

exhausting their subways and their sewers and their water systems to a point where they can't afford to rebuild them - in which case obviously it's not going to be very pleasant to be there or it's going to be very expensive to be there as they assess all of the building owners. And can they pay for their social problems?

Do we want real estate in which the only access is through Harlem where there's going to be a million people who are pretty sore about things and may take to pouring boiling oil through the grates over the subway and so forth. And those kinds of things represent some really long term mortgage threats and what do you do about those kinds of risks to the property, and so forth. So, at any rate, the mortgage instrument itself is beginning to become a very sophisticated risk management agreement in which a variety of risks are laid off and subdivided among the various parties to the agreement for a fee.

Now let's shift over and take a look at today's handout and I see that they have been folding it backwards so that the top page should be the last page. So we'll start on page 2.

In the last 25 years there's been virtually a revolution in the institutional formats by which mortgage money is accumulated and pooled and then made available to those who want to borrow to buy real estate. Each of these institutions and the newer institutions that are coming on-line have five basic characteristics however, on which they can be compared. And they

differ among themselves on those five elements and I think it useful for you to have some sense of the subsystems which go together to make up a particular kind of lending institution. The first is what we'll call a marketing system to acquire savings. How do you acquire savings? For example, the savings and loan associations as long as Regulation Q was in force were always given a slight edge in the permissible dividends that they could pay savers relative to banks and mutual savings banks. And, as a result, they were relatively passive in terms of how they get people to come in. They were tied ethnically to a neighborhood or they were tied in one form or another to, oh, savings plans, you know, the Christmas savings plan - IRAs and various other kinds of payroll checkoff type of plans or simply establishing the savings habit by getting the little kids to take their nickels and dimes in when they were smaller and getting a pat on the head from pop and they gradually getting in the habit of accumulating down at the savings and loan without a great sense on whether they were getting an appropriate rate of return on their money - it's almost a social institutions as compared to banks, for example, who are more aggressive about pursuing certain kinds of accounts than others or compared to credit unions which have a whole different type of volunteer camaraderie about that creates a banking service for a specific group of employees and so forth.

Next is a marketing system to compete for loans. Now, savings and loans, by and large, were required by law to lend on single family homes. They talked to the local home builders, tie themselves to the local realtors and generate a large portion of their loans simply from the normal operation of the realtors and builders in the community. On the other hand, if I'm a life insurance company situated in Boston I generally have a network of what are called correspondents and these are mortgage bankers who generate a loan and then try to sell it to me on the basis that it meets my portfolio requirements and so forth. A third type may have their own agents out pounding the streets such as General Electric Credit Corporation which isn't a bank at all, but really is a subsidiary of General Electric, using General Electric's commercial paper borrowing capacity to finance real estate lending operations very successfully. Last year they financed five billion dollars in real estate and made \$500 million in net profit and was the third most profitable division of General Electric Corporation. So there's a whole variety of different kinds of institutions. Notice, they don't compete for savings at all. They don't want anything to do with savings. They're simply using the credit power of GE's corporate surplus to operate on a very favorable rates in the commercial paper market and then structure their deals to spread between the cost of funds in the commercial paper market and whatever they can

lend for on a specialty basis. And they're competing for loans by doing very special customized hand crafted deals rather than a cookie cutter deal like the savings and loans.

The third element is what we call transaction preference systems. There are some lenders that will not lend on hotels and others that will specialize in hotels. And some will say I want to loan only from half million to \$2 million and they've got to be in 3rd or 4th tier cities such as, say, Rural Mutual or American Family and, on the other hand, you may have Northwestern Mutual that says don't bother to call unless you're at least \$10 million dollars and a building of less than 5 years in age, etc. etc. etc. So each type of lender competes, finds a niche based on a specification based on what it is they will lend on relative to their portfolio objective.

The fourth element is liquidity systems. Since all of them have to obtain their capital from somewhere, the question really is how long do they get to hold the capital? A life insurance company is really using the capital to fund long term life insurance commitments - between the time you pay in the premium and the time you collect on your policy may be 40 years. And, as a result, they can generally take long term positions in very big types of property and not be too concerned about the liquidity. Now they found even to their own regret that the life insurance companies have liquidity problems when they offer life insurance

loans at 5% interest, a lot of people go back to the well, take out their savings and do something else with it so that even life insurance companies may have liquidity problems from time to time - but certainly not anywhere near that of say a savings and loan association where each depositor believes he has a demand account and can get money out any time he wants - even though they're committed to 25 year mortgages. So they have to have some way to dispose of that. One of the reasons for the crisis of crash in the 30's was there was no way for the banks and the savings and loans to, in fact, get out from under the mortgage commitments they had made, return to cash, and therefore be able to pay out cash to the depositors as they wanted. So one of the major things that has changed is what we call a secondary mortgage market. Most lenders today don't retain the mortgages they make, they sell them into the secondary mortgage market which means that, in essence, people invest in mortgages who have nothing to do with the making of them or the servicing of them. They simply hold it as a passive investor generally in large pools. And they can buy different ways of doing that - they can buy bonds which are collateralized by mortgages, they can buy into collateral trusts which are really a participation certificate in a pool of mortgages - they can buy Ginnie Mae certificates and so forth and so on. But, in any event, the liquidity system has become a key innovation in our institutions.

And finally the safety system. Obviously, within a savings and loan or a bank you have the Federal Savings and Loan Deposit Insurance Corporation willing to give you as a depositor up to \$100,000 of your money back if the institution should fail. Now this is one of the interesting weakest links currently in the system. The Federal Savings and Loan Deposit Insurance Corporation currently has about \$2.5 billion dollars in reserve but unfortunately the savings and loans have been able to lose about \$25 billion between them as a result of making poor mortgage loans and Congress is expected to have to step up and fund that. Since they don't want to do that and haven't done it as yet, the savings and loan deposit insurance corporation really isn't a very good piece of security and there's about 400 savings and loans in the country that are already busted that are being kept alive by creative accounting. My good friend, Tony Downs said there's GAAP accounting generally accepted accounting principles there's RAP accounting for regulatory accounting principles and there's CRAP which is creative real estate accounting for savings and loan associations. And, you know, as a result the safety system is suspect. Currently in the case of the savings and loan association although not necessarily in terms of the banks. But we begin to look at each one of those and decide whether the various types of lenders, you know, need to be concerned with that. The safety system, of course,

dictates quite often what they can lend. One of the reasons GE Credit Corporation can be so creative is that they're a non bank bank. They don't have to be worried about depositories and they don't have to be worried about the consumer and so forth and so essentially the only safety system for them is the fact that General Electric isn't going to let them go down the pipe unless General Electric decides that, you know, that that's the cheapest thing to do at the time. And the only people that would lose would be the commercial paper folks and the general feeling is they're smart enough to look after themselves so we don't have to provide any government guarantees to them. So that where you want very aggressive, very creative lending, you obviously don't want a federal regulatory agency looking over your shoulder who is ultra concerned with the consumer and so on.

Now, until World War I there was no federal policy relative to real estate credit at all. Ironically, while we provided free land all during the 19th century and so on, the idea that banks could make mortgages was considered an optima. In fact, if you remember President Jackson and Nicholas Kidwell or something, the buy who founded the First National Bank in the U.S., pardon? Bittel, there we go, yea, Nicholas Bittel - and if you'll recall Jackson wanted him to make mortgage loans to help the pioneers improve their properties and their farms and so forth and Bittel said banks had no business making mortgage loans at all - refused

to do so and as a result, Jackson wouldn't renew the second term of the First National Bank and that's where it lay. There was simply no national concern for real estate credit. Instead, there was a whole series of little boos and bumps in which local mortgage banking firms served as intermediaries like local savings - invest them in farms and the development of local property - and in effect almost all of them got wiped out at one point or another as the euphoria of land booms and busts swept through it.

Immediately after World War I with its tremendous urban expansion we developed a group called the mortgage bankers industry and it was their function, really, to bring capital sources in the East to really develop the areas in the West - and they were the intermediaries. And they served as correspondents to the major life insurance companies and some of the major investment families throughout the country. And during the 20's mortgages became the blue chip investments for the widow Smith and the orphan's inheritance and the premise was that that was the most well-deserved rate of return. And that, of course, got dashed in the 30's and a great deal of skepticism set in about commercial mortgages. The other element that was unique about that was the German socialist tradition of creating populist tools of capital. Of having 25-30 families sit together and begin to save in a capital pool which they manage and raise the

money in order to help each one buy a home in time. And this was really the beginning of our mutual savings banks in the cities and our savings and loan associations in many of the northern states. In a savings and loan pool were extremely effective in spreading the ethic of home ownership throughout the Midwest and the West as opposed to the tradition of apartment living on the East coast. And, by and large, we are very efficient and effective in terms of what they did do. It was largely a volunteer organization. It was virtually, almost a form of populist, socialism to counter the banks and the money managers.

So the problem was that initially they were giving short term mortgages, low loan-to-value ratios, and the need to refinance often and when in the 30's economic conditions turned downward the savings and loans were not able to refinance - they needed to pay back loans that had been made from the bank during their heyday. And the whole thing tumbled. And investors lost confidence in the mortgage form all together and savers lost a tremendous confidence in the intermediary since they were no longer able to withdraw their savings. In Milwaukee, for example, a number of somewhat illegal fortunes were made by savings and loan pass books at 20 cents on the dollar. You could go down to Water Street and literally get quotations on each savings and loan every morning and a number of people - loan sharks - that were paying cash to the savers who had to have

their money on 20-25 cents were potentially going out of town in Milwaukee and settled around the country as real estate developers in and tycoons. More than one had his start leafing old folks out of their savings and loan deposit books.

In the 1930's as a result, as we talked about the other day, there was a remarkable takeover by the Federal Government of the institutions - reorganizing them - creating one, obviously, the Savings and Loan Deposit Insurance Corporation and enhancing the Federal Deposit Insurance Corporation so that banks once again could make mortgage loans. We created the Federal Housing Administration to insure lenders who would make loans the government way - the long term, amortize, high loan-to-value ratio, single family home loan. And got most of the infrastructure in place in time for the boom that followed World War II. The proof of the system really was our ability to produce housing at a tremendous rate - from 1946 to about 1956, maybe a little longer 1966. And, in the process, government discovered some rather interesting things - that you could control what was built when you controlled the credit that was available to build it. And, as a result, government became very much involved, as did Congress, in providing special credit choices to certain constituencies that they wanted to assist. First we had housing for veterans and we had very favorable programs for veterans - both at the federal level with the VA

program and at the state level with a second mortgage program to assist veterans in acquiring farms, small businesses, single family homes and indeed even four unit apartment buildings. And the veteran, therefore, was able to acquire instant capital at a time when he was really just getting his career back together again, his life back together again, and it meant a tremendous economic infusion because suddenly here was a whole class of individuals considerably more mature than they might have been if it hadn't been for the service, highly motivated to get on with their lives and have their own business, have their own home, and have their own farm and suddenly the government is providing capital at maybe half the price that risk capital would otherwise have been available for them and it really accounted for a tremendous take-off in our economy.

There was money for college students - virtually all of the dorms you live in were financed by special government loans that were made at the rate of maybe 4 to 4 and a quarter percent interest over a fifty year term and made it possible for universities and small schools as well to suddenly expand their capacity for the live-in student. Virtually every dorm here on campus was financed under those programs. One of the ways in which it worked was that if they made a four percent loan at obviously non market rates and non market terms, where were they going to place the loans. And the government created something

called the federal national mortgage association, Fannie Mae, and then the U.S. Treasury would pump funds into Fannie Mae and Fannie Mae would use those funds under specific directives to buy those loans at par. So that Fannie Mae became a repository for non-market mortgages financed from the U.S. Treasury. As the loans were paid off, Fannie Mae collected the money and refunded them to the Treasury. So there was, in effect, was a direct infusion of capital from the national budget directly into specific submarkets of real estate.

Housing for the elderly was the next special group. We're still involved in heavy subsidies toward elderly housing.

Housing for low income groups has come and gone under a variety of programs. One, we have the public housing program there in the 30's in which the government provided grants directly to the city with which to build publicly owned housing.

There was a brief period of time in which it was felt that the federal government could not exercise the power of eminent domain to acquire sites to build housing - that they would have to do that locally. And so we got into a format of creating some kind of local housing agency which had the powers for eminent domain and redevelopment would actually go and acquire the sites and make arrangements to build the buildings and operate them. And the federal government would then advance funds out of the federal housing program - part of them as grants, part of them as

loans with which to build and operate those units. Initially the public housing project was extremely successful because essentially it required 1) that the people living there have some sort of job albeit a very low paying job, nevertheless, they had to have work in order to pay the rent and 2) they were directly involved in the management of the project and the residents that lived there helped maintain it. And therefore they had a proprietary interest in the project. Ultimately two things happened following World War II, maybe three. One, the National Association of Realtors fought public housing, tooth and nail, feeling that it was taking business away from the private sector, which was a lot of crap, but, nevertheless, that was their attitude. What they were really objecting to was the fact that if you have a square block that, let's say, had 40 buildings and 100 apartments, that was grist for the mill for the realtors. They could sell those buildings from time to time, they could lease those buildings, they got property management fees from those buildings and so forth. Tear that down, and you reduce the turf available to the private sector and, of course, the public sector came in and ran it. So they saw this directly as a challenge to the number of business opportunities that they had as brokers and so on. And so they chipped away and chipped away and chipped away at it and ultimately, they got to a point where they said, "Look, we'll provide housing and you provide

subsidized rent in privately owned housing." And the public housing became a social thing where people who did not have jobs, who for one reason or another through illness, addiction, lack of skills, lack of education and so forth were allowed to come to root. And Gresham's Law began to go into effect. As the least desirable neighbors moved in, the more desirable, more socially responsible simply moved out and fled the public housing unit. That was aided and abetted by the liberals who decided that you could not evict a tenant who was breaking up the property or whose children were causing havoc and so forth without a tremendous legal battle and so they essentially lost control of the public housing project and the social stability that it really represented in the 30's and the 40's, and in the 50's much of the public housing disintegrated as a result of being incapable of handling the social problems that were being pushed down on it and left on it as kind of a residual of other programs.

The second element was a series of subsidized housing programs and we went through a whole series of them, which you'll learn more about in Real Estate Finance, but in essence it was the lobbies of the National Association of Home Builders and the National Association of Realtors trying to find a way in which public enterprise could get all of the fees and all of the profits and so forth, and somebody else would pay the rent. And

that got to be prohibitively expensive and ultimately Nixon put a stop to the final program that was called Section 8 on the argument that we were committing too many billions of dollars of future government revenues to the payment of rents on those properties. That, in fact, the present value of the payments that the government would have to make, exceeded the original cost of the units. That we would be a lot better off simply to create the unit for free and not have to charge rents for the capital costs and go back to some sort of public housing and so on. And finally the government began to create housing for those who were displaced by flood, urban renewal, highly development programs and so forth. Now, the government found that they could bring all types of lending devices by which they can focus money on specific selected groups that have the political clout with which to get Congress's attention. And we'll finish up on this in the next lecture.

TA talking on whole tape don't transcribe: First I want to drop down to 001 detention fund. Grasskamp has already talked to us about savings account banks. You know there's typical things we think of as far as institutional lending, institutional setting. Insurance companies would be another area of institutional credit. If you want to go to the large development 003 you can always tap into an insurance company. But another growing area is pension funds. Pension funds

typically have invested in stocks, bonds - some of the little bit safer securities investments. But now they're trying to increase investing more and more in real estate. And it is a large source of funding - extremely large source of funds. And in looking at pension funds, and what I want to talk about today is getting to be a larger and larger amount of FCC regulations. OK. Since the pension fund now - well, one way a pension fund is working and let's say that 011 pension fund. OK. The pension fund is investing those funds - these 012 funds for their benefit of their retirement at some future date. OK. So they're not necessarily their funds. In essence, they're a trustee of those funds.

TA talking about depreciation. In 1981 ATRS came about and what happened is prior to '81 we were using a straight line depreciation and specifically it was a 40 year life. Then in '81 ATRS came about and it was an accelerated method so instead of just taking the same amount each year like you would on a straight line, ACRS allowed you to accelerate it or take a lot higher depreciation in the earlier years. OK. The big benefit in that is what? We'll come back to what we just did with time value of money. OK. You have larger deductions in these earlier years. What will that do to your taxable income in the earlier years? Increase it. So you have higher tax savings in the earlier years. Time value of money says well that's to your

benefit. OK. As opposed to have those high tax savings later on. So you're going to give a dollar closer to today is worth more than a dollar further in the future. With the ACRS they set up a 15 year life. Then they went to an 18 year life, then a 19 year life was the most recent one.

A few more comments on the risk management lecture before moving on into the government regulation which was just handed out. And we were at the end of the back side of the page, we had gotten through layoff of static risk via the closing process and all, of course, very much related to the due diligence process in which any institutional buyer would attack each of the underlying assumptions of the real estate in terms of its engineering, in terms of its legal contracts, in terms of effective demand, in terms of its operating characteristics and so on.

Another area of risk management which is now just coming into vogue is the effort to transfer the concepts of portfolio risk control in stock and bond finance to portfolio risk control in real estate investment. Real estate does not typically have the usual beta and alpha factors that might be available to help you construct presumably a stabilized investment securities portfolio that has a degree of variance that is presumably locked in through your selection of stocks for their systematic and nonsystematic risk characteristics, but we are moving closer to that in terms of a number of techniques. And that's probably one

of the hottest subjects around as more and more institutions move into real estate equity ownership as a dominant position in their investment portfolio.

First it's clear that real estate investments - equity investments in office buildings, shopping centers and industrial buildings and, to some degree, apartment buildings, have, in fact, produced not only higher rates of return in than security markets over the last 15 years, but, in fact, have much lower levels of variance in terms of the performance of the portfolio.

So if you were putting it in terms of alpha and beta, they outperform the securities and, in addition, seem to be contracyclical to the securities market. So in order to stabilize or immunize your investment portfolio you really want to match real estate investments against stocks and bonds. For example the interest rates, of course, have a great deal to do with the value of real estate and as bonds produced lower and lower yields, real estate produces higher and higher yields since it costs less to borrow money to finance the same project as before. And, by the same token, real estate because of its ability to release and adjust rents to rising price structures during an inflationary period and so forth, tends to outperform common stocks who have less control over their market pricing and so on to adjust toward inflationary increases in cost. Very few corporations enjoy escalator clauses which say that any increase in my cost over a

base year will be passed through to my customer willy nilly and the customer is locked in by contract to accepting that.

Wouldn't that be wonderful if you were a milk producer and as the cost of feed rose, you could just lock that into the price of milk and pass that through to the consumer. It doesn't work that way in most markets. But it does work that way in real estate.

And the tenant is forced to absorb inflationary increases in cost and because virtually all of the market is working that way, there is very little opportunity for him to select an alternative source of supply and avoid that inflationary pressure on his operating cost. Instead he has to pass that through in his legal fees and accounting fees and however else he charges for his services and product. As a result, real estate is now being seen as a significant stabilizing force in portfolio risk control.

And more and more study is being done to find out which kinds of properties, in which locations, and in terms of what scale of operation provides, of course, the best immunization of a stock and bond portfolio against wide market swings in the securities market.

One last area of risk management in real estate which is just now getting under way is really looking at the long term scenarios of urban environs. What's happening demographically? What's happening institutionally within the communities? What's happening in terms of technology that may, in fact undermine long

term values or may, in fact, be creating significant pressures for graphic increases in values at a point in the future. For example, it has been a long-time favorite to invest in downtown New York City in major office buildings - much foreign capital as well as institutional American capital has always preferred the \$20-\$30-\$50 and \$100 million dollar office building in downtown New York. Now their analysts are beginning to look at it and say, "Wait a minute, what has downtown New York done with its infrastructure recently?" They're actually just saving - they're not putting as much into repair and maintenance as is required to maintain the efficiency and operating characteristics of that tremendous infrastructure investment. What if the City of New York was to, in fact, go back and refurbish all of its viaducts and its highways and its sewer systems and its watering systems and so on? What would that cost? How would that be financed through the real estate tax system in terms of who could afford to do it? And obviously it would be the special assessments on major investment properties that would have to carry the load? What about communities with very poor education programs? In a country which more and more is concerned with high tech in terms of preparing young people for relatively high skilled jobs. Do you want to invest in a Louisiana or Mississippi which has the worst educational system in the U.S.? Could you get your executives to move their children into that climate? And more

and more the answer is coming back, No. And more and more people are saying, "I don't think I can afford to invest in New Orleans, simply because of the political corruption, the educational decline, as well as of course the shortfalls in terms of governmental infrastructure systems and so on." And that's a very imperceptible by gradual corrosion of values in those areas which may be predictable, which may be forecastable and therefore fall into our first risk class of let's avoid the risk, let's not invest in New Orleans. As soon as you start to what is called "redline" the investment, as soon as you in fact begin to say, "I won't lend money for refurbishment of buildings in that area because I'm not sure that rents will hold up and be able to repay it." Or, "I don't think that's a good place to put my long term equity money because the long term looks shaky or perhaps even will be declining." You have a self fulfilling prophecy because, obviously, unless you have a continual process of reinvestment and further upgrading of the investment quality, it can do nothing but decline. And for areas to suddenly become tagged by knowledgeable investors as being of doubtful long term value, in fact, will bring about the very thing that they were forecasting.

Now we saw that in residential areas where the savings and loan lender that said, "Gee, I don't think I want to go into the core of the city with a home loan because that neighborhood is declining, it's an old bungalow of 1890s style which has less

than effective market ability compared to, let's say, to a new house in the suburbs and so on." As soon as they cut off those neighborhoods, those neighborhoods really began to decline because there was no ability for the owners to refurbish and upgrade and improve their properties. And the result immediately is a disimprovement of the properties and a fairly accelerated decline in a residential area. We're beginning to see that being speculated on in the commercial area and therefore the investment that is necessary to support real estate investment may be relatively oblique. It may not be doing your lobby over. It may be, in fact, having corporate leadership in refurbishing the educational system or corporate leadership in investment in the infrastructure of that community or perhaps corporate investment just in the perception of social stability of that community. And there are many future facts that make some of the older urban areas extremely doubtful as long term investment. And this long term cycle of risk in real estate is just now being perceived by the portfolio investors. They know that on a five to ten year basis real estate can outperform the stock and bond market in terms of its stability. There is less confidence that real estate can outperform stocks and bonds over longer periods of time in which social institutional corrosion of the environment on which real estate depends can begin to take place and manifest itself. One, as we've said, is the education system. Another,

is the public infrastructure and the third, of course, is the rise of a underclass of citizens in the urban core. And this may be ultimately the final impact on long term real estate values in the older cities. One out of five babies today is being born to a nonwed, minority mother, who's dysfunctional as a parent in an area in which the educational system has already collapsed in terms of its ability to teach as opposed to simply police. Fifteen years from now those people will be on the streets, alienated, disoriented, frustrated - their expectations from TV obviously grossly out of joint with their realizations and that is the basis for the kinds of social unrest that can cut off the core of the city from the hinterland. And take a downtown Chicago or a downtown New York or downtown Buffalo, for that matter, either unreachable or at least an area in which nobody from the other 75% of the population wants to go. And if nobody wants to go there, the real estate is worth zilch.

So the risk to real estate are not of the character of the stocks and bonds that measure that in terms of their relative variance to some sort of market index but, in fact, the risk to real estate are those of society itself and its ability to step up and truly internalize the costs of the urban environment into the property. And that area is just now being scratched. We're very sophisticated in our contracts, and our leases, and our ability to allocate risk among the parties relative to a short-

term view of real estate. We really have almost no answers at all on a growing perception of what the long term, social cycle risks are to the real estate institution itself. So much for that for the moment but certainly in keeping with that then is the next lecture because that social environment is really the product of our political process.

Real estate is the most regulated industry in the United States and the governmental regulation of that real estate is evolving in an almost Marxson dialectic among three major forces.

And over the next few days we want to begin to develop each of those. The historical tradition in the US is that real estate is a very local issue to be governed entirely by the local residents. The next door neighbor has almost as much to say about the use of your property as you do and certainly land use regulation is the function of the township or the village board, or the city council, or the various planning agencies within the smallest unit of political government that is working at the local level. Certainly growing out of the Jeffersonian idea that those who owned land in the immediate governmental entities were those that were entitled to vote, those who had a definition to the future, and that government's function was primarily to diffuse the ownership of land among as many citizens as possible in order that they had a vested interest in the democratic process and therefore became more stable as citizens and, at the

same time, more willing to participate in government at the very local level. And that is our historical root in terms of control of real estate at the most parochial and local and self-serving level.

It became apparent by the beginning of this century that many of the impacts of real estate could not neatly fit our rather artificial political lines. River basins and metropolitan areas don't necessarily stop just because you drew an artificial line that said that the township stops here, and the City of Madison stops here, and the town of Madison began there, and so on - that we really needed some methods of control that were not only spilling over the smaller fragments of political process, but indeed were regional in character that might cover multiple counties at one time. It might even cover a state all at one time. After all there are many states which are probably smaller than some of our regions. Southeastern Wisconsin regional area of 7 counties is bigger than Vermont or New Hampshire and covers probably as many, if not more, small than large urban areas. The recognition of the fact that perhaps legally we had passed through the entitlement of land use control to the smallest political level had gone too far - that we wanted to retract some of that authority to a regional level and maybe retract some of that authority maybe even back to the national level. Became a very difficult political issue. How do you take back a political

power that has been passed through to the local gurus. The initial hope was that the federal government would be able to create entities that were such super agencies of land use control that it could have major impacts on what was happening at the local level. The general premise is that the federal government can use a carrot and a stick that the regulation element obviously is the stick with kerosene on the tip to prod you in the right direction, and then to bribe you to move in that direction there would be large federal grants. That's what happened in the urban area in 1954, the federal government wanted urban areas to become planned, they wanted them to have 5-year capital budgets, they wanted them to be sensitive to the process of relocating and regrouping citizens in the process of urban renewal and so the federal government, in effect, took over the burden of 90% of the local planning costs if the local community was willing to develop a fairly comprehensive urban plan. Now we're beginning to look at areas that, gee, maybe what we really need are regional plans, state-wide plans, and is there a way in which the federal government can, in fact, bribe the states into living up to the responsibilities in that area. We'll look at those in the next lecture and we'll see that the federal government for a variety of reasons and because of a variety of political forces in conflict, have not been able to do that. And, therefore, by default, the planning process is falling back

on the states as an intermediate compromise between the very local Jeffersonian parochialism and the federalism that was presumably the hope of the 60's and 70's. After all we now have a federal government which is perennially broke and operating at a deficit and I don't believe you're going to see the federalism of urban renewal, or the federalism of conservation that characterized the 70's in terms of legislation occurring again. They can't afford it. And therefore the third lecture will be on the role of the state as it attempts to referee and to synthesize the conflicting interests of the little parochial districts within the state into some sense of public land use policy that, hopefully, will make some sense out of our network of roads, and land uses, and airports and all of the other paraphernalia of the urban process.

Today let's begin talking however at the very local level and demonstrate really how Jeffersonian real estate really is. Citizens can participate directly in real estate matters at the local government level, perhaps more easily than they can in any other issue of public government. Certainly, even more readily than they can in the school system which is certainly with the PTA and the school board and so forth, a reasonably democratic process. First of all, the citizen can simply represent himself in direct administrative contact in a whole variety elements - the zoning process, for example - should someone decide that they

wanted to modify something in their home in your block and it was for one reason or another not quite consistent with the existing ordinances, everybody within 1,000 feet would be notified as to what the issue was and asked to come down and comment at a planning commission meeting, accordingly. And any contiguous property owner would have the right to appeal the decision of the zoning board and take it to court, or take it to the City Council, and explain their view of it. And I would suspect 20% of every city council meeting has to do with citizen participation in land use issues. And some of them are silly. "Fourteen citizens registering a complaint against Mr. & Mrs. so-and-so because they're keeping four chickens in the back yard which is not zoned agricultural and represents a violation etc. etc. etc. and they can't sleep in the morning because one of the roosters is forever crowing at the wrong time and they want the city council to do something about that." That's direct citizen participation - I mean that's taking your cause to the highest court in the land - the city council. You can appeal your tax assessment. If you think your tax assessment is out of line, first you go to the tax assessment office and get a review by a board of assessors who check each other's work and decide whether, in fact, there's been an error. If you don't like that, you can go to the board of appeals. If you don't like the board of appeals, you go to the circuit court and you go to the circuit

court (certiorari?) which says they did something illegal here judge - remand the assessment decision back and forth and make them do it again. Or you can go to _____ which says, "Hey, I don't even trust that board of appeals, I want a jury of my peers to decide what my assessment should be with a little coaching and assistance from the judge. And the system is set up that it anticipates that the average citizen will represent himself. Now it may be that from time to time you choose to take their attorney along to speak for you because you're shy or you don't feel like you really understand what your options are or what kind of evidence you can present, and so forth, so I suppose that in 30% of the cases the citizen is represented by his attorney and certainly where the big dollars are involved in big buildings, there is probably an attorney involved but the system was designed to operate citizen-to-citizen and the board of tax appeals is made up of 7 very hard-working citizens that represent a cross-section of the community and in most communities they do not get paid. There's a few in Chicago, for example, part of the political graft is a position on one of the commissions and so forth. But in a city like Madison there are a good many citizens spending a great many hours on these commissions and boards of appeals with no compensation what-so-ever. The city services, of course, you can call them directly and then if you get no satisfaction about your trash being picked up or your Christmas

tree still lying at the curb, you call your alder person and your alder person goes and intervenes directly as ombudsman with the public services in the community. Those are all matters of land use control and they're all matters of very direct interaction between the irate citizen or the citizen with a particular need and the process.

The second kind of regulation is what we would call indirect regulation as a result of formal policies by the community. The community may have a public works policy which perhaps spreads out over five years. How they are going to be reinvesting in redevelopment of the streets, which areas have priority, and where we're going to extend the water systems, and the major storm sewers and so forth. And that public works policy may be deliberately intended to encourage development in one direction and discourage it in another. For example, a number of years ago they decided that they wanted Madison to grow more evenly but stay within the super highways and so forth. So the sewer and water commission has taken as a basic policy that they would not run sewer and water under the interstate highway. There has been two, I guess, infringements of that but are relatively limited ones. One is to serve the Holiday Inn on 12 and 18 and the interstate and another is to serve the truck stop on 51 and on 151 just north of the beltline because they simply didn't want the septic affluent moving into water tables at those points.

But otherwise they've had a deliberate public policy of constraining growth within the highway system. At the same time, Milwaukee neighborhoods, they deliberately built the storm water system - the boulevard and the elementary school in an area in which there was nothing because developers are obviously going to subdivide where the public infrastructure is already in place and where there's capacity for additional development. So, in effect, by determining where the public works money goes, you, in fact, determine where growth will follow and that becomes a major indicator. In fact, in the sixties and early seventies there was a firm in California called Property Research Incorporated which was essentially was a real estate brokerage firm. But their whole modus operandi was to have a man in Sacramento, California, another man in each of the various city offices of southern California and they would plot very carefully each day's decision as to where public funds were going to be spent on everything from storm sewers to interchanges to extension of the freeways and so forth and they would then buy raw land in advance anticipating the fact that the infrastructure would be there by a certain date given the capital budgets. And they sold to athletes, for example, who might be making huge killings in baseball or basketball at a particular point in time and needed tax shelter and they would sell them orchards and land and so forth on a high interest, low down payment plan while they were

in the high salary categories and buy it in such a way that, let's say, they expected another five years in their pitching career that the land would come on suitable for investment about five years from the time that he bought it. And they made tremendous fortunes for many of the real estate, and theater, and TV people, and so forth by simply very carefully platting where the public works were going, what schedule was contemplated and which areas would then be suitable and ready for development with infrastructure in place at some point in the future - five, seven, eight, ten years out.

Second of all, building code enforcement and revision can have a tremendous impact on the desirability and investment quality of an area. In many parts of the US it was obviously not possible to simply rebuild and replace much of the old housing stock nor was it possible to perhaps reduce the densities of those units without going on a building code enforcement program that forced the landlords to upgrade the property, reduce the density of occupancy and thereby raise the rent. But as you raise the rents you obviously displace those who can't afford necessarily to pay those kinds of rents and so there's a direct interrelationship between, let's say, the quality of Miflan Street Apartments and how much students can afford to pay and how much code enforcement do you really want. And that becomes a very significant political issue. And there may be areas in

which the code enforcement is a little lax if only to create a pool of units at the lowest rent scales for those who can afford nothing more than that particular rent scale.

Traffic control and parking can have a tremendous impact on land values and you can have a great deal of dialogue with the traffic engineer. When they come along and say, "Gee, we need queues for right turns coming back 400 feet from the intersection and won't allow anybody to have a driveway exit within 400 feet of the intersection." They have said a lot about the value of that corner property in terms of its accessibility for retail use or whatever. One of the rhubarbs on the railroad corridor, for example, is where are you going to have access to that wonderful corner lot on which the round house is located? And the city says there's only going to be two points - there's going to be a 20 foot wide apron immediately adjacent to the railway track near the depot and then you can't get on that site again until you get all the way around down Regent Street and a block down from the intersection with West Washington. So you have a magnificent site and no way to get there. Well, proximity is not accessibility. And if they want to accelerate development, well they may have to modify their traffic access patterns and where you may provide for left turns and so on.

Parking will have a tremendous impact on the development process. If you have to have one parking stall, as you do in

Madison everywhere but on the Square, for every 300 square feet of usable space and you were to alter that and say you only have to have one parking space for every 600 square or 1000 square feet, why you would have a higher density of building that you could place on any one site. Land values would soar because you would have to invest less in parking ramps and parking and so forth, and more in the kinds of things which, obviously, produce a rent profit for the facility. Now at some point, of course, it becomes so congested that there's no place to park, nobody wants to be there. But where that magic point is, is never quite clear.

The general property tax and the assessment policies may have a great deal to do with the public process. In many communities, not in Wisconsin, but in many communities the developer can go in and negotiate his assessment with the assessor beforehand. And say, "all right if I build this industrial plant to produce automobiles in the Township of Tennessee how are you going to assess me on that plant? What are my costs of occupancy going to be?" And the assessor will go through a mumbo jumbo and come up with a number that is obviously very encouraging for them to develop in Tennessee as opposed to, say, Wisconsin which the tax rules would be in the hands of the state and the state might be a little more hard-nosed with industry as to what the real estate tax might be. But again,

it's negotiable in many areas and a direct one-on-one taxpayer and tax assessor as they hammer out what the policy should be.

And then of course the viewpoint of the Board of Estimates may be important in establishing what kinds of things they are willing to finance using the real estate tax rate. And some communities have very little real estate tax rates because they're able to find other ways of financing public improvements, and school systems, and so forth, and in some communities, of course, particularly areas like Madison, have no compunction at all about loading a municipal budget with a variety of soft costs and welfare programs which are financed through the real estate tax as opposed to some other type of revenue source. And that all begins to reflect obviously popular attitude and the voice of the alder persons, and the constituencies of those alder persons as they participate in the land use policy.

In addition, public administration policies not only are not stated just formally but represent perhaps mind sets of key individuals who are, in fact, administering the law. As a general principle land use control law in this country is more in the aggressiveness with which particular individuals administer the law, than it is in the black letter print in the statute itself. For example, in Madison for a long, long time and there's still some vesicle remnants of the attitude, the head of the former head not the current one, not Warren Sommerfield, but

the gentleman before Warren believed that everybody should come downtown by bus and that the way to do that was to discourage parking downtown. And so he encouraged apartment buildings being built without parking, or office buildings being built without parking. And he encouraged putting pots and plants where parking used to be on the Square and so forth on the theory that if you couldn't come downtown by car, you naturally would come down by bus. Well, that's the mindset of one strong-minded individual and it had a pervasive impact on downtown Madison development for 10 or 15 years and yet there's no real formal policy - there's nothing written in the books that that's what's going to happen, but that, in fact, is what did happen.

What about attitudes toward annexation? Does the community want to expand or get along with its neighbors on the borders? That may be the mindset of one or two individuals in the administration and quite often you hear the township chairman crying betrayal as attitudes in the city council or the mayor's office change or backtrack relative to the aggressiveness with which the city will annex land. Annexation is a critical process because, for example, the city of Milwaukee has had almost all of its increase in tax base occur in the northwest district which it was able to grab before somebody created a tax enclave and created a new community like Brookfield or Miguanigo or any one of the other tax islands that surround the city and cut it off

from any possibility of participating in expansion and therefore leave the city with a growing social responsibility and, at the same time, a relatively stable, stagnant tax base, which means that the real estate tax rates rise relative to assessable values which then encourages more people to go over the city line into another area and that may have a great impact on the growth characteristics of a community.

Zoning policies to promote a master plan, how firm are they?

How tough will the city council and the planning department be in enforcing not only the current master plan in force but maybe the one that's coming down the pike. As the developer, planner, investor you always want to go and know very much what the mindset of the planning commission is. If you're one of the lucky ones on the border of the city that's been painted green for open space, even though there's no master plan - but at least that's what they're thinking about for your property, you're obviously running uphill immediately against the officialdom and the regulators of your particular tract, even though they don't necessarily have any official position on that property at all.

What's the action on the local government relative to pollution control? One of the big rhubarbs a few years ago was how tough should we be on Oscar Meyer? Oscar Meyer has a slaughtering operation which had residual waste which if any of you had been on the east side some years back, caused a variety

of odors to eminent from the partial sewer processing plant there on the corner of Truax and the State was really adamant with Oscar Meyer in terms of getting them to clean up their operation to a point where they said, "Well, it's cheaper to have our slaughtering operation some place else and truck the meat product in for processing here and so they shut down all of the slaughtering operations and I forget how many jobs that was, but it was 550 or 650 jobs. The City of Madison, on the other hand, is trying to take the intermediate role of getting the state to cool it and get off their high Duthches about that and kind of find a compromise position because the jobs and the economic base are as significant to the City of Madison but not, obviously, to a D & R agency.

How about the efficiency of the public transit thing? One of the best ways to hold rents down on Langdon Street is to have really good bus service on Park Street and out Fish Hatchery and Rimrock Road so that it's almost an equal choice as to whether you take a suburban apartment or a Langdon Street apartment and at that point you put a lid on what downtown rents can be. Other areas become competitive and equally accessible. And, again, it depends on whether the community is willing to do that.

Housing Supply - a community that comes in with rent control is really saying that we'll take the short term view rather than the long term view knowing full well that all new housing will be

built outside the community and that ultimately the housing stock will decline in quality. Madison is particularly vulnerable to a rent control ordinance so many of you who are tenants are only short term residents of the city. And rent control would probably provide a temporary boon to students at the expense, of course, of the long term citizens and you would get through school at a little lower cost than you might have otherwise have done but the next group will have housing of course will be tougher to find and at lower quality and so forth. Again, the community can set its own tone and it generally does through a variety of political participations by various groups.

The desire for new industry - Madison has had a tough time attracting new industry because we have a large political group that wants only clean high tech, you know, as far as they're concerned only industries which employs Ph.Ds or higher are acceptable. And that have a great deal of demagoguery getting in the way of the decision. A couple of years ago Pepsi Cola wanted to put in a very modern canning plant here in Madison that would serve the entire half of the state of Wisconsin. It would have represented at least a million and a half in real estate values and several million dollars of personal property tax base in equipment and operated only by 4 or 5 people so there's no traffic jams - it's a very clean plant and so forth, but the city council put the skids to it on the grounds that it was using

aluminum cans and they weren't biodegradable and they were against that in principle, and so to hell with you. And so the plant went out to Waterloo for installation and providing the tax base out there. Well, obviously, that's a representative of a political viewpoint in which citizen values prevail over perhaps an economic view of life. We're simply stating that the citizen does have the opportunity to participate very directly in the land use decisions that are made or indirectly through the kinds of political organizations which they support.

In any micro situation all of these inputs often appear to be part of the democratic process, but over the years, if you look at political fragmentation of our communities, the results, in fact, may be counterproductive and, in fact, nondemocratic. It may be anything but public land use control. When, in fact, the power structure is able to subvert this process of participation to its own interest. For example, let's say a community wants those kinds of uses which generate tax surplus but not those which create necessarily a social responsibility. Clever use of the zoning controls may mean that there'll be no mobile homes in your area, or you'll have large lots only the rich can afford to live in your area, or you'll accept the high tech businesses but not the fuel oil dump and other kinds of facilities which get pushed down on somebody else. And, as a result, you get something less than the ideal network of

facilities. You may have very definitely a justified fear of state or federal control, but, in many cases, they would be more objective. Take the issue, for example, of where shall we put our next sanitary fill site. And to solve that in terms of technical matters as to where the ground water is lowest and the possibility of toxic waste leaking into the ground, control of contamination, perhaps gradual leakage of methane gas into adjacent areas, and so forth - if you solved it from a most technical standpoint and got the best technical solution, it is probably pretty sure that there would not be an acceptable political solution. There would be somebody with political skills that would be able to block it because it was in his back yard or down the street from him or on his way to work and he didn't want to look at a sanitary fill site along that area. So ultimately you put it where there's the least political resistance rather than necessarily the best area of development.

The ultimate in that, of course, if you're watching is the proposal now to put nuclear waste sites around the country because we have to have some place to go with the spent rods from our power facilities that are atomic. And currently they have found only three sites in which the political resistance hasn't been overwhelming - one in the state of Washington up in Hamford, one in Nevada and one in Texas. All of them, except the one in Nevada from an environmental standpoint are highly suspect. In

Texas the aquifers for a depth of some 15,000 feet would have to be frozen for 50 years so that there would not be a movement of radioactive contamination through the aquifer below the surface.

Can you imagine a freezing system that would work reliably for 150 years? And, given our ability to run anything, you know, systematically reliable for very long particularly if it's federal controlled and in Hamford, Connecticut, not only is it in the aquifers, but it's on a seismic fault, I guess through no fault of their own. Only in Nevada is there a primary site called Yucca Mountain. And Yucca Mountain is right next to Yucca Flats if it matters. And the water table in Yucca Mountain is 14,000 feet down which is one of its prime recommendation areas and it's solid rock all the way down so they can have a boring going down to whatever depth they want and right along side of it is a \$350 million dollar facility that is robotic in that it was designed to take apart atomic bombs that are now obsolete but highly radioactive and so forth. And they could use that then to process the rods for storage at the bottom of this boring. And the major inducement is that whichever state gets stuck with this facility will be permitted to tax it as though it were a private industrial facility and the question is what is the value of a piece of land which is suitable for radioactive waste? A firm has been hired to arrive at the value theory for that. One of the interesting theories is that they have spent \$2 billion

dollars in environmental research to locate the site. Therefore on the basis of substitution you would presume it would take another \$2 billion dollars to find an alternative, therefore this one must be worth \$2 billion dollars to somebody, presumably the Federal Government. And that would be a fairly sizable real estate tax bonanza for the state of Nevada. If any of you have ever been to Nevada, it probably is a good place to put a lot of radioactive waste. Someone described the highest and best use of this site was to hold the rest of the world together.

The local government, therefore, is the initial critical element and of that, simply have, what? somewhere in the neighborhood of three major cities in the Madison area and 21 villages, and I forget how many townships, all of which have their own sets on each of the issues that we've identified. Dane County, of course, is another good example of political fragmentation. Our one county has a board of supervisors which is part urban and part rural. We have an executive manager. We have a regional planning commission which covers only one county, and then we have various boards that are appointed either by the executive manager Mr. Berry (?) or by the board of supervisors, headed up by Rod Matthews. Obviously the viewpoints of the various rural/urban factions are significantly different from time-to-time on various issues. We have three major cities at the moment, Madison, Monona and Middleton with Fitchburg now in

the process of attempting to become one. Each of them have their own wards with alder persons. They have a mayor, generally full time, but at least in one case part time. Each of them department heads and then all of them have commissions covering various aspects of land use as well. Obviously each of them not only have their official policy, but they have their unofficial attitudes and mindsets as well. We have 20 villages, each of them has a village board of three, the village board president and then subcommittees of the board. Even villages have fairly powerful controls relative to the land use. One of those which intriguing - we were working up in Door County on a project called - what was that little bay up there next to the park? - at any rate - discovered that the village board could define a port authority and so the developer got his friend who was president of the village board to create a port authority and, of course, the developer was named as chairman of the port authority commission and the port authority had the right to issue tax exempt bonds with which to develop the harbor and the docks and the marina for the developer. So many areas have had that type of thing. The entire Disney World Enterprises, by the way, is a water control district in Florida in which Disney went to the Circuit Court in Orlando and had three Disney executives made commissioners of the water control district, which gave them absolute control of 150,000 acres for Disney World. They can

have their own civil court. They can have their own police force. They can issue tax exempt bonds to finance all of the improvements that had to do with water control and environmental matters and, in effect, their own little thieftom as a result of township commission control at the water control district. So that many of these small apparently innocuous types of political fragments have very sweeping powers if you focus them correctly on the real estate issue.

We then have 25 townships. Each of them has 3 elected supervisors and a chairman of that and many of them have a great deal of power. I seem to remember a case outside of Stevens Point in which the issue was whether some land could become a subdivision and one of the appraisers testified that there was no cost to putting in the roads in a subdivision and therefore he hadn't made any deduction for that which in court seemed ridiculous and the jury rejected that concept and fortunately for the appraiser but I went on to investigate it and that was true.

The largest subdivider in the county was also chairman of the county board and so he had passed ordinances that to advance economic growth of his county, the county would grade, and gravel, and tar all of the roads that were introduced into subdivisions. The fact that he was doing 75% of the subdivision didn't seem to be a conflict of interest - that was the happy coincidence. He justified it on the grounds that the village

township share of the gasoline tax in the state is based on the number of miles of paved road that they got so they got, an extra 2 cents a gallon or something of that sort per mile for all of that paved road and so he was doing them a long term favor by subdividing and having them pay for the roads and the tar. OK we have to take a break. Bring your notes to the next lecture.

. . . Probably no better area to demonstrate the subject matter of this course than the impact of land use regulation on the ultimate consumer of space, whether it be the homeowner, the apartment renter or the business enterprise or, for that matter, a public enterprise such as a park or whatever that needs an allocation of land use and capital. And there's a number of elements which tend to confuse what should start out as a fairly clear dichotomy in terms of who benefits and who pays. One, of course, is the fact that the media that is the public's primary opportunity to sort out the issues tends to oversimplify and tends also to be an advocate of one person or another. I remember in my early days as a developer - [and I think somebody wants to turn that down just a little bit, there's a ringing in my ears which may have something to do with my weekend. There. How's that? - A little better?] The development days - I can remember if I wanted to get the Cap Times involved in it, all I had to do was threaten a tree or suggest that the other guy was threatening the trees and Mr. Epphugh(?) who was a dendriphyl - a

lover of trees - immediately rose to the occasion. We were doing a subdivision on the far west side called Applewood Hill and originally it was under attack by a number of people on the city council who wanted to put a city sanitary fill site on the adjacent ravine and it was at that point referred to by the city council as pill hill, because all of the doctors lived there and a number of the alder persons were married to doctors and who had divorced doctors were really out to get anybody in the medical profession. So they kept referring to it as pill hill. And when I was able to show the folks at Cap Times that the city plan for the sanitary fill was to wipe out all of the trees in the ravines and fill the ravine up with [?????bad place on the tape?????] suddenly the batter changed and we were talking about the seminary site - referring to the Holy Cross Center or Seminary immediately adjacent to the site and we were able to reverse the vote of the city council. I think we lost initially 14 to 8 and won 21 to 1 with the only divorced doctor's wife holding firm against the residents. So the issues of who benefits and who loses are not typically presented very fairly or in a sufficiently detailed presentation. But if the public can generally catch on as to who's benefiting and who's losing in time.

Second of all, those then administer plans themselves. The planning agencies and the various enforcement agencies generally

represent people that were trained at universities who never had a real estate course. Who probably have really no sense of what the economic implications are, that if you require a developer to do this and that and say, and exactly \$2,000 for every lot that he creates for the park commission or the office developer has to provide one apartment in downtown San Francisco for every thousand square feet of rental office space that he has, then, in fact, that's going to show up in the price some place. And they're either going to get less house or less building and office space or you're going to pay a higher price. And it has been shown that something like 40% of the increase in housing costs are not inherent in the labor and materials of the process at all, but, in fact meeting the increasing array of planning requirements that go into the process and require greater dedication of land to green space, parks, open water or storm water and so forth and so on. That's not necessarily bad. It simply the fact that, that burden placed on it by the regulatory process is not very apparent to the consumer who wonders why he can't afford a new house, or has to afford a smaller one, or has to find some other compromise with whatever his objectives were in terms of real estate. So we want to really look at the benefits and who pays from the standpoint of the historical process of regulation.

If we go back and trace very quickly the evolution of land use regulation, the irony is that it began in Mesopotamia and as the development of the Euphrates/Babylonian area, as a way of achieving accountability for the way in which you use the land resource. The government had gone to great lengths and great expense to create an irrigation system that brought water to a great many individual plots and the objectives was to make each farmer use that water and those resources intelligently and with husbandry in order to produce the maximum crop. And by making that his little piece of land and he a primary beneficiary of his farming ability, you had accountability and benefit in terms of using the land well. And the concept of private property really began as the cheapest way of creating positive incentives for the proper use of the leasehold. And that's a very important thing to keep in mind. The private property itself as a social institution is designed to optimize the use of the resource. That was repeated again in North America when the Indians who had no sense of turf and private property, nevertheless, created it as a way of regulating those Indian groups and tribal family groups that were over hunting the areas along the Saint Lawrence estuary and, therefore, killing off the ability to have a breeding stock of fur bearing animals that would reproduce and recreate a new supply of furs and hides for the next round of trade with the French. And so even though the Indians regarded

the food production characteristics and the supplies and materials produced by the port authority(?) as common property. The fur trading areas in which they could trap were allocated so that if they over hunted and took out more female than male pelts with the result that the breeding stock was an incredible pool of breeding stock was wiped out, that they bore the consequences of not having any furs to trade on the next round. So private property and the allocation of specific terms to specific individuals begins with the objective that that is the cheapest, most efficient way politically to assure wise use of the land resource.

The second step in terms of regulation as we moved away from really an agrarian concept to an urban concept was the realization that whatever you did with the land could in fact adversely affect everybody around you. You know, it didn't take many times for London to burn down until we had some very stiff building regulations about fire walls and fire proof materials and creating enough distance between each block of homes so that a configuration (?) couldn't jump the gap and cause the whole city to burn down. And then we needed water systems and we needed sewer systems that had sufficient capacity that, in fact, when we got a group of people together of a sufficient size, we didn't kill everybody off from disease. It was a fairly self-evidentiary kind of regulation. But, nevertheless, the

regulations were very detailed in terms of safety and of health and that was really the next progression in land use regulation.

The third level was a sophistication growing out of the late 1800's in the US initially, that some uses were incompatible with other uses in terms of comfort and in terms of enjoyment and so on. And so the first original zoning ordinances really were attempting to scale land uses in the area of relative compatibility. It began with the upper end residential and decided we didn't want slaughtering houses there and we didn't want industrial enterprises that were noisy or smoking or smelly or whatever - or perhaps even introduced people that the safe rich people thought were fairly desirable, and attractive and safe, and so we began to create residential lawn areas that were exclusive of everything else other than, say, the mansion and the upper end townhouse and then we got residential II that admitted there could be some uses that were sort of ancillary to residential like shopping, grocery stores and family saloons and so forth. And we moved all the way down until we finally got to a very low level of industrial plant that covered fuel tanks, sewer plants and meat packing and fertilizer operations or something of that sort. And they were way out at the edge of town and isolated in the least attractive area of the community and so the initial segregation that was achieved by zoning really had to do with what was perceived as the comfort, and aesthetics

and physical compatibility of different land uses. One was a mark in order presumably to make the upper end the most attractive possible and perhaps protect their property values and so forth, as well and there was a lot to be said for creating a certain sizzle value by being exclusive. If you can keep 90% of the people out - the other 10% would be a tribute to people that they shouldn't be. And that was really the next whole history of zoning.

It wasn't until we really began to develop a concept of urban planning that we could begin to organize our communities to optimize the desirability, the attractiveness of the community for everybody that we began to see zoning not simply as a prohibitive and constrictive control on use, but rather as a positive incentive to achieve certain desirable elements of the city beautiful. Now remember that's only about 1954 - when the federal government actually decided to subsidize urban planning.

Certainly cities individually began to have master plans before that. Madison had a master plan by John Knowles by the turn of the century and Chicago had master plans for its lake frontage and so forth, you know, about that time and so forth. But now they've the problem of how do we want to encourage development and so forth to be in supportive of that master plan and, at the same time, discourage other kinds of uses that would unfortunately, you know, make impossible or certainly impede the

development of where we wanted the city to go from a master planning viewpoint. At that point, zoning took on a new function and that function was to prod the development process in the direction that the city wanted to go. And that acknowledgment that there was, in fact, a positive direction in which to move the city really changed the land use regulation process into a much more detailed, comprehensive and, in many ways, irritating politicized area of concern. Even then, urban planning as an abstract concept, which everybody could agree with, didn't really begin to impinge on the daily life of the residents until we had two other major trends occurring in this country. One was a growing awareness of environmental protection and the need to maintain and protect environmental quality. And environmental quality broadly defined not only being from a health and environmental, ecological system standpoint, but as well from a life quality standpoint. And, second of all, the idea of consumer protection. Consumer protection for getting a good deal, not consumer protection just for your health and your safety, but the idea that the consumer could be easily used and defrauded and disappointed by a process as complex as building a home or an office building or a shopping center or whatever. And these two elements of momentum, of environmental protection and consumer protection fueled, really, the political process by which we could begin to generate a tremendous array of land use

controls. And that, essentially, is where we step into the scene today.

We want to look today at the impact at several different levels and some of the devices which are being tested or, at least, evolving presently to try and equalize this issue of who benefits and who pays. As somebody once pointed out, most of the troubles in this country lie in our accounting systems. Our accounting systems can handle very well those matters which actually go through the checkbook, that are internal to the organization. But accounting systems have a terrible time dealing with the externalities. And real estate has a very large externality segment. Whether we're talking about the storm water running off into somebody else's lot or the building casting a shadow on somebody, or just being ugly and offensive for 50 years after it's built. Our accounting systems aren't capable of handling that. And we're really looking for techniques by which we can internalize these external costs. Now where it's prudent (?) system would be to say, "Gee, your building is going to add so much to our storm water burden and that's going to cost us a hundred grand to beef up the pipes and provide the holding ponds so that we can release it through the existing system, and so forth and therefore, to get your building permits, you got to put a hundred thousand dollars in the public coffers to cover that increased burden. Or, if you want a stop light going into your

shopping center, we're going to charge you \$35,000 to put in the stop light." I mean, those kinds of things we can fairly quickly measure and if we wish to negotiate with the developer and internalize those costs on his project that otherwise would be the public burden. But there's obviously more subtle kind of things we are trying to achieve aesthetically that does lend itself to a cost formula that says it would cost "X" dollars to correct that from an engineering standpoint. And several of those things we're going to look at today.

A new construction probably only represents maybe 1 to 3 percent of the total stock of homes at any particular point in time - any particular one year. But these housing units really are the safety valve in terms of the pressure of demand on the existing supply. And should we decide to overbuild, why, obviously the price comes down not only on new units, but on existing units as the tradeoff between the existing one and a new one becomes more favorable. And, by the same token, if we stop building all together the demands on the existing supply given the demographic process that maybe is increasing the number of families in the child rearing stage or the number of families moving into an area or whatever. It means that the supply of homes very quickly rises and is extremely sensitive, much like having an interest in a common stock on the New York Stock Exchange in which there are very few units in float. And if

everybody decides that's a good stock to buy, what few shares are available could just zoom off the sides of the charts. That doesn't mean that the entire inventory of stock has gone up by that amount, it only simply means that demand is very quickly out of kilter with supply and it doesn't take much of a gap between the number of shares demanded of common stock and the number of shares that are available for sale before that price goes right off the wall. Well, the same is true in the housing stock area.

It doesn't take very much of a gap when we're talking only about one or two percent of the total housing stock and so forth in fact housing prices very quickly get out of reach.

Now, what happens if we somehow impede new construction. For example, we could complicate the platting rule as to how we're going to get a new subdivision or where we could get a new subdivision and we can complicate the building permit rules to say, "Gee, we only want three hundred units a year," like Petaluma tried to do or Ramapoo(?) tried to do in your reading. It doesn't take very many of those kinds of regulations before suddenly the demand pressure on a particular point relative to the supply and available units is greatly out of kilter and prices soar. Now, should new construction fall while demand remains constant, first of all, housing quality is going to be polarized. A higher income consumer will see the value of his house continue to rise and therefore feel confident that he can

invest more in that particular home in terms of remodeling and additions and so forth and his quality will continue to go up. Consumers in the lower income spectrum however are going to find themselves facing prices which they can't afford, downpayments which they can't afford, or rents which they can't afford, and that means they're going to have to skimp someplace. They're either going to have to buy shoddier homes which are built more cheaply, or smaller lots which means their spatial quality of life is declining or they're going to see that the maintenance of their apartments is going to gradually decline so that the rent level can hold and the operating costs will be reduced in order to maintain the profit margin. And as the absence of vacancies grows, of course, the landlord's are under less competitive price pressure and they can begin to push forward rents. And, obviously, either you have to give up something else because you don't want to give up the apartment, or you have to scale down to a cheaper apartment in order to maintain your spending somewhere else. So that given a fixed supply, the rich get richer, the poor get poorer in terms of the general quality of housing that's available. Now, by restraining production therefore, you mean higher values for some and lower quality for others and a very real breakdown in the market which presumably is going to provide you choice and allow you to, you know, choose different combinations of location, and space and quality of amenities that

we looked at earlier. I believe we talked about earlier the impact in Palo Alto, for example, under the [?????tape fades out???250] called the environmental hustle where, in California, the residents of Palo Alto realized they had 7,500 acres of very developable land, hired a blue ribbon committee of environmentalists and land planners and so forth to map out a future for this 7,500 acres and then somebody notice that two-thirds of the taxes in Palo Alto were being paid by the semiconductor industry in the Silicon Valley area and that if you lived in Palo Alto, you got \$2 of public services for each dollar that you invested yourself in terms of real estate taxes and that was a pretty good deal. And that if they had more residential properties coming in and therefore, more people to share those services with, they would end up paying more real estate taxes per dollar of education and library service and benefit of whatever kind they were getting from Palo Alto, and so so somebody said, "Jeepers, we otta keep that green space." Suddenly conservation became very holy and we had to protect the air and so forth. Somebody said, you know, "We really want to keep that green space but we'll make those large lots. Everybody can have a 6 or 10 acre lot and that way we can still have houses in the half million to million dollar category." A friend of mine speculates building million dollar houses in Palo Alto and sometimes he has as many as 3 houses underway at a time at

\$750,000 to a million bucks a shot selling them primarily to folks coming over from the Far East. But, nevertheless, Palo Alto decided that maybe they'd have 1,500 acres more industrial park and the balance would be as close to green state as they could make it. And immediately by shutting off the production of further homes, everybody's home in Palo Alto doubled and tripled in value so that a very modest home cost an arm and a leg to a point where, in fact, people were buying the low income homes on the far east side of town and tearing them down just so they could have the lot to build a somewhat more expensive, more modern type of home. It was a classic illustration of using both consumer protectionism and environmentalism as an excuse for maintaining the status quo, stifling further construction and therefore, not having to share the amenities of the community and shifting the burden for long distance drives to work and shifting the burden of finding modest priced housing for the workers of the Silicon Valley, and so forth, to somebody else.

The production factor, of course, in recent years had been relatively poor in terms of producing housing units for the first-time buyer and the low income family. The shift to laissez faire then to severe restrictions often solves one problem, and it's a real problem in respectful use of the land, simply by substituting another. And the question is, of course, why politically do we let the pendulum swing as sharply and severely

as we do? There's a number of reasons. One, the future consumer, of course, is never really represented at the bargaining table when land use compromise is necessary. Because at that point, the consumer doesn't live there. Politicians already speak for the constituents who are there and who already own a home and who obviously benefit from appreciation if the supply of homes is limited, and not for those who would like to move into the jurisdiction. Rawapoo and Petaluma legislation was not to be felt by folks on the outside surging in to do that, it was obviously in the vested interest of those already there and wanted to pull up the draw bridge and say, "I've got mine, let everybody else go some place else to find their little piece of the world."

The second major constraint, of course, is that labor and material suppliers have a real vested interest in the status quo.

They certainly don't want to see fire codes change or building materials codes change because that's going to alter the demand for materials. It's going to alter construction job characteristics. That's going to certainly alter in the long run the nature of their particular industry. For example, there's no particular reason why two-by-fours have to be 16 inches on center. That, in fact, it takes less wood and the house is just as strong if you use two-by-sixes, 24 inches on center and have thicker insulation and so forth and so on. That means you've got

to change the way window frames are built so that they don't fit two-by-fours any more, they five two-by-sixes and so on and so on. And it may change the way in which you frame walls for fire blocking and so on. But the net upshot of it is that you use less wood. Obviously, the timber industry's not in favor of that.

You use less carpentry hours because you have to nail fewer things together and, obviously, the carpenter unions aren't in favor of that. And so just a simple shift in construction methodology from two-by-fours to two-by-sixes with all of the technical arguments that there are for it, cut across the vested interests of too many groups who either sell materials or install materials to alter that rule very quickly. And it generally takes a tremendous amount of politicizing starting with let's say the FHA in terms of construction methods that they will insure, starting with national building codes (?) promulgated by let's say by the fire insurance companies and so forth to, in fact, bring about over slow periods of time virtually geological time process, innovations and technological changes in the way we do things. Tax payers want to avoid infrastructure costs which they elect to be funded from their real estate tax. So if they have a choice of voting down a subdivision or expanding the school, they're likely to vote down the subdivision unless you can show them that by having more households that support the same fire department and the same school system and the same park land and

so forth, so that they're mill rate will actually be reduced for those services. It's very difficult to get them to vote for growth when, in fact, growth means investment now in infrastructure which will add to the bonding load and therefore the mill rate of that community. And, of course, depending on the age group there's a very dominant factor. If you look at Middleton, how many times have they had to go to elections to get them to expand the school system and provide a swimming pool and some of the other more modern school facilities, when over half the community don't have children. If you have a large apartment base of folks that don't have children in the school system, their willingness to vote an increase in the school budget in order to pay for the debt, in order to create the facilities for folks that do have children is greatly limited. Saint Petersburg has an extremely weak school system in the city because virtually all of the folks said, "I'm 75, I'm not going to school and I don't think I'm having any kids. Beside that, I don't even have a 25 year long term forecast to look forward to. Why do I want to invest in that kind of construction. And what are we doing about shuffle board courts?" Then, as a result, taxpayers are very, very narrow viewed in terms of what creates an infrastructure that's in their vested interest and what they're willing to pay for. Households that already have what they want and are going to benefit from the price increase of monopoly are,

of course, encouraged to protect that decision which is basically selfish by standing for something, generally, environmental protection. You know, "We want to hold down density." - and related to environmental quality. And people know better do that. Bayside, which has got one of the highest incomes in the Milwaukee County area and is a highly educated group had a major 150 acre farm called the Eline farm and it was right along the lakeshore alongside of the park up there, and so forth, and a developer came along with a very sensitive land plan which wanted single family around the perimeter to match the single family that was already there, townhouses in the core a little bit and then on a platform of land that was down by the water, he was going to put about a five-story building which you couldn't even see from Lake Drive. And these condominiums were going to be at the \$250,000 class and the good citizens of Bayside turned out and turned the project down on the grounds that rental properties or condominiums of \$250,000 were going to allow the riffraff to come in and create social conflict. Now, come on guys. Density they said, "Notice the density on those acres they said was as same as the density in the Milwaukee slums." Therefore if you've got, you know, 100 people per acre, obviously, you're going to have social difficulty immediately. And, Maple Bluff recently did the same thing, you know, absurd position. They had the Sherman School fight up there with which somebody wanted to build

40 or 50 condominiums in which there was already a market among Maple Bluff residents who need to move back from mansions along the lake in which at 85 years old they're tottering along in there all by themselves and they really need to be in a smaller facility where people can provide some assistance and care in their old age and so forth. And it was defeated on the grounds that if the condominium didn't succeed at prices of \$200,000 each, it would go on the rental market and the Dane County Welfare Service would issue vouchers to welfare cases who would intrude into Maple Bluff. Now if that isn't the most asinine argument for land use control, and so they voted it into a park which is just fine with the owner of the largest mansion which is right alongside the park who is spread the rumor in the first place. Therefore, the political process does not work in favor of those what ain't got theirs already.

Oddly consumer by itself, however, to be fair and it's very difficult to represent, is really not a single entity in his value systems like the Sierra Club which can operate as a political monolith but instead represent the whole series of micro markets, a whole series of individual views as to what the city beautiful should be like and what each home should be like and what size home and what style home and what price range and so forth he should be in. If that wasn't serious enough, those who are really responsible for housing plans and regulations

generally feel confident that they know what's best for the housing consumer. You talk to a city planner and he says what we're going to need is more townhouses and so they will zone for townhouses. That may not be what the market wants, but that's what the planner wants and, of course, that's what the architect thinks would be really snazzy and he had a course on that once that said that was a good thing to do to save land. And so, as a result, you tend to get the will of the physical planner being imposed on the consumer and a certain disregard of what the marketplace would want. Much, of course, like the current issue of the convention center. In any event, as somebody I think once said, I think it was Dave Gruen, was a very brilliant consultant on the west coast said, "If you have to choose, between the half assed concepts of a planner and a half assed democratic process, choose the democratic process, at least it's democratic." And that, of course, the planning process chooses not to do if it can possible avoid it. Individuals, of course, responsible for housing principles and land use regulations quite often don't understand what the economic dynamics and feedback will actually be. The process is obviously rather complex and much like the weather, we're not quite sure what the adverse results of cutting the Brazilian forest will be, but we know it's going to be different and we also have some sense that it may not be positive but what the total workout of the impact of changing will be.

Classic example affecting all of you a few years ago was the University suddenly deciding that they did not want to be in ? tarentis locus and you could live anywhere you wanted to so that suddenly 16,000 students no longer had to live in dormitories or buildings that had house mothers and hours and social programs on Sunday. And suddenly the Regents and the Towers and the Wisconsin Hall and a number of other facilities that were built to accommodate that regulation, are obsolete overnight and are empty and bankrupt and foreclosed. And, by the same token, the students that didn't want to live more than a mile from campus found rents moving up 15%, 20%, 25% because son of a gun the law of supply and demand really works. That if you turn 16,000 additional potential tenants loose on the market and the market is incapable of responding very quickly to increase the supply, indeed the land area available to increase the supply is rather limited if you spin a mile circle off of Bascom Hill and subtract the land and subtract the campus, there's not a lot of additional land area that you can develop with student apartments at a price that you can afford. And so, obviously, the price mechanism very quickly gets twisted with what began with a perfectly meritorious conclusion is that people are old enough to make up their own decisions as to where they want to live. You can't argue with that, you know, that's a fairly obvious truism but by simply changing that very simplistic regulation overnight by the strike

of a pen, you know, it's taken 15 years to work out some kind of equilibrium between the price structure of dormitories and the price structure of apartments and where people want to live and as they work through that, suddenly instead of having one ward that was not student dominated, you have four wards that are student dominated and four more wards that are trying to figure out through the zoning code how they can prevent from being student dominated and protect the price structures so that residents with children and families and jobs and so forth, in Madison don't have to compete with students getting together in 3 and 4 and bidding up the price of rent. So, you know, fifteen years later we're still trying to work out the consequences of a decision that said, "Let folks live where they want." - which is not unreasonable but, nevertheless, obviously it is easier to do with a stroke of a pen than it is to correct the supply and demand imbalance as a result of that decision. Land use policies for collective consumers often can also harm the individual consumers.

First of all, many agencies are simply going to do what they want to do because their group behavior can be distorted by other votes. For example, the FHA in trying to demonstrate fiscal conservancy begins to redline parts of the cities which they felt were poor investment risks. Now you can't fault them for, as a government agency, wanting to do that which is financially

responsible. But their inability, or unwillingness to accept risk meant that capital is denied those areas in town which perhaps need it most for rehabilitation. When that is finally perceived, as it was in the early 70's, there's government regulations designed to provide fiscal responsibility to the Savings and Loan Associations actually being accountable for some of the dry rot in our older neighborhoods, obviously you have to remove that restriction. Then you have to say to yourself, OK how much risk can a public agency take in the name of advancing other more socially desirable objectives. Can we make loans on apartment projects that are likely to get plowed under because the residents picked them apart or because management doesn't have the incentive to manage them as strongly as it does to build them, etc. What kinds of risk can a public agency take in guaranteeing loans and making direct loans, in encouraging construction and development of certain kinds of facilities which are marginal to begin with in terms of their eventual business success. And although the politicians who takes those risks and loses, in fact, be tarred and feathered with having made that social judgment and have his career come to an abrupt end because of what are perceived to be "scandaled" in the administration of that particular program. Very, very difficult element to decide.

In a reasonably free society as an individual one is permitted to be a damn fool. As an administrator of a free

society, agencies expected to be above reproach and to be rational and prudent at all times.

Obviously there are a number of ways to attack problems relative to growth management. Rammapo(?) and Petaluma represent in your readings very specific, direct recognition of the problem. How do we control the pace of development so that our public infrastructure can gradually absorb the children into our schools and we can gradually extend the sewer and water to the new projects and so forth. Both of them were under desperate pressure from the migration out from New York. Migration, in the case of Rammapo and migration out from San Francisco in the case of Petaluma. And they needed to come up with a response and they addressed it very directly and said is what we're going to do to try and assimilate, as it were, a very rapid rate of growth into an existing community. On the other hand there are more oblique ways to do that. Fairfax County and Marin County represent classic examples of how to do it obliquely. Fairfax County in the name of environmentalism said, "Our sewer system is overloaded, we can't process any more sewage and therefore we will put a moratorium on building permits until such time as we get our sewer capacities expanded," and then they voted not to expand the sewer capacity! Now if you look at it on the one side they're doing it in the name of health, again and environmentalism and on the other side they're saying, "Hey,

we've got ours let everybody go to Maryland or go to the next county, Fairfax has got enough trouble." That's called cast iron zoning - simply is controlled by how fast you spread out the infrastructure. Marin County of course got bit on their own strategy when requested the funds - the creation of further public reservoirs for water- they refused and voted down the bond issue and a couple of years later ran out of water. They didn't have enough capacity for the folks that were there, let alone perhaps new folks that would come in and literally for a summer there, for incoming residents, would have to go to work before they could use the toilet and the last thing they would do before as they came home was fill up a 5 gallon bucket of water in San Francisco and take it home so they'd have something to do the dishes with that night. Growth management backfired as well it may have should have. The American way, of course, is that you get what you pay for. The problem is that as we mentioned earlier are accounting systems don't always work very well in terms of what you pay for. There are several systems which are not on your notes which we should identify currently as a way to try to correct that.

One, I want to call exactions. Major cities like Boston, San Francisco and others are stating that really as a condition of getting a building permit for an office building, or a hotel, or some other commercial structure, that you will provide so many

housing units together with or as part of your office project.

The direct premise is that let's say rents of apartments are too high in downtown San Francisco, for office workers, therefore we will create a pool of apartments for office workers in the downtown area which will then take some of the pressure off our commuting system and will provide housing at a price that will hold people downtown to be supportive of our retail and so forth and so on. That kind of exaction simply adds, of course, to the cost of construction of the existing project but they can get away with it in Boston or San Francisco and a few other markets where downtown office rents are high enough that there's sufficient spread between the cost to construct and the value once created that they can, in fact, subsidize the development of housing in that particular area.

A second type of exaction in the residential area is the payment of flat fees to the park department, to the school board, to perhaps a recreational utility which will presumably go to future development of schools, parks and other public amenities.

These exactions may represent as much as 25% or more of the cost of a lot. So that if you pay \$25,000 for a lot in the west side of Madison, presently, at least \$5,000 of that probably represents direct and indirect contributions to infrastructure extension, park expansion and greenway capacity for stormwater and so forth. And, obviously, you're making up for perhaps not

having provided adequate space for others in the past. And you're correcting not only for the demands created by your particular subdivision, but also for the shortfall in earlier planning for earlier developments.

A third type of exaction on the developer is time exaction rather than a dollar and cents exaction. There was a time probably when you could process, and still is in some communities like Dallas and so on, you could process a plat in maybe one or two months time. Probably in Wisconsin it's anywhere from 12 to 18 months to process a residential plat by the time you have negotiated with the neighborhood association, the alder person, the city planning department, the state highway board, the department of natural resources and all of the others that have a kick at the cat as it goes through the preliminary planning process and arrive at a finished plat which is available for sale. When the meter is running on that, of course, in terms of interest costs in terms of the additional legal and planning costs involved and hour after hour after hour of meeting of professionals and if you want to be a developer and cry just a little bit, you go to a city council meeting in which your planner and your lawyer and your civil engineer arrive at the beginning of the meeting, let's say at 6pm in the evening, and they finally get to your case at 11pm and postpone it til the next meeting. They have each logged 5 hours at \$100 an hour each

and you have nothing to show for it and you now go back to the next meeting and now discover they want something changed, which will not only will cost you money but the planning of it will cost you money and the planning you've already done gets scrapped and you start off in a new direction. The sunk cost in people time in going through the democratic process is tremendous. Ultimately that gets logged in usually to the price of the product. The exaction on human energy, that added significant cost, becomes a major factor in the product price of the product.

Now, obviously much of this is good. Much of it is virtue in conflict. I need to sensitize the developer and the consumer to larger systematic issues of the development process. So some of this becomes simply harassment for growth management and really reflects a values decision that we will have both management by default rather than by explicit legislation and cause the newer arrivals and the newer families to look elsewhere - to go to Fitchburg or go to Sun Prairie rather than to settle in Madison and become a capital budgeting problem for Madison. And that question is still unresolved as to who benefits and who pays for regulation. And how do we begin to sort out which regulation has a cost benefit ratio which is positive and which details of regulation, in fact, have a negative cost benefit factor to the general public. We're still sorting that out.

. . . in the same format. And so if you'll go to the second page of the handout we'll begin with essentially a facsimile of a clear output. We've retyped it because the initial original was relatively illegible once duplicated. And we drive off the fact that there is some market demand of the area. Apparently this is an area of relatively high growth just outside of Philadelphia, and a market study by RSW has indicated there's an absorption rate of about 1,670 units, residential units each year. DU stands for dwelling units and there's a common planning nomenclature. One of the interesting parts about this model that it recognizes that in any modeling process the validity is really dependent upon the assumption. All you get when you take a financial projection is a set of assumptions about the future. And it's certainly important to know who made the assumption on what basis and could those that are to be persuaded by this model accept the, let's say, unbiased and reliability of those that made the assumption. So in this case the real housing demand that's been estimated by RSW - so if I were sitting on the city council I might be a little nervous and say, "Gee they're working for the client. What does an independent research organization say here or what does my own demographer and planning department say about the rate of increase in demand for dwelling units?" But at least it's flagged here as where did this number come from? And I as the reader can decide whether I will accept that

number or challenge it and ask for some other perhaps with a vested interest. The average development pace required by the developer is 100 units a year. Undoubtedly this developer has a staff and he's decided from the business planning standpoint that he has to build 100 dwelling units a year in order to keep his staff fully employed, cover his overhead and get the desired rate of turnover on his working capital. So that's the target. And the benefit factor from that first of all is a risk factor in marketing which says really to achieve his break-even point, he's got to capture about 6% of the available market in order to make and meet his business plan. Capture rate is a current levelment in measuring market risk in real estate. If, let's say, there's a 400,000 square foot demand for office space in downtown Milwaukee and you're going to build an 800,000 square foot building, what's you're really saying is if I'm going to fill it in two years, I virtually have to get all of the available business for two solid years in order to meet my projected goals.

When the capture rate, on the other hand, is less than 10% of the total market there's a great deal of cushion for competition.

Other people building a similar product and going after the same apple as it were and it's a much more achievable and realistic marketing objective. So capture rate becomes a risk management ratio. The higher the capture rate, the less likely you are to achieve that, given the surprise of other people arriving with

competitive products and so on. Well, in this case the capture rate is a realistic 6.3%. The gross site area is a given at 73.1 acres - apparently that remains after everything else has been dedicated off. And of that 73.1 acres the land analysis has determined that a half acre has to be developed in commercial purposes, let's say a PDQ on the corner for convenience. A major road right of ways are going to take 8.9 acres to be dedicated to the public. Open space is 10.9 acres - almost 11 acres, and that presumably is areas with high slope, perhaps a water, wetland situation - other areas that you wouldn't want to develop and if you can put those together into a workable open space program, why that becomes one of the aesthetic amenities of the project. And finally, they've allocated about 1 acre to a community facility of some sort - either a meeting house or a tennis court or swimming pool or something of that kind. And so, as a result, once you remove that there's about 51.6 acres of land available for development. Sometimes referred to as net acres available for development. That comes off the physical plan which we don't have here. The type of units that are being proposed for development are garden departments which are called GA. This particular scheme is going to have 50% of the units built with garden apartments, 42% will be townhouses and only 8% will be single family. And the net density of those is about 15 garden apartment per acre, about 8 townhouses per acre and about 6

single family homes per acre. Fifteen garden apartments per acre is relatively low. That's about 3,000 square feet of land per apartment, that's fairly generous. In Madison you're required to have about 1,000 square feet of land per apartment. So we're talking essentially a relatively low density type of project. California regularly achieved about 35 to 45 apartments per acre, net acres of development land. Packing them and building them fairly tightly and then doing very intensive landscaping between the units so you can't look into the window of your neighbor's apartment and where you have a climate that allows the leaves to stay on the trees or the trees to stay green all year that works. Where you have a climate like ours where a large part of the time, that does not provide a buffer. Obviously, it doesn't work. The six units of single family per net acre however is relatively high. Here in Madison probably it would be closer to 2 and a half to three assuming a lot of the 10,000 to 14,000 square feet. The number of units then that we can get on this particular parcel is about 260 garden apartments, 219 townhouses and only 42 single family homes for a total of 521 units and the acreages are allocated there and approximately 7.1 dwelling units per acre would be a modest density - not a very intensive development as planned unit developments go.

OK. The last of the total business plan here is that the developer expects to be a year in process of getting approval of

plats, putting in the roads and so forth. So in project year one there will be no units sold or produced. Entirely budget year number 2 there will be a total of 100 units produced and through project number six which is called a build-out year, the last 121 units will be produced and again that is the client's schedule and it's hoped that he can maintain the necessary production to support his overhead at 100 units per year more or less. The anticipated sales price at the time this was done which was, I think this one is a model that was done about 1975, was \$18,500 for a garden apartment. You can multiply that by that by about 2 and a half and be right about where you should be in '86 terms. Townhouses at \$25,000 again by 2 and a half, you would suggest a project \$65,000 to \$70,000, and a single family home multiplied by 2 and a half would suggest what? 65 and 16 is somewhere in the \$75,000 range so that's a relatively modest single family home a "starter" as they say. And the expected occupancy per unit is about 2 persons in a garden apartment on the average. A townhouse will have 3 persons on the average and a single family home about 3.5 persons on the average. And that statistic comes from analysis of that particular county and what the pattern of residency is and therefore hopefully is regarded as an acceptable statistic to the planning commission that's going to make the decision on that.

And the number of school children per unit is about .2 of the garden apartment, .7 of a child in a townhouse and 1.2% of a child in a single family home. And, again, notice that the garden apartment tends to put very little burden on the school board, but nevertheless produces a significant addition of tax base and so on.

The other environmental modes that are created by the project are in the table at the bottom which kind of summarizes that they go forward with that mix with, the number of units and the persons and so forth and so on. Then they want to know what the peak traffic will be generated per hour by each unit, in terms of vehicle movement, and therefore load on the collector and the adjacent streets. They need to know what the sewage capacities are going to have to be in terms of gallons of water per day per resident. And, again, the water per residential unit, per gallon per day. And notice those are about equal in that most of the water used is simply used as a transportation medium for the sewage. That the great balance of the water consumption goes right through the toilet bowl or is used to drain the kitchen dish water and so forth. And so one of the great luxuries in this country is using water as a transportation medium for our waste, rather than really using the water to ingest and to cook and so forth which is a relatively minor portion of the total consumption. Other countries are moving

toward sewage systems which move the solids of waste and so forth with pneumatic and vacuum systems because that obviously puts much less of a burden on their surface water capacities and does not mean that you then have to process all of that water and clean it up before you can get it back into the natural circulation system. The coverage per unit of each structure is a critical element in determining what the new water runoff will be as a result of rain storms. Each garden apartment will produce 1,277 square feet of asphalt and otherwise covered surface area with a significant reduction therefore in the ability of the open areas to absorb water from rainfall and snowmelt and so on which puts it into motion obviously and means that at some point we have to have a collector that's capable of handling so many gallons of runoff of rain and snow water and we have to have some place to go with it and some way, perhaps, to control the speed with which it runs off and therefore the erosion and other capacity problems of the system.

That gives us a summary then of the loads that have to be accommodated and obviously it's in the public interest to do anything you can to reduce the amount of coverage on the surface, to reduce the water consumption, reduce the traffic loads on the available systems and so on. In any event, you don't want to produce a project which overloads the existing capacity of the

storm water or the sewer or the water system to handle the increment in growth.

The impact on the school district is the first one we'll look at here is, "School District Feasibility Based On Current Costs And Residents". School District Feasibility, yea, we'll start there, that's fine - slightly out of sync but that's fine.

Obviously, the school board is going to be interested in how they are going to have to anticipate and accommodate the increasing school ? population. Where we have a net increase in school children and none in the first year and none in the second year as people move in but 74 kids show up for registration in the third year and another 123 in the fourth year and so on. And the taxable, ratable base on which the school board can raise revenues to pay for these is provided in terms of the taxable land that is unsold, the site development that has gone into the creation of the lots and so forth. The value of the residential construction and sales and the nonresidential sales and land, if any, and you end up with what's called the total ratable tax base that is created each year to provide a base for raising revenue for the school board. So in the first year, \$4,800,000 are generated. By the second year \$20,500,000 and so forth, until finally the project's when completed will, in fact, produce what? \$116,495,000 of new ratable tax base from these set of homes. The revenue is based on the mill rate for the school board only

is then provided. And then they begin to look at the expenditures. There's two kinds of expenditures, obviously, the variable cost of handling one additional or more child and then second of all the capital cost when they begin to exceed the capacity of the existing building. And apparently they'll have to add a classroom we're told as a result of this development and so they're charging the \$48,600 a year for the variable cost and the \$32,214 debt service charge for creating the new classroom to accommodate this influx of students. That doesn't mean they're going to build one lone classroom someplace but obviously other developments, other things taking place in the community may, at one point, or another accumulate to an additional elementary school and an additional junior high capacity or something of that sort. So remember what we said the other day, one of the real problems we have is our accounting system. How do we internalize into the project the external costs that we impose on other aspects of the community by the creation of our development. And here is one way of attempting to do that. And we ended up with a total expenditures against the total revenues and notice this particular land use mix produces a very decided positive cash flow for the school board each year. Starting as low as \$9,000 in the first year and eventually moving up to \$16,000 a year in the 6th year with a cumulative surplus by the end of the 6th year of over \$100,000 for the school board. As a

result, the school board should be favorably disposed toward the project just in helping them solve their other problems by creating hopefully a surplus relative to their budget requirements.

By the same token the municipal government should be ecstatic. In the first year alone they really don't have any new residents, there's really not very much to do while the planners work with the developer and they have a \$16,000 incremented surplus. If each new resident costs them another \$105 for police and fire protection and library services and snowplowing and whatever else and that, obviously, is a variable cost, something to ? skips in magnitude and scale. Why they are doing very well.

Their total ratable tax base is rising and by the end of the sixth year they have an annual surplus of \$245,000 and a cumulative surplus of \$791,000 from this particular project. As a result, the community is making money by permitting the developer to go forward and make money. Now, by the same token, the developer might decide when looking at this that he is making too much money - that if the alder person on the ward says well, "Gee while you're main street is entering into the main traffic artery in town, we want you to build a stop light for \$45,000." The developer can come back and say, "Hey, wait a minute, hold everything here. We've got a \$245,000 profit in year 6 when the traffic begins, you can afford \$45,000 for a stop light." Now

let's look at the relative profits that are going on between what the community's going to make based on its new tax base and the cost of services and what I'm going to make, and, at this point, maybe you ought to invest something in your future. You can buy income stream here by putting in a stop light and, you know, doing whatever else they feel should be corrected as a result of this additional development. Now, of course one of the great ironies here is that the town board is the one typically that gets to approve the planning process. The school board does not. You'll notice the school board process is present but is relatively marginal. The town board is doing handsomely. The town board may not have any great incentive for changing the land use mix because it can do as well with a single family housing as without and yet they're the ones in charge of the decision and the school board is the one that has to figure out what to do about it. The school board may not even be asked to participate in the planning process. But they will be required, of course, to provide capacities for the children that are brought in by the planning process. Unless the town board is cognizant that something is due, the interaction here between the tax rate which they can charge and the tax rate which the school board can charge, you could actually have a situation here where instead of pocketing the money, the city council simply reduced their mill rate and, as a result, passed back the savings to the taxpayer on

their side and the mill rate for the school board went up and then the politicians who appointed the guys on the school board to say, "These spendthrifts aren't doing what they can to hold down your real estate taxes." So there's always that problem that those with the authority to make the decision relative to the planning board may have a narrower perspective as to what is their self interest than those that are all impacted by that decision to permit certain kinds of development.

On the next page we have a brief summary of the developer's estimated costs of development and his total project costs in the aggregate with the anticipation that about a 15% profit margin will be available for him. Hopefully he may be able to take home about \$1,745,000 of the total projected sales on the project. Now that's a fairly substantial number in this particular case, it doesn't necessarily show the leverage required because while there's a deduction for the interest expense on his money, there's no revelation of the return of capital that had to be advanced. So his cash flows will, in fact, be less and you have the present value of the distributable cash to the developer to get his real return.

Spread over time, it's a little more revealing on what the risk position of the developer is. First of all, he's going to be drawing down on his land acquisitions - 15 acres at a time. His construction will begin in the second year and his sales

start to finally close and produce revenue in the third year, so that we don't see our first revenues until the end of the third year or \$3,354,000. The expenditures, of course began considerably earlier than that. We have the downstroke on the land and the carrying costs on the land. We have all of the various fees that are involved in the process. Notice there's no off site construction here but most developments often require the developer to extend sewer and water from wherever it stops earlier down the road out to the development and so forth. And, we're running, therefore, considerable deficit. We have \$2,229,000 out the door in the first year and then we have a heavy flood going out in the second year with the development year until the planning year. So by the end of the second year, we're down \$1,992,000 of outlays. And much of that will have probably been financed by the developer. Fortunately, on the third year, we start to make some of that back. But he has to apply all of it to what he owes on the loan, so his negative cumulative total is still a minus \$585,000. In year four, again, as a great result, but nevertheless, we have \$350,000 positive cash flow throw-off and that's virtually wiped out by the \$585,000 that he still owes from the previous years and so he's still got a \$255,000 deficit. So it isn't until year 5 that he finally breaks into the clear with a positive cash flow of \$350,000 in and a cumulative net after paying off his advanced

loans of \$115,000 and then finally in the sixth year he does very, very well indeed. He cleans out the rest of the inventory for \$1,630,000 and doesn't owe anything on that so it's all positive cash flow. So notice there's a real time delay and as the real estate developer is halfway home and out there in the third year and then suddenly the interest rates change and they move from 9% where people can afford to buy their first home to 15% and suddenly the effective demand for his whole project is cut off. While he has the interesting problem that the expenses to continue, his carrying costs continue, his revenue goes to zero and now his cumulative debt investment starts to build again and perhaps wipe-out and offset his net worth. And this is the really vulnerable area of the development business. The fact that each of those first early years his investment in a future premise that the lots will sell and they will sell for premium prices and this is very quickly brought out by changing monetary markets and so on that he's totally dependent on the interest rates available to the homeowner. Hence, in the early seventies when the condominium developers all went out of business in Florida and some of the subdividers here in Madison went out of business, the simple fact was that consumers could no longer borrow money at a rate they could afford. Therefore, the premise of being able to sell a lot, let alone, collect cash for it, fell through. And all of the business plans that were built on that

presumption, were just blown away and so were the businessmen. And, as a result, most of the lots in Madison today are owned probably by the Savings and Loan Association or a good many of them, rather than the original developer.

OK. Now this was one proposal and as I said the internal rate of return here to the developer is 28.8% which ain't bad. I would suspect that it would be certainly higher than that once you corrected for building the whole process without a loan. If we had leveraged this, the rate of return to the developer on a good year would be 100% and on a bad year would be bankruptcy. It's a highly volatile, high risk enterprise. It's obviously in his interest to have different products. If the apartment product is going, you must be able to sell garden apartments. If the townhouse market is moving, you must be able to do that. And if the single family market is in demand, you must be able to offer that product. The object ultimately is to sell off the land. And quite often if you have to build the house or build the apartment building, simply as a way of selling the land. I know it seems ironic, but most of the profit center would be in the land. You might, for example, sell a \$25,000 lot in which he would have let's say \$12,500 profit and he would then go to all the work of building a \$100,000 house on the lot and he would be lucky to net \$5,000 on the house after all the other costs had been paid. But in order to move the lot, he's got to build the

house. And, as a result, you often get that kind of imbalance in your business - if you're taking terrific risks on the home loan and construction loan and hope that you can sell that house into a segment of the market in order to move the lot. My father was in the paper box and corrugated container business. For years he made all his money on the corrugated paper machine but nobody wanted stacks and stacks of cardboard sheets with wrinkles in the middle until they put corners on them and tops on them and printed them and so forth. So everything he did after he made cardboard was to get rid of all that damn cardboard. And that was the only way he could move the paper. So the building business and the home building business is often in the same boat. That once you have created a very attractive subdivision and so forth, everything you do after that _____ much and quite often you'll be in the home building business and the apartment business and so forth. The greater the diversification of products that you can have, obviously the more stability that you can have and the more response then you have to changing markets.

Now let's look at what the community wants the developer to do with their single family lot for zoning. Under the existing zoning in this particular proposal the community wants single family only and they will permit two different sizes of single family. And so they have a deluxe single family there for about

80% then and somewhat lower cost single family unit. And the prices and persons per unit, the school children per unit, all of the other factors that we had before. Notice the total coverage including all the impervious surfaces of this project at 21.9% is virtually the same as the other project where we have higher density units - in fact it's a little worse than the other project. Certainly the amount of water used in terms of gallons per day per dwelling unit and the amount of traffic generated and so forth is all somewhat greater than in the previous plan. Now as we look at the school district's budget on the next page, we're adding a lot more children coming into the program because everybody lives in a single family home and probably in the child rearing state and at the same time the total ratable tax base is significantly less than before. So our revenues chug along there at Roman Numeral II and our expenditures per child starts to take off about the 4th and 5th years and now if we look at the total expenditures necessary to handle additional capital expansion of our facilities maybe with another couple of classrooms we're at \$45,100 for the 32 something. Our total expenditures are taking off and our annual surplus which began so happily in the 4th year turns negative in the 3rd year as the children begin to show up and by the end of the 6th year, you now have a \$100,000 deficit cumulative and a \$70,000 annual deficit in which the school board has to find funds from other tax base in order to educate the

children brought in by this completed single family subdivision.

From the school board's standpoint instead of having a project which produces a \$100,000 surplus, they have one that creates negative return in terms of cost of service and that obviously politically is not in their interest and financially is not in their interest.

On the other hand, look how the town board is doing. The town board had fewer people in town, and since they computed their costs based on a per capita basis. The result is that while their revenues declined on a smaller ratable tax base, so do their costs and so now their annual surplus instead of being \$700,000 cumulative, is \$849,000 and \$243,000 in year 6. So the town board _____ the loan and the would probably say, "Great, we'll stay on our single family zoning, it certainly doesn't do us any harm and we can use the profit." The trick, of course, is convincing them that higher density and lower school children factor is a very desirable entity. The town lawyer looking at that top line and saying, "Wow, by, let's say, the 6th year we're going to have 970 new residents in town and let's say that 600 of them are voting residents." And the power core in town, let's say, won the election last time between the old timers in town that, let's say, voted 700 votes for mayor against the newcomers in town that had 300 votes. And now they look over and say oh oh here 600 new votes. That's 1,000 against the 700.

They need to decide if they want to put a cap on the whole thing. They really aren't anxious to see a progressive increase of new voters coming into their particular ward which will disrupt their traditional political power base. So the town board may be looking at this not simply on a financial standpoint but from a political standpoint. You know, what is my political career going to be worth if we now have a whole bunch of new young folks with children who want a fancy school and want us to create a swimming pool for the kids in the summer and so forth and so on. And, golly gee that's going to kind of disrupt things around here. Maybe we can have some subdivision regulation that are so onerous nobody will build anything and we can stay in power until our pension is due and really can sidestep all of the issues that would come with growth. So, in effect, they could look very virtuous and say, "All right, we'll stay on our single family zoning only and take a look at the next phase as to what that does to the builder."

If the builder were to embark on that program in terms of his total cost versus his sales revenues he's going to lose about \$970,000 on the project and his project sales rates would be way off in terms his ability to market his product and he would run out of money before he finished the project. So that the builder looking at the single family or nothin' alternative is obviously going to take the "or nothin'" alternative and move on to the

next township or the next village in which he can find land that is properly zoned for what he wants to accomplish and so on. As I say, the town board is perfectly happy with seeing him move on because that means that the number of new residents isn't going to tip over the political balance that exists in that particular community. On the other hand, they may be a growth minded board but nevertheless, growth minded with a need for fiscal solvency and be willing to re-negotiate the land use mix to somewhere between the single family solution which is disastrous and the heavy garden apartments and townhouse solution which was perhaps too dense for the community and, nevertheless, produces a great surplus. There's obviously room to negotiate here and find that solution which perhaps produces more single family homes but, nevertheless, does not drive either the school board or the developer into bankruptcy.

Now this type of fiscal impact analysis as a way of justifying a project becomes more and more part of what we call the environmental impact analysis of the project. Not only are we concerned with the environmental and ecological systems which may be affected or disaffected by the project but more and more we're becoming concerned with the various fee accounts of the various enterprises that will be affected by the project. Notice one of the major arguments on the convention center project is, "OK, we got two hotels that are a break even at 60% capacity. If

we build this third hotel with public subsidy funds, and they have to split the same market they had before, they're all going to be running at less than break even point and the result is that the two hotels that exist will be in for a significant reductions on their tax valuation and a loss of tax revenues on those two hotels may not be offset by any increase in tax revenues on the new hotel." Or if we build a convention center that is publicly owned on land that was formerly privately owned, we're taking money off the tax base and that really should be directly costed to that kind of project. Most real estate today in any community is going to be argued and justified in terms of public regulations on what it does to the fiscal characteristics of those that are affected - the school board, the city council and perhaps the water and sewer district or the parking utility.

Notice that parking utility has reached virtually its bonding capacity - that if they were to be required to build an additional public parking ramp at this time, they will be in effect be paying a premium because the debt cover ratio will be out of whack relative to the most desirable interest rate and in addition, of course, the government has changed the rules on tax exempt interest rates for parking utilities in which more than 10% of the capacity is devoted to a private facility and that changes again the fiscal impact of a project dependent on a public parking lot for its viability. More and more the argument

is whether a project should be permitted or what size project should be permitted or what mix of uses should be permitted are being decided on the fiscal impact of that project on the various public authorities that are involved. That fiscal impact can be regarded in a very parochial view simply because, let's say, the city council controls the planning commission and they can decide it purely from the city's point of view or it's being decided on a more statesman-like view which says, "Gee we really need to consider all of the jurisdictions that are going to be adversely affected." Can we find a solution to the convention center that respects the county's need to make the coliseum break even? Is there a way of dividing up delegate type meetings downtown and trade shows with boats and sports equipment and cattle and horses and all that sort of thing with the kind of facilities we have at the coliseum. It's a very statesman-like way of saying, "Hey, in defining a land use decision downtown we're having impact on other government entities that are not necessarily represented in the planning process." The county has no opportunity to comment on the size, type and location of the convention center. They can only argue presumably from a rational standpoint that we're taxpayers in both divisions. That those of us who live here and pay taxes in the county as well as in the city and while we may make a small profit in the city, if that makes a county facility go into the red, ultimately we're going to pay for that in terms

of a subsidy provided from the county standpoint. We're beginning to understand much more than we ever did before the organic and complex interrelationships of the cash flows of our government and our private sectors and the need to properly internalize the costs of a project at the time we're in the planning process so that we arrive at the optimal mix that will allow all parties affected to remain solvent and hopefully protect that surplus on which they require credibility and then, perhaps, look at rate of return measures of capital efficiency and so on. The question of who benefits and who pays has become very operational in the political process. And some of our politicians are seeing that honestly and directly and others trying to offiscate(?) it with phony numbers and presumed benefits that are immeasurable but, nevertheless, being tallied on the side of the good. Witness, for example, the recent statement by the city planning department that if we build a convention center downtown it will add 600 housing units downtown. Now you read the small print and it says at a rate of 30 per year. Which means somehow the convention center will be producing 20 houses a year or 30 houses a year for 20 years. That cause and effect relationship is highly suspect. Either that is the presumed public benefit of that dollar you're reaching baby, that's a little far out in terms of fiscal balance. How many of you would like to have your apartment

directly across the street from the convention center anyway?

Obviously, it's just a short _____, you know, beyond that, it's very, very doubtful that anybody is going to relocate from the suburbs to live next door to a convention center. The same argument is being made in the building convention center that the office space that went to the west side of town will return downtown. That's an interesting concept. They went west to find parking is what they suggested and a parking stall that might have their name on it. And now you're asking them to bring their office back downtown to a convention center which presumably was justified on its ability to bring 10 or 12,000 people to town at a particular point in time and fill up all the parking spaces - something wrong there some place. You want to be very careful on the specious arguments that are made about fiscal balance. Be sure that there is a real cause and effect relationship between revenues and costs because, obviously, those who are opposed are particularly use will exaggerate the costs and those who are pro a certain use will tend to offiscale(?) the revenues. Now easily project over longer periods of time that it is really feasible to do, given our limited accounting and financial foresight, at this particular point in time. Nevertheless, the arguments will made more and more, not on the private investment return, but on, in fact, the impact on the public benefit and payoff on public capital invested. Thank you. See you Monday.

(Referring to slides) . . . program which hopefully would structure a community which balanced the urbanity of a full scale downtown with the best of suburban life and hopefully encouraged political activism and proprietary identification with the town among the residents. And this is just an initial introduction to downtown which is the motel in the downtown area, the village just to the left is the four theater cinema and it is surrounded by low rise office buildings and so on.

The major shopping center assemblage which is Rouse's forte was built essentially in three major stages with the parallel line across the top of the T and initially then the whiter roof leg and finally a major Sears and additional department stores at the final end here. It is tied to the office district in downtown area along the lake by a pedestrian bridge and all of the road systems feed into this particular system. As we pointed out there are very subtle balancing of the parking at different levels so that they can generate a relatively even pedestrian flow into the two levels of the center. And this has become the regional center, not only for Columbia, but for considerable area around in addition.

(next slide) The first point of arrival for the initiate into Columbia is called the Visitor's Center. The Visitor's Center is typical of the Rouse style in that he attempted to economize here - this is a straight industrial steel building,

dolled up, put down on the lakeshore. You can see the riffraff along the water's shore and so forth. And it was really designed to 1) provide a slide story and a little amphitheater for the visitor to become familiar with the Columbia story and what it is attempting to accomplish - at the upper level there is a display for each of the builders that buy lots in Columbia and develop homes or apartments to tell their story and show their current models and so on and the lower level is the public relations department that provides a local newspaper, welcome wagon services, a variety of other marketing services. And because he felt that in the long run this lot would be a very valuable downtown site, he wanted a building that was demountable and could be removed and that site developed further toward the end of the final development process in Columbia.

(next slide) This is the interior of that building with current photography on one side, amphitheater on the other and so on. And very inexpensive display space. Each builder is entitled to a cubicle and sales display point. Again, the first office building is a three-story building there which you see is called the Teacher's Building because it was financed by the Teacher's Life Insurance Co. that was willing to take a chance on Mr. Rouse.

One of the less attractive aspects of the downtown early development is extensive parking lots which are not particularly

well landscaped and more recent developments have gone to the more Texas style parking ramp tied directly into the structures.

The lakeshore is done with fountains and terraces and they make quite an effort to create a number of civic events so that people become familiar with the downtown center.

This is one of the residential supporting lakes. Again, all of the boats are owned by the recreational utility. This is the American City Building which became the corporate headquarters for the Rouse Company and for the Enterprise Corporation which is a spin off of the Rouse Company which the student spent some time with on Sunday. The Enterprise Corporation headed up by Rouse and, which is his primary drive today, builds specialty shopping centers at selected areas, particularly along the water, such as the one up in New York City, the one in Baltimore, Cincinnati and other areas of that sort, Minneapolis currently has a project. And he takes the profits that are created in that town from the shopping center and plows them back into nonprofit low rent housing, using it as seed money to create entrepreneurial groups among the minorities and among the low income neighborhoods so that they can have some participation in the development of new housing within their area so that ultimately it's a zero sum game, the Enterprise Company is simply designed to create capital with which to fund the entrepreneurial redevelopment of housing in lower income and somewhat declining areas.

One of the typical office buildings brought in to provide economic base. Recreational amenities of the downtown lakeshore. Again use of the water to create some distance between the downtown area and very high density residential development. Remember if you're going to start a shopping center, if you're going to start a school system and so forth, you need a lot of residents to spend money that will justify merchants leasing space and paying a reasonable rents initially and so the initial push of this development, like so many other new town developments, it's a very high density housing. And then market that to the yuppie market. So this is a very popular place for the flight attendants and pilots and so forth that work out of, say, Baltimore's Friendship Airport. It's a popular area for people who work in Washington in the government sectors and particularly those that are working in government offices that are straight off of Silver Springs North and into the countryside for major federal installations.

One of the intriguing things, that's a relatively old slide of the shopping center, it was before the addition was built on the back and when you go out there now, it's hard to find what looks like that because all of the trees and the vegetation have grown up. It's a completely different atmosphere.

The double level walls, the clock is always a typical Rouse touch so that people can tell their kids where to locate them at

a particular point in time. Meet us at the base of the clock, etc.

The fountains again become part of the decor and the sound control and so on. The thing that's always intrigued me is the fact that small children can walk right into the water, there's nothing to prevent them from falling right through. The other thing that intrigues me is the dollar take on the pennies thrown in the fountains. I've never understood that, but if I could have any concession in all of the shopping center I would like to have the fountain. (laughter)

Again some of on the intriguing water sculpture. Now you get the overview if you can remember the schematic that we showed you the other day. The Interstate 29 coming across the top left-hand corner, the downtown connected to that at the north and the south ends by a major connector boulevard which swirls through and which provides a separator between the commercial office areas adjacent to the lakeshore and the shopping center to the north and some of the early residential neighborhoods developing here along the second manmade lake, called Wilde Village with an "e" on it. I'm not sure that's because the plant tenants live there or what. The first of the major developments.

One of the interesting moves that he made was to dedicate a portion of the woods that was immediately adjacent to downtown to a symphony orchestra music pavilion and convinced Mrs.

Maryweather Post to finance that with a charitable gift which further subsidized the Washington Symphony Orchestra, making this their summer headquarters. That's the pavilion. Let's go right on past that.

Now, one of the major problems you have obviously is providing public services, police and fire and so on. It's not something that you want to create really from scratch. So here was an area in which county government stepped in and took responsibility for what we'll called the safety function of government in terms of fire and police, and Rouse contributed heavily toward the development of an adequate capital base to these facilities, building the fire stations, helping to purchase the fire engines and, in effect, keeping the cost impact of expanding these services rapidly internal to the community so that the balance of the residents in Howard County were not feeling imposed on by the necessity of raising their taxes and funding services, obviously, for the Johnny-come-lately in Columbia.

This is a medical center developed in conjunction with John Hopkins and the front building is part of the outpatient medical clinic services, the back building is a general hospital that handles the run of the mill type of things and then more serious situations and special situations are then referred back to the John Hopkins medical complex in Baltimore which provides a superb

medical package to the residents. Indeed, one of the major incentives for the people living in Columbia has become the desire to be within the service network of the HMO which is not only reasonably priced but has gained a reputation for house-call service and rather high quality medical element so that a prospective resident has a choice to living in a subdivision that perhaps merely adjacent to or even totally surrounded by Columbia but not within its jurisdiction and living within the Columbia network, they would prefer to live in the Columbia network, simply to quality for the benefits that go with the territory.

One of the major coups initially, of course, was securing an industrial base. Rouse did not simply want to create a bedroom community which stole the upper income residents from Baltimore and Washington, he wanted a totally self contained element and about the time he began this, General Electric was searching for an environment in which to locate all production of appliances on the eastern coast and so they centered their appliance park facility in Columbia, requiring an additional 1,500 acres of land to be purchased by Rouse to accommodate them. And so very early in the game he had an initial industrial base and economic base and additionally a high silhouette quality tenants in his industrial park and he was able therefore to avoid being labeled simply as a residential bedroom suburb in newtown close.

Since then there's been tremendous expansion of the industrial park. Much of it is in the wholesale distributing. Major importers of foreign cars and foreign appliances and so forth find the Baltimore port extremely favorable in terms of handling the goods and you have here in Columbia access to about 35,000,000 people within about 300 miles so that it becomes a major distribution point for imports and wholesaling of all types.

The second major component once we move from the downtown is the so-called Village Center. The Village Center represented those kinds of things which require a basic aggregation of population to support a high school, to support a community shopping center with super markets and drug stores and all of the related elements that can support a church, that can support a junior high school, that can support other public facilities. Again the concept was to create one in which the car was immediately adjacent to it but not passing through it - that the internal portion or character of the center was essentially pedestrian. The second thing they wanted to do was provide joint services where there was a time match, for example, a parking lot that was suitable for a church on Sunday, could be supportive of the high school or the shopping in their respective schedules. High schools might need a parking support during the major part of the day Monday through Friday. The shopping center needed

overload parking capacity on Friday nights and Saturdays and so on and rather than pave the world with asphalt, you wanted to position those kinds of facilities so that they could be complementary to and provide a time match in terms of the use of the facilities. There was also the desire among the sociologists that rather than having each village become relatively provincial and out of touch with the other villages, a way of encouraging some sort of interaction among the villages. So each one was selected for a specific unique facility. One had the indoor ice hockey rink, another might have the bowling alley, another one might have a major indoor natatorium with swimming programs for adults as well. And therefore you would begin to encourage some interaction so that people in other villages that wanted to bowl had to go into the one where the bowling was and in the process they begin to meet and become familiar with folks from the other villages and, for that matter, other neighborhoods than their own. So one aspect of the village center was to encourage that kind of interaction among the villages and certain facilities were set up to be unique within each building to cause that kind of interaction.

Let's take a look now from the schematic to the reality of it. Here is the one of the very first, notice at the very top center the Junior High School to the right center, the Senior High School sharing certain playing fields and certain open

space where the woods are and so on and notice the high school's immediately adjacent to the wagon parking for the shopping center in the very center of the picture. The shopping center - the green corner that's there at the intersection was reserved for a church site which has been built since this picture was taken. Again notice the mix of housing units in this lower area - a early apartment project three stories high which, but then again, this picture was taken, they were relatively bare of ivy and so forth and the design was often referred to as early Russian Renaissance and there was a little lake. They have since gone in and redone the exterior surfaces of that and allowed the ivy and the landscaping to grow up and they're relatively attractive and acceptable buildings at this point in time. Notice the high rise on the next corner with, as you'll see in a moment, some condominiums at the top, the main collector street wandering through the development there but not through the shopping center and in a moment you'll see that going under that are a series of pedestrian underpasses so that as a trail system, you can walk from each neighborhood to the major shopping center without actually having to cross the major street, you can go under it instead. One of the experiments is - notice along the lower edge of the main traffic collector is another two-lane road and that was to be reserved exclusively for the bus transit system. The theory was that busses if they can move as quickly or better

than cars will be a more attractive alternative to everybody taking their own car and so they tried to design a transit system in which along the major arteries the busses had their own traffic land and therefore would not be delayed by traffic or automobile congestion. That idea did not work. People still continued to use their own car and that has since become bicycle trail and so forth for the community - but that was the original concept.

The arrival point here with a children's tot lot in the middle with supervised play and the entrance into the internally oriented shopping center around an inside patio.

This was the first of the shopping centers. It represents a number of design philosophies. One, to make people feel comfortable with shopping centers you want residential textures and materials so you have hand hewn beams, you have light textured surfaces. It's a relatively mild climate so as long as it's under a roof and protected from the rain it doesn't have to be glassed in, and you have a domestic kind of yard just beyond there with the grass and landscaping and so forth.

One of the things that any building must do as a public building is read well. People have to understand how to get to and fro. Here was a stairway coming down and it sort of got everybody and saying, "Yoo-hoo, there is another stairs and here's how you get there," sort of thing. Compare that, for

example, to the Humanities Building which nobody can figure out.

The Humanities Building is really poor architecture because it's not self explanatory. You're not quite sure how you get from A to B and, in fact, in some cases, you can't get from A to B without going outside and starting over. And so begin to critique a building. Does it explain itself well? Do you understand where the elevator is and where the stairwell is? And where the entry points are in terms of where you came in and how you get out and what level you parked on? Look at how often the people have rather primary colors on each level of the parking ramp and the last thing you see as you get into the elevator is, remember you're on yellow level or you're on the blue level, and so forth and getting you to become oriented and, obviously, reducing your sense of stress, "Oh my God, how do I find my car now?" or being embarrassed by having to walk through three levels of parking to discover where it was you left the automobile. Well, you do that a couple times, you don't come back. And the whole objective of the shopping center is to get you to come back frequently because you feel comfortable there and to stay as long as possible because the longer you stay, the more you spend. And, therefore, the building should be - so it's the very simple design details that have a lot of meaning behind them.

The exterior here is again attempting to create a village center atmosphere.

Again a few design tricks that are all very intentional. One, domestic character in terms of the texture of material - white brick and shingle is very indigenous to the area. Notice the commercial using wood framed windows and then across the top having a mansard-type freeze on essentially what is a flat-type roof, again, to provide that shingle texture that is more characteristic of domestic rather than commercial buildings. A subtlety for those of you who are a landscape architect, notice there's a small concrete edge on either side of the sidewalk, properly done that is about an eighth of an inch higher than the asphalt and as the person who is sauntering along's foot touches that concrete their directed or channeled back out on the asphalt and you don't have the grass being worn away where the asphalt and the grass come together and the pedestrian is a little sloppy as to whether he is walking on the walk or on the lawn. Notice the green grass comes right up to the concrete - nice clean edge and that little subtle turn of the ankle gives you just enough of a signal to stay on the walk and off the lawn without having to really be conscious of doing that.

This is a center plaza which has had art shows and so forth. Again, notice it takes the eye, guides it right down that strip and there is then a walkway that goes down, eventually comes to the underpass over to the apartment district - there's a

condominium apartment building on the far side with 2-story townhouses at the top of the building.

An art show on that same plaza.

One of the elements that they tried to do was bring the various kinds of fast food and filling station kinds of things into harmony with the balance of the area. In this case the fast food people are clustered around an internal patio which you can arrive at by foot from the high school, the shopping center, the junior high and so forth. Or you can arrive by car using the same parking lot that you would use for the shopping center or the high school and again the signage is controlled, the lighting is controlled so that it's down lighted and you don't have magnificent golden arches broadcasting all around the world and so forth. And whatever special of the week is on is on an inside panel on the inside of that patio wall so that once you're within it, you can find out that ice cream is the special of the week or whatever but the advertising isn't allowed to intrude on the passerby.

Here's one of the early churches in the area. We mentioned earlier that one of the things that failed here was the expectation that people would be relatively rational about the use of limited resources in the church and that we could use ecumenical buildings that all faiths would be able to use a room of appropriate scale to their congregation and that didn't work

at all. People wanted to spend their capital on a building that had character and codes to which their particular faith related and they had to go back and help a good many different faiths construct churches and reserve sites in the residential areas for that.

A filling station, again, trying to pick up the domestic and barn rural, semi-rural characteristics of the area. Notice again the softening, the Gulf symbol is there but all they're advertising is internal to the structure.

A second shopping center was then developed for the next village and in this case it took advantage of what had been a magnificent dairy farm with some major farm buildings and silos.

The silos are used in pylons to identify the area that verticality that is an accent that's important to this type of architecture and then they picked up on the barn theme as we'll see in a moment to create an inside timber-like mall.

Notice, McClear(?) stores coming in. One of the things that they have done is systematize the shopping center to get rid of the trash and so forth. Beneath this particular shopping center is a trench with a conveyor type system, corkscrew much like an automatic stoking machine for a coal furnace. People dumped their trash from their store into a little trap door in the floor that moves it down into this steel container which is then picked up by a truck and you don't get the vermin and the rats and the

cardboard boxes and the orange peels blowing in the breeze behind the center. It's a nice, neat, totally enclosed system.

One of the things they discovered was that there was returning to the American lifestyle a desire for some people to be able to run their specialty store, let's say a sewing machine store, or a fabric store or whatever, and live above that store as it became a mom and pop or family effort and so their additional shopping centers - as did restaurants - include living quarters above the stores which are either affordable by the owner/manager of the store or by some of the sales clerks often, people approaching retirement who work part-time as sales clerks and live in the immediate area adjacent to their unit.

Another fountain where children ride their bicycles through - internal to that center again.

OK, the third design module is the so-called neighborhood unit. The neighborhood unit relates to several very small scale public facilities. One is the elementary school, the second is some sort of recreational facility which includes swimming pool and tennis court - outdoor swimming pool - probably some park facility and perhaps a PDQ convenience-type milk depot outlet and possibly also a church - small denomination church. Again, the automobile is not to be intrusive. The automobile is to run tangent to that area but not through that area. And the walkways and bicycle paths and so forth are again designed to allow the

neighborhood and particularly the children to filter into this area without having to directly cross a major traffic artery. And, again, some of the facilities will be complementary to one another. The elementary school can take advantage of the swimming pool or the tennis court. The PDQ can perhaps take some advantage of the parking. The school can take partial advantage of, say, reserved park area for botanical studies or whatever. Let's take a look now at how well it's executed on that schematic.

Here is a typical neighborhood center and at the left center you have a swimming pool, tennis court, a small brown building which is a community building where the cub scouts can meet and the neighborhood can have their association meetings and so forth. Right to the front of that sharing the same parking with that facility is a PDQ service type facility. Notice the road coming in off the main collector street is a cul-de-sac so there's no through traffic other than that going directly to the elementary school at the top center. The elementary school, obviously, has open space which is supportive of the school program, but in the summer and the rest of the hours, it becomes playground for virtually everybody and open space for everybody in the immediate neighborhood. The single family homes largely are on cul-de-sacs so that they are not facing major traffic

going by the front door and the whole element is tied together pretty much like the schematics suggested it should be.

This is a little close-up of that particular school which is not on the open plan on the inside.

This is a Montessori school which has been also gifted a site so that people have alternatives to the traditional public education. The education system, aside from the private school, is run again by the Howard County School Board. Again, Rouse wanted to avoid competition with or the need for creating new public institutions which really weren't very efficient in terms of fragmentation and, in addition, tended to have created a standoffishness in terms of the other residents of Howard County so you wouldn't have gotten that cooperation in the total development process. And it was important to work cooperatively with Howard County Development Corporation and the essence of that was of course not threatening the authority or the pulse and visions of the county that had already been established by police commissions, the school board, the planning department and other groups of that sort that were just beginning to convert a rural county to an urban county.

This is the neighborhood swimming pool with the neighborhood meeting room building and bath house directly behind that.

And here's somebody just, obviously, out of cold beer headed for the PDQ.

The playground supportive of both the school and available as a resource to the kids just playing in the neighborhood. And one way of conserving the woods and keeping it off everybody's tax base is to dedicate part of that natural remaining woodland to the school board. It's part of the school site and is therefore their responsibility from an insurance standpoint and so on. But it becomes a common resource to everybody and is part of that overall goal of trying to do as little damage to the ecology as is possible when you're converting it from rural to urban in character. So that if you have a nice little patch of woods, put it into a common ownership form of some sort where there is financial responsibility and maintenance responsibility but, nevertheless, access for the community to enjoy.

Again here is part of that pedestrian system we were talking about with simply using large concrete sewer pipe as a way of creating passage ways underneath. Note the little concrete scuffer for handling rain water without erosion going down this slope and you'll also notice that around the trees there's no grass. My first trip out there I met with the folks that were setting the town and they had a crew of about fifty guys out cutting grass and most of them were trimming by hand around the trees and we told them about atrazine and what every farm boy should know I guess about control of that. And they were so appreciative of the fact that that represented substantial

savings for them, they spent the rest of the day with me, giving me the story of Columbia.

Here's again a little smaller pedestrian system taking advantage again of a walkway going into one of the apartment complexes and under the collector street going by.

These were some of the early apartment buildings - rather ugly all things considered. Those have been considerably softened by changing the textures outside, some shingles, some clapboard, and so forth, certainly changing the paint style and then allowing the ivy to grow up over it and make all the various _____?_____ acceptable. I took some additional pictures out there this last Sunday and, we'll have to feather those into the slide presentation so you can see the before and after. Rouse took a very strong position, however, that he wasn't going to intervene too strongly on the design of the building. Remember, his business is selling lots to builders who will, in fact, build the houses or build the apartment buildings and operate them. He felt that it was sufficient that he could market a new concept in terms of where to live and that if you tried to also market designs that were new to the area and didn't necessarily reflect the traditions of the area, that that was too much of a marketing problem and that he should allow the builders who were successful to market that which had made them successful and not meddle in the design process. And so aside from siting and determining the

density of the structures, the builders were pretty much allowed early on to build what they had been building elsewhere and which had proven themselves to be acceptable in the marketplace. Once he saw what he had done and decided maybe the builders could use a little guidance into the twentieth century, they took a little stronger philosophy in terms of design control than they had in the past. But I think that you can understand that a project that is starting out new and has nothing there and you need someone else to build it for you, that you're not really going to try to meddle in their business very much and discourage them from trying a new site, a new location that was as yet unproven.

And hence the Rouse people were greatly praised for their financial structuring and for their physical layout on the land and loudly damned for a good deal of their early architectural products when, in fact, it wasn't their architectural product. It was people who had bought the site and developed the buildings accordingly.

Here is a somewhat more recent shot on the same group with the trees starting to forgive everything.

Ivy is probably the single greatest contribution to urbanity that we have in this country.

More recent units are fairly exciting-type townhouses. This is a relatively modest first-time buyer unit - one car garage, a common wall with the unit alongside - but notice the garage is

being used as a way of controlling the sound transmission. A private front door, the white brick again is very characteristic of the Virginia/Maryland colonial architectural traditions and here using the narrow house, then you use the clear stories - that's actually a bedroom over the garage so that's really a two-story home.

A little less expensive group - doesn't get the garage, they only get the car port.

This was one of the early efforts at an interior swimming pool without building a very expensive internal building. That's a wood frame, canvas roof. The water is heated. There is a hot water radiant heating in the concrete around the pool and the purpose of the canvas is to trap that heat inside so that you can use that for a much broader range of the season than simply June, July and August. You probably extend the use into early November and probably start using it again in April and it was an early design concept by which they could expand to an olympic size pool at a relatively lower cost in place, than building a whole new building.

Again an interior ice skating rink in one of the villages for both the junior high and hockey league and figure skaters.

Skating on the lake in front of the new town. And that gold statue over there is called the people tree and it is the logo for the Columbia/Howard County Development Corporation.

Those are some of the larger houses built along the golf course. (It's a topsy turvy world out there.)

The golf courses - all of them are publicly owned by the recreational utility which owns the tennis courts and so forth as well. And the capital costs were all funded by a bond issue - tax exempt bond issue - issued by the recreational utility. The ongoing maintenance is a matter also of both assessment and green fees and the course tends to wander through the project in such a way that there are a number of points of entry. These were installed right up front. It wasn't the case of a plywood sign - future site of 18 hole golf course and so on. Those amenities had to be in place for instant gratification of the new residents.

Here's a night view of the downtown area with the American City Building in the background and the darker area in the foreground, of course, being the water of the lake.

One more set of slides there. While they're putting in a couple more residential slides. Let's evaluate what Columbia has been able to prove. It was initially financially successful and did very well until the very high interest rates of the early 1980's which virtually crushed the purchase of new construction family homes. The absorption rate fell and it was necessary to restructure Howard County Development Corporation to a degree that the Connecticut General Company now controls virtually all

of Howard County Development Corporation. The rate of inflation however really bailed Connecticut General out. One of the unique features of the Connecticut General loan was that the interest payments on the loan would be postponed and added to the balance of the loan. And about the time it became necessary to start making the actual interest payments they fell into this malaise of not being able to sell houses because of the interest rate, Connecticut General was able to restructure. Howard County Development Corporation in the mean time, because of the land and in order to accelerate development had actually gone out and built many of these early apartment projects. Investors were reluctant to build apartments in a new town before there was adequate proof that people wanted to live there. So to put some money in the tambourine, Howard County had built large numbers of apartments - several thousand apartments as a matter of fact - and financed them with another life insurance company. Life insurance companies that were not willing to lend on new towns, and so forth, but would be willing to make a 7%, 35 year loan in the early 60's on an apartment building, particularly when the two partners were in part heavy as Connecticut General is and the Rouse Company. The tremendous rate of inflation that cause the interest rates to rise and therefore squash the home sales obviously also caused a tremendous increase in the property values of the apartment projects built in the late 60's, early

70's. And, as a result, the profits made on the sale of investment properties by Howard County Development Corporation was able to, in fact, reimburse Connecticut General for the advance of funds when the interest rates were technically beyond the operating revenues of the development company. So Connecticut General has come out of it reasonably well. Howard County, of course, continues to pay fees to the Rouse Company to operate the development process and so the Rouse Company has done very well too, not because of their long term ownership in the property which they largely lost in the restructuring, but because of the fees paid for leasing, property management, financing, construction management, planning services provided by American City Company and so on. And so they really demonstrated that one of the reasons for controlling a project of this size, is not because of the long term investment values, but because you control a captive customer for services and as long as you're in control of the management of the enterprise, your ability to select who will provide the expertise becomes a major profit center even though the real estate itself may be performing marginally or negatively, for that matter. And so the Rouse Company has done very handsomely even though they have been essentially excluded from the long term ownership as a result of the financial problems in the late 70's/early 80's.

Now, what have they been able to do or where have they failed? Rouse feels that one of the areas in which they failed was to achieve a cross section of our society in terms of low income who, through the normal stages of income, and in terms of demographics. Essentially we have a yuppie population, the vast majority of them have college educations, they have, you know, relatively high disposable incomes and Rouse never did find a way with the end of the federal program subsidizing rental housing to be able to build either for ownership or for rental, residential units that were suitable for the low income family, even the policeman, the fireman, the kinds of folks that are very important citizens within the community, but it's very hard to build new and deliver it at a price which a fireman or policeman and city worker, and so forth, can afford. So Rouse feels very badly that he has not, in fact, been able to achieve the full degree of social integration that he wanted to accomplish. He was dependent on the federal subsidy programs and as you know Nixon pretty well killed those as an effective tool for new town development.

The second thing that they discovered was that they were not able to create the social stability that is implicit in really the environment to bring up children - that it is important to grow up in a town in which your parents and your grandparents are known - in which you're recognized by the butcher or the baker as

being so-and-so's son or daughter. And that there is, in fact, a social restraint and a social behavioral system that is imposed by that kind of tradition and recognition. That anonymity tends to encourage social irresponsibility. And the anonymity of all being new in a town had its interesting reverse consequences in that if you go to a city council meeting, the individual that decides his opinion carries more weight starts out with, "when I arrived here three years ago" you know. Which would be the same thing in Boston as saying "my grandparents or great grandparents stepped off the Mayflower," you know and therefore I have authority to speak on the subject. And that the need to establish that kind of social hierarchy and credibility led to that sort of kind of positioning. If you were there six months you were a native and therefore presumably entitled to have your opinion carry more weight. So the teenagers had a terrible time in Columbia. For one thing they were bored, it was a relatively homogenous kind of community - everything was new, everything was laid out for them - it took no imagination at all. You stepped on your front porch and tried to decide to go to the golf course, the tennis court or just hang around downtown in the mall and so forth. And really it doesn't require a great deal of imagination when it was all laid out for you. As a result, they had excessive problems with delinquency, drugs, drinking, all of the kinds of problems that beset the high school. But Columbia had a

worse record than many others that had less resources and less income and, for that matter, less parental concern than they did.

And it was the same kind of record that characterized the new towns in Scandinavia and England. There is something important about historical roots - about lineage and the necessity of identified with the community rather than simply internally motivated family unit which has very few or very strong ties to other families in the area. And a new town can't replace that. They discovered that and they're not quite sure if there are any artificial devices which control that.

A third element that has fallen apart and they've never been able to make it work is public transit. They had always hoped that this would be a one car town in which you could rely on a public transit system to interact throughout the rest of the community. They have tried dial-a-bus, they have tried, as we saw, special lanes on the road to facilitate high speed bus transit from one point to another. They have gone to a Volkswagen style, you know, custom bussing. Drive right up to your door on radio control base and all that type of thing. And they continue to lose money and continue to fail to have public transit catch on.

The positive area has been in their ability to deliver a series of software features that are urban. The medical system, for example, is excellent. The support system for new residents

and for elderly, and so on, is excellent. The ability to get people involved in government has worked out just as they hoped.

The city government of Columbia has more expertise at their control, more enlightened committees working for nothing in their areas of expertise, whatever it may be, than virtually any town in the U.S. And they say it is really amusing to watch a developer come into the planning commission and have a group of highly trained people in urban planning, and so forth, pick his plan apart, rebuild it for him, and then decide what part of it they would like for the community and generally a developer will have a few gimmes in there to bargain with - they pick all the gimmes up immediately and then get down to negotiation and really nail him to the wall and so many of the parcels that were bypassed originally because Rouse was not able to buy them in that original push. That has been totally assimilated in Columbia because when the developer, in fact, got around to developing those things, he found out he had no choice. The market demanded to have the same character as Columbia that surrounded it - that it be part of the medical system, that it provide the same kinds of amenities that Columbia did. People wanted to use the golf course, the tennis course and so forth. So he really had no choice but to come with his hat in his hand and say, "OK, what's it going to cost me to be part of Columbia?"

And they would tell him what it was going to cost him to be part

of Columbia and they would simply assimilate that land into the master plan and proved really that the necessity of controlling all of the land immediately wasn't true if the development was so superior on the parcels you did control, that those who had held out found it in their advantage to become part of the total program and not try to go their own way. So that part has worked out very well.

I believe the population is about 75,000 presently in Columbia with another 25,000 to 35,000 residents to go before they ill be built out. One of the elements of the plan has been that all around the borders of Columbia the land is in public ownership and part of the park system and so forth, so that it will, in fact, stabilize at 110,000 and that if you want to have the same environment, you'll have to start over someplace else, thank you, we don't want a town which simply continues to grow because it's good until, in fact, it has grown to a point where it no longer has the character that made it good in the first place. So there is, in fact, a territorial turf which puts a limit on growth automatically and no one has to make that decision arbitrarily and whimsically at some point in the future.

OK, I quit. See you on Monday.

. . . and provide a number of projects that demonstrate that first in a fairly simplistic and obvious vein and then one in a somewhat more complex adaptation to context in which it will

operate, particularly the political context in which it has to operate and to do that we initially want to look at a project in Chicago called Water Town Place which is a classic example of "highest and best use," and then we want to look at Faniel Hall in Boston, another Rouse project which is a classic "most fitting use" adapting to the environment and the structural historic buildings that were already in place and which we conserved and then three, we're going to look at the Galleria in Philadelphia as a rather interesting solution to the political risks inherent in a project as opposed to the more typical marketing end and financial risk inherent in the project.

The project in Water Tower Place as you see here is on upper Michigan Avenue. A big John Hancock building is right behind that, behind that's the Playboy Tower and the Drake Hotel as you move toward the beach in the upper left-hand corner. And we're going to be talking about that centerpiece project which at the face is a vertical, regional shopping center. The next few lines in sort of the lightish greenish blue is office space, on top of that is the Ritz Carleton Hotel with a public space under the tan roof and the towers of the hotel coming up to the first band and above that, condominiums. So that essentially it is a, obviously, highly mixed use project. The site was a relatively unique anomaly in the real estate market. It had been a private park for the family and little children of Edgar Brofmann who you

all have supported. He's the owner of Seagram's Distilleries and while his children were growing up and they lived in their little modest lakeshore condominium, he needed a playground for them so he continued to own a vacant block of land that had a tennis court on it for him and a sandbox and an asphalt bicycling court for the kids. And when they were finally were able to pedal around town on their own he found it opportune to sell the site which had appreciated just incredibly since the time he had bought it anyway. He has a king Midas touch and he sold it in 1969 to Phillip Klutznick. Klutznick was at that time, and for many years thereafter, the head of something called Urban Investment and Development Company. And Mr. Klutznick had also a king Midas touch in which he had specialized in shopping centers in the midwest region and also did a new town called Parkridge South, south of Chicago. And the Klutznick family has been very active in all matter of real estate but preferred large-scale long-term projects. There aren't too many companies that prefer to do that. The kind of thing in which it might be ten years from the time in which you started until the project actually came out of the ground and generally represented a fairly complex combination of uses and urban redevelopments and so on. They did Mile High Center in Denver. They did the Copley Plaza project in Boston and typically took a rather daring view of life because of the fact that real estate had its cycles. They always wanted to

begin a project at the bottom of the cycle when everybody else was discouraged and depressed. He said, "That's the time to begin. Then when you come on stream with your project, they're now riding the upturn of the cycle and you hit it right at the crest and your marketing program is most favorably sold." Well that takes kind of a guts poker attitude to borrow a couple hundred million dollars when everybody else says the world is coming to an end and the sky is falling and Klutznick says, "Great, now's the time to start another project." And that was his basic approach. But he was also a master at doing it with other people's money and locking them into the project, so his initial move in this case was, first of all, to enter into a 50/50 joint venture with Marshall Field and Co. Marshall Field and Co., as you know, was down on their luck and had one time been the 100% corner down on State Street in Chicago and they felt that the upper income market that they wanted to reach had been moving North. And they wanted to be on North Michigan Avenue to maintain contact with that market. And Klutznick felt that what was needed in downtown Chicago was a regional shopping center like the ones you could find in the suburbs. But, obviously, you can't do that because you're not going to find 100 acres of ground in downtown Chicago, so it had to be a vertical, regional shopping center, which is a fairly daring concept. Because people typically didn't move well vertically. People

move along a plane, but people don't want to go upstairs or downstairs. They don't want to get on elevators and escalators and things of that sort. You really have to trick 'em into through, obviously, design and singular attractiveness of the merchants. So, at any rate, he decided that's what he wanted to do on the lower level. He had paid \$20 million dollars for the land. So having paid \$20 million dollars for the land, he really started backward. Most of the time a good developer figures out, "OK, what's the investment value of my project going to be? What's it going to cost me to do that? And the difference is the maximum you can pay for the land." So in effect the design sets the land price. Here he was working backwards. Mr. Brofmann had already set the land price. If you want to control this with \$20 million dollars - take it or leave it - he took it. So now, in effect, he's got to pile one use on top of another which will allow him to beat the price of \$20 million dollars. Classic "highest and best use". You're working backwards to maximize the number attributable to the land, rather than going the other way around and saying what would best fit in this area and now what can I afford to pay for the land given that objective in terms of use and scale and so on? So now he starts out with a regional shopping center, looks around and says, "Do we need more office space?" And at that particular point in time, Chicago had a glut of new office buildings coming on board so what had been a

traditional office market with John Hancock right along side of him, he said, "Gee, I don't think I'll build much office space. I'll do two floors for doctors and psychiatrists that take care of the rich in the neighborhood and maybe put my own office in that space and that's enough of that." And so that's what they did. Now he said, "What else do we have in the area?" Well, we've got rich in the area and rich have rich friends so we really ought to have a classy upscale hotel. At that point in time the Drake Hotel was being considered for purchase to be demolished and replaced by a major office building as well which is one of the things that discouraged Mr. Klutznick about office buildings. But he said if the Drake goes which was one of the premier hotels in Chicago, not to mention the world. He said, "We really need another premier, you know, top of the line, \$200 a night on up type of thing and what's ritzier than the Ritz Carleton?" And so they got the Ritz Carleton franchise and said, "Fine, we'll put that on top of the shopping center and the office space" and so, in effect, he's looking for market niches that he can fit. Now he says, "I still can't use all of the building envelope capacity. Now one of the interesting features of the site was that the front half of the site had a limitation on how high it could be because the John Hancock people had used Mr. Brofmann's site as a staging area to build their building and had bought from Mr. Brofmann previously an air rights limitation

on the site which makes the \$20 million dollar price even more surprising so that nobody could build and block the view of the John Hancock Building from downtown Chicago. So once he hits that maximum ceiling, the Hancock people own the air space over that site so in the back half of the site, which he had bought from another piece from another owner, he could then set that tower back and 2 things happened. One, it can see past the John Hancock Building to the North and the water and leave the John Hancock Building available and two, it allows him to separate the entry way to the shopping center and the office space from the entry way to the hotel and the condominium and stack one on the other. And he said, "Gee I've got maid service. I've got all of the services that go with the hotel. That would certainly be nice to provide that service package to residents. It's also a residential area so I'll use the rest of the space envelope available for condominiums and stack the condominium load on top to hit the market niche that's a little iffy and, as it turned out, a little slow in terms of the marketing. So, in effect, the marketing opportunities or niches that he perceived as immediately available really determined what uses got stacked on the site and he had to keep staking uses on the site 'til the net residual investment value of the land exceeded \$20 million dollars. Now having arrived at that decision as to what to

build, the problem was now how do we make the shopping center work?

First of all, as we look at a cutaway of the building we have in the basement some parking and so forth below in the pink which is below street grade. Then going through the middle of the building you'll see that little white space just above the pink which is a break essentially in the dark brown band which represents street level there and that's a drive through that is 5 lanes wide. So with the streets one-way on each side. You come in on the south side of the building with your taxi cab and unload either into the shopping center which is on the left side or onto a preliminary lobby area to the hotel on the right side or a lobby area for what is essentially a legitimate theater on the left side. Above that all of the light gold is retail. We're going to talk about some of the design problems of that. Then you have the two floors of office space which are the light blue and then you have the Ritz Carleton's public space. Well as you know hotel meeting rooms and lobbies and so forth have to be clear span spaces and if you're going to have a clear span with no columns cutting it up, and so forth, you can't really afford to build anything above it because the cost of building a truss that would carry the weight of a major building above that truss just becomes prohibitive. So typically hotels just like this auditorium room is pulled out from under the main building. You

got to close out the meeting room. So by setting the meeting rooms on the west side of the building which was already constrained by the air rights to the benefit of the John Hancock Building, they utilized that space - classic example of fitting the spatial envelope that was available on that particular site.

Then the hotel rooms themselves are in the back side of the site in kinda cool blue and then the gray area above that is the condominiums. Each of those uses - it was important to separate their entrances. Obviously people that are living in a snooty condominium don't want to ride on the elevator with a bunch of convention goers in the hotel. And, as a result, the hotel has its own lobby on the corner of that drive-through portachair for the cars. The condominium entranceway is at the back of the building which would be the far right of the building loading off the back street. So the condominium system has its own set of elevators serving the top of the building. The hotel has its own set of elevators serving the guests at the hotel. The office space has its own set of elevators on what is essentially the far left-hand corner of the building on the North side with its own lobby etc. so that office users have their own arrival point, their own elevators and they don't have to mix their tracks(?) and then the shopping center - each of the major department stores which would be Marshall Field and Lord and Taylor facing Michigan Avenue have their own internal vertical elevator system.

But in addition each of the floors of the department stores will open out onto the shopping mall, as it were, on each floor and the mall itself will have its own elevator system for people that had no particular store that they wanted to go to but wanted to mosey through the general shopping center area. So you have a whole series of vertical transportation systems that serve each of them and we'll look at some of those a little further in a moment. The total amount of shopping space here - there are 2-300,000 square foot department stores - Marshall Field and Lord and Taylor stacked vertically. Then they added to that another 700,000 square feet of retail space. So you've got almost a million 3 in retail space which is one heck of a major shopping center. And the rents started out initially and these are net of all operating expenses which they share at \$15 a square foot up to as high as \$45 a square foot for office space. Now you can add to that approximately \$18 a square foot as their share in the operating costs of the retailing. So when you put all of that together - if you have a specialty shop that's paying \$36 a square foot for space - let's say \$18 for the net rent on the space and \$18 as their share of common expenses and they had a 2,000 square feet of space, they would have to net somewhere in the neighborhood of \$900,000 a year or \$300 a square foot. And that's pretty heavy retailing. And yet a great majority of them

do that and exceed it. McDonald's for example will exceed that by a significant number.

The exterior has been roundly criticized over the years. One of the problems, of course, is that retail design had moved away from any fenestration to a point where they wanted solid walls all the way around the building so that they could have their storage and tapes(?) worked up against the walls with the shopper kind of in the middle so you don't want windows. This is Michigan Avenue's front facade and one of the critics, Paul Goldberg, from the New York Times labeled the marble facade as dreary and portentous Russian Renaissance. One of the Chicago architectural critics called Watertown Place the everything - a building that provides Michigan Avenue with everything but architectural or urban grace. What can you say about a slender vertical slab 70 stories high weathered uncomfortably to a horizontal box, housing shops and an atrium. It's a slab slapped on a box and that's about it. Another critic wrote you have to go back to words like "vulgar". Watertown Place goes beyond the point where vulgarity in the grand scale can be called a style. Klutenick, of course, argued back, he said, "Wait a minute, what can you do about this, retail type structures tend to be boxy and without fenestration and so forth." But in any event the building was regarded as, you know, a success financially and a

very insensitive building in terms of its massing and its material facade.

One of the areas of intricate sensitivity that I don't think most critics caught onto was the fact that you had to move people two floors up from Michigan Avenue into the main shopping mall and people don't do that very gracefully and particularly when an escalator you have the phenomenon called parallax in which if you're standing at the bottom of something looking up like that with a long parallel line, they tend to converge and this is very claustrophobic and one of the things you have to fight in a shopping is claustrophobia. Claustrophobia tends to make people's anxiety levels and stress levels rise. They tend to become impatient - they want to get out and so forth and if they don't spend enough time there, they don't spend enough money there so it's very counterproductive. So in this case, the space is very cleverly designed so that in fact the escalator's trains and rails and so forth get wider as they go toward the top. So when you're standing at the bottom, the eye tending to correct for the fact that they're getting wider, makes it look straight and parallel and you eliminate the parallax and the claustrophobia. In addition, by having large beds of flowers, having a water stream coming down along one side of it with the soothing effect of water bubbling and gurgling and so forth you begin to offset that claustrophobia and you lure people upstairs off the street

which was a major design problem which has been very subtly overcome. And if you are down in Chicago and you go in there, watch very carefully for the design tricks to move you upstairs without appearing to drag you on endlessly up the escalator.

Here's another view of that. Notice the water coming down the center, the flowers, everything softening the edges of that so that it is not a hard area and the sounds are absorbed into it so that the noise - the white noise of activity and the hum of the escalators is greatly softened.

The internal mall really features a light shaft coming down some eight stories with glass box elevators so that, as you ride up you have a glimpse of what all the stores are on each floor. One of the tricks of a shopping center is to tease you into new territory where you hadn't thought you were going to go but as a stroller moseying through the shopping center you want to move people further forward. And to do that you have this fairly dramatic plate glass elevator enclosure - the elevator turned inside out sort of thing. You step through the silent door and now go zooming up in a glass box which you're facing backwards rather than the door and you can begin to see whose shops are on which floor and they generally have some of the more interesting specialty shops within very much sight of the elevator. Notice further to open that area up they have plate glass rails around the edges of the mezzanines and at the top of the glass rail is a

wooden railing piece sloping inward so that if you rest your package or your coat on the rail instead of having it fall to the basement level, it falls at your feet instead - reminds you to keep track of your stuff. One of the problems with it is, of course, is that it is very marbly and very glossy - you know - lots of chrome and polished marble and granite and glass and the light tends to bounce off of that as you see there which is glaring and that glare itself is claustrophobic so that there will be more carpeting which not only softens the noise factor but also eliminates the glare factor which is very offensive over a long period of time.

Another view down for those of who suffer from heights. For those of you that are into retail store design, they are the epitome of modern retail design. You see virtually every architectural retail style within the center and people have lavished tenant improvements on it.

Watertown Place has been defined as a machine for making money. Certainly it is in the right location to do that. Apartment rentals in the area start at \$1,000 a month and move on up from there - very high income area. But it doesn't really fit what the American's citizens dream of what the city should be all about. It doesn't have textures that are friendly. It doesn't have a scale from the outside which is friendly and, in short, the city builders' ego has left it out of sync with the values of

the community and for that matter the criteria of the critics as well but financially it has begun to cash flow very well.

Initially it didn't really do what it was expecting to do in terms of the sales per square foot but thanks to inflation and continual tinkering with the marketing mix, it is doing very well. Lots of amusing stories about the rich initially coming to shop - the one I like best is the lady in a mink coat sitting at McDonalds at a table and complaining about the service.

The counterpoint to the John Hancock Building is really a project called Faniel Hall. It, interestingly enough, does a bigger volume and has more sales per square foot than Faniel Hall and yet was very much constrained by the architectural inheritance within which it had to work. Somebody pointed out that William Penn and Walt Disney were both great city builders.

Disneyworld itself has proven that there is a great middle class market for entertainment flavored with history. That the Americans have an insatiable appetite for nostalgia and, of course, those cities which have enhanced and enriched their historical roots have done very, very well. Boston is one of those cities which at one point, like Baltimore, which we're going to look at on Wednesday, have really reached the pits to a point where traffic congestion and a road system laid out by cows wandering around the hills and so forth has virtually brought it to a standstill and they had to begin to redevelop and virtually

gut the entire downtown. And one of the dangers of course of gutting that downtown is that you create something that is so modernistic and so contemporary that you have, in fact, lost the historical roots and nostalgia by which the population identifies with the downtown. And, in this case, the Boston planners were careful to save certain elements of their downtown and one of them was something called the Faniel Hall Marketplace which we'll look at in a moment.

An early airview with Faniel Hall is essentially those three long buildings. Interestingly enough, for those of you who weren't at our Embarcadero Center element project on last Friday, but at one time Boston, of course, had a great deal more water area than it does presently and as a general rule, if you're in downtown Boston on a straight street you're on filled land that was in effect pushed out into the tidal flats surrounding the hill areas and the Back Bay, for example, was just that - it was a bay, for example, was just that, it was a bay before it was an upper town residential area. And in this area, this was initially the area in which the ships unloaded and so forth. And these buildings were port side warehouses and then as the port side pushed out towards deeper water, this area was all filled in and they became essentially isolated from the water and it became the produce center - a point where all of the food and so forth was brought in and then redistributed to the local merchants

which parallels also the Embarcadero Center history and the Crowder Center was really no longer operational because it was so congested you couldn't bring a truck in let alone get a truck out and so the village became abandoned and the city took over title and in the process of trying to decide what to do with them, ten years in advance of their redevelopment actually went back and pointed the brick, stabilized the roof, stabilized the interiors and, in effect, went into a conservation mode without knowing what to do with the space that was involved. And the rest of the governmental center of urban renewal for downtown Boston continued to develop around it. And the history of it was essentially that they were built about 1826 by a mayor named Johasia Quincy and it was called Quincy's Market and was really the food retailing center for Boston. Second of all the architecture really represented the prefabricated industrial building of the mid-18th century and we'll look at those in a moment. They could have gone on and built these as long as they wanted to. It was a building system which essentially was highly modular and made use of the granite from New Hampshire and Vermont and they built a great number of these types of buildings throughout New England in the long mill shaped form so that it was the counterpart of the Butler's Field building of today in terms of cheap, infinitely flexible kinds of space. They're done in kind of a Greek Revival and they were put on the national

register in the early 1960's as they were really kind of premier example of that type of building. The total site is about 6 and a half acres and each building is approximately 535 feet long and about 50 to 60 feet wide. Quincy Market is the building in the center with the dome and the other two are called South Market and North Market - kinda catchy - and they each contain about 160,000 square feet of space so we're talking about a fairly sizable element but nowhere near the size of the square footage of Hancock Building near Water Tower Place.

This was early produce market day. General layout with the major building being the one in the center with the white major court with the dome above it and that became the first building to be redeveloped. The city owned the buildings (and next slide please) and was very jealous of protecting historic character of it and so forth. Rouse said, "I don't really want to own the building anyway. Tell you what I'm going to do. I'll lease the building from the city and I'll be responsible for outfitting it as a retail center and doing all the leasing and management and so forth and I'll rent it from you. But I'm not sure how this is going to work so I'll rent it from you on a straight percentage lease. Whatever my sales are, we will pay you, say, 5% of sales.

If I don't have any sales and it turns out not to be a good idea, why then we take that risk together and you know, you won't get any return on your historic buildings and I don't get any

return on my investment and the effort to carry this thing off."

So the city of Boston is the owner. They lease it for 99 years to Rouse and they get 25% of the tenant rentals in lieu of real estate taxes as well and, of course, the tenant rentals range from 5% to 8% of gross sales. So you could look at it from the fact that the city was getting about one and a quarter to two percent of sales for the rent of the shell of the building. The first year the city made about \$225,000 on their investment and they were elated about that until they discovered that the state of Massachusetts which had risked and put up nothing, took home \$2 million dollars in sales taxes and in meal taxes and recreational taxes on the property. So the money is flowing to the State of Massachusetts rather than necessarily directly to Boston which has become a very sore point in terms what should be the allocation of state revenues on that type of development. But the phenomenal thing was that after it opened the first year it drew more people than Disneyworld - about 13 million people visited in the first year. Q: What year? A: '78 or '79. Each building came on stream slightly one after the other. The guiding genius behind this was not only Rouse who was doing the retailing but an architect who wouldn't say nay. He had been working at this thing for 8 or 9 years to save the building, find a use, he's the one who got Rouse involved, a guy by the name of Benjamin Thompson and Associates. On the basis of this one

project really, Thompson and Associates have become nationally known for urban redevelopment and so forth. And they had George McCombery(?) Company, a Boston contractor of considerable scale to get involved with the project. The center building that we're looking at here became all retail and in the tradition of it as a produce center became a food retailing area and really was a takeoff on the food parks that Rouse had developed in some of his shopping centers. To expand the building and in addition, extend the season beyond just the summer season, you'll see that they built big greenhouses on each side in which they have space heaters and you can either eat in a restaurant in those areas or pick up food in the center area and then come out into a seating area and eat, and in addition to those greenhouses they developed a cart kiosk - essentially it's a wagon like an old railway baggage car in which people can specialize in selling T-shirts or costume jewelry or whatever and this has become a phenomenally successful retailing business and copied all over the United States including in the Milwaukee Grand Mall. You know the number of independent merchants who rent the carts quite often by the month and then if they don't do well, the shopping center people push them out and find somebody else who will do better. And of those many of them mature ultimately into having store space and so forth. But it's a way to get the small entrepreneur with a specialty underway at very, very minimum cost. The second

buildings - North and South buildings - have retail on the first level and by in large offices above that and it's become a very popular place for offices for consultants and planners and architects and people providing some sort of services relative to the financial district which is right nearby. City Hall which is just west of this and so on and the Court system which is just west of this and so on. In the first market study that was done and this was 1976, to get back to the date, they discovered that 65% of them lived in the Boston metropolitan region and came by private car traveling as much as 20 miles to come down here. In effect it has re-established the connection between the hinterland and downtown which is exactly, of course, what people would like to do rather than having them bypass downtown as they do in Madison. On the average day they're doing about 35,000 people a day much of it in the lunch crowd and much of it in the early evening crowd - the after hours opportunities here are very good as well.

The mall down the center between the buildings - a very popular spot in the summer. If you'll look at the building closely you'll get a sense of that repetitive construction that's all simply granite pieces that fit together, boom, boom, boom, with an inside wood frame called mill construction so the outside walls are load bearing, inside walls are big timbers carrying it and you could build that building as long as you wanted to -

build that all the way to Buffalo on that basic formula. There's another good example of the industrialized character of the building while it was under renovation and the upper three levels are all office space. The second floor level is mixed, some retail and mostly office and then the first level is all retail and restaurants and so on. Here is the feeling underneath the greenhouse with canvas slides that come down during the heat of the day so that it doesn't get too hot on the inside. You'll notice space heaters hanging off the ceiling to extend that comfort level into November and into early spring and there's a series of restaurants moving down there some of them picking up on the Disney theme of having different price ranges but having the same environment. If you're into the \$5 dinner you go to the spaghetti place. If you're into the \$7.50 dinner why you get the tenderloin tips and mushroom stroganoff and then if you're into the \$12.00 and up area why you get the roast beef and so forth. And yet you're all really lined up at the same kind of environment and the only different is where you enter. So it makes it a lot easier to serve and control the food route because the kitchens may be at a point somewhat more remote from the serving area but in addition it allows people of different budgets to enjoy the same fantasies and environments and lifestyle, if you will, while they're having their meal. Here again you see the natural rail divisions among different price

ranges of the restaurant. This is the inside of the rotunda at the second floor level. Notice the brick has been left there for nostalgia, some of the old maritime souvenirs around the top. But then they don't try to get too artsy, craftsy with the rails so they go to a modern glass Plexiglas system with a wood band around the top because one of the problems you have as a shopping center, of course, is making it kid proof and if you have railings that kids can poke their heads through, they will. And for some reason kids' heads always go through, but they don't come back out. So as a result, you go that totally glass thing which doesn't intrude visually on the shape of the space and at the same time provides a greater level of safety. Here's one looking down through the rotunda - the typical kind of shop, maybe only 300 square feet and is typically a proprietary merchant selling bread or specializing in ducks or geese or whatever. Each of the long corridors then has a whole series of signs hanging out - let me have the next one - I think the signs are clearer - once more - there you can see some of the retailing tricks of the trade identifying everything from breads and rolls and fruit and so forth and what you do at noon in Boston is you come down here, you stroll through and pick up your lunch in pieces from the various merchants and then go outside and sit in the terrace or under the greenhouse for lunch.

Since this has been built the immediate adjacent areas to the east of it have become highly residential with a yuppie influx to condominiums, remodeled warehouses on the wharves and so forth, so this has become not only a "touristy" kind of food base but is, in fact, the shopping support for the adjacent condominium development which has been very intensive and largely the condominiums have succeeded simply because of their convenience to this center and the open-air Boston Market which has been around for a long time. I don't know how many of you have ever been to Boston, but there's one area just virtually under the freeway which has been traditionally been the wagon merchant, out of doors, in which you could go and squeeze the oranges and so forth and so on.

Here again taking your lunch out to the yard terrace. Notice the cart there as a retailing kiosk - tremendous sales per square foot - they'll do something like \$1,000 - \$1,500 per square foot from one of those little kiosk's, costume jewelry and various little knickknacks and so forth.

Now, in the basement typically they have these little entries into local watering holes and pubs which are very popular and the psychology, of course, is knowing where you want to go. The insiders know which pubs have which kinds of entertainment and so forth, and so it's a very clique and atmospheric place to go after hours. To help the merchants on the second floor to

have store/window accessibility they have created these glass kiosks on the terrace and they will indicate where the store that's merchandising that particular item may be and provide immediate eye-level visibility to a second level store.

Again the lobbies going up to the second level kept open and spacey - again for security. Notice there's no place in which a mugger or some other social anomaly can hide out there. It's really important to do that in an old building because otherwise the security or perceived insecurity is questionable. Initially, one of the problems this project had was that unlike other shopping centers which, the shopping center owns the space around it and can exclude anybody at the door that he wants with a floor walker or a private policeman and so forth, this is public space and so the pick-pockets and all the other nary-do-wells that may hang around downtown are free to wander through and as a result they have a higher level of security problems in terms of protecting the consumer from the social anomaly that might discourage them from coming back again. So, again the building is designed to provide as much self security as possible. (One more slide and we'll quit.) One of the thing that it engendered is that it didn't have parking spaces initially. It made such a congested area out of the area again, the city was compelled to come in and build parking ramps. As they built the parking ramps, the hotels came back in the area and there now has been

three new hotels, very nice hotels built in the area and that's one of them. Looking back on City Hall right off the end of it is the Financial District about two blocks away from the center.

Notice it works even in the winter. It's not a very good picture of me. Again the merchandise under the greenhouse - tremendous action central area. OK I quit, see you on Wednesday.

. . . construct an interconnecting tunnel for the rail line to divert the trains still coming in on the commuter system to the remaining railway stations. That, obviously also, is a public project. The third level they wanted was a bus station for serving again the major Greyhounds and the Badger buses of the area and so forth, and that was to be below ground in this particular project. And they above that as we being to approach the street service, we are getting to an area which for a long time was really kind of a wall dividing the community in half, partly as a result of the railway system that had come in there at one time, and so on. And that had to be cleared and acquired and assembled for the project. With all of those elements depending on political action and sustained public capital, Rouse felt that what we really needed to do was create a space(?) frame that went deep into the ground. (Spin that over the last set of slides in there which would be the Galleria. It will begin with a cartoon of the Philadelphia Regents at the outset.)

The particular project - the question here is that red dot which is between the _____ River and the Delaware. Philadelphia is located between the two rivers and going from right to left is a major subway line going out into the hinterlands of Philadelphia and New Jersey and there is another one which runs north and south which cross underneath our subject property. Talk about ideal linkages and heavy pedestrian traffic areas - superb. But the problem was how do we deal with the risk created by the inability of public agencies to 1) coordinate and 2) move forward according to a time table and 3) finance their portion of the project. And it's a classic example of space time because, obviously, different groups within the public have different vested interests in different space time units of the project. Obviously, there was a subway space time component with a subway station to be built at the bottom of the development. There was a railway tunnel, there was the bus station and as we move into the site you will see also that there are a series of streets on the surface of it that are going to continue to pass through the project as though they were simply nifty little tubes of traffic moving through the commercial and shopping center space, And given all of those elements they said, "OK, tell you what we're going to do. We're going to make the entire project a public project and the public will create and finance these various components and then, Mr. Rouse said I will lease back out

of the total megastructure those components which are suitable for retailing." So for the risk of completion of construction - completion on time and so forth is truly that of the public sector and "if you guys want horse around with it, if you want to extort costs out of that through your labor union and so forth, you go right ahead and do that and when you're done, give me a call. And what I'm prepared to do is first of all tell you what kind of space I have to have to lease, so I'll participate in the design of the facility and we'll produce the kinds of spaces that we know are suitable for retailing and related enterprises and then we'll lease back out of that megastructure all of those elements which are commercial in character and all of those space which are public in character will, obviously, already be in your control." A very innovative way of looking at the rather complex interrelationships that exist between the public and the private spaces that together create an urban environment.

This is looking down on phase II of the project. We'll zero in a little bit, but that hole down in the ground about four stories to a point where it is resting on top of the subway line which is that light tan element which is below that. This is street level. Gimbals was already developed at the end of the block and represents one of the anchors on a downtown regional shopping center and there would be additional major department stores in phase II. Now you can begin to see it going down into

the ground with the upper light area really representing that which is commercial and valuable and the areas down below that with different ceiling heights - the high ceiling heights for example required for the bus station level and below that the areas for the subway station and so forth. So you begin to look at a city as a series of cubical areas, some of which are public, some of which are private, some of which are part of public transition point, and we can begin to allocate the ownership. We're truly arriving then at this concept of space-time being dedicated to a certain kind of occupancy for a certain period of time. Looking at it from the top, the major department stores which provide the anchor. We tend to lose sight that in our major cities much of the total development lies below ground. We take it for granted that the street we're on is, in fact, at grade level which is not so. Many of you have been to New York, I'm sure, and have been on Park Avenue. Park Avenue from Grand Central Station to 105th Street is in fact a bridge which in some places is over a hundred feet above the true grade of the island. Below that you have two levels of rail line coming into the station. Below that you have the subway and below that you have the major utility systems and storm water systems which are supportive of all those major office buildings. And you tend to go on Park Avenue and assume that, you know, you're somewhere

near the grade level of the original territory when, in fact, you're no where near the ground.

Here is the classic example, again, of a little tube for handling the passageway of public people from one building to another, beginning to make a megastructure out of a series of blocks in the area. Another look at the complexities below grade.

The initial entry point now to the shopping center. Watch carefully hear at the Galleria and particularly the next slide (and the next one) and now think about if you've been to the Milwaukee Grand Avenue if you had seen that style of architecture and that type of structuring before? This was the prototype for the Milwaukee Grand Avenue project. And you will find that the two architectural firms were the same and the idiom is the same in terms of the structural systems, the use of spaces, sky lights and so on and the political structure is the same. In the Milwaukee Grand Avenue project most of the building and structure that you see is, in fact, owned by the city of Milwaukee or the Milwaukee Redevelopment Corporation and then Rouse has leased out of that space frame those components which can be, in fact, released as commercial space. The mall is, in fact, a public street and is owned by the City of Milwaukee and maintained by the City of Milwaukee. The first element for Rouse is control and as a result he sets up a development management corporation

which is in charge of managing the space. The parking lots of Milwaukee which are owned by the city are managed by Rouse's parking lot management company and the mall which is owned by the city and is, in fact, a public street or thoroughfare is, in fact, managed and maintained by the Rouse Project Development Company. And then, of course, the actual retailing operations and so forth are also controlled by the Rouse Management Development Company. But if you look at the physical spaces you will find that they are primarily publicly owned because the ability to construct and carry through on the political risk really was dependent on the City's expertise rather than the developer's expertise and he wanted that risk to rest squarely on the city in terms of that area.

Multiple levels - this is the subway station arrival point which generates tremendous pedestrian growth to the project. This is the escalator moving people up from the lower subway level and dumping them right into, essentially, a grocery market.

When you come off the arrival from the subway you are in a farmer's market kind of area in which the workers can either pick up the pieces of his lunch as he goes by from the subway on the way to the office, or headed for home can acquire the makings of dinner all on a very attractively displayed farmer's market format that does an incredible volume. There's a small, about 400 square foot fruit market that is doing \$600,000 a year in

fresh fruit, oranges, apples and so forth so that they can take advantage of that impulse purchase and they very carefully analyze what are the kinds of things that people buy while rushing for a train. And generally it's something to eat or to read, or both. And as a result they do tremendous volume on the corridor to that space.

This is the origins of the Rouse famous food park concept in which you have multiple fast food operations surrounding an inner patio area where you can then go and sit down at a table and so forth. Each person can then get a food style of his own choice and initially, of course, the premise that you could have a McDonald's and a Burger King and a Chinese food take out and so forth and so on - all under separate management and it didn't work because they couldn't maintain quality and so in most cases Rouse owns all of the franchises surrounding that area in order to be able to maintain strict control of the quality as well as the interplay of one product against the other, so that if one is designated at the official German bratwurst and knackwurst family place, nobody else can create that element. One is designated at the official Philadelphia pretzel area or whatever and you need to be able to control that kind of allocation in it. It grows out of the project called the Yum Yum Tree in Denver which was the conversion of 50,000 square foot discount store into multiple food operations with a common mall in the center ranging

everywhere from a Jewish deli to an ice cream shop and giving everybody, essentially, their choice. This yellow strip across the bottom is, in fact, what will be a new just one level below grade, moving sidewalk connection from virtually city hall in downtown Philadelphia through this whole project so now is the connector into all of the other buildings below grade there will be this common inside walking pedestrian level that will interconnect all of the buildings along this area and respect the client - much like the Toronto underground pedestrian network but considerably wider and more open with occasional breakthroughs for skylights and atriums coming down and bringing sunshine and so forth down on the streets this is just one component of that which will be extended in that new area that's under construction. If any of you have been in Milwaukee you'll see many many similarities.

OK, switch over to the Baltimore ones please. Now notice, there the political risk is probably over a ten year term from the time that the project was started in terms of assemblage of the site, the concept was put together, and eventual execution of the second and third phase. One way of establishing the risk control is simply tell the city that as you finish each component we will lease from you the various elements that are suitable for private rental and commercial exploitation and that rental revenue that we're providing you along with some over aggressive

participation, at this space in the sale will be adequate to, in effect, provide amortization of the city's debt in financing the project as well as providing the city a profit that is greater than the real estate taxes that might have been paid had it come in private ownership rather than public ownership. The city's getting two elements, 1) an assured rental income that allows them to amortize the bonds so as an industrial revenue type bond as opposed to a city GO, general obligation bond and 2) they're getting a participation in a profits which will give them a greater rate of return than the real estate tax process would have provided if the buildings had been privately owned. Now a third element, of course is that because the city had to carry it through for that ten year span, if they deviate from the plan, they do so at their own expense. They will have committed \$X number of dollars of capital to it and if the politicians get cute or try to negotiate something else from Mr. Rouse, Mr. Rouse can take a walk and say, "Fine, you didn't meet our original bargain and therefore I'm not obliged to rent your additional space either." And so, as a result, the political risks are right where they belong, on the various agencies necessary to execute the project. And the commercial risks are right where they belong on Mr. Rouse in order to obtain the proper tenant mix and marketing environment that will product the maximum sales from the commercial space. The situation in Baltimore was like

this. Baltimore, similar to Philadelphia but, certainly, Baltimore realized 30 years ago that it had reached the pits. That there was really no more reason to be a Baltimore. People were fleeing downtown Baltimore and had some of the worst slums and some of the worst downtown conditions wasting some very interesting resources in terms of the harbor and so forth. And, therefore, determined that there should be a master plan by which they could begin to rebuild and take advantage of the federal urban renewal project. They were reasonably astute to realize that probably the federal program of subsidizing acquisition, demolition and clear that begin in 1954 was not going to last forever. And that they were probably best off to concentrate on getting many of those federal funds for clearance as they could, realizing that the redevelopment of these now cleared areas would take longer as the market demand adjusted to the available space.

Oh, here's the first picture I took of Baltimore, representing the inner harbor area which we will now look at from the air. There it is as it exists currently. This was taken from approximately the Rusty Scupper. (laughter) For a moment I thought we are the bar at the _____. The building which is blue is probably the nation's finest aquarium that was built as a result of this project and those students that were on the real estate club field trips finished up there on Sunday. The tall building next to that is now the International Trade Center at

Baltimore and the students were lectured on the project from the 20th floor and the balance to the left of that is that resurgence of downtown Baltimore in what is called the Charles Center area of downtown Baltimore. This is inner harbor, an area that was the original harbor of the original Baltimore which was bypassed as there came a need for more maneuverable areas for large ships and which was really redeveloped for containerization and so on.

Baltimore took the play away from New York City as one of the first major moves in their redevelopment by modernizing their port more quickly and anticipating the trend toward containerization more efficiently than New York and therefore became a major shipping center which then gave rise to the desirability of . . . And that became one of the basic elements of the resurgence of Baltimore's economic base - the fact that as a port city they could then generate very significant expansion of their wholesale and distribution sectors of industry which we saw going all the way down to Columbia which is about 45 minutes from here and becoming a significant part of Columbia's economic base as well.

The larger picture is the inner harbor is that very inner tip of the bay at the top there and you begin to see some more of the commercial development and so forth coming off to the right and then moving north. The original city before it was developed in this older picture was really about seven or eight blocks from

the inner harbor area which is you see partially cleared there, but otherwise abandoned and disconnected from the commercial life of Baltimore. The original planners of Baltimore realized that you can't simply launch yourself in the middle of an area and in a disconnected way recreate something with an approach zone that was very intimidating and discouraging - that you really have to build from your strengths. And that Charles Center which was the crossroads of downtown was really the point from which they had to begin and that it would take them ten, maybe 15 years to reach a point where they had built out to the water and could make it an integral part of the downtown area. They also realized that at that time the politics of Baltimore had had some very serious ups and downs. At the time this project started the mayor was a man named Delesandro whose son, by the way, was your host at Mobil Land Company and Delesandro was one of the first really good mayors. The mayor just before him and then later governor was a man Agnew and you can sort of get a sense of the quality of government at that point in time. Delesandro really was trying to turn Baltimore politically from machine politics of the dirtiest sort to a creative political leadership. But they were concerned that perhaps he wouldn't be able to do that or sustain it and therefore they wanted to create an entity that would outlast that and so they created something called the General Center of Heighth and Inner Harbor Management Corporation. It

was put in charge of a premier fourth generation Baltimorean by the name of Martin Millspagh who was also our host while we were out there and Martin Millspagh and his associates were above reproach for the political process and the object was that for each building and proposal that came in for the redevelopment of downtown Baltimore, that the interim(?) to the Harbor and Charlestown(?) Management Corporation would be the ombudsman that would deal with the city. The master plan was entrusted to this quasi-public corporation and the execution of the master plan was entrusted to them so that regardless of how city hall came and went or whether the city council lost its heart for this sort of thing and so on, nevertheless, the division would persist and be carried forward for 25 or 30 years. And they were compensated by getting the ombudsman fee of approximately 1% of the projects that were, in fact, entitled and financed and then built by the various development autonomies. In that way they were able to keep the developers and the city politicians a little bit apart and reduce the exposure of the developer to extortion by the traditional machine politics of the area and, at the same time, protect the developer from very rapidly changing attitudes and objectives of the political process.

The very first buildings were rebuilt downtown adjacent to the department store and that's the original Charles Center Building right there. The master plan called for development of

the entire area within the red line ultimately but realized they had to begin with the downtown core in pink at the top and gradually build out toward it. Nevertheless, they proceeded to acquire all of the land around the inner harbor as part of the federal urban redevelopment project. At that time, the rules of the game were that Uncle Sam paid for two-thirds of the cost to acquire, demolish, clear and reassemble then sell the property, and the community had to pay one-third. However, the community was allowed to, in effect, meet their one-third payment by investing all forms of government funds in the project. And therefore a major segment that we'll see in a moment was redevelopment of city hall and state government facilities in the designated urban renewal area so that the funds really did double duty. They created new public facilities and, at the same time, fulfilled the city's responsibility for contributing one-third to the overall public costs of the project. So virtually, the thing was actually paid for by the federal government. And a number of cities were able to exploit the federal government programs to their maximum advantage - New Haven was one, New York City was another, Baltimore was another.

The total master plan called for eventually developing on the wharfs recreational and apartment kinds of things - some retail esplanade along the west side of that squared off bay with further residential development behind that. State office

buildings were to be built up along that boulevard to the right of center that heads up north of the project and then the balance of it was to be really a resurgence of commercial and retail development in the downtown area just north of that heavy red line in the project. That was the master plan conceived about 1958-59 and carried through to this day 30 years later by the Inner Harbor Group. Notice the initial development started to move down that street access toward the wharf so that you could build from your strengths and eventually connect downtown to the water resource. Here was the initial schematics of residential housing coming out on the old wharf and recreational development where you see the lower white works. Most of that high density housing did not eventually take the tower format as we'll see in a moment with the upper center corner there with the two light strips being retail across from that eventually being hotels, convention hotel kinds of things and the tall brown building there, of course, is the International Trade Center that was ultimately developed.

The initial schematics now starting to be converted to reality with the buildings set at an angle there, International Trade Center, the green-roofed building is really a recreational shopping and restaurant area by Rouse which was one of the first of the models for what is called the Enterprise Corporation. Enterprise Corporation which is now headed by Rouse who retired

from the Rouse Company has a rather interesting dual role. He creates specialty or what are called festival shopping centers - recreational kinds of shopping center in key tourist areas or recreational areas in the city which are highly profitably and then he then turns the cash flows from that into low income housing seed money by encouraging neighborhood lower income groups to organize housing coops to redevelop their particular neighborhoods with the assistance of the equity fund provided by the Enterprise Group. Mark Millspaugh who was head of Inner Harbor Charles Center Development Corporation has taken over now as president of the Enterprise Corporation for Rouse this last year. You'll notice also that the pedestrian bridges going across from the shopping center into the high hit convention hotel directly behind that and the marina, built on this lower level, again, to create a sense of activity and a recreational pier right out in front of the shopping center area. They did a lot of historical restoration. This is one of the older buildings down there that was completely gutted and repaired under the historic structure laws so, again, they took maximum advantage of the federal incentives to restore old buildings and take the investment tax credits that were possible prior to this current tax law. This was a restoration of city hall which originally was going to be demolished and replaced with a modern building. The taxpayers voted that down presumably an economy

move and they spent twice as much money restoring the actual city hall - probably with a little more desirable urban impact.

An example of the office buildings being interconnected with the pedestrian skyways. This was some of the FHA insured median income housing - median price range housing, built out on the wharf - magnificent views to both the West and the East and that area has been reinforced with a great variety of amusement, recreational and restaurant areas and immediately adjoins the old Italian area which is right behind that building which retained its low Philadelphia style townhouse area, Italian restaurants and so forth. This is an elderly housing project in the immediate periphery area. Again, subsidized for low-income elderly under the Section 8 program in which the residents pay only 30% of their actual income, whatever that may be and the federal government pays the difference and a very expensive program for the federal government but a very effective program.

One aspect of it was the adjacent neighborhoods that looked like this. And rather than demolishing everything by a bulldozer that had historic significance to the community, Baltimore created a very unique sweat equity program in which a yuppie couple can buy one of these shells for virtually nothing as long as they promise within three years to, in fact, restore it and make it their home. There was block after block of that kind of housing - this is a little Italian area immediately adjacent to the totally

redeveloped area. Here are co-ops assisting each other in the redevelopment of it. And this is the finished product out of what had been small housing. This leads to a process called gentrification which, in effect, displaced what had been a relatively low income area with upper income yuppies who choose to live downtown rather than in the suburbs. Most of this housing, however, had been abandoned before they acquired it under the sweat equity rule. They say Baltimore has a very fine housing planning program and provided not only the opportunity to buy this for a "nickel down, dollar when you catch me", very low prices, but also provided financing assistance at subsidized interest rates so people could afford to do this. And, as a result, create units which probably in this area now are \$80,000 to \$120,000 each and the individual homeowners probably didn't invest more than \$30,000 or \$40,000 of hard dollars in the project as they were doing it together with their own labor.

Again, looking at it schematically, the nearest piers to the enterprise shopping area are going to be recreational or are recreational and we'll look at those again please. Very interesting conversion - this was a power house that had long since become obsolete and that was taken over by a group that has built, in effect, an amusement park inside, multiple level thing with all manner of mechanical whistles and wheels and so forth and they're taking advantage of this tremendously large interior

multiple story ceiled space to create a fun palace, as it were. There's a little more detail on the interior circus as it was developed. Here's what they did with the wharf - notice that midway down the wharf they built bridges spanning the wharfs so that there's a pedestrian spine connecting the wharf closer to their other end so that you can move from one project to another.

That's the aquarium area with a public park in the front. The next one over is that power house that we were just looking at and all of this area is now lighted with sidewalks running along the wharf lines and so forth. Here is the area right outside the enterprise shopping area. Another view of it on a Sunday.

Somebody always has to pay extra for sculpture. It now draws more people than Faniel Hall. As you'll recall, Faniel Hall in its first year drew about 13 million, the majority of which came from within 20 miles of Boston. Inner Harbor has had the same impact on Baltimore. Seventy-five percent of the 15 million people that visited last year came from within 20 miles of Baltimore and came more than once. As they begin to identify with the downtown city and create an identity for the city once again that is a very positive kind of experience. They have all kinds of Milwaukeefest type activities now all summer long to bring them in. One of their elements, of course, is the U.S.S. Constellation has been restored. Housing is now being brought in for the childless couples and so forth to create a permanent

retail market in the immediate area. Question: What is that thing that looks like a fortress? Chief: It looked like a fortress, yes. Question: that's housing? Chief: that's housing, yes. The view again from the top of the observatory on the International Trade Center gives you again a glance of the large residential area just to the South of this area which, this whole area then becomes really kind of a recreational park base serving those residents. And, again, causing a resurgence of redevelopment of those areas which has become extremely desperate slum areas. This is a music festival area done with one of the German cloth intention types of tents. Marinas with tour boats in the foreground. One of their pride and joys was, of course, the tall ships show that took place there and these are a couple of those that came in. Their fourth of July spectacular. Art shows on the mall. This is a canoe race I guess. The usual folk dancing, ethnic grouping. Some sense of it as night which has become quite the after hours area in Baltimore. More of the tall ships group. Interestingly enough, they built a ship in the area, this was a ship building area at one time so they built the boat called the Pride of Baltimore as a two-masted bark and used it to participate up and down Chesapeake Bay and their various elements and I understand last year it got hit by a squall and sunk! I don't know if that bodes well for Baltimore or not? Anyway, the people were able to watch it built under old historic

techniques over a period of about 2 and a half years. And there it is under sail. Apparently it got caught with its sails up on a Chesapeake squall. There you see the festival halls a little closer up - the blue loop in that park over there have become a trademark of the festival mall, I believe there are Cincinnati, Foulton Fish Market in New York, Minneapolis is in the process or about to begin one and there are several others around the country. Gives you some sense of the pedestrian draw and the volume that they do down there. What we'd like to conclude about this is that if a city has a vision of what the city beautiful should be and what they would like to recapture of their past and how they would like to protect themselves in the future and can create a political mechanism which focuses the best of city talents on the problem, and they can work in a patient way, over 25 or 30 years to carry that forward, that we can, in fact, salvage our major internal cities and we can, in fact, bring in a new sense of community and identification of our residents with the city and in that pride in itself will bring about the political revolution that has occurred in Baltimore. That if the city is decrepit and corrupt in appearance, the politics will soon become a mirror of that situation and if, in fact, the leading power structures of a city can be involved and committed for 25 or 30 years in the redevelopment of it physically, that it will, in fact, redevelop politically and socially as well - but

they are interrelated and that tends to mock the democratic process at the urban level works best - where the citizens are involved and proud of their community whether we're talking about Columbia, which started from scratch or Baltimore that had to recover from 100 years of neglect and decline - the results can be the same if you have the patience and the foresight to stick on the turf. And each community across the country is either going to resurge and go into the twenty-first century with growth and health and an enlightened group, or if it chooses to fall apart and not organize so that the city, in fact, will decline. It happens at the local level, it doesn't happen as a result of federalism or state guidance - it happens because of innate pride of the local citizens and a dedication to a contest which they would like to carry through and can do so with patience. Madison is right on the brink. It is at this point it has no real commitment to the long-term, no vision of where the city beautiful should go, and yet at this point, we have not fallen apart and gone to a decline either. It will be interesting to see how we begin to balance off our political forces in Madison to arrive at a consensus of what we should be and how we should develop and how we will integrate our economic growth and our resources such as the University into the long-term viability and residents of the community. The purpose of the course really hasn't been to make real estate majors out of you, it really has

been to sensitize you to the process and to perhaps make you more active citizens in the overall urban planning process and certainly specifically to enjoy more that which is done about you as you can understand more of the process as it goes on about you and fills the newspapers every day with the protocol of the process by which we build our cities. Thanks very much for your patience and have a good summer.