

Ec. 927. March 6, 1968

Measurement

$$20\% = \frac{12,800 \text{ psm}}{58 \text{ mi.}}$$

cf. WB & S. hwy road,
10,000 psm.

"Developed" land is $\frac{1}{20}$ acre per cap. in central cities. A 5-year gain.
Lots of land in central cities is not developed, either publicly or
privately.

(Terminology: "develop" is interstate or infrastructure; "improvement" refers to indiv. lots. Shadow zones, where priv. developer provides both, as when he puts in well &c., so land may be "improved" before "developed" — a central area of tension, unresolved, and ambiguity in urban ec.)

Major uses:

1. Transportation. Streets, xways, interchanges, etc. Most of the interstate sector. Includes utility easements — that is xptn.

Parking. This and gas stations, (which use land largely for parking) are fastest growing uses. Aprons — delivery, too. Driveways. Corridors, stairs, etc. inside bldgs.

Tank farms

Trains — c. 5%. Sidings, too. R.t. of way — a declining nuisance.

Airport

Harbor. Another r.t. of way problem. Landed up Menom. &c.

Altogether, $> \frac{1}{2}$ the developed land

So study of urban land & of urban xptn. are very related.

Xptn. consumes land; & also det. value of priv. land.

2. Resid.

Not apts. Victims of prop. & stupidity.

In ^{city} Mke, 3% of resid. land serves 20% of pop.

density > $\frac{25 \text{ farms.}}{\text{acre}}$, in apts.;

while 29% land serves 4% farms, at < $3 \frac{\text{farms.}}{\text{acre}}$

All of River Hills cd. go into a ~~block~~ of Prospect Towers.

At Ave. of 10 acres per family, get 64 farms. per sq. mi.

The man who planned this is now head of SEWRPC.

3. Waste

Betrays bad land use. Many rationalizations attempted, but hardly convincing.

4. Other. By comparison, Industry, Commerce, take very little. Indus. same as cemeteries.

Even parks don't get much.

Some big wastes are cemeteries; schools (pub. & parochial)

Most popular writing on subject overlooks these facts entirely.

Influence of taxes:

Streets mostly exempt. Overused. - subject of Hoover study

Parking favorably treated under tax laws. Property.

Also inc. tax -- capt. gains

Residences, Lower prop. tax amounts.

Implied inc. exempt.

ZHA

Cap. gains

Inc. prop. first write off.

~~Waste~~ Instl. Exempt.

Waste. Low prop. tax.

Cap. gains.

Value of Land

Aerials

1. 9 mi. Farm

Power of zoning in F.P.

2. Big land request. of Xway
Small Brownport

R.H.

4.

5. WB, hi density
Underdeveloped lake front
S.S. ... little space

6. Barriers ..

Xway

River

R. & .

Need hi density to justify breaching them.

Subsiding along Green Bay

Hi 90 of land in roads in Glendale.

7. Brown Deer

H & H

Remedy contract

9-22-64

Define land

Characterize "urban" land, vs. extractive & sparse

Area - 8 m. acres, Md. & Del., 0.42% U.S. 70 m. residents.

King Ranch, 1 m. acres

KCLC > 1 m. .. etc.

But spread, great area.

Part time frug.

Value of r.e.

Via prop'ty. tax; via mortgage + munic. debt.

cf. fire value.

Value of land as %

Map of N.Y.

Aerial of Mke. - irrelevance of land ÷ bldg.

Def. of L.V.

Method of evening out irregularities -

Int. tables. Valuation

Include value of public or regal interest

Invest. in land dev't. & improvement as % net inv't. -- \$40 b. '58,

construction

Ec. 927

Wed. Feb. 19, 1969

I. City area

8 m acres, 1950, in & around cities > 50,000

Area of Md. & Del. = 8 m acres.

of 9 m a. in farmsteads

70 m. resids.

$$8 \text{ m a.} = \pi 63^2 \text{ mi.} = 2 \pi 45^2 \text{ mi.}$$

So census def. is conservative.

Unused land: 29% of Benth's 53 central cities

Area actually covered by bldgs, 400,000 a., 15% 'developed' area.

Bay area cd. grow 10x by filling in empty land.
(Effect on BART?) Only 10% usable area dev., 1955

L.A., 65% under.

N.Y., 22 city. Tri-state region, 16% devd.

~~Thurs. Sept. 15, '66~~

Wed. 9-14-66

Land vs. capt.

Unproduced - in part

Perpetual - non-deprec. Not sold, in normal cycle of prodn., so sticky wks.

Immobile - Locn. is a primary element in value

Capt. moves

"Feminine" -- passive, but demands service

Irreplaceable -- heirloom value

Captures spillovers -- value comes from outside itself.

Fri 9-16-66

Urban vs. rural

Gives access

Non-extractive

More artificial

Higher turnover

Sources of value

2.68

Ecs. 921

Urban Land Ecs. defines best use of land: theory

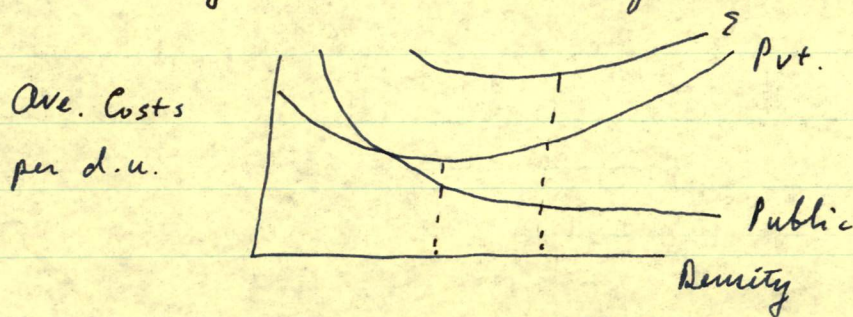
Justus: Examine market as it works

Policy: How to make it work better

A. Individual parcel

B. Interactions among parcels.

Summarize general relas. in Englishman's graph: P. A. Stone



Public costs include L.v., which expresses externalities: need to acc. on ~~own~~ traversing public capl:

- Micro street improvements abutting lot itself
- Macro distrib. nets traversing the land, indirectly.

In general, the public interest, ^{expressed in L.v.} presses for higher density than pvt. ecs. call for. L.v. is a signal, a communicator of info. about social needs.

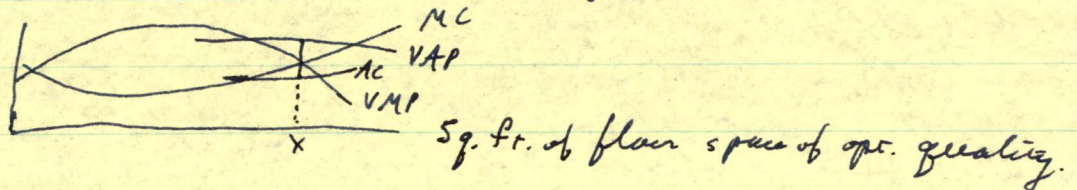
But L.v. is an accurate signal only up to a point. Depends on how much of the relevant info. gets expressed in L.v.

A. A taste of individual parcel economy.

Theory.

Best use of indiv. parcel.

1. Static prodn. ccs. Dim. retr. (Same as Δg costs)



$$x[VAP - AC] = \text{Land rent}$$

Is normative to max. that: not VAP; nor min. AC

Common fallacies: Max VAP -- not neccy. per s.f. floor area, but per \$ of cost.

Or min. cost -- per s.f., or per story, etc.

Both result in underuse.

Max. s.f. per acre land, overuse.

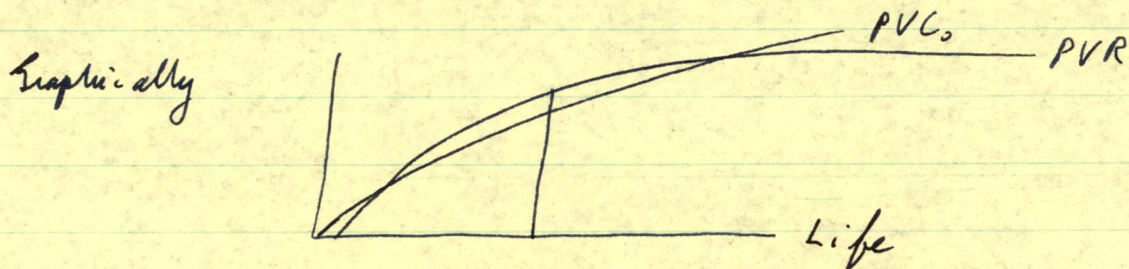
General bias is to underuse, because

- Undervalue land at historical cost.
- Effect of bldg. taxes
- Avoidance of risk. Since land is (usually) not paid for, the risk of not using it fully isn't visible
- Rental conventions -- sharecropping; lease-ends.

2. Over time

a. Reduce all future revs & costs to PV, max. that.

$$PV_{\max} = \sum_0^L [R_x (1+i)^{-x}] - C_0$$



b. But not enough to max. PV of one generation.

Convert to annuity, capze. in perp.

$$PVL = \frac{\sum_0^L [R_x (1+i)^{-x}] - C_0}{1 - (1+i)^{-L}}$$

Results in shorter Life

c. We will also show effects of taxes, & growth.

Tues. 10-6-64
use in Ec. 927, Re Internal Circulation.

Spatial disintegration

a. Outer fringes — already surveyed, sprawl & vacant land

b. Inner disintegration

apts. Aerial of Prospect Ave.

" " 91st & Mill. (rent $\frac{1}{3}$ lower)

" " near west side

Low density presumption of ^{east} best lake front.

CBD — to the 4 winds. Murphy study in Ec. Geog.

If center revives, as 1st. Wis. may now be pushing, ~~too late~~
excess capacity already, pricks a bubble.

Retail.

Strings, strips, beads

Shopping center. Effort to create ecs. of scale, duplicate cbd.

Problem — each nucleus too small, is in stage of Δq returns to scale. So each tends to overbuild, to reach that critical mass. But none occupies a unique position — only CBD has that. So nothing restricts no. of entries, — except zoning, preclusive buying, ^{reasonably problems,} credit mny, etc., which prevent devmt. near in, so most centers are too far out, beyond hi density of pop. & inc./acre.

Most centers lose money at first. Plan to recoup as territory fills in. Want to get started early, establish prescriptive position, zoning rights, scare away others, get some revenue from a large tract of land they can later redevelop, etc. (when did you have any trouble finding parking at Bayshore?)

1st.

Somewhat contained by zoning, but:

- a. Zoning linear, based on obsolete factor. Map in Stefaniak, p. 37
- b. Zones not filled, i) at all
ii) by indy.
- c. Indy. develops factories outside city, lower taxes

1st.

Tax exempt, have better choice of locations than prev. Contribute to sprawl less by sprawling than by preempting:

Churches that break up commercial front.

Cemeteries, esp. on S. side.

Downer, Country Day, Stretch, St. Francis, ^{de Sales,} Mt. Mary

Cluster at Bradford & Downer - at \$3 psf!

St. Mary's ^(?) Hosp., Villard

But then, instns. must move out to ~~start~~ follow people, so they fragment also.

General problem:

impotence of highest use to compete for premium sites.

Gas station can outbid apt. for a half acre!

Social & Public Costs

1. Costs that = $F(\text{area})$

Drainage & flood

Lighting

Snow removal

Street surfacing & maintenance

Pest & blight & weed control

Land itself

Etc.

Left hanging

2. Impaired urban circulation

- a. Longer lines. Capl. value $>$ value of outer lots & acres.
 Use-time - both centripetal & cross-traffic
 & part. investment in rolling stock, including
 land it requires.

- b. Lower capacity lines

(See file, d, 1, Costs that Δ w. area.)

10-1-64

Immediate gratification, deferred retribution, & logrolling.
Urban density.

Costs of low density

1. Take more land — we can spare the land, but pushes it away.
Recreation; greenhouses — (push all the way to Calif. ?); stone — Lammun will go, ultimately; ~~etc.~~
2. A circn. cost, reduce effectiveness
Pvt. cost. Espl. time. But is not the worst part, bcs. start'g & stopp'g
S.O.C. — As w. length. Locn. theorists overlooked.
3. Urban Promise, linkages, A. Smithian eqs. — discussed last time.

2. A circn. costs, S.O.C.

Schechter.

Schools — two small

Wtr, sewer

Hiway.

Etc.

Δ'g cost, w-in a given area. Discuss.

Look at Mke. Cty. in this light.

1. River Hills — all in one apt.
2. Shurewood — hi density, 10,000 psm = 16/a or .06 a/person
3. Sprawl area — who will pay for S.O.C.? \$1100 per lot in Region.
4. CBD — much vacant.

46% Cty. vacant, '58

10,356 vacant lots, '61, of which 196 were sold, '61

Meanwhile, urban demand out much further. 50% land consumption now outside city.

Min. price, \$2,000/a.

Vacant land, top of iceberg. More variation w. in blocks than
 among. A minority of sites render most of services - & pay most taxes.

~~City's potential~~

~~1700 a.~~

1700 a., 1.1% City, 3.3% resid. land, serves 20% pop, > 25 farm. per acre.

3-story apt, 40/a.

20 145/a

99% City, 29% resid. land, houses 4% pop, < 3 farm./acre.

R.H., 350 farm., 9.1 a/farm.

Mfr., 2.4% City, 16% Taxes on r.e.

Ann. Motors, 600 men/a. At that density, all ~~occasionally~~
 the indl. employees, 142,000, wd. need .37 mi.²! Now they
 have 6 mi.², & 23 mi.² zoned for indy.

- Is it 80% interest? No, bcs. capl. is recovered, land invt, ratio changes. Toward term, is 99% rent. Has o.c., must be allocated first — otherwise no rationale to keep land in that use.

2

3. Urban peculiarities
(attached)

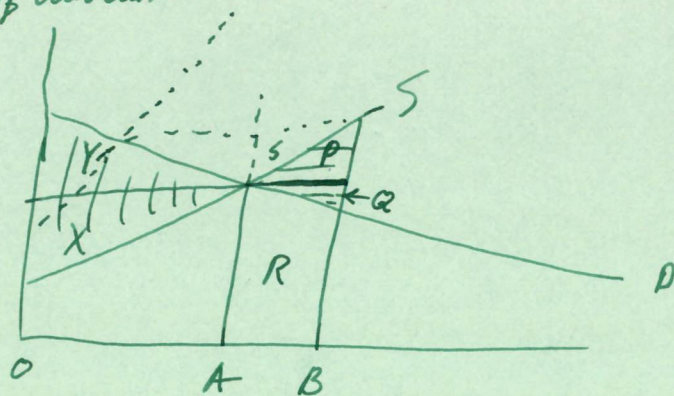
4. The urban promise.

Urban Evn, Traits

- ✓ 1. Networks supersede individualized units (except downtown, they become individ. indep. again) & recreation
- ✓ 2. Extraction gives way to fabrication, xptn, commerce, culture, social contact. the 2dry class. of prodn; hi intensification potential
- ✓ 3. Spillovers become major aspects of land use
- ✓ 4. Discrete, ^{long} chronol. cycles of land use ~~are~~ supersede yrl. cycles. of agric, or extractive cycles of mining.
- ✓ 5. Seasonal peaks are evened out. Pooling, generally.
- ✓ 6. Specialize Δ s
- ✓ 7. Cap. turns faster
8. Orgns. are larger
9. Relations less personal, & less fixed. Wide alternatives
- ✓ 10. Central focus, spatially, but w. alternatives.

- ✓ 11. Some networks move into stages of congestion, Δq costs
- ✓ 12. Relative imptnce. of location rises in det g. site value.

Aggreg. value of urban land.



1. Land from $O-A$ yields surplus. S -curve is non-land cost of development.

X is net value of raw land, above dev't. cost

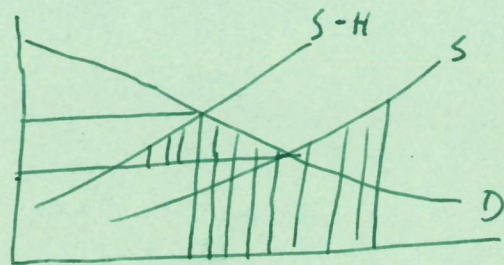
Y is surplus to some consumers.

2. Land from $A-B$ yields net social deficit of $P+Q$.
or $P+Q+R$, if vacant, and the R may offset all the consumer surplus!

Not $+S$ — can't value it all at the higher price level

3. Aggreg. value of land, as such, is only the surplus above costs of streets etc.

4. While we're at it, what is social cost of idle land?



That is another gu. from aggreg. value of urban land.

Substantive points

a. Concepts of L.V.

Omnibus par. ^(Usibus aedificiis)
 Cet. par. (highest & best use)
 Mut. mut. ^{if all owners put land to use, and demand is elastic}
 Macro-ec. ^{if one city put land to use, and this is determined}

Terminis par.
 Vicinibus par. - tatibus par.
 Partibus par. (zoning)
 Dominis par.
 Aditibus par. (access)
 Aqueductibus par. (utilities)
 etc.

First approach: Cet. par. (new use, own. par.)

Which to use? Paribus: Aditibus, aquaeductibus, partibus, vicinitatibus.

Mutation: Usibus, aedificiis, dominis

Upuse: Terminis. Depends on circumstances. If subordination (over)

Beware the unbalanced mut. mut. approach, which will not let us

exceed mkt. by assuming upgraded environs, but insists on assuming limited demand glutted by upgrading environs.

b. "Social value" - spillovers captured by L.V. Not as vague as implied.

c. M.C. pricing means $P = MC$, where product is homog.

Area pricing & peak-load pricing bring in heterog. mkt. Is it price discrim. to alter price for differential costs. It is not

necly. MC pricing to Δ price w. a) load or b) distance.

We integrated the 2, but don't be confused.

But remember, then you get Δ agg. demand, & Δ inv. opps.

will bring higher price, fine. If requires assembly, problem.
Suggest Dutch auction technique, posting of bid & ask
prices.

2d approach: Mut. mut. ~~But not~~ Assumptions that all do
likewise.
a. Positive environmental effect
b. Neg. market effect. Puncture Hamiltonian value.
c. Positive macro effect

3d approach: Alter aditis, aqueductis, or pars
same a, b, c, as above

E. 520

9-19-66

The uses of land.

1. Transportation. Over half. Esply. hi if density low.
Esply. autos.
2. 8 m. acres in "urbanized areas," = 0.42% cont. U.S.
But actually much less.
KCLC has 2 m acres; S.O. of Cal. has 100 m.!
3. Undeveloped -- 30% in central cities.
4. "Developed" -- $\frac{1}{20}$ acre per cap.
Covered by bldgs, 400,000 acres.

Apts? Negligible. In Milw. city, ~~10~~ 3% of
~~20~~ 90% of people, above $\frac{25 \text{ fams}}{\text{acre}}$ -- i.e., apts, 29% land houses 4%, 2 $\frac{3 \text{ fams}}{\text{a.}}$

Indy? Small. About same as cemeteries.

Parks? Mke. has 7x Ari., per cap., but still not much.

Residences -- major use.

So what takes most space?

Xp'tn.

Resid.

Waste.

(All tax free)

~~I read -- urban~~

~~Urban Exp.~~

"New Towers"

Drop in bldg.

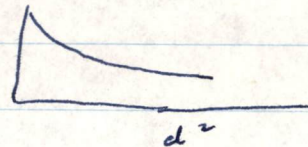
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Value of land.

1. Micro -- Milwaukee area.
 - a. 100% locn. (lower than most)
 - b. Wh. Bay
 - c. East Side
 - d. So. Side -- same gradient.

2. General picture -- gravity model.

$$F = \frac{M_1 \cdot M_2}{d^2}$$



Profiles show it.

N, S, W, all same.

3. Aggreg. --

Milw., 5 b. (land & bldgs.)

NY 40 b. +

U.S. 1500 b

Methods of est.: 1. R.e. tax. 1956, \$11.76 x 100 or x 50, or so.
1966, 24 b.

~~Confirmed by Census of Govts. NBER ~~unoff~~~~

2. Mortgage

1957, 143 b., uniform resid. & comm. only.

cf. 10 b. fm.,

1966, 327 b

(E. 520. Fri., 9-23-66)

3. Ratio of resid. value to income. (N. 1. = \$600k, 1966)

4. Census of Govts -- confirmed me, NBER way off.

4. Land vs. Bldgs.

FHA methods. What is wrong?

Bias caused by inc. tax. Try to undervalue land.

Bias vs. newcomers in new bldgs. Bldgs. overvalued.

Vacant land

Slums

Assess methods. Evidence from demolitions.

L.V. as % rises toward center. 20% Althe is on verge of renewal.

No. of \$1.5 - 2.0 tr. urban r.e. value, hi % is L.V.

But defn. of L.V. makes huge difference. 3 basic methods of appraisal:

1, Mkt; 2, Cost less deprec. 3, Capl. income. Method 2 is bad,

overlooks change. (over)

Trend -- Urban Expansion

1. Careless overstatement. Big nos. get more publicity.

1 m. area a yr. -- or a week?

~~But~~ Careless defn. of terms. Urban price influence is one thing, & use another. Recre. another -- rural nonfarm.

Area under bldgs. is small. So is its expansion.

It is 400,000 a. Obviously not doubling every yr.

But urban price influence goes far. Espl. if include gentleman farms, and recreation holdings. Explains part ~~of~~ of farm land price paradox (but only part -- paradox also found in purely rural areas.)

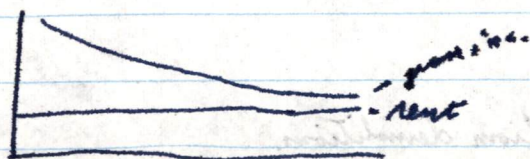
1. More on capitalization



2. Land rent as % of v.e. inc. over time.

New bldg. not needed.

But recovers initial bldg. capt. soon, and no deprec., as interest, so remainder is almost pure land rent.



~~Market~~

2. Is urban expansion destroying agric?

On contrary, shock wave effect. Δ ag. capacity.

Citrus spread. Wtr. supply, parking houses, specialists, xpts.

Urban analogues

Shock wave, thru ag. hierarchy

(Inc. tax aspect) Buy a like resid. property in one yr. Trade up.

Premature intensification.

Problem of bldg. excess capex.; waiting capl.; Δ xpt. cost from farm to city.

3. Should cities take ~~any~~ good ag. land? Apts. take good resid. land, etc.

✓ 4. Is urban expansion necessary? Mistake Kings Cty. (Brooklyn), 4.4%.

Idle & underused land. Most of Milw. city. But metrop.

area demand has spilled out.

N.Y. - hi 90s under. Also in S.F. Same story everywhere.

Every planning study shows it. Extreme disparity of intensity.

13 m. vacant lots.

Apts. boom, mid idle land. ~~Also~~ Consumers respond to hi land price, but SEWRPC doesn't. Thinking of planners doesn't.

Empty bldgs.

Empty floors above ground

Fear of compn. ^a the basic problem, ^{in central city.} Restraint of trade. Merc-m.

waste: retarding renewal; enforced land consumption. E.g.s of power of one bldg. - M.Hart, Maine Plaza, No. 3 Penn. Corp (4% to Δ Phila. apcs)

Folly of the fear. You cannot control the whole market.

suburbs, other cities, other regions. Scarcity breeds suburbs. Merom. Falls, Glendale, Butler, ~~to~~ Glendale, Helen Conner, Oak Creek.

Meantime, it makes our city much less livable & efficient

Bad circulation.

In hi income suburbs, a basic problem is not fear of compn., but of children & taxes. Mr. Ball Study of Mbe City

Winnetka, 0.16 a/cap.

150 m. need area of Indiana, 24 m. a.

6 circles of 45 mi radii.

100 m. acres under urban price influence? 200 m. trucking.
Calif. feels it all over. Ariz., N.M. -- desert.
Mke. city, cheapest land is \$1,000/a. (2 1/2 t p s f.)

(Cf. Winnetka & W.B. 0.16 a/cap. is $\frac{1}{0.16}$ persons p.a.

$\approx 6 \text{ ppa} = 3840 \text{ persons p.s.m.}, \text{ or } \frac{1}{3} \text{ the density of WB})$

Macro. impact of urban expansion.

Large share of autonomous inv.

$$Y = C + I$$

$$C = a + bY \text{ etc.}$$

Multiple effects.

Very hi became constr. is the most autonomous part of I

4-3-68

Internal Circulation

1. Schechter, Cost-push

- "Involuntary" cons. - no Δ in standard of living results. (He might have added compulsory labor cons. (zoning) and shined shoes, etc. - we keep raising the costs)
- Scattered points of employment, causes higher need for autos.

Kills mass transit. Separates jobs from poor labor force as in Watts, core. Cross-haul commuting - so centrally located people need more cars (cites Detroit study.) (Resid. sprawl aggravates indl. sprawl, invades indl. sites.)

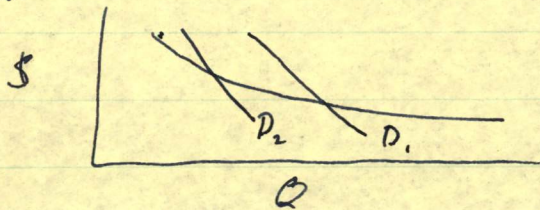
- No. of trips has Δ , & d.u.; but mileage/trip has Δ .

("The further it is from A to B - - -")

- Higher % of ^{family} budgets now goes for xpt. (And this understates it, bec. a higher % of bus. costs, i.e. of retail prices of everything, goes for xptn., bec. of sprawl.)

(Cost of time is major item. Some claim commuting is a consumer good. GNP & IRS so treat it. But it isn't. Aerobats in autos.)

- Decrig. cost nature of mass transit, feedback problem.



Schechter emphasizes that low density loses scale ecs.

Volume effects vs. distance effects.

(Do we gain scale ecs. by extending service?)

"The resulting poverty is shared by all."

min. requirement to be part of modern life.

Futtermann, Comments

1. p. 22, r.t.s. when new didn't come to center of town.

(Later analogies. - Xways. Then new xptn. at first upsets old centrality. But rails got downtown. So are Xways.

2. Critical mass, p. 37-38.

2 of them: one to survive, a 2d to explode

3. p. 53, N.Y. City Club Rpt., 1908. 9 issues:

a. Why not pay by fares

b. Which owners benefit most, outer vs. inner.

4. p. 61-62

Rapid Transit requires hi density in core. p. 94, height limits prevent it.

p. 80, Mbe. has hi % auto use.

p. 141, Chicago Ht. limits on skyscrapers obligated status as home office to nation's industry.

5. Downtown stores subsidize their branches, not the other way. p. 65

Accounting fallacies - misallown. of overhead.

The quest for prescriptive r.t.s. -- e.g. a mapy. position.

6. Suburbs use special districts to avoid forced mothering of new areas.
Comment on issues involved.

7. p. 89, all wet. On Sydney.

8. p. 96 Zoning & prescriptive r.t.s.

9. p. 107 Mitchell proposal, move wealth-redistrib. taxes to U.S. level.

a. Can't distinguish services to property & to people; b. Redistrib. taxes at local level are self-defeating, avoidable by zoning, migrations, etc.

10. Urban renewal & density? p. 122 v. p. 125.

p. 122, Stuyvesant Town by Metrop. Life. Tax abatements. 18 blocks. 35 large apts. replaced 500 old bldgs. 25,000 people replaced

11. p. 130, wrong shape for downtown. 3,000, an 8x density. Used 25% of the land area of the 18 blocks.

Emphasis on edge effect entirely

12. Power of one bldg. - in Chi., the Melroe. Next in the wholesale district.

p. 141. More office & show room space than St. Louis. But he foolishly blames it for blight.

But on p. 125 he forgets this, lapses into cliché about reducing density by urban renewal - an error.

Service CITY AIDE SCORES OWNERS ON RENTS

17% Increase in 2 Years Is Termed 'Too High'

By WILL LISSNER

Mayor Lindsay's top aide in the housing field said yesterday that the real estate in industry's proposal to limit rent increases on uncontrolled apartments to 17 per cent every two years was "too high."

Jason R. Nathan, Administrator of the Housing and Development Administration, gave this evaluation, the first from a member of the Lindsay administration, on the WNBC-TV program, "Man in Office," and in an interview afterward.

The industry submitted its plan on Feb. 26, after the Mayor demanded that it come up with a plan to regulate itself or face regulation by law.

The industry proposal also called for a rollback of some recent rent increases that the Mayor called excessive, but rejected his demands for refunds to the tenants. The Mayor said immediately that he was "disappointed" with these provisions.

Mr. Nathan emphasized that his criticism of the industry's proposed rent increase ceiling was "my personal reaction." The Lindsay administration's attitude would be determined, he said, after the Mayor's Rent Guideline Board had evaluated this and other proposals from the industry and presented its recommendations.

Other Aspects Studied

The housing administrator said that the ceiling was only one of a number of aspects of the industry plan that were undergoing close scrutiny. The others include:

The housing administrator said that the rent increase ceiling was only one of a number of aspects of the industry plan that were "disappointing" to the Mayor and were undergoing close scrutiny by his advisers. The others include:

¶The level above which increases would be rolled back as excessive, the industry proposing to fix this at 22.5 per cent for two-year leases and 27.5 per cent for three-year leases.

¶The effective date for rent increases affected by any rollback. Complaints began coming in last summer and Rent Commissioner Frederic S. Berman called the industry in and put it on notice at that time, but the industry plan made no provision for increases achieved before Oct. 1.

¶The effective date for any rent reductions. The industry proposed they become effective May 1.

An agency that has escaped criticism in the controversy over excessive rent increases was brought into it when Mr. Nathan pointed out that the Federal Housing Administration had a responsibility under the law and its contracts to prevent excessive rental charges in properties financed with its guarantees.

Of the 600,000 uncontrolled or decontrolled apartments subject to rent increases on the demand of private landlords, about 400,000 would be covered by the industry plan. The 200,000 remaining units include apartments in two-family houses and apartments that have been decontrolled.

The 400,000 apartments include about 90,000 in buildings erected with Federal Housing Administration assistance. Since the F.H.A. has responsibility under the law to limit rents, the courts may find that the city

\$53-Million Apartment Complex To Be Built by Union in Brooklyn

Longshoremen to Sponsor 1,549-Unit Development With City Mortgage

By EARL CALDWELL

Mayor Lindsay announced plans yesterday for a \$53-million middle-income cooperative apartment development to be constructed over a subway yard in the Sunset Park section of Brooklyn.

The Maor said that the development would have 1,549 apartments, ranging in size from efficiencies to seven rooms.

Mr. Lindsay said that the cooperative would bring "an exciting new community" to the city, replacing what he called, "a bleak vista of railroad tracks with what will be an important addition to our urban landscape."

Plans for the cooperative, which will be known as Harbor Houses, have already been submitted to the City Planning Commission and the Board of Estimate for approval.

Union Will Sponsor Project

The Mayor said that the development would be built under the sponsorship of Local 1814 of the International Longshoremen's Association.

Jason R. Nathan, Housing and Development Administrator, and Robert G. Hazen, Commissioner of the Department of Development, praised the union for "farsighted involvement in the city's middle-income housing program and its imaginative proposal for an underutilized location in one of Brooklyn's residential areas."

Mr. Lindsay said that the union would use city mortgage financing and tax exemption in the construction of the project under the Limited-Profit Housing Companies (Mitchell-Lama) Law. The plans call for an estimated \$49,146,500 mortgage loan from the city for a period of 50 years at 6 per cent interest, plus tax exemption.

has no jurisdiction to limit the rents by law, Mr. Nathan said. But a voluntary plan would cover these apartments.

"A tremendous proportion of the complaints from Queens were from F.H.A. buildings," the city administrator disclosed.

This raised a question of what action, if any, F.H.A. had taken to exercise its responsibility over rents. According to Mr. Nathan, the agency was concerned about the financial stability of its investments. F.H.A.'s former chief, he said, made a veiled threat that if the city took action to limit rent increases his agency might not continue to provide mortgage insurance here.

"I talked about three weeks ago with [the then] F.H.A. Commissioner Philip Brownstein in Washington," Mr. Nathan said, "and he said that if legislation which adversely affected F.H.A.'s position were passed,



Harbor Houses, Inc., a housing company formed to own and operate the development, is expected to offer the apartments for a down payment of \$500 a room with an estimated average monthly charge of \$46.80 a room, plus utilities.

The site of the complex is an area generally bounded by Seventh and Ninth Avenues and 37th and 39th Streets in Brooklyn.

Buildings to Be Connected

The complex proposed for the air rights over the 12.3-acre site is to include a series of four-story to 28-story interconnected towers and low-rise buildings.

Architects said that the units were designed to form numerous interior courts, plazas and open spaces. The complex is to provide 34,200 square feet in retail shopping space, a swimming pool and other recreational facilities. Garages are to provide parking for 1,038 cars.

Housing Administrator Nathan said that "although a sizable tax exemption will be granted to Harbor Houses, the city will gain an estimated \$410,000 in real-estate taxes annually from a site which presently yields no tax revenues."

The area surrounding the subway yard consist of one-family and two-family homes, some apartment houses and a park. No relocation is involved in the project.

they would, as he put it, have to review F.H.A.'s entire position on providing mortgage insurance in the city."

Mr. Brownstein has vacated his post and no successor has been named. A spokesman for the agency had no comment on the statement.

Mr. Nathan said the report he and others made to Mayor Lindsay on Feb. 8 made "a very important point."

"Will private financial institutions as well as builders produce housing in the future under a program of rigid law imposing rent control?"

The city has a very important need to increase the production of housing, Mr. Nathan said. Because he believes the extension of rent control would hamper housing production, he regards further rent control laws as threatening the city with "disaster."

Will YOU be BALD?



4-Camera Photographs of Earth to Be

Method Could Help Man Make Better Use of Resources

By HAROLD M. SCHMECK Jr.

Special to The New York Times

WASHINGTON, March 2—

One of the most potentially important down-to-earth uses of space will be tested during the Apollo 9 flight that is scheduled to begin tomorrow.

The astronauts' main concern will be to test the equipment and strategy with which the United States hopes to achieve a successful landing on the moon this summer.

During the latter half of the Apollo 9 flight, however, the crew will conduct a photographic experiment that may help mankind make better use of the resources of earth.

In an important respect, the photographs will be different from any taken previously in the nation's manned spaceflight program. The previous space photographs of earth were made with one camera and one film type at a time.

In the Apollo 9 experiment, four cameras, mounted together, will photograph the same scene with different film or different filters. The aim and timing of the cameras will also produce a set of photographs from which a stereoscopic image can be obtained.

Crop and Ocean Details

The stereoscopic effect is produced by taking two sets of photographs of the same scene a few seconds apart. The pictures in the two sets cover the scene from slightly different angles.

The four-camera experiment in the Apollo flight is expected to test a system that may grow to major importance within a few years. Multiple camera photographs from unmanned satellites may reveal details on earth that cannot be detected by any other practical method. Among things that may be studied by this method are the health of forests, grasslands and crops; the state of the oceans, moisture content of soil, condition of coastal waters and estuaries and the presence of important mineral deposits.

Much the same method has been used extensively by the military for camouflage detection. In recent years it has also been used in civilian life for crop surveillance and mineral prospecting by aircraft. But multicamera photography from aircraft cannot approach the rapid global coverage possible from the vantage point of space.

The method is called multi-

Two Live Telecasts From Space Planned

All three major television networks are planning to carry two live shows from the Apollo 9 spacecraft this week as well as the launching today at 11 A.M. from Cape Kennedy, Fla.

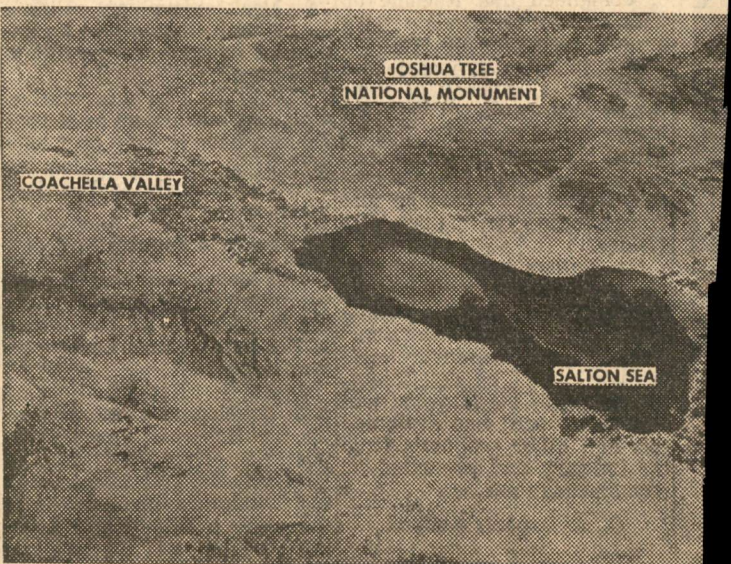
The first live transmission from space, scheduled for 9:27 to 9:34 A.M. on Wednesday, will show Col. James A. McDivitt and Russell L. Schweickart inside the lunar landing craft.

A second transmission, set for 2 to 2:15 P.M. on Thursday, will occur during a space walk by Mr. Schweickart.

These live events during the 10-day flight, and the launching today, will be carried by the Columbia Broadcasting System, the National Broadcasting Company and the American Broadcasting Company.



Infrared photos such as this, which records high temperature areas, show Halemaumau and Kilauea Iki craters of Mauna Loa volcano in Hawaii, and



Infrared photograph taken from Gemini spacecraft shows California and surrounding area. Swirl in center of sea was missed by conventional photography.



Diseased trees appear darker in infrared photo of a forest because they are poor reflectors of infrared light.

spectral photography because it obtains simultaneous photographs taken in light from several specific bands of the spectrum of possible wavelengths. It is also called remote sensing because it allows the gathering of detailed and widely varied data from a distance.

The four cameras in the Apollo 9 experiment will take their pictures in infrared film, infrared color film and panatomic-X film filtered to concentrate on red light from one

camera and green in another. The cameras will be model 500-El Hasselblad's housed on a ring mount and operated synchronously by electric motors.

From the film and filter combination, scientists expect to get clear pictures of coastline conditions and the topography of the bottom under coastal waters and lakes.

The infrared film increases the usefulness of the photographic system by adding re-

House Subcommittee Opens Pueblo Inquiry Tomorrow

CORONADO, Calif., March 2 (UPI)—A special House subcommittee will open its investigation Tuesday into the seizure of the Pueblo by North Korea.

The first witnesses before the house armed services subcommittee will be Navy Secretary John H. Chafee and Adm.

Thomas Moorer, Chief of Naval Operations.

The subcommittee is headed by Representative Otis G. Pike, Democrat of Suffolk County.

One of its tasks will be to inquire into possible revisions of the United States Military Code of conduct for servicemen captured by enemy forces. It forbids prisoners of war from giving any information other than their name, rank or serial number and expressly forbids professions—true or false.

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be
plan

Volpe Will Speed Up Construction of Inner-City Expressways

By CHRISTOPHER LYDON

Special to The New York Times

WASHINGTON, March 23—John A. Volpe, the Secretary of Transportation, is determined to speed up the pace of constructing inner-city expressways.

In a recent interview, the former contractor and Massachusetts Governor appealed for "common sense" from and "compromise" by the "so-called conservationists and civic groups" that in many cities around the country have protested highway extensions



The New York Times

John A. Volpe

through parklands and low-income neighborhoods.

Mr. Volpe, who served for four months in 1956 and 1957 as the nation's first Highway Administrator, emphasized that indefinite postponement of highway construction would not be part of an acceptable compromise.

"There are some people," he said, "who feel if they object long enough, the problem will go away and the road will never be built. But you can't pour traffic off modern highways into nowhere; you just can't just dump it into crowded city streets."

Plan for Total Needs

At the same time, Mr. Volpe said, city highways can be designed "to enhance the opportunities for replacement housing and to serve the total needs of a community."

Mr. Volpe expressed a new, assertive spirit of highway policy in his discussion of administrative rules and personnel, and in his general observation that the often clamorous outcry against the highway program "isn't going to bother me at all."

Mr. Volpe said that highway-review procedures established by his predecessor, Alan S. Boyd, at the two-year-old transportation agency "could have delayed construction projects up to eight or 10 years on the complaint of a single citizen."

To Mr. Volpe's great relief, Mr. Boyd relaxed the regulations on citizens' appeals shortly before leaving office in January. But Department of Transportation regulations still require two public hearings on highway plans before construction can begin.

"We have accepted the dual

hearings as left to us by our predecessors," Mr. Volpe said. "But we're not wedded to the idea. If we can find administrative short cuts to speed up the process, we'll use them."

Mr. Volpe said that the popular image of highway boulders was largely unfounded.

"The highway 'monster' has been created by a minority of instances where dictatorial methods were used," he said. "In fact, most highway departments have become more aware of their responsibilities, particularly in the last five or six years."

He said he was mystified by the attempts of critics to associate him with the "highway lobby," a powerful combination of contractors, state highway officials, auto manufacturers, truckers and associated labor unions.

"I don't know who the 'highway lobby' could be ex-

cept the 205 million Americans who want to travel more efficiently than they do today," he said. "The average American spends 13 per cent of his working day behind the wheel of a car, getting to and from work. He wants an improvement, and that's what highways can provide."

Steps on Contracts

In his first two months in office, Mr. Volpe has taken several steps to accommodate highway interests. In a speech to the Associated General Contractors in Washington last week, he announced that evidence of antidiscrimination efforts would be required from contractors only after they had won Federal contracts, not before they submitted their bids.

Clarence Mitchell, the Washington lobbyist for the National Association for the Advancement of Colored People, described the change as a

"spineless capitulation" to the contractors.

Mr. Volpe promoted Francis C. Turner, former director of the Bureau of Public Roads, to head the Federal Highway Administration.

The Secretary appointed Ralph Bartelsmeyer, former chief engineer of the Illinois Highway Department, to direct the Bureau of Public Roads.

Of the Turner appointment, Mr. Volpe said, "Some people suggested that I appoint a city planner or a psychologist to the highway administration. But you don't go to a doctor with a legal problem, and I needed an experienced man to run our massive highway program."

Mr. Volpe has expressed a keen interest in developing urban mass transit, but he followed a different principle in picking a new chief for the Urban Mass Transportation Administration.

His choice was Carlos C. Villareal, a sales executive of the Marquardt Corporation, which has done research and development in the aerospace field. "He's not a transit man," Mr. Volpe observed, "and that was deliberate. I wanted someone who wasn't wedded to old concepts, but someone who could think fresh and was familiar with technological research."

Mr. Volpe said he did not expect to submit a comprehensive transit plan to Congress until next year. He has noted in the past that the Federal Government spends over 30 times more on highways than on transit and has pledged his efforts to a "better balance."

He has declined, however, to predict the Nixon Administration's budget request for the Urban Mass Transportation Administration, for which President Johnson's last budget asked \$175-million.

Princs. of citc.

1. Volume effects vs. distance effects

2. Flux rate instn.

Causes

Effects

3. Q. discounts shd. be density discounts

4. MC pricing

LR

SR

5. Density relieves congr.

6. Vertical citon. is handicapped, shd not be.

7.

Ec. 921.

2-28-68

Functions of Cities.

1. Fetterman

2. Chinitz, Hoover

Hoover, Pittsburgh takes stock

a. Obsolescence. Too slow to adapt, retool. A renaissance, but too weak. Related to high dependence on small no. of giants.

(Probably related to monopoly; inadequate infrastructure for interloping small indg. The giants had their own infrastructure, why should they pay for munic. capl. for rivals?) Low tax rate

The revenue of L.A.

The giants were vertically integrated, thus left fewer niches for small new bus.: & had few generally available supporting services.

b. Margins of access advantage among major n.e. centers are small, & diminishing. (So a city must be alert -- a good thing for the n.e. as a whole.)

c. Pittsburgh has had internal transport, ~~and~~ is not taking advantage of its size.

d. Greater importance of amenities as locating factor; lesser weight of raw materials, & general access.

e. Greater importance of educn. & adaptability.

Christie. City & Suburb

a. Decentralizing force of auto is spent. New centralization.

b. Reduced impact of new intels., bcs. of more processing

But still need for diversified new intels. - hence, metrop. locn.

c. Higher income, Ad demand for urban services,

d. Continued changing balance, forces of centralization & decentralization, of which there are many. So any single-minded generalization about one thing is wrong.

e. N.Y. has adapted; Pittsburgh hasn't. N.Y. offers a climate for innovation.

f. Emphasizes city's role for small new innovators.

Murphy, City's Spheres of Influence

Gravity locn

Refer to L.V. -- is reflected in them

A. Smith.

Div. of Labor

H. George. Savannah.

Anatomy of a Metropolis, comments.

1. Anatomy of a Murder? — not so far wrong, that is what we are doing to cities.

2. Tendency to "geographer's thinking" — or "The Explainers" approach. Uncritical of forces, & overly concerned w. imposing a logic on them. Ec. mechanism requires it. Ex. mechanic's approach — more concerned w. forecasting future than helping us guide & mould it. As C. Clark put it, ^{re futurist, not clear if} _{an indicative or imperative mood.}

✓ 3. Mfr. location dominated by "search for space" — a truism, or tautology. p. 25 ff.

✓ 4. p. 27, mixes bldg. obsolescence & size of site — a universal error today. (also, p. 30, has "site" obsolescence)
Is continuous inter-flow related to lateralization? Everyone assumes it. No proof. (Ratcliff attributes to replacement of steam by electr., steam having required 30)
If it is related, is it capt. being sucked for labor, or land, or s.o.c.? And which came first, cheap land or new processes "requiring" it?
✓ In Mke., if unsubdivided land needed, there's plenty in Menom. V.

p. 27, New processes determine land "requirements" — a non-ec. approach. Leaves out land price as determinant.
I just say they are acting as tho land is free, ceasing to treat space as a constraint. It's nice if you can do it, but it's not a "requirement". ~~the~~ "Modern processes" could be adapted to 3-D.
It's just that land has been "free", (bes. of ΔP, the

✓ "Price-increment offset", "Expected-increment offset", or, in-groupishly, the "delta-P effect".) (Add prescriptive effect, to set ind. character of area.) (& in case of shopping centers, a critical-mass effect)
MC = P(ΔP) - ΔP
★ (over)
p. 27. Data on ft.² per worker. cf. Mke., from Steffenick
AMC: $\frac{20 \text{ acres}}{12,000 \text{ men}} = \frac{870,000 \text{ ft}^2}{12,000} \approx 73 \text{ ft}^2/\text{man}$. (But 12,000 is peak empl., & probably on 3 shifts.)

cf. N.Y.: pre-1922 plants, 1040 ft²/worker. (7 ft² of plot space, or land)
1922-45 2000
post '45 4550

★ Indl. processes are remote from common understanding, can
impute much to them — retreat into the arcane — appear to explain.

But there is a common pull on all land uses, so heavy space use now
characterizes indy., retail, storage, residential, schools, highways —
everything. Wd. be quite a coincidence if each kind of land use

✓ happened to Δ its "requirement" from internal causes simul.
There is a common external cause — free land.

Concluding

2

5. p. 28. They do allow that "public policy can affect location" — help in land assembly; p. 31. land write-down.

6. p. 29 They of. land cost at \$16 p.s.f. on lower W. side vs. 25¢ in outer ring, pretty well let that suffice to explain out movement.

But \$16 p.s.f. is only \$700,000 p.a. If bldg. is \$4 m. p.a., maybe ok. If traffic & turnover are high, gross output is \$20 m./yr., a small location gain of 1-2% on each turnover pays interest on \$700,000 (@ 5% = \$35,000/yr.)

Greater cost may be bldg. tax: @ 3%, ~~3%~~ p.v. lump = \$2 m.

7. A big cause of out-thrust ~~is~~ is to own instead of rent space — must be much more satisfactory. Rental space is usually hand-me-down, (p. 29), on very short lease (1-2 yrs!). But this is bad functioning of the market. p. 30 Rents higher in Manhattan. H. & V. explain that drives people out. Truistic approach again. Obviously it is effect before it is cause — effect of demand, of desire to be in Manhattan. also, fail to explain why hi rents don't cause bldg. in Manhattan, to create more premium floor space.

8. p. 35 shift to trucks was at a hi cost. They ^{interurban trucks} used streets previously reserved for internal circulation. Social cost not fully borne by trucker — even if he pays for hi ways, but $MC > AC$.

9. p. 39 Collection of clichés, & only analysis is to project past trends — e.g. further decentralization. Very weak.

10. Importance of keeping center open as a main traffic distributor etc. An airport can either have its own suburb of radials, or be tied to center. Since there is room only for one suburb, most facilities must be linked via center. Thus air transport doesn't weaken center.

11. Wages used to be higher in NYC than outside, so indy. moving out shd. find lower "wages". But it was not really wages proper that differed. Higher wages in one area are offset by higher rent, hence are a form of rent.

1947-55, differences disappeared.

12. Ch. 2, locational pressures:

Search for space

River to rail to rubber

Labour

✓ External Ecs. - the one good section

Taxes

✓✓ 13. Good re External Ecs., yet wrongly conclude they are now equally available everywhere. Not wrong, actually. But they fail to stress their fragmentation is a dilution, loss of net overall value.

✓ 14. p. 55, cuckoo.

Ch. 4, White Collar Corps. Gurdy. very good.

1. Chain of determination, pp. 14-15

2. R.r. terminals pulled north

3. Advantages of central location to mfgs. Info, the unknown, specialists, etc. Communication

4. p. 103 Ease of ^{land} ~~any~~ on Park Ave, big factor. Explains many premature demolitions

5. V & H say R.r. freed wholesalers from waterfront location. I doubt. They understate that. Techn. determinism again.

✓ It was devmt. of city streets, rather. Note how many old plants & bks. are not on r.r. or water. Street grids, & later, autos, shouldn't be blamed for breaking up specialized districts. Contrwise, by releasing from over arching dependence on

✓ waterfront or terminal, such freedom shd. allow greater specialization by other kinds of complementarity.

Add to
urban
promise

6. V & H distinguish different needs for centrality.

a. Unstandardized goods, often shopping, need to "make a visit."
Communications a basic need.

b. Distributors. Physical distribution requires less centrality than often shopping, V & H say. Physical distribution calls for 2d ring locn.

(Does this ease getting thru center?)

Basically, he's describing disintegration - sprawl of retail grocers forced splitting the produce market. And wholesalers split.

c. Money market - "common preoccupation". But bankers are "schizoid" - also directors, etc. So much admin. occurs in downtown area.

d. Access to the unknown - wide range of info.

7. Munk. prestige rents are not much higher, & you need less spare bcs. city offers services.

Idea — Income tax hits public transit more than priv., bcs. driver of car earns untaxed, implicit income. Transit co. pays corp. inc. tax & personal inc. tax too. And prop. tax on roadbed & rolling stock. Streets are funded by tax-free munic. bonds.

2. Hoover Motor Metropolis

Search for quicker journeys has been self-defeating.

Public Transit killed

Space sterilized by auto. "Strangulation".

Isolation, ghettoization, parochialism -- reduced contact.

Air pollution

4 sets of policy makers who fail to coordinate (& synchronize) their work:

a. Hiway plng. & bldg. Follows demand. (Controlled existing trend)

b. Parking - subsidize: follow demand

Mass Transit:

c. Public. Minimal subsidy for survival

d. Pvt. Over tax: & force surplus-yielding or rent-bearing center to carry subseq. extensions.

a. Costs of downtown space not assessed to auto. \$25,000/car.
\$4 per trip.

Public Transit cumulatively destroyed.

1. Bus. - Δ g costs reversed

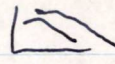
2. Street space taken

3. Popu. dispersed

Even the individual's costs of using car are understated underfelt by him. He uses MC idea; but when he takes train, they change full AC, plus taxes plus graft plus union wage premium.

Hoover. 2

Policy options:

1. Counter-weighing subsidy to public transit - peng \$2 per trip, (\$4 rd. trip.)
2. Let congestion limit traffic. 
3. Price use of ~~car~~ street space
Esply. peak hour

b. Parking

Whipcran problem - parking & x-ramp catching up w. each other.
(As 0 price there is always a demand)

? if no subsidy, let it be put.

? if subsidy, is wrong, (whipcran)

Parking rates should be high enough to:

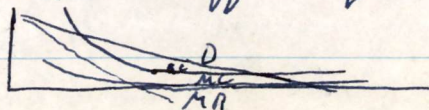
ex. Reduce street congestion, even if excess parking capacity.

i.e. he regards rates as rationing not just parking, but streets too.

Also, rate schedule shd. penalize all day parking. Reverse of now.
(Call on Sly)

c. Public transit. *Stress transcendent principle: tax lg cost, subsidize decig cost.*

Could subsidize bus, it is the lesser subsidy cfl. vs auto.
Shouldn't max. profits. (Note effects of 1 discrim. on
losing to autos.)



{ Mupg. solution is even worse than a c solution, & many cities go to that.

d. Pub. Transit. Lay off. Lay in hostility
Envoi - Power of Auto Ref. Car.

AL RESS

845 Grand Ave

Racine, Wis.

Sandy Bernhard

1100 East Circle Drive

Milwaukee

HOWARD S. GEEK

5611 So Honey Cr Dr

Milwaukee

53221

2. Views of authors on decentralization.

Schechter.

Fights it.

vs. x hauling

Futtermann. Fights it. Wants mass transit; ^{& hi density} Mitchell plan;
Critical mass, point of explosion, causes cent thrust.

V & H.

Accept. Complement. As C. Clark said of Galbraith, never clear whether they write in the indicative or imperative mood. As Brad said, complaining. Blame hi rents "The Explainers" - job of intellectual is to rationalize what is, rarely to give it.

" new technology demands cheap space

" higher central taxes

" trucks

Homes went first, indy. followed.

Wingo

Time costs. Ag costs of congestion

show up in position rents. Balance rents vs. time costs

Spread City

Like Schechter

a. Smith

Dim. of labor limited by extent of mkt.

Hirshleifer - Go too far for mkt.

Larger plants lower cost.

Implication is for more centralization.

Gaffney - vs. it. Neg to keep town maples from prevailing, but wasteful

M. Clurson, Land for Future.

Visit.

3-26-69

0. Discuss Neutze-

1. Ripening Costs

2. Decline of commiss. row.

3. External circ.

a. Fatterman -- "basics"

Mhe. lacks a basic. But pure synergism can be a basic.

b. ^{a. Smith} Interaction of city & country. Now, Mhe. is not serving its country.

External ecs. Why state cd. tax city land.

It's the level at which these externalities are internalized.

My proposal in RSA paper, L.R. T.P. State as wholesaler.

Neutze's proposal: max. l.v. Problem of copy.

c. Adams on Boston. Failure to hit basics.

Is everything to learn from study of 19th cent. urban comp.

d. Pirene. Merc.

e. Moutoux.

Evolution from city to city. Wood to tin.

Thurs.

1 deal tax & rate policy: fixed vs. variable charges.

Use fixed ^{charges}, where & when desire to encourage use; & v.v.

E.g. at center.

But also at fringe. No gentle tapering off. a clear line. [Except that the line wd. differ for each service or utility, & quality of service is a variable, so l.v. wd. taper off.] At fringe, need compaction along lines; need to cover heavy invest., & accelerate its use.

Effectiveness of fixed charges - why?

Capn. theory tells us they are completely neutral.

Tax cost replaces interest cost. $HC = V(i + t) = a$

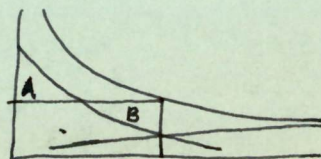
Still they are effective - why?

- Awareness, explicit. Force all to opt., no room for cushion.
- Leverage - higher incentive; lower liquidity, lower asset cushion.
- Reduce leverage of increment effect ... $\frac{\Delta V}{V}$... which otherwise in growth areas makes land free. [also reduces antici. of Δ , probly. by psych. impact] (over)
- Permits reduction of variable charges in ~~center~~ ^{exp} which suppress land improvement. Bldg. taxes, hi p.u. rates.
- Credit rationing effect.

Also use fixed charges when fertility young.

How far extend lines?

Until rates + Δ l.v. $\in$ costs.



When land is ripening for some higher use, the p.v. grows to new value at i per yr., [or less, if there is a present income.]

Thus, $\frac{\Delta V}{V} = i$ and offsets i completely as a carrying charge.

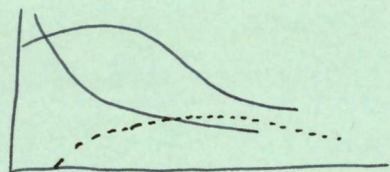
Tax lowers V_{20} ; but ~~leaves $\frac{\Delta V}{V}$ unchanged?~~ requires larger $\frac{\Delta V}{V}$ to offset t_o^{20} , too. And at such low prices, can be bought for current use.

Tues., Dec. 1

1. Spreading costs thru time. Break formula in 2 parts.

analogous to space - fish curves

Usually ~~bid~~ bid from future is based on a NR. But if future is cramped, wd. be unqul.



unqul. curve goes down, & up again.

so analogy is near perfect.

2. Rent & Traversal.

Costs imposed on B = costs B was imposing on C, D, & E.

So B must pay a rit = to costs he imposed on others

Who is imposing social costs of extending lines? E, by being out there; or A etc., by pushing E out? Mutual — so A is partly responsible for serving E.

How best to do it?

1. Tax ~~B~~ A for using utilities, etc.

2. " " occupying space.

2. Is better.

But doesn't mean E shd. pay only variable costs.

Vickrey - 1

1. Peak differentials. (daily; & over years)
2. ~~Inter~~ Inter mode differentials
 - (Add vertical - horiz. problem)
 - (Add ~~for~~ locational problem.

Technological backwardness in ticketing procedures

Understate cost of urban streets. Gas + tax etc. covers $\frac{1}{3}$ cost.
MC of space shown by widening cost.

(Urban streets, ~~the~~ vs. rural, Δg cost vs. $-\Delta g$)

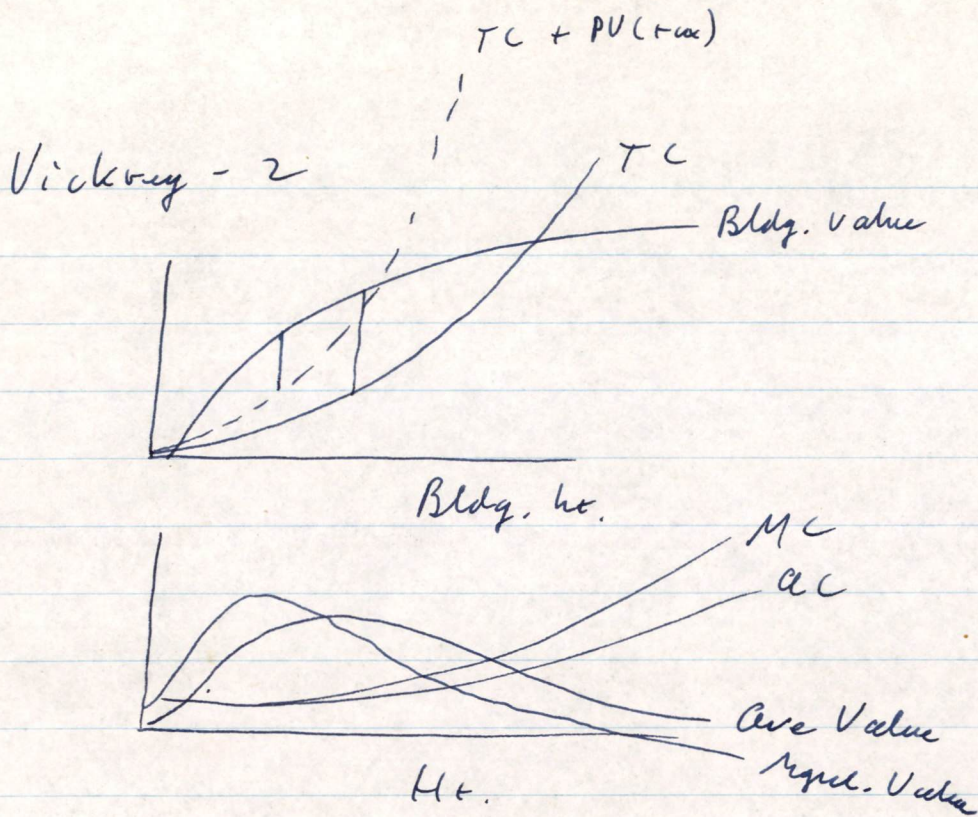
Bridge tolls shld. ~~fall~~ rise w. time, not fall

MC shld. reflect more than the bridge MC. but also the congested streets to which contribute. (Same as Hoover on parking)

(Wd. in space changes kill chd? Do hi rents drive away bldrs. from pr. land -- no, cause more intensive use.)

Big picture. By imposing on space users in streets their real social costs, get people to locate so as to minimize social costs.

(Now, bcs. highways are underpriced, pub. invt. has great leverage over public. Great excess demand is generated -- & in s.v. appears as part of the nature of things.)



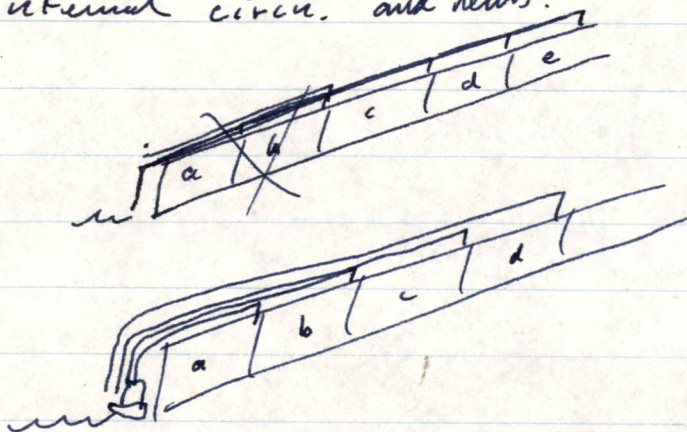
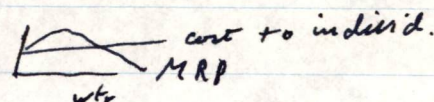
Basic model for widening streets, cf. saving in transport costs vs. loss of rents (& taxes). He forgets taxes, but has complex reasons for thinking it ~~overstates~~ the method overstates value of streets. Esply. if their use is free & they are over used.

Exam: Fri, Nov. 4.

Study ques.

~~External~~ ~~Circle~~.

Internal circle. and rents.



It costs money to have a occupy space a .

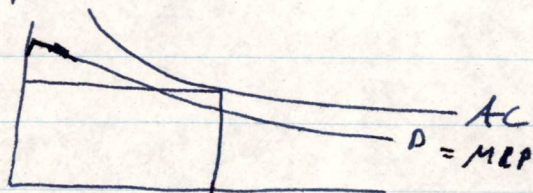
If everyone moved down one slot, same as d moving to a .

So d will pay for a + the cost imposed by a occupying the space.

If d has to pay those costs,

If not, d moves too far; and a uses land too freely.

The boundary problem.



The regul. loc, when $A = B$

Heavy capital costs; hi fixed charges; sharp boundary.

Ec. 927

May 1

1. The case for MC pricing, traditional
2. The Hirschleifer et al. refutation. Δg costs thru longer lines for wtr.

a. If they're talking about distribn., the higher costs are due to space cons., not wtr cons; ~~also~~ distance effects rather than volume effects.

Solution is a compromise of Δg & deq's cost anal. -- separate wtr for each distance, and $P = MC$ at each outlet. Avoid great fallacy of hiding ^{sub.} losng. ^{ingul.} parts of enterprise behind surplus generators; fallacy of failing to separate things that can be separated.

b. If they're talking about wtr. supply, going further for wtr., that is a separable part of the opn. Break up the analysis at the ~~the~~ load center.

Put a price on wtr. at the load center based on MC before that point.

This price $> AC$, so near-in wtr. yields a rent. It should. Collect it publicly.

Then apply $P = MC$ to distr. system. It yields neg. rent.

Lumping both together ~~wd.~~ looks tempting, but wd. have bad results. The surplus from the pre-load center segment wd. be used to cover the deficit of the post load center segment. Then, tho, the raw wtr. supply wd. be underpriced: wasted near the load center, and not enough wd. be developed ^{or bought.} ~~It's~~ The rent of raw wtr. wd. be given to landowners in favored municipalities, an arbitrary

distribution. And there is no accurate way of knowing how far to extend the system. It wd. likely be overextended.

3. Costs of urban sprawl

a. Aerial photo

b. Costs that are fns. of area.

Flood control, drainage

Environmental enhancement of all kinds. Pests, weeds, trees.

c. Distriku.

d. Loss of urban potential

4. Wingo.

a. p. 36 Peaking not so bad as all that

b. Chokes

c. Deadline demand. Queues in front of chokes. Time loss varies with square of cars. (An arithmetic progression.)

p. 47, equations.

External Circ.

1. City as mpy. Mercantilism. (Schmoller also good.)

How do cities exert mpy. power?

a. Vs. outsiders

b. Vs. powerless insiders.

Then the plebes organize, countervailing power, and share the mpy. rent -- and competitive rent.

2. How do cities wither, while the spirit of progress migrates to new areas?

They become so tied up in their internal struggles, and/or so complacent in their mpy, they do not, and cannot, adapt & respond. They obsolesce, stagnate.

Here is where theory must be supplemented by history, and instl. study. Need perspective.

Theory of relative backwardness. - not just cities, but whole nations.

3. Mautoux -

Eng's Golden Fleece

Regulated to death.

Was bypassed. First by putting-out system; then by factory system.

4. Adams, Boston

Basis of good exam gr.

Peak load analysis has assumed Δg costs.

But if have $-\Delta g$ costs, peaking may be desirable -- i.e. for mass transit by train.

Implication is that peak load prices shd. not mean high rates in rush hour.

In peak hours, need hi rates for autos

low " " mass transit.

Will

May 22

1. Ec. Base

- a. Import competing industries are just as basic as export.
- b. Base multipliers are higher when are more self-sufficient

Tiebout, Chaps. 4-6

Chap. 4 Structure of the Local Economy

(Note relations to B/C anal., 2dry bens. ^{e.g. contrast to Beijing} or per. spillovers.

Note 2dry ben. just scratches surface. Review other spillovers

Note relation to balance of payments anal. in I.T.)

Note a comm. cd. exist w/o any ec. "base", i.e. exports, under autarky, & the longer one becomes, the less sense it makes to define "base" as exports only. All resources are the ec. base.

A subsistence region can subsist w/o much export, e.g. N. Mex. Spanish & Indians.

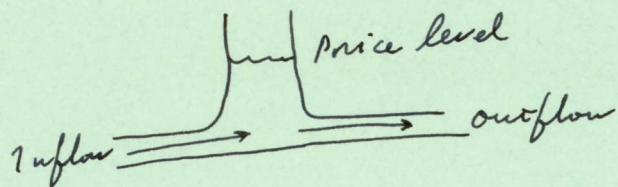
As money leaks out, balance is reached by a lower price level, export of cheap labor services, cessation of imports bec. they look dear to local people, etc. Thus we do not have separate currencies which fall, but areas of chronically lower prices for locally produced services — not for imports, which may be dearer bec. lack ex. of scale.

Thus lack of export industries leads to autarky via lower price levels. This is not exactly poverty — poverty is overstated by off. M incomes. But it is reduced level of living, and limited choices . . . you can subsist only inside yr. enclave.

An export indy. is then a ticket of admission to the world economy — all its choices. It also has a pleasant

2

illusory effect of Δg local price levels, helps generate r.e. boom.



Price level is a pressure that equates inflow & outflow of money.

Export indy. is not nechy. desirable, however, if it diverts limited resources from higher uses, competing w. imports. It is better if it brings in new res.: if labor, tho, they require to consume imports; if capital, so does the owner, or he might live outside & remove interest. But 1 deal is new outer capt. that uses underused

✓ land & labor. Thus get greater inflow w/o Δg outflow. (Use in paper)

But essence of benefit is not in gurl. Δ export, unless previous balance was wrong; it is Δ output. So gurl. moral is just is desirable to Δ output.

Tickets

Division by "sectors": export & local

p. 29, ~~states~~ describes invmt. in hsg. & bus. as part of "local". (But capt. often comes from outside.) Also p. 30, and in Calif. of all places!

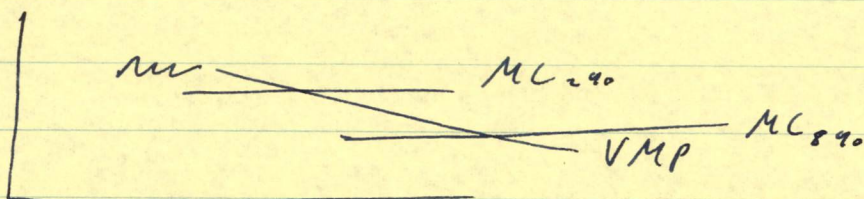
p. 30-31 Sounds like a multiplier, but it's only double-counting.

Weimer & Hoyt tend to be bare fundamentalists. Mercantilism.

Watch export of res. as part of ec. base

Credit rationing

$$\text{At } VMP_{\text{land}} = MC = V(i + t - \Delta V)$$



1. Land is allocated by fincl. power
What you can bid depends on i

$$V = \frac{a}{i}$$

- ✓ 2. Even truer if a appreciates

$$V = \frac{a}{i - d} \quad d \text{ adds leverage}$$

- ✓ 3. Even truer if early yrs. are lean, in cycle of bldg. & liquidating
Taxes on bldg. help that be true. Add risk, too.
But this may be what makes bldg. ownership concd., too.

4. Less true if land is taxed.
Dilutes effects on i .

5. Effect of Fed. programs.

- a. Spread credit around some, but not universally
- b. Help borrowers by deductibility

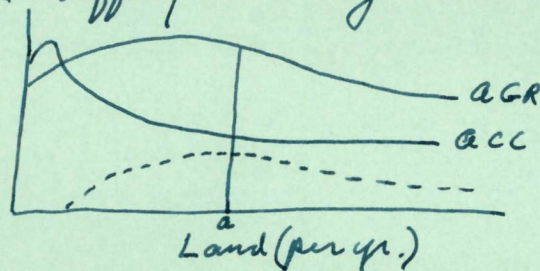
Ch. II. Urban property values

~~p. 10~~

- ✓ 1. Determinants of price. Uses Fisher-Babcock concept. But, p. 10, slips into Wendt, says resale price determines price. Circular. "Tautological price."

Gives no annualized method - a weakness.

- ✓ 2. Determines rent as a residual. Simple, traditional. Only even more primitive than that - no stage of Δg returns.
- Holds size of site constant. Thus cannot show MNR of land directly. Alonso & Baffrey are way ahead.



ACC tapers off bcs. w. more land you build a lower bldg., as we have seen. Includes cap. costs annualized, plus annual costs.

AGR rises & falls bcs. various factors.

3. Euler's theorem & distrib. equity.

at a , all inputs paid MR, product exhausted

Rt. of a , land gets $>$ its MR. Distributive inequity - (vindication for confiscation, or max. lot zoning)

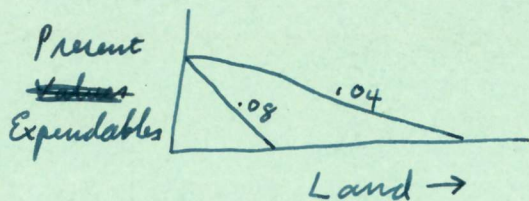
Would come about from low insular i .

- ✓ 4. Turvey better than Alonso by giving some attr. to credit rationing, putting q on ordinate. But he comes to exactly the wrong conclusion, by putting capl. outlay on abscissa, holding land

fixed. Bcs. he has "outlays" be greater for lower i .

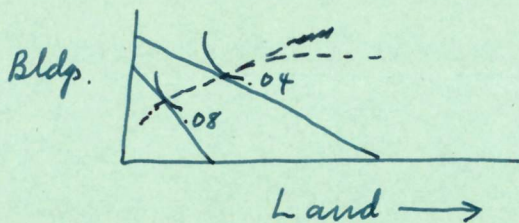
Lower i means more substin. of land for capl.

I



Budget constraint lines show annual outlay of interest, plus cap. recovery (if any). At 4%, you can carry twice as much land by spending \$100 a yr. on interest as at 8%.

✓ II



above based on formula.

Or, yely. cost holding bldg. is $d + \text{int.} = \frac{d}{i} + \frac{1}{2} C i$

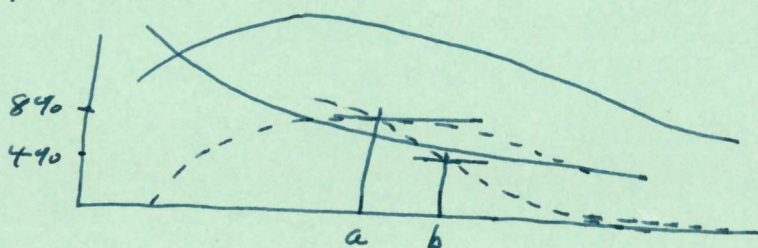
$$C = C_0 \frac{i}{1 - (1+i)^{-t}}$$

At lower i , land becomes cheaper relative to capl. & is subbed for it. Esply. Take tables to class, show numbers. } if the lower i are enjoyed by just a few people.

Take mimes. table I worked out for appreciation.

Omit -
incon-
clusive

Take II, above, relate back to curve of MNR of land



At 4% you use more land. & more CC. But ACC declines, & $ACC = \frac{CC}{Land}$. Of course that is not proof, because the 4% rate that lets us go to b , also changes ACC, and AGR. ACC comes to rep. more physical capital, but at lower cost, so curve may rise or fall; but AGR will surely rise, & so will ANR.

So for any given amt of land, (a) Have improves heavier than Want, ~~But~~ and inputs more rent. But amt of land is not

fixed, to the individual.

Have's substn. of land for capt. & labor also presses on temporal margin, i.e. renew land slowly. Capt. invmt. is to be ~~judged~~ measured not just by C_0 , but $c = C_0 \frac{i}{1 - (1+i)^{-T}}$ (w/o, however, letting differences in i affect this value, same as they affect $\underline{E}$) Lower i causes higher $\underline{E}$. The apparent higher capital input, C_0 , is partly consumed in greater longevity, $\underline{E}$.

(There are 2 reasons for this: a) Even on incl. land, gr. lower i causes you to invest for incl. payouts between 8% & down to 4%; b) Toward term, you defer renewal until you're making just 4% on site o.c.)

Besides, there's probly a lesser labor input, bcs. Have uses less labor/capl.

Also: a) Have ~~must invest~~ is burdened w. assets to manage, $\therefore$ seeks low. turnover

b) Have may have mpy. power, seeks min. gross/net.

Let assets escape into future. L.v. is a "store of value" — cold storage, much colder than Money.

E.g. Ford Mo. Co.

Oil Ind. ... advance exploration

U.S. - moonbuggy

p.w. for agric.

c) Want has higher long term i than short — his disadvantage is greater there.

(Recent articles on juice-men. "Your body is the collateral". Desperate lengths to which some go for credit.)

5. ~~p. 10~~

6. p. 12 Explain terms.

7. ~~p. 13~~

8. ~~p. 14~~

9. p. 16 Need for 3-D system. A great loss of CBD & Apt. sprawl is necessity for return to ground level. Ex. of scale in larger bldgs., too. Cite Hoch, etc. But much to do yet.

10. p. 17

11. p. 17

12. p. 18 Condemn use of thumb evidence.

Typical. Huge, unfilled research needs in this field - opps. for grad. students.

13. p. 22 Analogy to water level. Loss of value by dividing into parts, density. Also, stress cost of landlord-tenant relations.

14. p. 22 Salute emphasis on diff. i origin of prop. property.

15. p. 23, 24. Wrong about not being able to separate land & bldgs. Late recounts.

Chap. IV, Pattern of Urban Property values.

1. p. 47, emphasis on desirability of faster renewal. Then, bldgs. on sites wd. differ little from bldgs. that wd. be ~~there is~~ built now if site vacant. Utopia!

Bldgs. wd. be used as designed to be.

p. 48, movement of tenants among existing bldgs., adaptation & remodeling, fairly freely, gives a kind of s.v. flexibility lacking in bldgs. themselves (also owner-occ. bldgs.)

p. 48 Gurb. accessibility & special.

" "

develops use zones, even w/o special comply.

Then special comply. differentiates districts.

Prop. Tax

Mon. Jan 9

Propty. tax is hi.

Public equity > prt. -- in new bldgs., intensive use
Not in old, or extensive use.

If tax varies w. use to which land is put, biases taxpayer vs. the heavier taxed use.

Redefine highest use -- max. sum of prt. + public equity.

But taxpayer wants only to max. prt. - avoids taxes.

We have already looked at parking lots.

Now, old bldgs.

When renew? $a_c \geq R_d$

Land taxes neutral -- are same before as after. Except for credit rationing effect

Bldg. taxes are on r.t. side.

No true bldg. taxes on defender as approach renewal, b/c all value is in site.

So they just detract from a_c .

$$a_c - T_c < R_d$$

$$a_c < R_d + T_c$$

T_c goes on the side of the defense

Much of Milw. would be renewed tomorrow were it not for bldg. tax.

Timing of bldg. tax bad for builders.

Relate to Bauer, SEWRPC, decentralist bias. Milw. needs to redevelop its prt. lands, then can criticize decentralist p.w. more effectively.

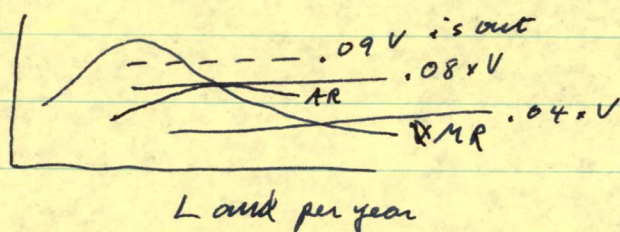
E. 520

Wed. 1-4-67

Exam. Group 1, 8-10 AM, Fri. 1-13

Review Session Mon.

1. Credit rationing and allocation of land



$$MR = MC = Vi$$

2. Add taxes

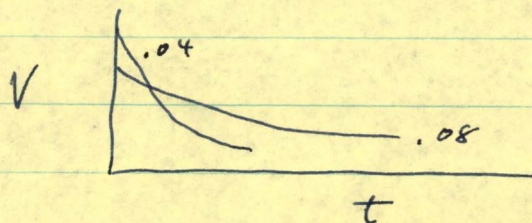
$$MC = V(i + t)$$

As Δt , $-\Delta V$, so MC remains roughly same.

In perfect mkt. would remain exactly same.

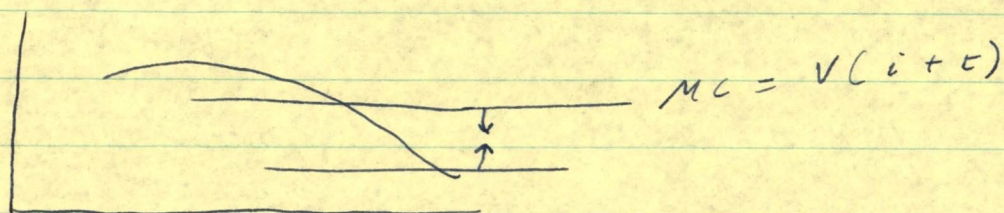
bes. $V = \frac{a}{i+t}$

Under credit rationing, causes reallocation.



Strong hands are more sensitive to t .

A.



As t replaces i , as CC , MC curves come together.
(And credit rationing disappears)

For low i , CC rises, bcs. $(t+i)$ rises faster than V falls.
For hi i , v.v.



B. Low i also bring in temporal margin, replace sooner.

C. Bldg. taxes -- greater obstacle to renewal.